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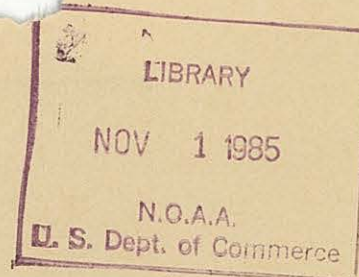
NOAA Technical Report ERL 428-ARL 8



# Chlorofluorocarbon-11, -12, and Nitrous Oxide Measurements at the NOAA/GMCC Baseline Stations (16 September 1973 to 31 December 1979)

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Air Resources Laboratory  
Geophysical Monitoring for Climatic Change  
Boulder, Colorado

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**U.S. DEPARTMENT OF COMMERCE**  
Malcolm Baldrige, Secretary

National Oceanic and Atmospheric Administration

Environmental Research Laboratories  
Boulder, Colorado  
Vernon Derr, Director

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## PREFACE

The National Oceanic and Atmospheric Administration's Air Resources Laboratory (NOAA/ARL) began measuring chlorofluorocarbon-11 in 1973 because of the interest in this anthropogenic pollutant as a tracer for the study of mass transfer processes in the atmosphere and the oceans. Interest in chlorofluorocarbon-11, and in chlorofluorocarbon-12 and nitrous oxide, was heightened during the mid-1970's with the realization that these compounds can be decomposed by photolysis in the stratosphere to cause stratospheric ozone destruction by released chlorine atoms. Measurements of chlorofluorocarbon-12 and nitrous oxide were begun by NOAA/ARL in 1977. This report describes the evolution of the chlorofluorocarbon and N<sub>2</sub>O measurement programs through 1979. By that time, the sample collection and analysis techniques became standardized, and have remained the same to the present.

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# Chlorofluorocarbon-11, -12, and Nitrous Oxide Measurements at the NOAA/GMCC Baseline Stations (16 September 1973 to 31 December 1979)

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**ABSTRACT.** Time-dependent atmospheric chlorofluorocarbon-11 ( $\text{CCl}_3\text{F}$ ), chlorofluorocarbon-12 ( $\text{CCl}_2\text{F}_2$ ), and nitrous oxide ( $\text{N}_2\text{O}$ ) measurement data are presented for five stations of the NOAA/ERL Air Resources Laboratory's Geophysical Monitoring for Climatic Change (GMCC) program. They include (1)  $\text{CCl}_3\text{F}$  data for September 1973 through December 1979 for Point Barrow, Alaska; Mauna Loa, Hawaii; and American Samoa, South Pacific; (2)  $\text{CCl}_3\text{F}$  data for early 1976 through December 1979 for Niwot Ridge, Colorado, and for early 1977 through December 1979 for South Pole, Antarctica; (3)  $\text{CCl}_2\text{F}_2$  data for early 1977 through December 1979 for all stations; and (4)  $\text{N}_2\text{O}$  data for early 1977 through December 1979 for all stations. Details of the sampling and analysis program are presented as well. Statistical and meteorological data selection criteria are applied to the raw data to improve data quality. The improved data sets should be useful in studies of atmospheric  $\text{CCl}_3\text{F}$ ,  $\text{CCl}_2\text{F}_2$ , and  $\text{N}_2\text{O}$  meridional distributions, mixing ratios, global abundances, growth rates, interhemispheric exchange rates, and tropospheric residence times.

## 1. INTRODUCTION

Interest in atmospheric concentrations of the halogenated hydrocarbons  $\text{CCl}_3\text{F}$  (chlorofluorocarbon-11) and  $\text{CCl}_2\text{F}_2$  (chlorofluorocarbon-12) began in the early 1970's with the realization that these compounds are highly inert chemically, have no known natural sources, and therefore are ideally suited as tracers for the study of mass transfer processes in the atmosphere and oceans. Actual use of these gases as tracers became feasible with the development of a novel electron-capture gas chromatograph detector capable of accurate measurements down to a few parts in  $10^{12}$  (Lovelock et al., 1971; Lovelock, 1974). Measurements of  $\text{CCl}_3\text{F}$  over the North and South Atlantic Ocean during 1971-1972 were subsequently used by Lovelock et al. (1973) to test a numerical model (developed by Machta, 1958) of the global distribution in space and time of an ideal inert gas.

The interest in atmospheric chlorofluorocarbons was heightened in 1974 when Molina and Rowland (1974) theorized that  $\text{CCl}_2\text{F}_2$  and  $\text{CCl}_3\text{F}$  are likely to be decomposed by photolysis in the stratosphere, causing catalytic destruction of the atmospheric ozone layer by released chlorine atoms. Ramanathan (1975) and Wang et al. (1976) later showed that  $\text{CCl}_2\text{F}_2$  and  $\text{CCl}_3\text{F}$  are potentially capable of influencing the thermal structure of the atmosphere (i.e., inducing climatic change), since they possess strong absorption bands within the 7- to 14- $\mu\text{m}$  atmospheric window through which most thermal radiation from the Earth's surface and lower atmosphere is transmitted.

Another atmospheric trace constituent that has strong absorption bands in the 7- to 14- $\mu\text{m}$  atmospheric window is nitrous oxide ( $\text{N}_2\text{O}$ ). Wang et al. (1976) estimated that doubling atmospheric  $\text{N}_2\text{O}$  would raise temperatures near the Earth's surface by about  $0.5^\circ\text{C}$ . Nitrous oxide, furthermore, enters into stratospheric photochemical reactions that lead to catalytic destruction of ozone (Crutzen, 1970), much as the halogenated hydrocarbons do. Nitrous oxide is emitted from land by bacterial nitrification of fixed nitrogen. Concern has been expressed about a possible increase in nitrification processes and hence increased atmospheric  $\text{N}_2\text{O}$  concentrations through greater use of fertilizers (Crutzen, 1974; McElroy et al., 1976).

The National Oceanic and Atmospheric Administration's Air Resources Laboratory (NOAA/ARL) began measuring  $\text{CCl}_3\text{F}$  late in 1973 because of interest in this anthropogenic atmospheric pollutant as an inert tracer gas.  $\text{CCl}_2\text{F}_2$  and  $\text{N}_2\text{O}$  measurements were added to the program in 1977 after the atmospheric concentrations of these gases and  $\text{CCl}_3\text{F}$  became of interest because of their chemical and radiative properties. A crucial factor in the potential ability of these gases to destroy ozone or modify lower-atmosphere temperatures is their tropospheric residence time (Turco and Whitten, 1975). If important tropospheric sinks for  $\text{CCl}_3\text{F}$ ,  $\text{CCl}_2\text{F}_2$ , and  $\text{N}_2\text{O}$  exist, then significant atmospheric buildup of these gases will not occur. Researchers (e.g., Gelinas et al., 1977; Jesson et al., 1977; Meakin et al., 1978; Cunnold et al., 1978) have shown that estimates of tropospheric residence times and identification of sinks are possible from reliable information on atmospheric abundances, growth rates, and latitudinal gradients of these gases. Such information is obtainable from high-quality, long-term global background measurements of  $\text{CCl}_3\text{F}$ ,  $\text{CCl}_2\text{F}_2$ , and  $\text{N}_2\text{O}$ .

This report presents program details and results for approximately 6 years of  $\text{CCl}_3\text{F}$  flask sampling beginning late in 1973, and nearly 3 years of  $\text{CCl}_2\text{F}_2$  and  $\text{N}_2\text{O}$  flask sampling beginning early in 1977 at several NOAA/ARL clean-air (baseline) stations. Table 1 shows the sampling stations and a

Table 1.--Record of measurements of  $\text{CCl}_3\text{F}$ ,  $\text{CCl}_2\text{F}_2$ , and  $\text{N}_2\text{O}$

	Pt. Barrow, Alaska	Niwot Ridge, Colorado	Mauna Loa, Hawaii	American Samoa, South Pacific	South Pole, Antarctica
Lat.	71.32°N	40.05°N	19.53°N	14.25°S	89.98°S
Long.	130.60°W	105.63°W	155.58°W	170.56°W	24.80°W
Elev.	12 m	3749 m	3397 m	82 m	2810 m
$\text{CCl}_3\text{F}$ record	9/73-12/79	1/76-12/79	9/73-12/79	9/73-12/79	1/77-12/79
$\text{CCl}_2\text{F}_2$ record	5/77-12/79	5/77-12/79	5/77-12/79	4/77-12/79	2/77-12/79
$\text{N}_2\text{O}$ record	8/77-12/79	6/77-12/79	6/77-12/79	6/77-12/79	2/77-12/79

record of available data. Included in the report are temperature, dewpoint, wind speed, and wind direction data, recorded at the time of sampling, that are pertinent to data processing and selecting final results. Because of improvements in sampling and analysis procedures with time,  $\text{CCl}_3\text{F}$  data obtained after 1976 are considered superior to earlier data. The earlier data are nevertheless included because of the sparsity of such data for early to mid 1970's.

## 2. SAMPLING AND ANALYSIS

Collection of cylinder air samples for  $\text{CCl}_3\text{F}$  analyses was initiated in September 1973 at the NOAA baseline stations of Point Barrow (hereafter, Barrow), Alaska; Mauna Loa, Hawaii; and American Samoa (hereafter, Samoa), South Pacific. At that time, the logistics and analysis center for operations was the NOAA/ARL Field Research Office, Idaho Falls, Idaho. In May 1975, this center was transferred to the ARL Geophysical Monitoring for Climatic Change (GMCC) Program in Boulder, Colorado.

In January 1976, the  $\text{CCl}_3\text{F}$  measurement program was extended to Niwot Ridge, Colorado, a mountain site west of Boulder. Collection of air samples for  $\text{CCl}_3\text{F}$  analyses began at the fourth NOAA baseline station, South Pole, Antarctica, in January 1977.

Analysis of collected air samples for  $\text{CCl}_2\text{F}_2$  and  $\text{N}_2\text{O}$  began in January 1977 for South Pole, May 1977 for Niwot Ridge, and August 1977 for Barrow, Mauna Loa, and Samoa. These new measurements were undertaken after methods of collection and analysis of  $\text{CCl}_3\text{F}$  air samples were significantly improved, and after calibrating gases became available for use. Details of sample collection and analysis procedures used throughout the monitoring program are summarized in Table 2.

### 2.1 Sample Collections

Air samples for  $\text{CCl}_3\text{F}$  analyses were initially collected in 300-ml Whitey type 304 stainless steel cylinders fitted with Whitey "DK" series forged-body, packed, stainless steel valves. Before use, all cylinders and valves were cleaned with 5% phosphoric acid solution, distilled water, and ethanol, followed by purging with ultrapure nitrogen.

In preparation for sampling, the cylinders were first evacuated at the Idaho Falls or Boulder central facility to a residual pressure of  $\leq 0.05$  mm Hg, and then mailed to the field stations in cylindrical cardboard tubes padded with plastic foam for protection. The sampling procedure at the stations was as follows. With wind blowing from the station's clean-air sector to minimize local pollution effects, and with wind speed greater than  $2.2 \text{ m s}^{-1}$ , the observer opened (for about 10 s) and then closed the sample cylinder valve while pointing the cylinder into the wind. After sample collection the observer completed a data sheet by recording the station name, time of sampling, wind speed and direction, atmospheric pressure, air temperature and moisture, and precipitation, if any. The exposed cylinder was then mailed as soon as possible to the central facility, where its air sample was analyzed, and the cylinder was again evacuated and mailed to the station for collection of a new sample.



Table 2.--Details of program sampling and analysis apparatus and procedures

	16 September 1973 to 15 May 1975*	16 May 1975 to 15 March 1976*	18 March 1976 to 6 March 1977*	7 March 1977 to 30 November 1977*	1 August 1977 to 31 December 1979†
Analysis facility	Idaho Falls	Boulder	Boulder	Boulder	Boulder
Gases analyzed	CCl <sub>3</sub> F CCl <sub>3</sub> F	CCl <sub>3</sub> F		CCl <sub>3</sub> F, CCl <sub>2</sub> F <sub>2</sub> , N <sub>2</sub> O	CCl <sub>3</sub> F, CCl <sub>2</sub> F <sub>2</sub> , N <sub>2</sub> O
Chromatograph	Laboratory-assembled	Hewlett-Packard	Hewlett-Packard	Hewlett-Packard	Hewlett-Packard
Electron capture detector	15 mCi Ni 63 (Idaho Falls)	15 mCi Ni 63 (Idaho Falls)	15 mCi Ni 63 (Hewlett-Packard)	15 mCi Ni 63 (Hewlett-Packard)	15 mCi Ni 63 (Hewlett-Packard)
Detector temperature	30°C	100°C	350°C	350°C	350°C
Chromatograph column	(3 × 0.006)-m Carbowax 400/ Porasil F; 80-100 mesh	(3 × 0.003)-m Carbowax 400/ Porasil F; 80-100 mesh	(1 × 0.006)-m Carbowax 400/ Porasil C; 80-100 mesh	(3 × 0.005)-m Porasil B; 80-100 mesh**	(1.2 × 0.003)-m Porasil A; 80-100 mesh**
Column temperature	30°C	40°C	50°C	50°C	70°C
Carrier gas	Ultrapure N <sub>2</sub>	95% Ar-5% CH <sub>4</sub>	Ultrapure N <sub>2</sub>	Ultrapure N <sub>2</sub>	Ultrapure N <sub>2</sub>
Gas flow rate	50 cm <sup>3</sup> min <sup>-1</sup>	15 cm <sup>3</sup> min <sup>-1</sup>	50 cm <sup>3</sup> min <sup>-1</sup>	40 cm <sup>3</sup> min <sup>-1</sup>	25 cm <sup>3</sup> min <sup>-1</sup>
Sample volume	5 cm <sup>3</sup>	1 cm <sup>3</sup>	5 cm <sup>3</sup>	5 cm <sup>3</sup>	5 cm <sup>3</sup>
Electronics					
Operation mode	Fixed-pulse	Fixed-pulse	Variable-frequency	Variable-frequency	Variable-frequency
Pulse width	2 μs	2 μs	---	--	--
Pulse period	200 μs	200 μs	---	--	--
Pulse height	-20 V	-20 V	---	--	--
Standing current	4.5 nA	4.5 nA	1 nA	1 nA	1 nA
Calibration method	Coulometric	Coulometric	Coulometric	3072 reference gas	3072 reference gas

\* Sample collection: evacuated single flasks. Sample cylinders: 300 ml capacity; type 304 stainless steel; acid cleaned; packed stainless steel valves.

† Sample collection: evacuated pair flasks at Niwot Ridge; pressurized dual flasks elsewhere (at South Pole, beginning January 1977). Sample cylinders: 300 ml capacity; type 304 stainless steel; electropolished; bellows stainless steel valves.

\*\* See text for additional information.

To minimize contamination of the sample cylinders, each cylinder was designated for use at a particular station and only at that station. Six cylinders per station (excluding South Pole station) were sufficient for the rotating scheme of travel time and analysis. In general, elapsed time between sample collection and analysis was not more than 2 weeks, although it occasionally increased to 1 month (and up to 10 months at South Pole station).

As observational data began to accumulate, considerable data variability became evident. At least part of the variability was believed to result from cylinder wall effects, which could cause modification, absorption, or desorption of collected trace gases. (Early in the program, atmospheric carbon tetrachloride [ $\text{CCl}_4$ ] was measured, but the stored samples were so unstable that the measurements were discontinued.) To minimize wall effects, the Whitey stainless steel cylinders were passivated by a SUMMA electropolishing process developed by Molecetric, Inc., of Englewood, California. This process cleans and passivates the raw stainless steel cylinder surface, producing a pure chrome/nickel-oxide surface with a microfinish of  $\pm 1.0$  nm.

Another consideration of sample instability was the possibility that elastomers or halogenated polymers, components of the sample cylinder valves, were absorbing or desorbing  $\text{CCl}_3\text{F}$ . The cylinders were therefore equipped with stainless steel Nupro-Type SS-4H bellows valves, which contain no elastomers or polymers that could serve as trace-gas sources or sinks.

A third factor possibly contributing to the observed variability in the data was the use of evacuated cylinders for sampling. Because of reduced pressure within the cylinders, either from cylinder evacuation or sample collection at high-altitude stations, contaminated air can leak into such cylinders during transit to and from the field stations. An even greater possibility for contamination occurs when the sample cylinders are vacuum pumped and chlorofluoromethane-rich laboratory air can seep into the evacuation system through leaky plumbing. Vacuum pumping of the stainless steel cylinders can, furthermore, strip molecules from the cylinder walls leaving active sites onto which selective absorption of molecules can occur after sampling is completed. Although this problem is not believed to be serious for  $\text{CCl}_3\text{F}$  measurements, it merits consideration whenever gas samples of extremely low concentration are collected.

To avoid sample contamination problems arising from use of evacuated cylinders, a method of simultaneous collection of dual, pressurized air samples was devised late in 1976. A schematic diagram of the sampling apparatus is shown in Fig. 1. Samples are routinely collected as follows. Valves 7 to 10 are opened, and sample cylinders 5 and 6 are flushed by pump 3 (stainless steel Metal Bellows Co. model MB-21) for at least 10 minutes with clean, ambient air to be sampled. Air enters the sampling apparatus via stainless steel sampling line 1 and 7- $\mu\text{m}$  particle filter 2, at a flow rate of approximately  $4 \text{ l min}^{-1}$ . At the end of the flushing interval, valves 9 and 10 are closed, and air pressurization begins. A few seconds later valves 7 and 8 are closed to isolate the required pair sample. Valves 7 to 10 are further tightened with a torque wrench adjusted to 2.8 N·m (newton meters) torque to ensure positive valve closure and prolong valve life by preventing overtightening. Valve 4 is a pressure relief valve protecting the bellows pump from pressures in excess of 1.7 atm.

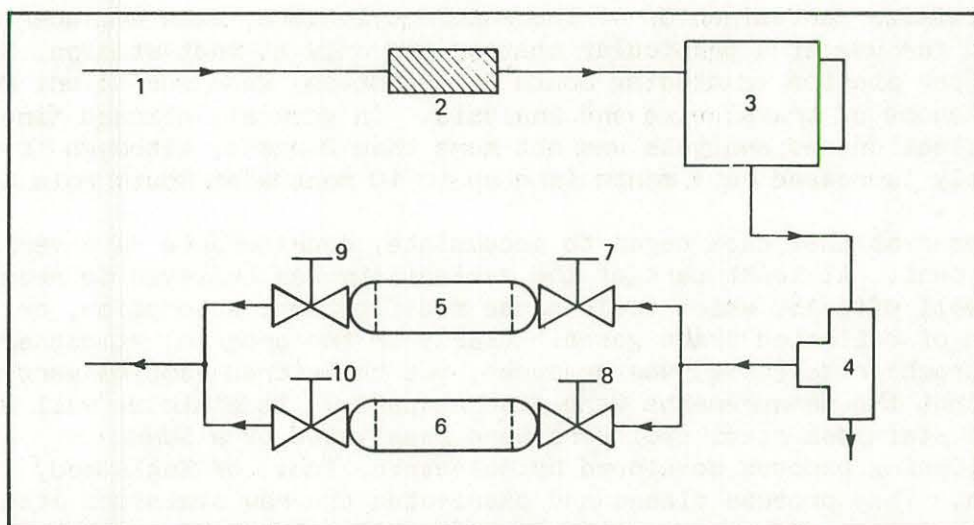


Figure 1.--Dual-sample cylinder pumpup apparatus for collecting air samples. See text for a description of components.

After sample collection, the cylinders are shipped to Boulder where a small portion of air is extracted from each cylinder for analysis. The cylinders, still containing air near ambient pressure, are then returned to their field stations for repeat flushing and sampling.

As indicated in Table 2, collection of pressurized, dual-cylinder air samples in electropolished cylinders fitted with packless bellows valves began at the NOAA/GMCC stations in August 1977, except at South Pole station where the new sampling technique was implemented in January 1977. At Niwot Ridge, where electrical power is not available for operating the sampling apparatus illustrated in Fig. 1, evacuated flask sampling was continued after August 1977, but with the newly electropolished flasks.

At Barrow, Mauna Loa, and Samoa, the old method of collecting air samples in evacuated, phosphoric-acid-cleaned flasks was continued through November 1977 to obtain overlapping data for comparison. Results during this 4-mo period showed the mean percent differences in  $\text{CCl}_3\text{F}$  concentrations derived from evacuated and pressurized air samples at Barrow, Mauna Loa, and Samoa to be  $(8.1 \pm 1.4)\%$ ,  $(5.1 \pm 1.1)\%$ , and  $(6.4 \pm 1.7)\%$ , respectively, with the evacuated (nonelectropolished) cylinder samples yielding the higher values. Statistical analysis of the data indicated that the mean differences at all stations were significantly different from zero, but that they were not significantly different from each other at the 95% confidence level. The measured higher concentrations are assumed to represent surface contamination effects within the nonelectropolished sample cylinders; therefore, a mean correction factor of 0.936 was applied to all  $\text{CCl}_3\text{F}$  data from air samples collected in nonelectropolished cylinders. Corresponding correction factors for  $\text{CCl}_2\text{F}_2$  and  $\text{N}_2\text{O}$  concentrations were found to be 0.900 and 0.965, respectively.

Air samples collected by the evacuated-cylinder method are taken about 2 m above station ground level. When the mechanical technique of pressurizing dual cylinders with sample air is used, the intake tube of the sampling

apparatus is connected inside the observatory building to a manifold of a gas sampling stack (Komhyr, 1983) available at each GMCC station. Air is conducted through the stack from above the building at a rate of about  $2 \text{ m}^3 \text{ s}^{-1}$ . The heights above ground level of the stack intakes at Barrow, Mauna Loa, Samoa, and South Pole are approximately 9, 11, 14, and 12 m, respectively, these being the effective heights of air sample collection at the stations.

## 2.2 Sample Analyses

The  $\text{CCl}_3\text{F}$ ,  $\text{CCl}_2\text{F}_2$ , and  $\text{N}_2\text{O}$  air samples were analyzed by electron-capture gas chromatography. As shown in Table 2, analysis of  $\text{CCl}_3\text{F}$  air samples began at Idaho Falls in September 1973, using a laboratory-type electron-capture gas chromatograph. The chromatograph was operated under the assumption that its detector was a gas phase coulometer. Even though the coulometric efficiency of the detector was not known to be 100%, the reproducibility of its results, when operating at a fixed temperature and flow rate with clean carrier gas, was believed to be high enough to allow absolute calibration of the measurement system when accurately calibrated gas standards became available.

Transfer of operations from Idaho Falls to Boulder in May 1975 resulted in several changes in basic chromatograph operating conditions, as indicated in Table 2. During original work in Idaho Falls, the laboratory-assembled gas chromatograph used ultrapure carrier gas, a Porasil F column, and detector electronics that operated in the fixed-pulse mode. Soon after the move to Boulder, sample analyses were attempted with a commercially available Hewlett-Packard chromatograph that operated with argon-methane carrier gas and variable frequency electronics, but sensitivity was found to be inadequate.  $\text{CCl}_3\text{F}$  sample analyses became possible, however, when conversion was made to fixed-pulse-mode detector operation. In March 1976, sensitivity was additionally increased by a factor of 2.5 through an electronics conversion that permitted variable-frequency detector operation to be used with ultrapure nitrogen carrier gas and a Porasil C chromatograph column. Although an even larger gain in sensitivity would have been possible by reverting to fixed-pulse-mode detector operation, the overall system linearity would have been degraded. When a  $(3 \times 0.005)\text{-m}$  Porasil B column was installed into the chromatograph late in April 1977, measurements of  $\text{CCl}_2\text{F}_2$  became possible. Finally, implementation of a  $(1.2 \times 0.003)\text{-m}$  Porasil A column in late July 1977 gave satisfactory separation of the  $\text{N}_2\text{O}$  peak, allowing analysis of collected air samples for  $\text{CCl}_3\text{F}$ ,  $\text{CCl}_2\text{F}_2$ , and  $\text{N}_2\text{O}$ .

Figure 2 illustrates a typical configuration of the chromatographic gas analysis apparatus. Ultrapure carrier gas from cylinder 1 flows through the chromatograph column 11 and electron capture-detector 14 via a two-stage diffusion-resistant stainless steel regulator 2, a gas purifying catalytic combustor 3, a mass flow controller 4, and sampling valve 5. It exits through flow meter 15. Heaters and temperature controllers 12 and 13 maintain the column and detector temperatures, respectively, at fixed levels. During analysis, sample cylinder 8 is connected to sample valve 5, and the sample loop 6 and associated plumbing are evacuated by vacuum pump 10. The sample cylinder valve is opened, allowing air to expand into sample loop 6, and then closed. After the sample loop gas temperature and pressure are recorded with meters 7 and 9, the sample valve is rotated to insert the air-filled sample loop into the carrier-gas stream flow. (In practice, the sample loop is

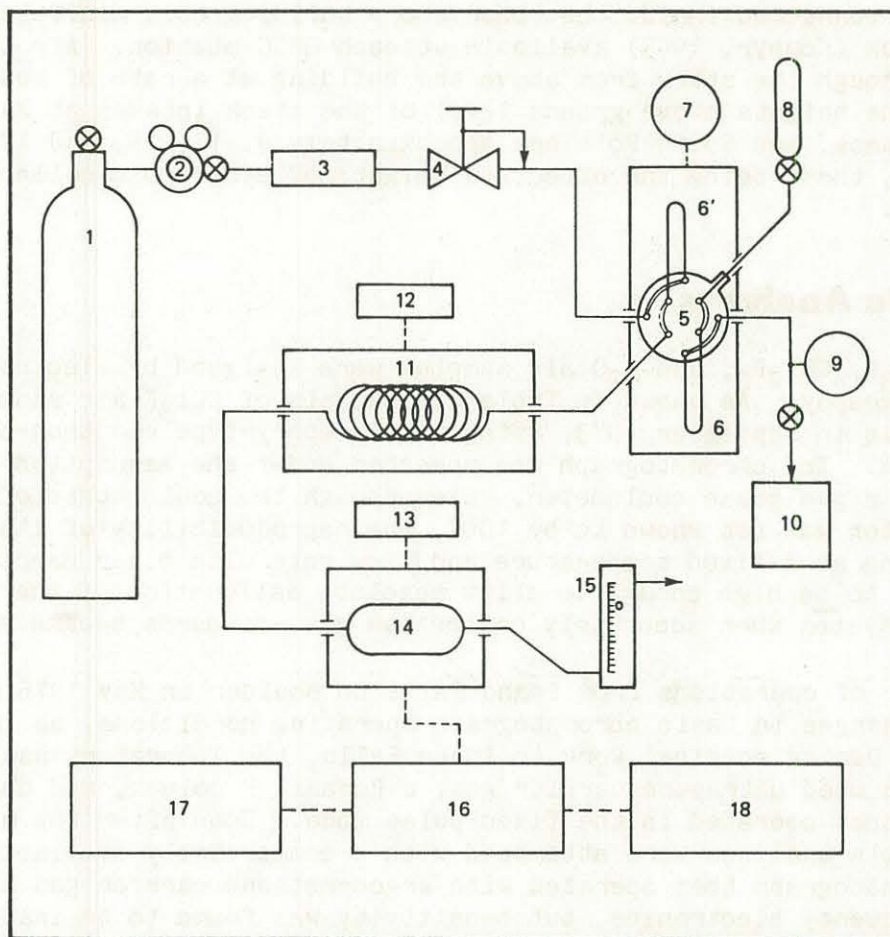


Figure 2.--Chromatographic gas analysis apparatus. See text for a description of components.

flushed once with sample air before the air sample is inserted into the carrier-gas stream.) Detectable components of the air sample exit from the chromatograph column sequentially, and are sensed by the electron-capture detector 14 and associated electronics 16. The voltage output peaks, proportional to electrons captured within the detector, are recorded on a chart recorder 17 and integrated by a digital integrator 18.

The chromatographic apparatus shown in Fig. 2 does not contain a dryer for drying collected ambient air samples before analyses. The results obtained are, therefore, chlorofluorocarbon or nitrous oxide concentrations in air containing water vapor. To express the resultant concentration with respect to dry air, the moisture content of the collected air samples must be taken into account (see Sec. 2.4).

Before calibration gases were used during sample analyses, the typical procedure was to analyze each air sample three times to obtain a measure (standard deviation) of the analysis precision. After 7 March 1977, sample concentrations were determined relative to a reference calibration gas assuming linear chromatographic response. Several schemes, shown below, were

used for the reference gas (R) and air sample (S) analyses, the air samples being subsamples of air from either cylinder of a given sample cylinder pair:

- (a) RR S<sub>1</sub>S<sub>1</sub> R S<sub>1</sub>S<sub>2</sub> R S<sub>2</sub>S<sub>2</sub> R
- (b) RR S<sub>1</sub> R S<sub>1</sub> R S<sub>1</sub> R S<sub>2</sub> R S<sub>2</sub> R S<sub>2</sub> R
- (c) RRR S<sub>1</sub>S<sub>1</sub>S<sub>1</sub> RR S<sub>2</sub>S<sub>2</sub>S<sub>2</sub> RR .

In each of the above schemes the sequence of analyses required approximately 6-h analysis time, or about a day's work on the chromatograph. Although the analysis precision for the various sequences is about the same, analysis scheme (c) is both statistically sound and most convenient in operation, and has been adopted as standard.

Chlorofluorocarbon or nitrous oxide concentrations are determined from measurements of the output signal peak heights or integrated areas from the chromatograph. Figure 3 is a typical chromatograph chart record trace showing

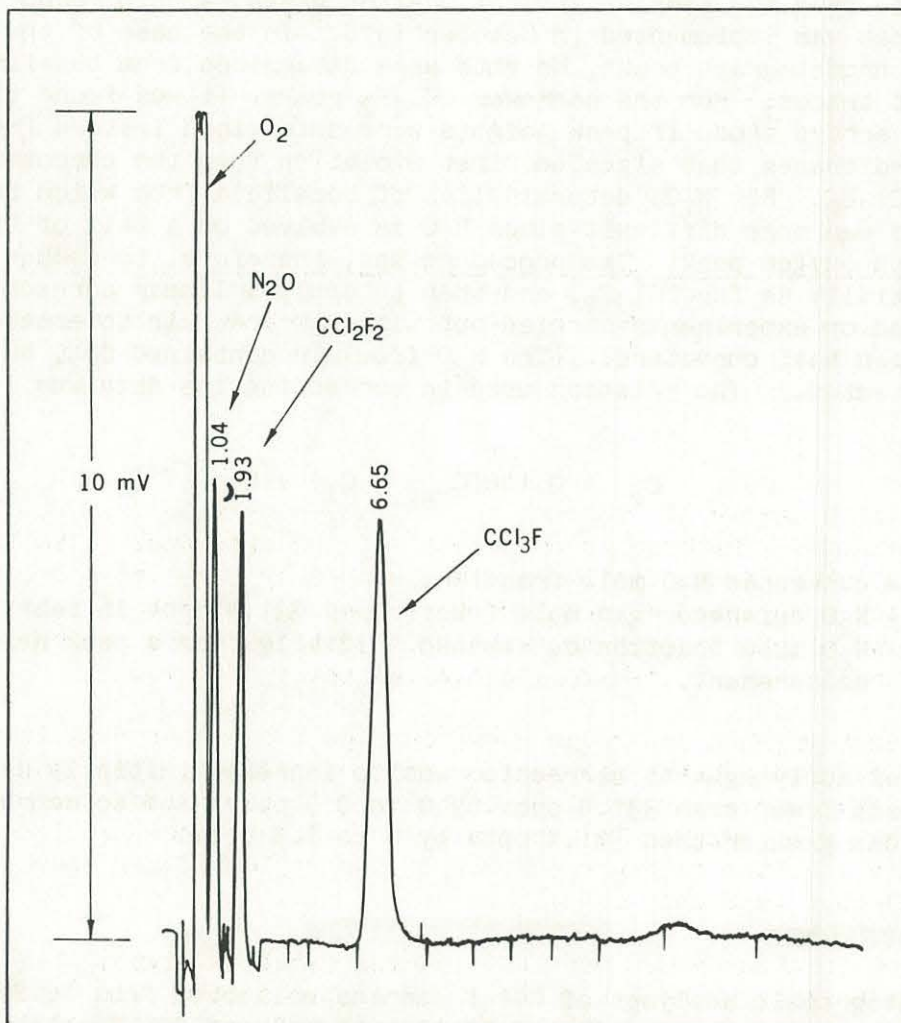


Figure 3.--Typical chromatographic record showing CCl<sub>3</sub>F, CCl<sub>2</sub>F<sub>2</sub>, and N<sub>2</sub>O signal peaks.

$\text{CCl}_3\text{F}$ ,  $\text{CCl}_2\text{F}_2$ , and  $\text{N}_2\text{O}$  signal peaks. When the chromatograph was first operated in Idaho Falls, peak areas were determined manually by using the following relation:

$$\text{Peak Area} = \text{Height} \times \text{Width} \times 0.5 \left( \frac{\pi}{\ln 2} \right)^{1/2}, \quad (1)$$

where the peak width is measured at a distance of one-half the peak height, and the peak shape is assumed to be Gaussian. After 2 December 1973, the peak areas were computed using a digital electronic integrator whose performance was monitored several times weekly by comparing the automatically derived data with manually calculated results.

In early 1977, when measurements of  $\text{CCl}_2\text{F}_2$  and  $\text{N}_2\text{O}$  were begun, the relation shown by Eq. (1) could not be used completely satisfactorily, since the signal traces for these gases were not symmetrical and hence were non-Gaussian. Experimentation indicated, however, that satisfactory results could be obtained for  $\text{CCl}_3\text{F}$  and  $\text{CCl}_2\text{F}_2$  simply by comparing peak heights of the output traces from the samples and calibration gases, a data reduction procedure that was implemented in October 1978. In the case of the relatively wide  $\text{CCl}_3\text{F}$  chromatograph peaks, heights were determined from baselines drawn on the chart traces. For the narrower  $\text{CCl}_2\text{F}_2$  peaks, it was found that no significant errors arose if peak heights were determined instead from points on the record traces that signaled first evolution from the chromatograph column of  $\text{CCl}_2\text{F}_2$ . For  $\text{N}_2\text{O}$ , determination of baselines from which to measure peak heights was more difficult since  $\text{N}_2\text{O}$  is evolved on a tail of the chromatograph oxygen peak. The procedure was, therefore, to deduce peak heights initially as for  $\text{CCl}_2\text{F}_2$ , and then to apply a linear correction to results based on experiments carried out with  $\text{N}_2\text{O}$ -free air to establish a typical oxygen tail curvature. (The  $\text{N}_2\text{O}$ -free air contained  $\text{CO}_2$ , but no  $\text{CO}_2$  peak was detected.) The relation used in correcting the data was

$$C_c = 0.146(C_{\text{ref}} - C_i) + C_i \quad (2)$$

where  $C_c$  = corrected  $\text{N}_2\text{O}$  mole fraction,  
 $C_{\text{ref}}$  =  $\text{N}_2\text{O}$  reference-gas mole fraction of 331.4 ppbv in tank T3072.  
 $C_i$  =  $\text{N}_2\text{O}$  mole fraction determined initially from a peak height measurement.

The effect of applying this correction was to increase initially deduced  $\text{N}_2\text{O}$  concentrations lower than 331.4 ppbv by 0 to 0.9 ppbv, and to decrease  $\text{N}_2\text{O}$  concentrations greater than 331.4 ppbv by 0 to 1.3 ppbv.

## 2.3 Calibrations

Chromatographic analyses of  $\text{CCl}_3\text{F}$  samples collected from 16 September 1973 to 6 March 1977 were performed without the use of  $\text{CCl}_3\text{F}$  calibration gas. Instead, the Lovelock-type, electron-capture detector of the chromatograph was assumed to operate as an absolute gas phase coulometer with long-term stability. In practice, continued optimum performance of the

chromatograph was difficult to maintain because of gradual or occasionally abrupt changes in the detector temperature, system flow rate, and impurity levels in the carrier gas. During analyses at Idaho Falls, precautions were taken to keep the Carbowax 400/Porasil F chromatograph column clean by heating it to 180°C at monthly intervals. This heating served to drive absorbed chemicals less volatile than  $\text{CCl}_3\text{F}$  from the column, thereby stabilizing the electron-capture detector's background current at about 4.5 nA and minimizing peak spreading. Chromatograph performance was monitored by observing the stability with time of this background current.

With the introduction in Boulder of a variable-frequency chromatograph that kept the detector's background current fixed at 1.0 nA, output voltage stability served as an indicator of overall system performance. The voltage remained essentially constant as long as the carrier gas stream remained clean. A gas-purifying catalytic combustor was used to help keep the carrier gas stream clean, and a burnout procedure was adopted whereby the column was heated to 125°C at 3-mo intervals. When calibration gas was introduced into the analysis procedure, the problem of chromatograph contamination became less severe, since both sample and calibration gases are likely to be affected similarly by contamination. In the present procedure, column burnout is only performed at irregular intervals whenever significant contamination is indicated by drifting and excessive noise of the chromatograph output voltage trace.

Additional complications, in the performance of the chromatographic apparatus in Boulder as a stable coulometer, arose when operations were switched over from Idaho Falls to Boulder. Since the analysis apparatus in Boulder was new and different from the Idaho Falls instrumentation, the  $\text{CCl}_3\text{F}$  measurement calibration "constant" of the Idaho Falls chromatograph had to be transferred to that of the Boulder instrument. This transfer was accomplished by initially intercomparing  $\text{CCl}_3\text{F}$  sample analyses performed with both sets of instrumentation. However, only a limited set of comparison data was obtained, and its quality has been difficult to assess. Additional measurements planned for a later date were unfeasible because of alterations made to the Idaho Falls instrumentation.

That the Boulder chromatographic apparatus did not always operate at a constant calibration level is attested to by results of periodic analyses of samples of calibration gas. For example, while agreement to within  $\leq 1.8\%$  was obtained with Washington State University (WSU) results when analyzing WSU  $\text{CCl}_3\text{F}$  air samples in canisters 121 and 108 during January 1976 and April 1977, respectively, a discrepant result of 15% was noted when analyzing WSU PB4 canister air in March 1976 at the Workshop on Halocarbon Analysis and Measurement Techniques held in Boulder (R. A. Rasmussen, 1978). Large, periodic departures from constant analyzer performance are indicated also by  $\text{CCl}_3\text{F}$  measurement results obtained during 16 September 1973 to 6 March 1977. These early data show considerably larger fluctuations than do measurements obtained later when chromatograph calibration gases began to be used.

In early 1977, two tanks of calibration gas were established for use in the  $\text{CCl}_3\text{F}$ ,  $\text{CCl}_2\text{F}_2$ , and  $\text{N}_2\text{O}$  monitoring program. The gases were obtained by pumping clean, dry air from the mountains west of Boulder into size A (6.8 m<sup>3</sup> at S.T.P.), specially cleaned, chrome-molybdenum steel tanks. The tanks were prepared for use by first partially filling them with Carborundum grit and tumbling them for 1 day to remove mill scale and smooth inside tank surfaces. Subsequent cleaning included treatment of the inside of the tanks



with hydrochloric acid, sodium nitrate, and water/steam at a pressure of 27 atm. The tanks were next dried with industrial-grade nitrogen containing less than 10 ppm H<sub>2</sub>O. Finally, after tank valves were installed, the tanks were filled to a pressure of 150 atm with Airco grade 4.5 prepurified nitrogen, having a dewpoint less than -60°C, to check for leaks and contamination. The nitrogen was bled and evacuated from the tanks prior to filling the tanks with reference air.

Air was pumped into the tanks with a model 1S3B-3 Rix Industries three-stage air compressor. This pump operates without lubrication of its piston-cylinder assembly, which is constructed of metal and polytetrafluoroethylene (Teflon TFE resin). The pump is essentially noncontaminating once residual cleaning fluids used during its fabrication are flushed from it. During pumping, an in-line type 3A Union Carbide molecular sieve filter was used to dry the air entering the tanks to a dewpoint temperature of about -75°C.

The concentrations of CCl<sub>3</sub>F, CCl<sub>2</sub>F<sub>2</sub>, and N<sub>2</sub>O in the two calibration gas tanks, relative to calibration standards established by R. A. Rasmussen at WSU, are shown in Table 3. Tank 3072, originally filled with air to a

Table 3.--Calibration of NOAA reference gases in tanks 3072 and 3078 using standards of R. A. Rasmussen

Tank no.	Gas type	Calibration date	Conc. ± s.d.	n	Conc., 1 Mar. 1977 to 31 Dec. 1979
3072	CCl <sub>3</sub>	13 Dec. 1977	(149. <sup>5</sup> <del>7</del> ± <sup>2.3</sup> <del>1.9</del> ) pptv	9	(148.33 ± 0.91) pptv
		23 Oct. 1978	(147.4 ± 1.0) pptv	12	
		20 Nov. 1979	(149.4 ± 2.2) pptv	4	
	CCl <sub>2</sub> F <sub>2</sub>	13 Dec. 1977	(253.4 ± 1.7) pptv	5	(253.48 + 1.96t) pptv*
		23 Oct. 1978	(255.3 ± 1.3) pptv	6	
		20 Nov. 1979	(257.2 ± 0.5) pptv	4	
	N <sub>2</sub> O	13 Dec. 1977	(331.4 ± 0.9) ppbv	3	(331.38 ± 0.94) ppbv†
		23 Oct. 1978	(331.3 ± 1.0) ppbv	6	
		20 Nov. 1979	(331.5 ± 2.6) ppbv	4	
3078	CCl <sub>3</sub> F	13 Dec. 1977	(355.8 ± 2.8) pptv	11	Conc. drift
		23 Oct. 1978	(354.2 ± 1.1) pptv	4	
		20 Nov. 1979	(336.2 ± 2.9) pptv	4	
	CCl <sub>2</sub> F <sub>2</sub>	13 Dec. 1977	(285.7 ± 0.6) pptv	6	Conc. drift
		23 Oct. 1978	(297.0 ± 2.4) pptv	5	
		20 Nov. 1979	(296.2 ± 0.5) pptv	4	
	N <sub>2</sub> O	13 Dec. 1977	(329.0 ± 2.1) ppbv	4	Conc. drift
		23 Oct. 1978	(334.8 ± 1.0) ppbv	5	
		20 Nov. 1979	(334.0 ± 0.8) ppbv	4	

\* t = number of years since 13 December 1977.

† More accurate concentration value (see Sec. 2.3) is believed to be (297.7 ± 1.47) ppbv.

pressure of 150 atm, is used as the primary reference standard in routine monitoring program analyses of field air samples. Tank 3078, filled with air to a pressure of 25 atm, was originally intended to serve as a secondary reference standard. Use of this tank for that purpose proved unsuccessful, however, when trace-gas concentrations within it were found (Table 3) to drift relative to the WSU standards. As a result, new secondary standard reference gases were established, in tank 3088.  $\text{CCl}_3\text{F}$  and  $\text{CCl}_2\text{F}_2$  mole fractions within this tank are approximately 252 and 286 pptv, respectively, while the  $\text{N}_2\text{O}$  mole fraction is 342 ppbv. Gases in tanks 3072 and 3088, as well as in several other tanks, have been periodically intercalibrated to obtain information on trace gas concentration drifts as well as on changes with time of chromatograph linearity characteristics.

The NOAA 3072 and 3078 tank gases were calibrated in December 1977, October 1978, and November 1979 using the secondary standard reference gases in tanks 006 and 034 established by Rasmussen through intercalibrations with primary standard reference gases established earlier in tanks BY1 and BY3 (see Table 4). Tanks BY1 and BY3 contained cryogenically pumped air whose  $\text{CCl}_3\text{F}$ ,  $\text{CCl}_2\text{F}_2$ , and  $\text{N}_2\text{O}$  concentrations were deduced relative to calibration gas samples prepared by static dilution and permeation tube techniques. Estimated absolute uncertainties associated with the BY1 and BY3 tank gas concentrations are believed by Rasmussen to be  $\pm 5\%$  for  $\text{CCl}_3\text{F}$ ,  $\pm 10\%$  for  $\text{CCl}_2\text{F}_2$ , and  $\pm 5\%$  for  $\text{N}_2\text{O}$  (R. A. Rasmussen; WSU, Pullman, Wash.; personal communication, 1979).

Analysis of intercalibration data for tank 3072 reference gas shown in Table 3 indicates that, within the precision of measurement,  $\text{N}_2\text{O}$  concentrations remained stable. A question existed, however, about the validity of the absolute calibration values originally assigned by Rasmussen to his  $\text{N}_2\text{O}$  gas standards, since for example the  $\text{N}_2\text{O}$  calibration scale associated with gas standards prepared by R. F. Weiss (Scripps Institution of Oceanography, La Jolla, Calif.; personal communication, 1980) was approximately 10% lower than that of Rasmussen. To resolve the discrepancy, a new technique was developed in our laboratory (Komhyr and Dutton, 1980) for preparing  $\text{N}_2\text{O}$  and other calibration gas standards. As applied to  $\text{N}_2\text{O}$ , the method involves preparation by gravimetric means of an  $\text{N}_2\text{O}/\text{CO}_2$  gas mixture of highly accurately known mass ratio, and subsequent dilution of this mixture

Table 4.--Washington State University calibration gas data\*

Tank no.	$\text{CCl}_3\text{F}$ (pptv)	$\text{CCl}_2\text{F}_2$ (pptv)	$\text{N}_2\text{O}$ (ppbv)
BY1	153.3 $\pm$ 5%	254.5 $\pm$ 10%	331.4 $\pm$ 5%
BY3	152.2 $\pm$ 5%	252.8 $\pm$ 10%	330.0 $\pm$ 5%
006	165.8 $\pm$ 6%	257.9 $\pm$ 11%	329.5 $\pm$ 6%
034	170.7 $\pm$ 6%	287.1 $\pm$ 11%	334.6 $\pm$ 6%

\* Indicated errors are estimated absolute uncertainties.

with N<sub>2</sub>O- and CO<sub>2</sub>-free air to approximately ambient air concentrations of these trace gases. From a determination of the absolute CO<sub>2</sub> concentration in this dilution gas mixture using highly accurately calibrated CO<sub>2</sub> gas standards and an infrared measurement technique, the N<sub>2</sub>O concentration in the dilution mixture is readily inferred.

Application of this calibration method to our tank 3072 N<sub>2</sub>O calibration gas yielded an N<sub>2</sub>O mole fraction of (297.7 ± 6.0) ppbv compared with the originally assigned Rasmussen value of (331.4 ± 16.6) ppbv. (The 2% error is an estimate based on possible systematic errors associated with the performance of this preliminary calibration.) This new result agrees with N<sub>2</sub>O calibration values of Weiss, as well as of Connell et al. (1980) who employed a tunable diode laser to measure N<sub>2</sub>O in air. Goldan et al. (1981) obtained similar results following recalibration of their N<sub>2</sub>O primary standards prepared in 1975 by static and dynamic dilution techniques.

Throughout our N<sub>2</sub>O measurement program, air sample analyses were performed using tank 3072 N<sub>2</sub>O reference gas with the N<sub>2</sub>O concentration of 331.4 ppbv assigned by R. A. Rasmussen. Final results (see data sets 2 to 4 of Appendix D) have been corrected by the ratio 297.7/331.4 = 0.8983 to reflect the updated NOAA/GMCC calibration of tank 3072 N<sub>2</sub>O reference gas.

Analysis of reference gas calibration data of Table 3 indicates, also, that CCl<sub>3</sub>F concentrations in tank 3072 remained constant during December 1977 through November 1979. As for N<sub>2</sub>O, this stability is assumed by extrapolation to hold for the time interval 1 March 1977 to 31 December 1979. For CCl<sub>2</sub>F<sub>2</sub>, however, statistical evaluation of the data indicates drifting concentration with time--a drift that has been verified by additional information derived from intercalibrations of gases in tanks 3079, 3080, and 3088. Accordingly, CCl<sub>2</sub>F<sub>2</sub> mole fractions in tank 3072 air have been corrected for drift by

$$C_f = (253.48 \pm 0.15) + (1.96 \pm 0.12)t \quad (3)$$

where  $C_f$  = corrected tank 3072 CCl<sub>2</sub>F<sub>2</sub> mole fraction in pptv,  
 $t$  = number of years since 13 December 1977.

An intercomparison with another laboratory took place in September 1978 when we analyzed gases in reference tanks 26-04-78 and 07-07-78 provided by P. J. B. Fraser of the Commonwealth Scientific and Industrial Research Organization (CSIRO), Division of Atmospheric Physics, Aspendale, Victoria, Australia. The CSIRO gases had previously been calibrated relative to Washington State University gas standards. As shown in Table 5, the Boulder CCl<sub>3</sub>F concentration values for the two gas tanks differed at most by only 1.7% from the CSIRO gas concentration values. Statistical analysis of the data indicated that the CSIRO and NOAA data sets were identical at the 95% confidence level.

Several of our chlorofluorocarbon reference gases have also been calibrated by P. D. Goldan of the NOAA Aeronomy Laboratory. Analysis of tank 3079 air in October 1979, for example, yielded results for CCl<sub>3</sub>F and CCl<sub>2</sub>F<sub>2</sub> that agreed with NOAA/GMCC calibration values to within about 2%.

Tests performed to date on variations in chromatograph linearity characteristics with time have yielded satisfactory data for  $\text{CCl}_3\text{F}$  sample analyses, but inconclusive results for  $\text{CCl}_2\text{F}_2$  and  $\text{N}_2\text{O}$  sample analyses. (Nonlinearity errors are minimized by maintaining approximately equal measurement and calibration gas concentrations.) Although linearity tests in the past were conducted using gases in tanks 3072 and 3078 only, the work has been upgraded to include bimonthly tests with calibration gases of various concentrations in five tanks.

Table 5.--NOAA calibrations of CSIRO  $\text{CCl}_3\text{F}$ ,  $\text{CCl}_2\text{F}_2$ , and  $\text{N}_2\text{O}$  standard reference gases, 18 September and 3 October 1978

CSIRO tank no.	Calib. lab	$\text{CCl}_3\text{F}$ (pptv)	s.d. (pptv)	n	$\text{CCl}_2\text{F}_2$ (pptv)	s.d. (pptv)	n	$\text{N}_2\text{O}$ (ppbv)	s.d. (ppbv)	n
260478	CSIRO	146.7	±1.0	31	255.1	--	1	331.6	--	1
					257.0	±0.9	3	328.5	±5.3	3
	NOAA/GMCC	144.3	±1.5	3	251.1	±3.5	3	335.4	±2.2	3
070778	CSIRO	158.9	±0.8	14	258.3	--	1	--	--	--
	NOAA/GMCC	157.6	±0.9	2	258.8	±2.1	12	--	--	--
		156.7	±1.4	10						

## 2.4 Corrections for Humidity

For certain types of research (e.g., investigations of trace-gas global abundances and latitudinal gradients) it is expedient to express measured trace gas mole fractions relative to dry air. As indicated in Sec. 2.2, air dryers were not used during the collection and analysis of  $\text{CCl}_3\text{F}$ ,  $\text{CCl}_2\text{F}_2$ , and  $\text{N}_2\text{O}$  air samples. Initial results have, therefore, been expressed as trace-gas mole fractions in ambient (moist) air.

Dryers were not used in our air sample collection program because gas losses up to several percent can occur within contaminated or improperly conditioned traps when very dilute trace-gas amounts ranging in concentrations from parts per billion to parts per trillion are measured. (On the other hand, the presence of water vapor in air samples may exaggerate sample cylinder wall effects, leading to sample concentration instabilities.) Our approach has been to measure the trace gas concentrations in ambient air and then express the results in terms of dry air using relevant air pressure, temperature, and humidity information.

The following equation relates measured moist-air trace-gas mole fractions to dry-air mole fractions:

$$\frac{n_1}{n_3} = \left(1 + \frac{n_2}{n_3}\right) \left(\frac{n_1}{n_2 + n_3}\right) \quad (4)$$

where  $n_1$  = no. moles of trace gas,  
 $n_2$  = no. moles of water vapor,  
 $n_3$  = no. moles of dry air,  
 $\frac{n_1}{n_3}$  = mole fraction of trace gas in dry air,

$$\frac{n_1}{n_2 + n_3} = \frac{n_1}{n_1 + n_2 + n_3} = \text{mole fraction of trace gas in moist air.}$$

In using this equation, the following monitoring program sampling conditions were considered: (a) the collection of relatively dry air samples at Barrow, Niwot Ridge, and Mauna Loa where moisture condensation does not generally occur within the sample cylinders when samples are collected, and (b) the collection of wet air samples at Samoa where collected air samples at analysis laboratory temperature are at saturation vapor pressure.

### 2.4.1 Case a

Since in this case water vapor mixing ratio is generally conserved during air sample collection, Eq. (4) may be rewritten as follows:

$$\frac{n_1}{n_3} = \left(1 + \frac{e(T_a)}{P_a - e(T_a)}\right) \left(\frac{n_1}{n_2 + n_3}\right) \quad (5)$$

where  $P_a$  = ambient station air pressure,  
 $T_a$  = ambient station air temperature,  
 $e(T_a)$  = water vapor pressure at ambient station air temperature,

$$\text{C.F.} = 1 + \frac{e(T_a)}{P_a - e(T_a)} \quad (6)$$

= wet-air to dry-air trace-gas mole fraction conversion factor.

Relation (6) was evaluated by using ambient air temperature and humidity data from Barrow, Niwot Ridge, and Mauna Loa; average wet-air to dry-air trace-gas conversion factors for 1 January 1977 to 31 December 1978 were found to be  $1.002 \pm 0.003$ ,  $1.008 \pm 0.008$ , and  $1.004 \pm 0.004$ , respectively, with the indicated variabilities being standard deviations. These mean conversion factors were used when processing data for which observed moisture information was not available. For Barrow and Mauna Loa, the conversion factors may be slightly overestimated for occasions of high ambient relative humidity for the stations. The overestimates result when water vapor condensation occurs during the air sample pumping-up process to a pressure of about 450 mb above

ambient air pressure. This problem does not arise at Niwot Ridge where air samples are collected at ambient pressure.

To evaluate Eq. (5), the water vapor pressure  $e(T_a)$  at ambient station temperature was determined from the following equation (L. A. Rasmussen, 1978), which relates water vapor pressure to measured ambient dewpoint temperature:

$$e(T_a) = \sum_{i=0}^6 C_i T^i \quad (7)$$

The constants  $C_i$  in Eq. (7) correspond to the condition of saturation vapor pressure over water. In the few cases where measured dewpoint temperatures were not available, climatological humidity data were used in determining the correction factors.

## 2.4.2 Case b

In this case water vapor is not conserved during the collection-analysis of air samples. At Samoa, for example, mean air and dewpoint temperatures were  $(27.0 \pm 0.65)^\circ\text{C}$  and  $(24.5 \pm 2.08)^\circ\text{C}$ , respectively, as measured during sample collections in 1977 and 1978, with the indicated variabilities being standard deviations. These temperatures correspond to a relative humidity of 86%. When such highly humid air is pressurized in sample cylinders to 450 mb above ambient air pressure and then cooled to  $23^\circ\text{C}$ , the Boulder analysis laboratory mean temperature, some of the water vapor in the cylinders condenses, causing a reduction in the water vapor mixing ratio of the sampled air.

For the Samoa air samples, which contain water vapor at saturation vapor pressure, Eq. (5) converts to the following expression:

$$\frac{n_1}{n_3} = \left( 1 + \frac{e_w(T_1)}{P_f - e_w(T_1)} \right) \left( \frac{n_1}{n_2 + n_3} \right) \quad (8)$$

where  $P_f = 1160$  mb  
 $=$  mean air sample pressure determined from initial and final pressure measurements during sample analyses,  
 $T_1 = (23 \pm 3)^\circ\text{C}$ , the Boulder analysis laboratory room temperature,  
 $e_w(T_1) =$  saturation water vapor pressure of sample air  
 $(28.09 \pm 5)$  mb,

$$\text{C.F.} = 1 + \frac{e_w(T_1)}{P_f - e_w(T_1)} = 1.025 \pm 0.005. \quad (9)$$

Thus, values of the conversion factor used to convert moist-air trace-gas mole fractions to dry-air mole fractions varied from about 1.020 to 1.030 for Samoa air samples. In instances where observational moisture data were missing, the mean conversion factor of 1.025 was used.

To verify that the theoretically determined conversion factors for moist-air to dry-air trace gas concentrations given above are applicable to real air sample data, laboratory tests (Dutton, 1981) were conducted on Samoa air samples and on water-saturated tank 3079 air. When magnesium perchlorate was used as the drying agent, no conclusions could be drawn because trace gas losses were found to occur within the drying material. When a dry-ice water vapor trap was used, the magnitudes of the conversion factors were found to be roughly one-half those derived theoretically from Eq. (8). Although the discrepancy between the laboratory results and theoretical calculations could not be satisfactorily explained, the possibility was considered that the observed small loss of trace gases in the dried air stream was occurring through absorption of the gases either onto the glass surface of the trap or onto the water-ice formed during condensation and freeze-out. In a revised procedure that did not use a trap for removing moisture from the air, the theoretically derived moisture corrections were substantiated. Here, trace-gas concentrations were determined for tank 3079 reference gas that was alternately passed through a clean, empty Erlenmeyer flask and the same flask partially filled with distilled water. The reference gas was monitored with a high-quality optical hygrometer, and was found to have a dewpoint temperature of 50°C for dry air and +25°C for the moistened air. In light of these results, and the direct verification with the optical dewpoint hygrometer of the moisture content of air samples collected in Samoa, the theoretical conversion factors for moist-air to dry-air trace-gas mole fractions were used in final processing of the data.

### **3. THE DATA**

$\text{CCl}_3\text{F}$  data are tabulated in Appendixes A and B, and  $\text{CCl}_2\text{F}_2$  and  $\text{N}_2\text{O}$  data are tabulated in Appendixes C and D, respectively. All data are presented, as well as improved-quality data obtained through application to the raw data of data selection criteria described below. In each appendix, a Description of Data Sets is given for the various data sets presented.

#### **3.1 Data Selection**

It has been the policy within the NOAA/GMCC chlorofluorocarbon and nitrous oxide monitoring program to record all sample analysis results, which comprise the raw data sets presented herein. Considerable scatter is present in the raw data, as is evident, for example, in the  $\text{CCl}_3\text{F}$  data plots of Fig. 4. That this scatter is due primarily to sampling and analysis errors is attested to by the observation that the variability of the 1977-1979 data is considerably reduced compared with fluctuations present in earlier results. (It is unlikely that the natural variability of  $\text{CCl}_3\text{F}$  in the atmosphere changed early in 1977.) As indicated in previous sections, sampling errors that cause scatter in the data arise from sample cylinder contamination and from trace-gas storage problems. Analysis errors that cause apparent data variability stem from substandard analysis apparatus performance, calibration drifts, and operator bias. Such sampling and analysis errors are similar to measurement inaccuracies that occur when continuously recording monitoring equipment partially malfunctions.

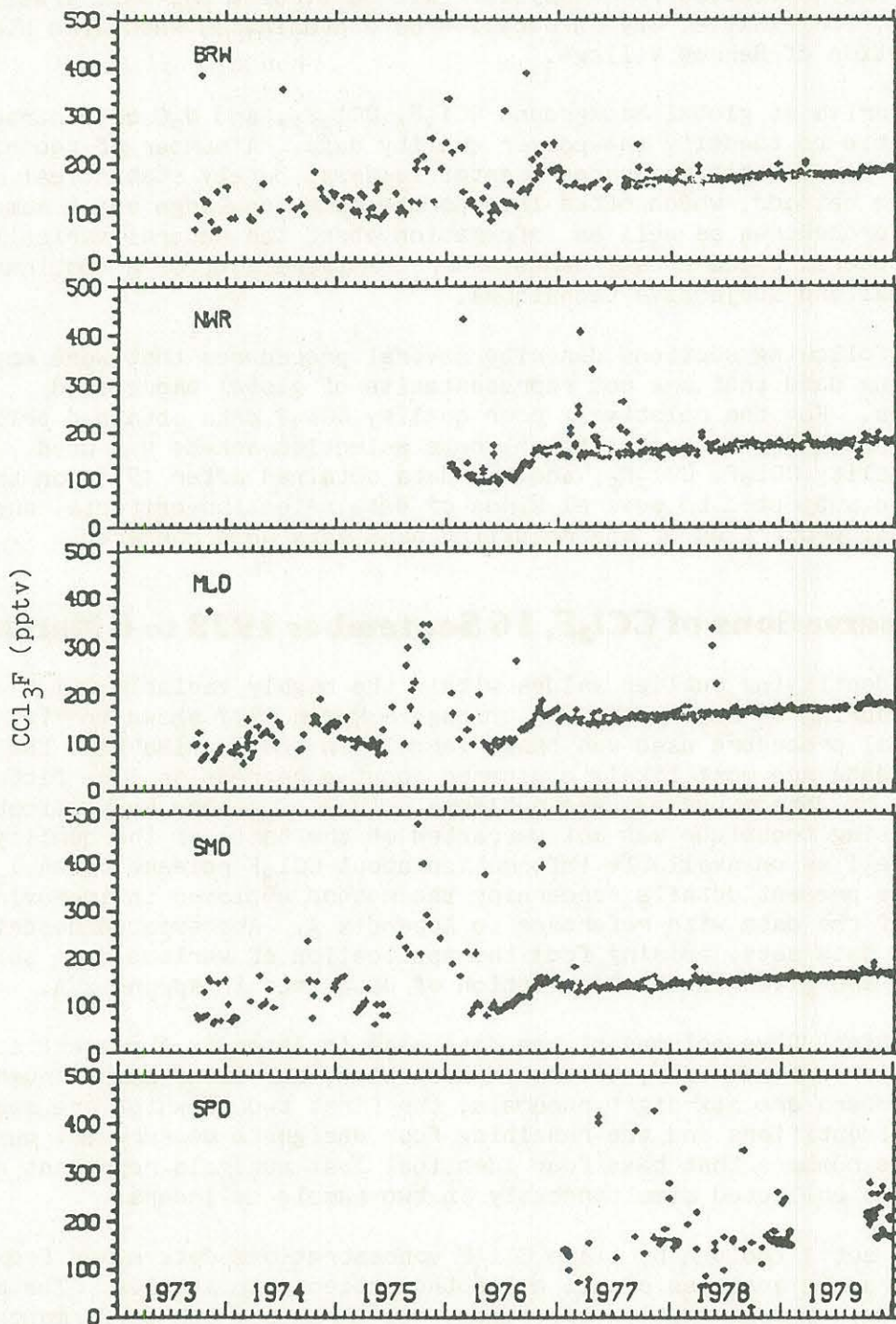


Figure 4.--Raw  $\text{CCl}_3\text{F}$  data (excluding concentrations  $\geq 500$  pptv) obtained during 1973-1979 at Barrow, Niwot Ridge, Mauna Loa, Samoa, and South Pole.



Increased data variability arises also when locally polluted air is inadvertently collected for analysis. Air sampled at the GMCC station located at Barrow, for example, may on occasion be contaminated when wind blows from the direction of Barrow Village.

To arrive at global background  $\text{CCl}_3\text{F}$ ,  $\text{CCl}_2\text{F}_2$ , and  $\text{N}_2\text{O}$  concentrations, it is desirable to identify the poorer quality data. A number of techniques are available for identifying unrepresentative data: purely statistical methods; subjective methods, which often incorporate some knowledge about sampling and analysis procedures as well as information about the natural variability of the atmospheric trace constituents under consideration; or a combination of statistical and subjective techniques.

The following sections describe several procedures that were employed in identifying data that are not representative of global background conditions. For the relatively poor quality  $\text{CCl}_3\text{F}$  data obtained prior to 1977, a straightforward, statistical data selection scheme was used. The higher quality  $\text{CCl}_3\text{F}$ ,  $\text{CCl}_2\text{F}_2$ , and  $\text{N}_2\text{O}$  data obtained after 1976, on the other hand, were subjected to several kinds of data selection criteria, and the statistical properties of the resulting data sets were compared.

### **3.2 Observations of $\text{CCl}_3\text{F}$ , 16 September 1973 to 6 March 1977**

In identifying outlier values within the highly variable  $\text{CCl}_3\text{F}$  data obtained during 16 September 1973 through 6 March 1977 shown in Fig. 4, the statistical procedure used was based largely on the premise that the most reliable data are most likely clustered about a regression line fitted to the main body of data minus extreme outliers. (Use of a more sophisticated data curve-fitting technique was not warranted on the basis of the quality of the data as well as on available information about  $\text{CCl}_3\text{F}$  release rates.) In this section we present details concerning the method employed in improving the quality of the data with reference to Appendix A. Abbreviated descriptions of resulting data sets, arising from the application of various data selection criteria, are given in the Description of Data Sets in Appendix A.

The first five columns of the data base in Appendix A present station, year, Julian calendar day, Greenwich mean time, and  $\text{CCl}_3\text{F}$  sample number. Sample numbers are six-digit numerals, the first two of which are sample cylinder identifiers and the remaining four designate measurement numbers. Two sample numbers that have four identical last numerals represent a pair of air samples collected simultaneously in two sample cylinders.

Data set 1 (column 6) lists  $\text{CCl}_3\text{F}$  concentrations determined from chromatographic analyses of all collected ambient-air samples. The analyses were based on the assumption of coulometric chromatograph performance.

In data set 2 (column 7) are results corrected for sample contamination stemming from use of nonelectropolished sample cylinders (see Sec. 2.1). Associated with these concentration values are standard deviations (s.d.) given in column 8. They represent the spread of single sample analysis results where, in general, three chromatographic analyses were performed on each collected sample.

Wind speed and direction data, and air temperature and dewpoint data are presented in columns 9 to 12. The wind information is subsequently used as a

criterion for possible sample contamination by local pollution sources, whereas the air temperature and dewpoint data are used to convert  $\text{CCl}_3\text{F}$  mole fractions in ambient (moist) air to mole fractions in dry air.

The data in set 3 (column 13) are corrected  $\text{CCl}_3\text{F}$  mole fractions expressed in parts per trillion by volume (pptv) of dry air. At this stage no data selection criteria have been applied, and no data have been discarded or combined. These pristine data, containing sampling and analysis errors, are intended for use by researchers who will apply their own statistical or meteorological data selection criteria to improve data quality and identify background measurement conditions. Plots of set 3  $\text{CCl}_3\text{F}$  data for 16 September 1973 to 6 March 1977 for Barrow (BRW), Mauna Loa (MLO), and Samoa (SMO) are shown in Fig. 4. Also plotted in this figure are similar  $\text{CCl}_3\text{F}$  data for 7 March 1977 through 31 December 1979 for these stations and for Niwot Ridge (NWR) and South Pole (SPO).

As stated earlier, the plots of Fig. 4 indicate that the quality of recent data is considerably better than that of data obtained earlier in the monitoring program (except for South Pole). The improvement after 6 March 1977 stemmed primarily from the use of reference calibration gas during sample analyses, although changes in sample collection techniques contributed. To improve the quality of data obtained prior to 7 March 1977, outlying values in data set 3 were eliminated by using statistical means described below. Results are given in data sets 4, 5, and 6.

From the 1977 through 1979 data plotted in Fig. 4, it may be inferred that  $\text{CCl}_3\text{F}$  concentration values greater than roughly 200 pptv or smaller than 50 pptv represent highly contaminated air samples or erroneous data. As a first step in improving the data, such outliers were eliminated. Resulting data are shown in data set 4 (column 14). It can be seen from the Summary of Data Quantity in Appendix A that application of this data selection criterion resulted in a 14.1% to 24.0% loss of sample data for Barrow, Mauna Loa, and Samoa.

As a second step in improving data quality, standard deviations of the means associated with individual sample analyses were examined to identify unreliable data resulting from problems occurring during the analyses. Derived concentrations having standard deviations greater than 12.0 pptv, corresponding to a typical analysis precision of  $\pm 5\%$ , were discarded.

As noted in the Summary of Data Quantity application of this data selection criterion resulted in a 4.2% to 8.0% loss of data for the stations. Remaining data are tabulated in data set 5 (column 15).

After far-outlying and highly unreliable values were eliminated, regression lines were fitted to the remaining data for all three stations. Residual standard deviations were then computed for the regression lines, and sample values lying outside 2 residual standard deviations were discarded (i.e., roughly 5% of the remaining data were arbitrarily eliminated as outliers). The resulting data are tabulated in data set 6 (column 16). As shown in the Summary of Data Quantity, when this data selection criterion was applied, 2.0% to 3.3% loss of sample data occurred for the various stations.

To improve data quality further by eliminating measurement values obtained during possible local air pollution episodes, two meteorological data

selection criteria were applied to data set 6. Values outside 1.65 residual standard deviations of the data set 6 regression line were discarded if they were derived from air samples collected when wind speed was less than  $1.34 \text{ m s}^{-1}$  or when the wind was blowing from possible sources of local contamination. (Additional trajectory analyses of the origins of the air samples were not warranted because of the stations' isolated locations as well as the generally poor quality of the data.) Resulting data are shown in data sets 7 and 8 (columns 17 and 18). Sources for possible local contamination are the Eskimo village at Barrow, Hilo at Mauna Loa, and Pago Pago and Tula Village in Samoa. Unfavorable wind directions at each site are shown in the Description of Data Sets in Appendix A.

The cumulative loss of data, resulting from application of the various data selection criteria described above, is shown in the Description of Data Sets to be 24.6%, 25.5%, and 34.7% at Barrow, Mauna Loa, and Samoa, respectively. As expected, data loss from application of the meteorological wind speed and direction criteria is small primarily because all three stations are located in highly clean environments so that local pollution is generally not a problem. Data representative of highly polluted air samples, if they existed, would furthermore have been eliminated by the previously applied statistical data selection criteria. Moderately polluted air samples data, on the other hand, would not be readily identified by the wind speed and direction criteria, owing to the relatively high variability remaining in the final data.

Data set 8 consists of improved  $\text{CCl}_3\text{F}$  measurement results compared with the quality of the raw data of set 3. The data are recommended for use by researchers who accept the data selection procedures described herein. Although these data are considerably less reliable than  $\text{CCl}_3\text{F}$  measurement results obtained following 6 March 1977 (see Appendix B), they are presented here in consideration that they may be of some use in research concerning  $\text{CCl}_3\text{F}$  abundances, growth rates, latitudinal gradients, and interhemispheric exchange, particularly since a sparsity of similar data exists from other researchers for 1974-1976.

### **3.3 Observations of $\text{CCl}_3\text{F}$ , 7 March 1977 to 31 December 1979**

$\text{CCl}_3\text{F}$  data obtained during March 1977 through December 1979 at Barrow, Niwot Ridge, Mauna Loa, Samoa, and South Pole are presented in Appendix B, discussed in this section, and plotted in Fig. 5. As in Appendix A, the first five columns of the data base in Appendix B present station, year, Julian calendar day, Greenwich mean time, and sample number of collected  $\text{CCl}_3\text{F}$  sample. Two sample numbers that have four identical last numerals represent a pair of air samples collected simultaneously. Data from such pair samples are subsequently combined to yield individual  $\text{CCl}_3\text{F}$  measurement results.

Data set 1 (column 6) lists  $\text{CCl}_3\text{F}$  concentrations determined from chromatographic analyses of collected ambient (moist) air samples. The analysis results are referenced to tank 3072 calibration gas with a nominal  $\text{CCl}_3\text{F}$  concentration of 149.50 pptv.

Data set 2 (column 7) lists results corrected for an improved (see Sec. 2.3) value of tank 3072  $\text{CCl}_3\text{F}$  calibration gas. Here, also, data from evacuated cylinder samples have been adjusted by the factor 0.936 to

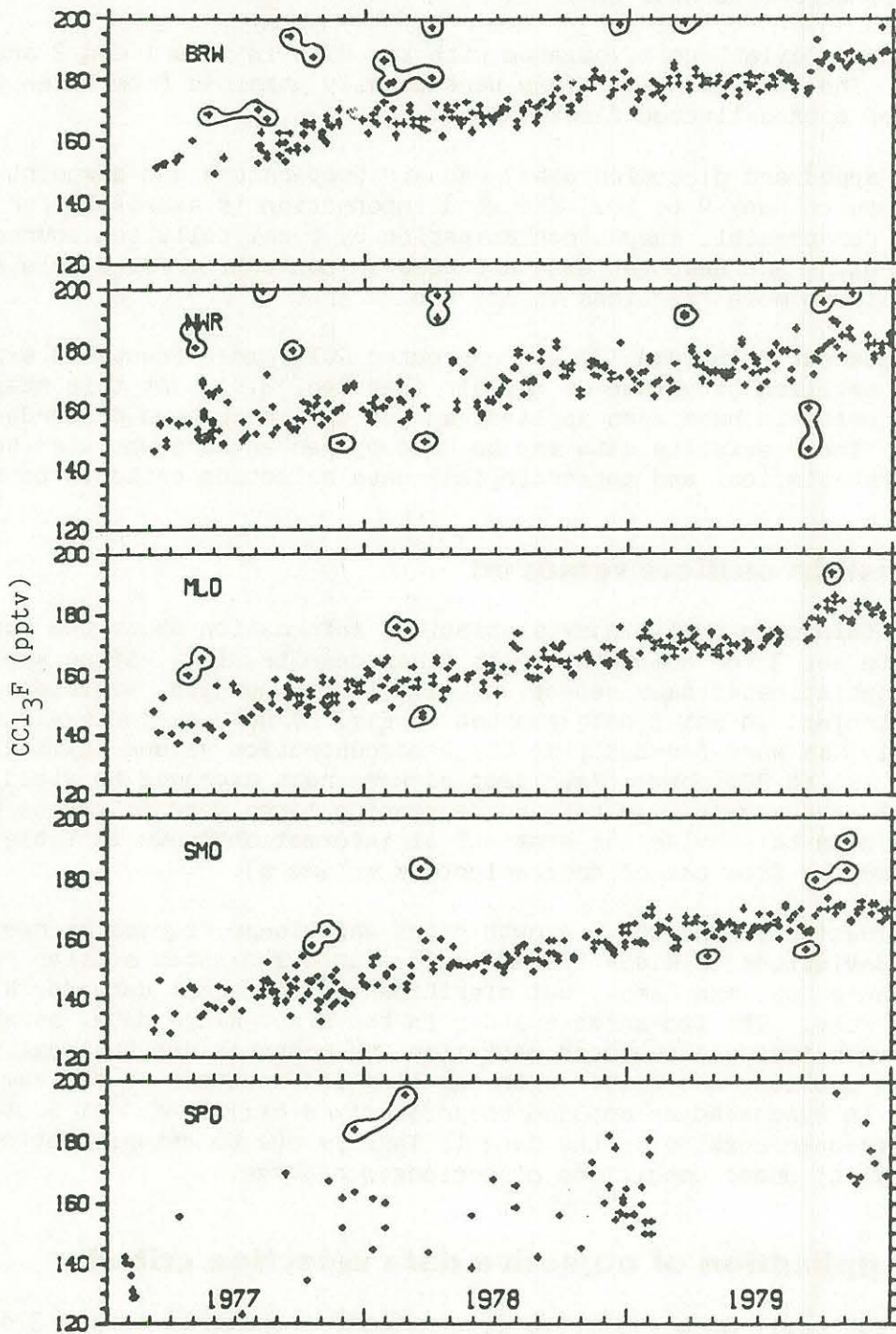


Figure 5.--Raw CCl<sub>3</sub>F data (excluding concentrations <120 pptv and >200 pptv) obtained during 1977-1979 at Barrow, Niwot Ridge, Mauna Loa, Samoa, and South Pole. Visible outliers are shown "circled."

correspond to data derived from air samples collected in dual, pressurized sample cylinders (see Sec. 2.1).

Standard deviations associated with the data in sets 1 and 2 are given in column 8. The standard deviations were usually obtained from three individual analyses of each collected flask sample.

Wind speed and direction data, and air temperature and dewpoint data are presented in columns 9 to 12. The wind information is available for use as a criterion for possible sample contamination by local pollution sources, and the temperature and dewpoint data are used in converting  $\text{CCl}_3\text{F}$  mole fractions in moist air to mole fractions in dry air.

In data set 3 (column 13) are corrected  $\text{CCl}_3\text{F}$  mole fractions expressed in parts per trillion by volume of dry air (see Sec. 2.4). At this stage no data selection criteria have been applied, and no data have been discarded or combined. These pristine data may be used by researchers who wish to apply their own statistical and meteorological data selection criteria to the data.

### **3.3.1 Visible outliers removed**

To obtain some preliminary statistical information about the quality of the data in set 3 for comparison with final results, i.e., after application of more sophisticated data selection criteria to the data, visible outliers (shown "circled" in set 3 data plotted in Fig. 5) were subjectively removed temporarily, as were far-outlying  $\text{CCl}_3\text{F}$  concentration values falling outside the range 120 to 200 pptv. Pair samples were next averaged to yield individual measurement results, and regression lines were fitted to the resulting data to provide the statistical information shown in Table 6 (see results derived from use of data selection scheme a).

Examination of the  $\text{CCl}_3\text{F}$  growth rates and linear regression residual standard deviations (r.s.d.) listed in the table indicates similar results for Barrow, Mauna Loa, and Samoa, but significantly different data for Niwot Ridge and South Pole. The increased scatter in the Niwot Ridge data, as attested to by the larger residual standard deviation, is probably due to local pollution as well as problems associated with sampling and analysis of air samples collected in evacuated as opposed to pressurized cylinders. At South Pole, the much greater scatter in the data is largely due to deterioration of air sample quality under conditions of prolonged storage.

### **3.3.2 Application of objective data selection criteria**

We next apply more objective data selection criteria to set 3 data, and compare linear regression statistics derived for the newly selected data with those obtained above for the subjectively selected data.

In general, high-quality  $\text{CCl}_3\text{F}$  data can be identified by their associated low standard deviations as well as by relatively small differences in pair-sample concentrations. Sample concentration standard deviations are primarily a function of sample analysis precision, whereas pair-sample concentration differences reflect the quality of sampling. Since our methods of sampling and analysis improved with time, and since highest quality data were obtained

Table 6.--Linear regression information for selected  
 $\text{CCl}_3\text{F}$  data for 1977 through 1979

Station	Data selection scheme*	Slope (pptv yr <sup>-1</sup> )	s.d. (pptv yr <sup>-1</sup> )	r.s.d. (pptv)	Corr. coeff.	No obs.
BRW	a	13.13	0.66	3.44	.817	--
	b	11.46	0.67	3.20	.814	69
	c	11.98	0.36	3.09	.819	124
	d	11.76	0.39	3.37	.880	129
	e	11.78	0.39	3.39	.879	129
NWR	a	10.39	0.50	4.48	.772	--
	b	9.66	0.77	4.30	.740	58
	c	10.80	0.41	3.92	.852	122
	d	10.37	0.48	4.66	.789	127
	e	10.56	0.47	4.61	.797	127
MLO	a	12.98	0.41	3.80	.883	--
	b	12.38	0.53	3.03	.873	82
	c	13.00	0.37	3.03	.913	122
	d	12.62	0.41	3.56	.883	128
	e	12.51	0.40	3.47	.887	127
SMO	a	12.67	0.40	3.84	.881	--
	b	11.75	0.49	2.98	.874	85
	c	12.31	0.33	2.98	.918	127
	d	12.47	0.36	3.40	.902	135
	e	12.79	0.35	3.37	.908	135
SPO	a	11.97	1.95	10.95	.488	--
	b	13.16	3.74	9.19	.579	11
	c	11.56	1.64	8.71	.581	38
	d	12.04	1.93	11.04	.493	42
	e	9.93	2.28	11.15	.353	37

\* a: Outliers subjectively removed.

b: Pair-sample data only. Concentration standard deviation (s.d.)  $\leq 4.8$  pptv; concentration pair difference  $\leq 7.8$  pptv.

c: As b, but including data falling within  $\pm 2.0$  residual standard deviations (r.s.d.) of the regression line fitted to b data.

d: As b, but including data falling within  $\pm 3.0$  r.s.d. of the regression line fitted to b data.

e: As b, but including data falling within  $\pm 3.0$  r.s.d. of the regression parabola fitted to b data.

Note: Accepted data selection scheme is d.

at Barrow, Mauna Loa, and Samoa in 1979, these data were used, as follows, to characterize optimum sampling and analysis procedures within the GMCC CCl<sub>3</sub>F monitoring program and, hence, to identify highly reliable data.

The top histogram in Fig. 6 illustrates the distribution of standard deviations associated with CCl<sub>3</sub>F mole fractions for the combined Barrow, Mauna Loa, and Samoa data for the year 1979. If we take 96% of the entire body of data with the smallest standard deviations to be representative of optimum CCl<sub>3</sub>F sampling and analysis procedures, this histogram defines maximum acceptable standard deviations for sample concentrations to be 4.8 pptv. (That the CCl<sub>3</sub>F monitoring program improved with time is attested to by application of this standard deviation criterion to similar 1977 and 1978 data, which identified 91% of 1978 samples as highly reliable but only 80% of 1977 samples as highly reliable.)

Corresponding to the maximum acceptable standard deviation of 4.8 pptv for CCl<sub>3</sub>F sample analyses is a maximum acceptable concentration difference for pair samples of 7.8 pptv. This value, derived from the statistical t-test, defines pair-sample concentration means belonging to the same population. Thus, if the concentration difference for a pair of samples is greater than 7.8 pptv, then it is likely that some sampling problem occurred, e.g., contamination, rendering the populations different for the two simultaneously collected samples.

Highly reliable CCl<sub>3</sub>F data are, therefore, taken to be pair-sample concentrations having associated standard deviations of 4.8 pptv or less, with the concentration difference for each pair being less than or equal to 7.8 pptv. In data set 3 of Appendix B, such data are identified by flags 0 given in column 14, labeled F3. Less-reliable set 3 data are characterized by F3 flags 1 to 5 described in the Description of Data Sets in the appendix.

Since individual CCl<sub>3</sub>F concentration values of pair-sample data not meeting the high reliability criterion may be of high quality, as may also be concentration values derived from singly collected air samples, the following procedure was employed to include such data in the select data set. First, the highly reliable CCl<sub>3</sub>F pair-sample values (flagged 0) of data set 3 were averaged to yield individual measurement results (see data set 4 and flag column F4). Next, regression lines were fitted to those measurement data for each station, and corresponding regression-line residual standard deviations were computed. Less-reliable CCl<sub>3</sub>F mole fractions of data set 3, flagged 1 to 4, were then deemed acceptable if they fell within the range of  $\pm 3$  residual standard deviations of the linear-regression values. Such acceptable CCl<sub>3</sub>F data, with pair values averaged where they exist, are included in data set 4, with flags 0 in column F4.

CCl<sub>3</sub>F measurement results presented in data set 4, with associated flags 0 in column F4, are presumed to be representative of background atmospheric conditions at Barrow, Niwot Ridge, Mauna Loa, Samoa, and South Pole. They are recommended for use by researchers who accept the data selection procedures described here as satisfactory. Linear-regression statistics for these data are shown in Table 6 (corresponding to results derived from use of data selection scheme d).

As indicated in Table 6, use of several other data selection schemes was investigated. In scheme b, only highly reliable data (coded 0 in flag column

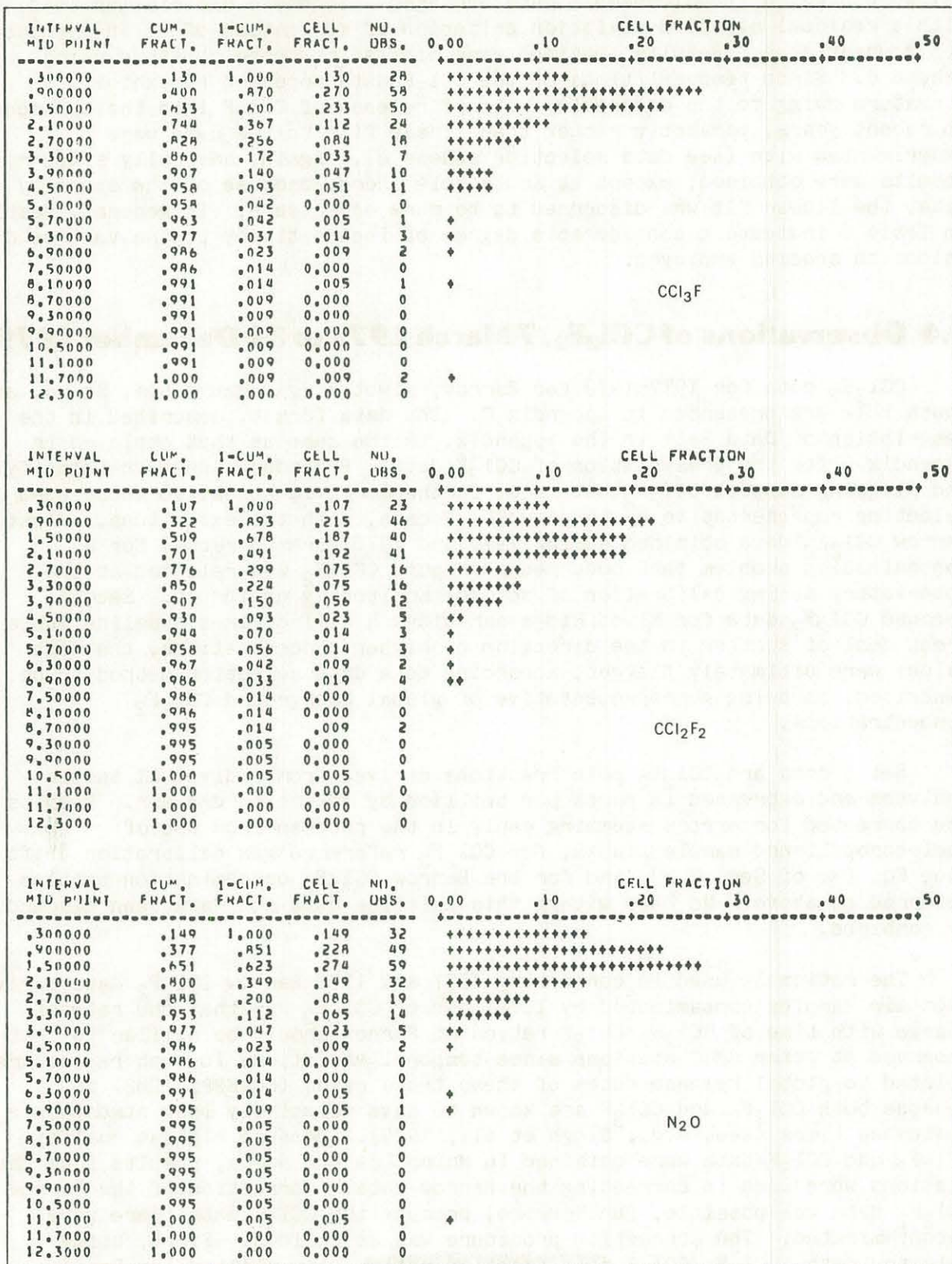


Figure 6.--Histograms showing the distribution of standard deviations associated with CCl<sub>3</sub>F, CCl<sub>2</sub>F<sub>2</sub>, and N<sub>2</sub>O concentrations measured at Barrow, Mauna Loa, and Samoa during 1979.



F3) were used, with pair-sample data averaged. Scheme c was similar to d, but with a residual standard deviation criterion of  $\pm 2$  instead of  $\pm 3$  in the data replacement step. Results obtained were similar to those obtained using scheme d. Since temporal plots of the  $\text{CCl}_3\text{F}$  data appeared to exhibit curvature owing to the decreasing rate of release of  $\text{CCl}_3\text{F}$  into the atmosphere in recent years, parabolic rather than linear fits to the data were experimented with (see data selection scheme e). Again, basically similar results were obtained, except at South Pole where, because of the sparsity of data, the linear fit was discerned to be more acceptable. In general, results in Table 6 indicate a considerable degree of insensitivity to the various data selection schemes employed.

### 3.4 Observations of $\text{CCl}_2\text{F}_2$ , 7 March 1977 to 31 December 1979

$\text{CCl}_2\text{F}_2$  data for 1977-1979 for Barrow, Niwot Ridge, Mauna Loa, Samoa, and South Pole are presented in Appendix C. The data format, described in the Description of Data Sets in the appendix, is the same as that employed in Appendix B for the presentation of  $\text{CCl}_3\text{F}$  data. Procedures used in identifying and flagging suspect  $\text{CCl}_2\text{F}_2$  data are, furthermore, identical to those used in selecting representative background  $\text{CCl}_3\text{F}$  data, with two exceptions. First, Barrow  $\text{CCl}_2\text{F}_2$  data obtained during 1977 and 1978 were corrected for a contamination problem that occurred when pure  $\text{CCl}_2\text{F}_2$  was released at the observatory during calibration of aerosol monitoring equipment. Second, because  $\text{CCl}_2\text{F}_2$  data for Niwot Ridge exhibited a well-defined baseline but a great deal of scatter in the direction of higher concentrations, the high values were ultimately flagged, according to a data selection method to be described, as being nonrepresentative of global background  $\text{CCl}_2\text{F}_2$  concentrations.

Set 3 data are  $\text{CCl}_2\text{F}_2$  mole fractions derived from individual sample analyses and expressed in parts per trillion by volume in dry air. Results are corrected for errors stemming early in the program from use of unelectropolished sample flasks, for  $\text{CCl}_2\text{F}_2$  reference gas calibration drift [see Eq. (3) of Sec. 2.3], and for the Barrow  $\text{CCl}_2\text{F}_2$  contamination problem referred to above. No data within this pristine data set have been discarded or combined.

The rationale used in correcting 1977 and 1978 Barrow  $\text{CCl}_2\text{F}_2$  data derived from air samples contaminated by local use of  $\text{CCl}_2\text{F}_2$  was that the rate of change with time of  $\text{CCl}_2\text{F}_2/\text{CCl}_3\text{F}$  ratios at Barrow should be similar to that observed at other GMCC stations since temporal variations in such ratios are related to global release rates of these trace gases (CMAFPP, 1982) and because both  $\text{CCl}_2\text{F}_2$  and  $\text{CCl}_3\text{F}$  are known to have relatively long atmospheric residence times (see, e.g., Singh et al., 1979). Because highest quality  $\text{CCl}_2\text{F}_2$  and  $\text{CCl}_3\text{F}$  data were obtained in Mauna Loa and Samoa, results from these stations were used in correcting the Barrow data. Correction of the Barrow  $\text{CCl}_2\text{F}_2$  data was possible, furthermore, because the  $\text{CCl}_3\text{F}$  data there were uncontaminated. The correction procedure was as follows. First, using selected data,  $\text{CCl}_2\text{F}_2/\text{CCl}_3\text{F}$  mole fraction ratios were plotted for Barrow, Mauna Loa, and Samoa as shown in Fig. 7. Least-squares regression lines [Eqs. (10) and (11)] were then fitted to the Mauna Loa and Samoa data, while a least-squares fourth-degree polynomial curve [Eq. (12)] was fitted to the results from Barrow:

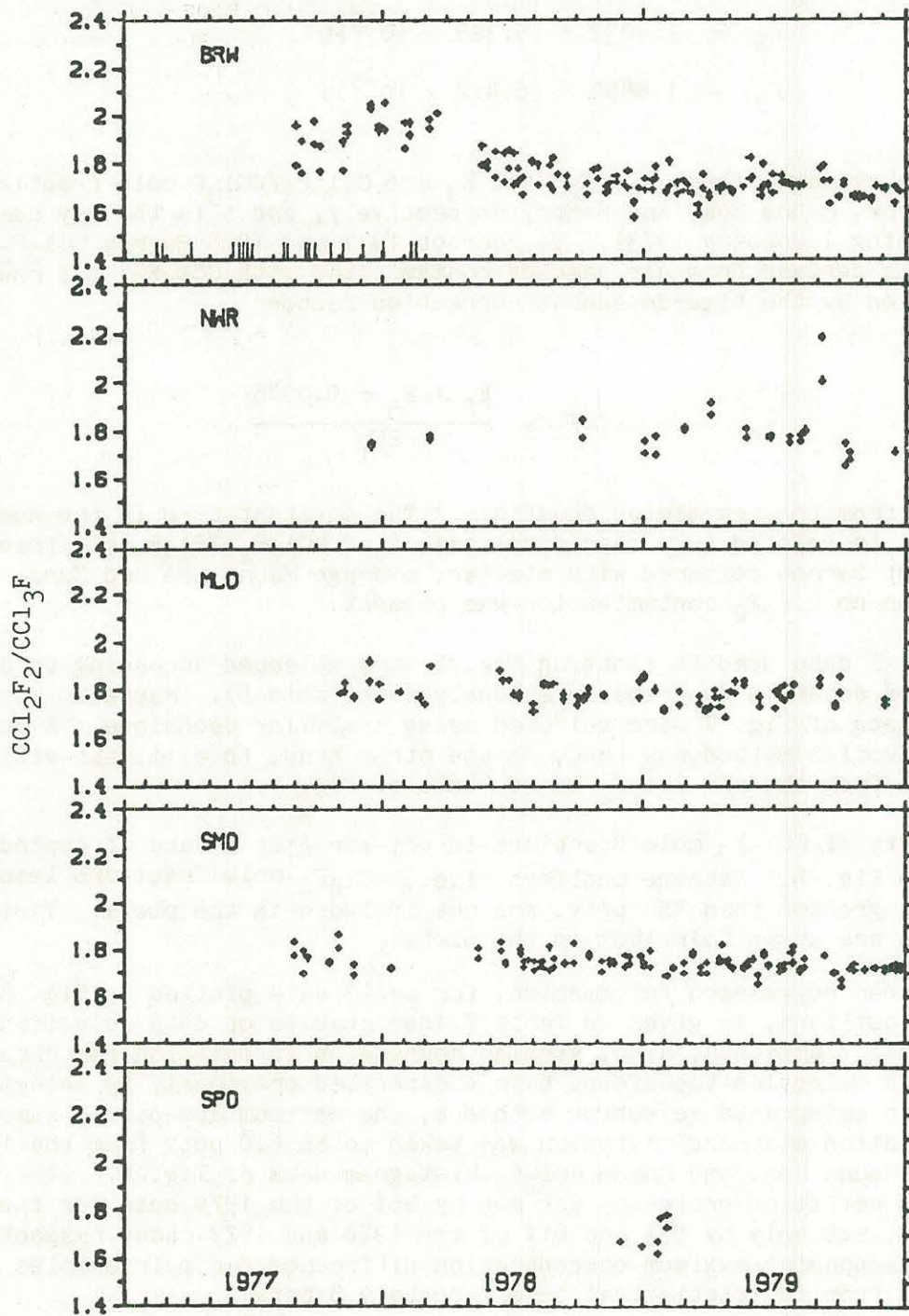


Figure 7.-- $\text{CCl}_2\text{F}_2/\text{CCl}_3\text{F}$  ratio plots for Barrow, Niwot Ridge, Mauna Loa, Samoa, and South Pole. Vertical bars shown near the abscissa of the Barrow data plot indicate times when nephelometer calibrations were performed with  $\text{CCl}_2\text{F}_2$ , causing contamination of flask air samples.

$$F_1 = -285.27 + 0.5460t - (3.86 \times 10^{-4})t^2 + (1.205 \times 10^{-7})t^3 - (1.399 \times 10^{-11})t^4 \quad (10)$$

$$F_2 = 1.9032 - (5.325 \times 10^{-5})t \quad (11)$$

$$F_3 = 1.8880 - (6.412 \times 10^{-5})t \quad (12)$$

In the above equations,  $F_1$ ,  $F_2$ , and  $F_3$  are  $\text{CCl}_2\text{F}_2/\text{CCl}_3\text{F}$  mole fraction ratios for Barrow, Mauna Loa, and Samoa, respectively, and  $t$  is the day number (with  $t = 0$  being 1 January 1973). To correct 1977 and 1978 Barrow  $\text{CCl}_2\text{F}_2$  mole fractions derived from air samples contaminated with  $\text{CCl}_2\text{F}_2$ , the raw data were multiplied by the time-dependent correction factor

$$\text{C.F.} = \frac{F_2 + F_3 - 0.0948}{2F_1} \quad (13)$$

derived from the regression equations. The constant term in the numerator of Eq. (13) is related to a mean displacement of  $\text{CCl}_2\text{F}_2/\text{CCl}_3\text{F}$  mole fraction ratios at Barrow compared with similar, average Mauna Loa and Samoa data for 1979 when no  $\text{CCl}_2\text{F}_2$  contamination was present.

$\text{CCl}_3\text{F}$  data used in plotting Fig. 7 were selected according to data selection scheme d described previously (see Table 6). Mauna Loa and Samoa  $\text{CCl}_2\text{F}_2$  data of Fig. 7 were selected using a similar technique. A subjective data selection method was used, on the other hand, to eliminate visible outliers from the raw  $\text{CCl}_2\text{F}_2$  Barrow data of Fig. 7.

Plots of  $\text{CCl}_2\text{F}_2$  mole fractions in dry air (set 3 data of Appendix C) are shown in Fig. 8. Extreme outliers, i.e.,  $\text{CCl}_2\text{F}_2$  mole fractions less than 200 pptv and greater than 450 pptv, are not included in the plots. Visible outliers are shown "circled" in the plots.

Linear regression information, for set 3 data plotted in Fig. 8 minus visible outliers, is given in Table 7 (see results of data selection scheme a). Table 7 presents, also, similar regression information for data derived from data selection techniques b to e described previously in selecting  $\text{CCl}_3\text{F}$  data. In using data selection method b, the maximum acceptable sample concentration standard deviation was taken to be 6.0 pptv from the 1979 Barrow, Mauna Loa, and Samoa  $\text{CCl}_2\text{F}_2$  histogram data of Fig. 6. (The 6.0 pptv standard deviation criterion was met by 96% of the 1979 data for these stations, but only by 83% and 81% of the 1978 and 1977 data, respectively.) The corresponding maximum concentration difference for pair samples was computed from the statistical t-test to be 9.8 pptv.

Note from Table 7 that the four data selection schemes b to e yield, for Mauna Loa, Samoa, and South Pole, very similar  $\text{CCl}_2\text{F}_2$  growth rates and residual standard deviations. Corresponding Barrow  $\text{CCl}_2\text{F}_2$  growth rates are lower, perhaps because of imperfect correction of 1977 and 1978 Barrow data derived from samples contaminated with  $\text{CCl}_2\text{F}_2$ .

A peculiarity of the linear-regression statistics for Niwot Ridge data selected using schemes b and c is that the residual standard deviations are

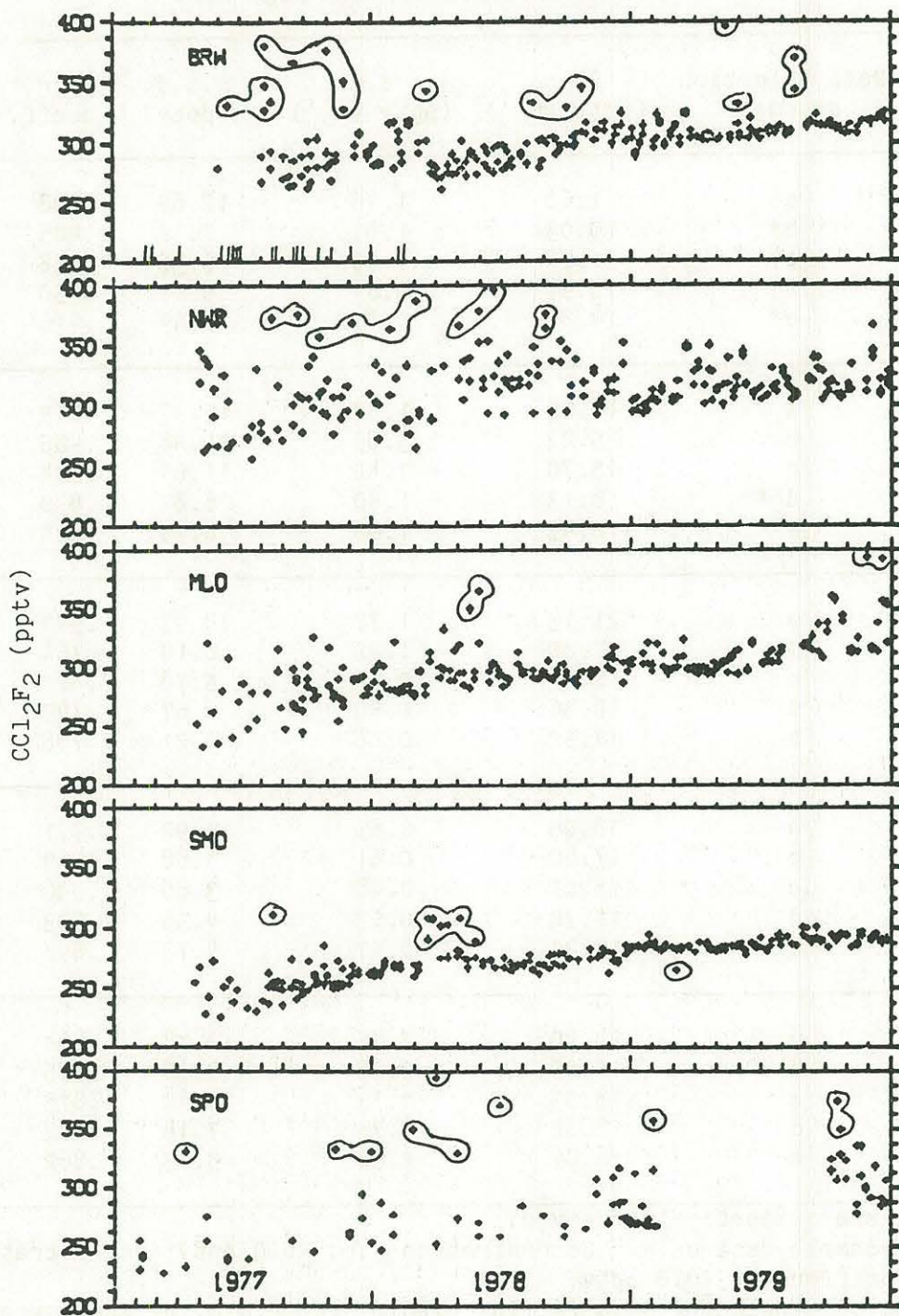


Figure 8.--Raw  $\text{CCl}_2\text{F}_2$  data (excluding concentrations  $\leq 200$  pptv and  $>450$  pptv) obtained at Barrow, Niwot Ridge, Mauna Loa, Samoa, and South Pole during 1977-1979. Visible outliers are shown "circled." The Barrow data have been corrected for a contamination problem that occurred during 1977 and 1978 when pure  $\text{CCl}_2\text{F}_2$  was used at the Barrow observatory to calibrate a nephelometer. See Fig. 7 legend for a discussion about the vertical bars on the Barrow plot.

Table 7.--Linear regression information for selected  $\text{CCl}_2\text{F}_2$  data for 1977 through 1979

Station	Data selection scheme*	Slope (pptv yr <sup>-1</sup> )	s.d. (pptv yr <sup>-1</sup> )	r.s.d. (pptv)	Corr. coeff.	No obs.
BRW	a	1.66	1.75	12.69	.008	--
	b†	10.03	1.61	7.12	.405	59
	c†	11.71	0.90	6.36	.618	106
	d†	15.57	0.89	6.17	.750	107
	e†	14.89	0.91	6.49	.716	108
NWR	a	10.55	1.87	15.97	.219	--
	b	15.22	3.09	11.48	.455	31
	c	15.70	1.42	11.61	.544	105
	d**	18.13	1.80	6.82	.830	58
	e**	18.43	1.08	6.79	.834	60
MLO	a	21.13	1.72	14.93	.541	--
	b	17.80	1.42	6.14	.764	51
	c	18.01	0.82	5.78	.827	104
	d	18.36	0.90	6.67	.797	109
	e	17.52	0.86	6.21	.798	107
SMO	a	18.05	0.85	7.92	.771	--
	b	17.90	0.61	3.68	.919	79
	c	18.01	0.48	3.80	.930	110
	d	17.30	0.53	4.35	.903	118
	e	18.31	0.57	4.73	.897	119
SPO	a	24.20	2.35	14.28	.694	--
	b	18.05	3.25	5.65	.755	12
	c	18.03	1.33	5.42	.873	29
	d	18.82	1.73	7.16	.792	33
	e	18.01	1.58	5.03	.862	23

\* a: Outliers subjectively removed.

b: Pair-sample data only. Concentration s.d.  $\leq 6.0$  pptv; concentration pair difference  $\leq 9.8$  pptv.

c: As b, but including data falling within  $\pm 2.0$  r.s.d. of the regression line fitted to b data.

d: As b, but including data falling within  $\pm 3.0$  r.s.d. of the regression line fitted to b data.

e: As b, but including data falling within  $\pm 3.0$  r.s.d. of the regression parabola fitted to b data.

Note: Accepted data selection scheme is d.

† 1977 and 1978 Barrow data corrected for inadvertent contamination of air with  $\text{CCl}_2\text{F}_2$  (see text).

\*\*Values falling above the regression parabola fitted to d and e data discarded.

unusually large. This large scatter in the data is believed to stem from local (and perhaps continental)  $\text{CCl}_2\text{F}_2$  pollution sources, and from collection at Niwot Ridge of air samples in evacuated cylinders that are more prone to contamination than are the pressurized cylinders used at all other GMCC stations. Note also that in Fig. 8 the Niwot Ridge  $\text{CCl}_2\text{F}_2$  data exhibit a well-defined baseline. To determine a background  $\text{CCl}_2\text{F}_2$  data set for Niwot Ridge, data selection scheme d\*\* was employed (see Table 7). This involved, first, application to the data set of data selection criterion d. Because the resulting data exhibited curvature as well as considerable scatter, a parabolic regression line was fitted to them, and all values lying above this line were flagged as being nonrepresentative of global background conditions. A linear regression fitted to the remaining data then exhibited a residual standard deviation comparable with those observed at other GMCC stations.

Select  $\text{CCl}_2\text{F}_2$  data, presumably representative of background atmospheric conditions at Barrow, Niwot Ridge, Mauna Loa, Samoa, and South Pole, are presented in data set 4 of Appendix C with associated flags 0 in column F4. They comprise optimum pair-sample data with the standard deviation of each sample mole fraction being  $\leq 6.0$  pptv and the mole fraction difference for each sample pair being  $\leq 9.8$  pptv and other data, presented in data set 3, that lie within  $\pm 3$  residual standard deviations of regression lines fitted to the optimum pair-sample data (excluding selected Niwot Ridge data, flagged 6 in column F4, that were deemed to be nonrepresentative of atmospheric global background conditions). In this data set, 1977 and 1978 data have been corrected for a contamination problem that occurred due to use at Barrow of pure  $\text{CCl}_2\text{F}_2$  to calibrate a nephelometer. Also,  $\text{CCl}_2\text{F}_2$  mole fractions in this data set, derived from pair air samples collected simultaneously, have been averaged to yield individual measurement results.

### **3.5 Observations of $\text{N}_2\text{O}$ , 7 March 1977 to 31 December 1979**

$\text{N}_2\text{O}$  data for 1977-1979 for Barrow, Niwot Ridge, Mauna Loa, Samoa, and South Pole are presented in Appendix D. The data format, described in the Description of Data Sets in the appendix, is the same as that employed in Appendixes B and C for the presentation of  $\text{CCl}_3\text{F}$  and  $\text{CCl}_2\text{F}_2$  data. Procedures used in identifying and flagging nonbaseline  $\text{N}_2\text{O}$  data are, furthermore, virtually identical to those used in screening  $\text{CCl}_3\text{F}$  data.

Set 3 data are  $\text{N}_2\text{O}$  mole fractions, in parts per billion by volume (ppbv) of dry air, derived from individual sample analyses. Results are corrected for errors stemming early in the program from use of unelectropolished sample flasks, for sample analysis errors resulting from the location of chromatograph  $\text{N}_2\text{O}$  peaks on the tails of  $\text{O}_2$  peaks [see Eq. (2) Sec. 2.2], and for a change in the  $\text{N}_2\text{O}$  calibration scale from that of R. A. Rasmussen to that of NOAA/GMCC (see Sec. 2.3). No data have been discarded or combined. These pristine data may be used by researchers who wish to apply their own statistical and meteorological data selection criteria to the data.

Plots of  $\text{N}_2\text{O}$  mole fractions in dry air (set 3 data) are shown in Fig. 9. Extreme outliers, i.e.,  $\text{N}_2\text{O}$  mole fractions less than 280 ppbv and greater than 320 ppbv, are not included in the plots. Visible outliers are shown circled in the plots.

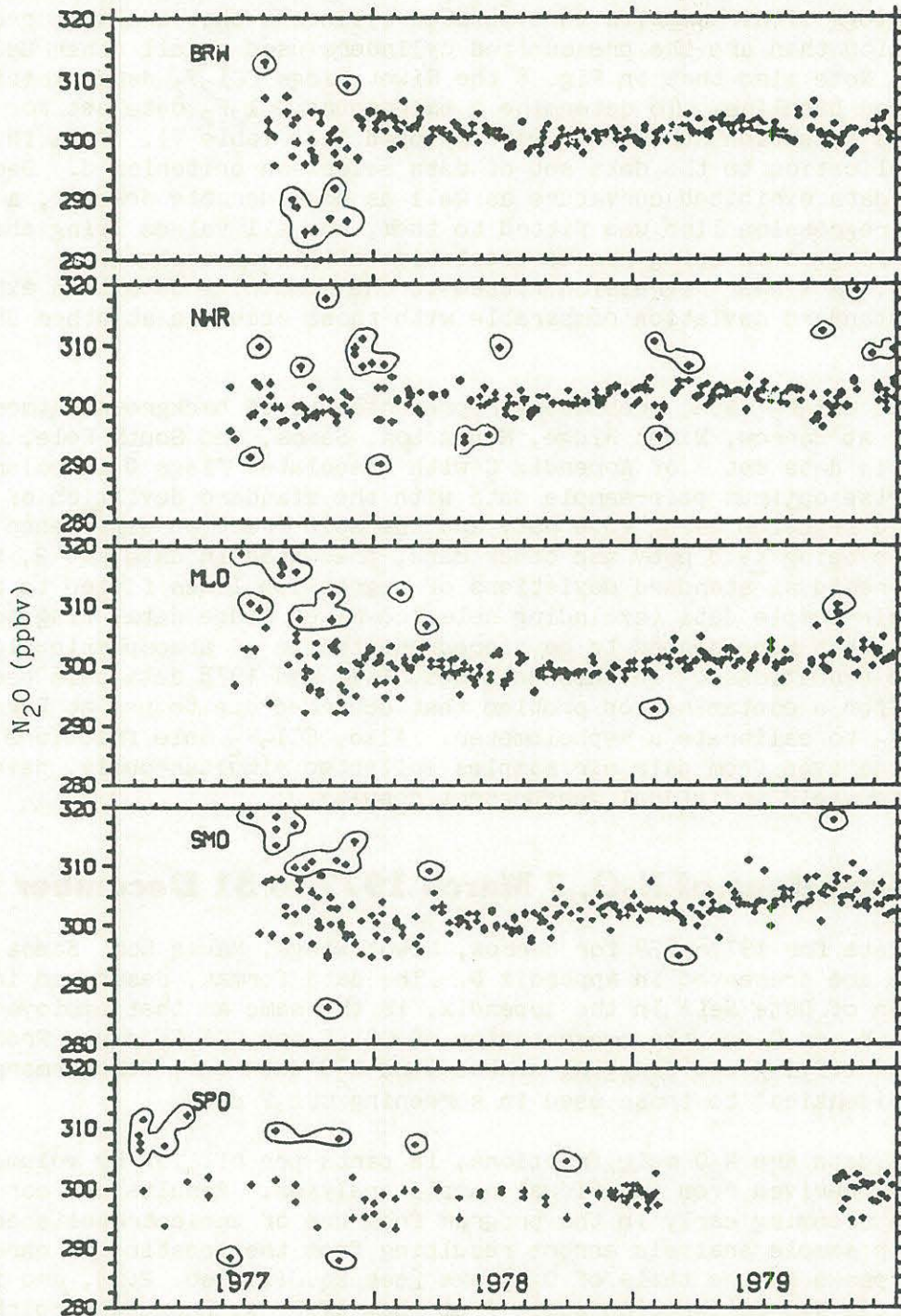


Figure 9.--Raw N<sub>2</sub>O data (excluding concentrations <280 ppbv and >320 ppbv) obtained at Barrow, Niwot Ridge, Mauna Loa, Samoa, and South Pole during 1977-1979. Visible outliers are shown "circled."

Linear-regression information, for set 3 data plotted in Fig. 8 minus visible outliers, are given in Table 8 (see data selection scheme a results). Table 8 presents, also, similar information for data derived from use of data selection techniques b to d described previously. (Data selection method e, which employs a parabolic regression fit, was not used since the addition of a second-order term did not significantly improve the predictive power of the straight-line model).

In using data selection method b to screen for baseline data, the maximum acceptable sample concentration standard deviation was taken to be (see Sec. 3.3.2) 3.8 ppbv from the 1979 Barrow, Mauna Loa, and Samoa  $N_2O$  histogram data of Fig. 6. The corresponding maximum pair-sample concentration difference was computed from the statistical t-test to be 6.2 ppbv.

That sample analysis procedures improved in the  $N_2O$  monitoring program following 1977 is attested to by the observation that 96% and 92% of the 1979 and 1978 sample data, respectively, met the standard deviation criterion of  $\leq 3.8$  ppbv, while only 37% of the 1977 data did.

As indicated in Table 8, the data selection schemes b to d used for identifying acceptable data yield similar  $N_2O$  growth rates and linear-regression residual deviations. Since application of data selection method d screens out the least amount of data, this scheme was chosen for use in arriving at a final, select  $N_2O$  data set.

Select  $N_2O$  data, presumably representative of background atmospheric conditions at Barrow, Niwot Ridge, Mauna Loa, Samoa, and South Pole, are presented in data set 4 of Appendix D with associated flags 0 in column F4. Here,  $N_2O$  mole fractions derived from pair samples collected simultaneously have been averaged. The data have, furthermore, been adjusted by the correction factor 0.8933 to express results in the new NOAA/GMCC  $N_2O$  calibration scale (see Sec. 2.3).

## 4. DATA ARCHIVING

$CCl_3F$ ,  $CCl_2F_2$ , and  $N_2O$  data presented in Appendixes A, B, C, and D of this report are archived on magnetic tape at the

National Climatic Data Center  
Climatological Services Section  
Federal Building  
Asheville, NC 28801-2696

Telephone: FTS 672-0682  
Commercial: (704) 259-0682

When requesting the data, ask for tape No. A80365 located in GMCC Tape Deck No. 9708. A charge for supplying tapes is normally made to cover costs of reproduction and handling. The FORTRAN format for reading the data will be automatically supplied with the tape.



Table 8.--Linear regression information for selected  
N<sub>2</sub>O Data for 1977 through 1979

Station	Data selection scheme*	Slope (ppbv yr <sup>-1</sup> )	s.d. (ppbv yr <sup>-1</sup> )	r.s.d. (ppbv)	Corr. coeff.	No obs.
BRW	a	0.15	0.24	1.72	.003	117
	b	0.03	0.24	1.31	.000	89
	c	-0.05	0.20	1.36	.001	107
	d	-0.05	0.21	1.51	.000	114
NWR	a	0.74	0.20	1.50	.119	106
	b	0.62	0.28	1.24	.082	57
	c	0.86	0.19	1.30	.187	95
	d	0.85	0.20	1.51	.150	103
MLO	a	1.12	0.30	2.31	.107	117
	b	1.01	0.33	1.73	.107	81
	c	0.92	0.26	1.73	.114	104
	d	0.83	0.29	2.12	.071	112
SMO	a	1.91	0.29	2.34	.265	119
	b	3.21	0.34	1.57	.556	74
	c	2.98	0.22	1.49	.648	104
	d	2.88	0.24	1.79	.570	111
SPO	a	0.57	0.30	1.74	.072	50
	b	1.24	0.38	1.15	.287	29
	c	1.11	0.27	1.11	.316	38
	d	1.12	0.29	1.26	.282	41

\* a: Outliers subjectively removed.

b: Pair-sample data only. Concentration s.d.  $\leq 3.8$  ppbv; concentration pair difference  $\leq 6.2$  ppbv.

c: As b, but including data falling within  $\pm 2.0$  r.s.d. of the regression line fitted to b data.

d: As b, but including data falling within  $\pm 3.0$  r.s.d. of the regression line fitted to b data.

Note: Accepted data selection scheme is d.

## 5. SUMMARY OF RESULTS

Selected  $\text{CCl}_3\text{F}$ ,  $\text{CCl}_2\text{F}_2$ , and  $\text{N}_2\text{O}$  data fitted with regression lines are shown in Figs. 10 to 13. Included on the plots are statistics pertaining to the growth rates and mixing ratios of these gases, including 95% confidence limit errors.

Considerable scatter is evident in the 1973-1977  $\text{CCl}_3\text{F}$  data shown in Fig. 10. The apparently systematic variations in the data should not be interpreted as representing atmospheric conditions. Rather, they stem from temporal sensitivity changes in the chromatograph gas analyzer, which could not be accounted for without the use of calibration gases. Note that the biases in the data are similar for all three stations. This is because samples collected on a weekly basis at the stations were generally analyzed within a few days of each other. In such data, information about the latitudinal distribution of a trace gas species tends to be preserved. The data of Fig. 10 clearly exhibit a pronounced latitudinal gradient, as might be expected from our knowledge that the midlatitude region in the Northern Hemisphere is the primary source of anthropogenically produced  $\text{CCl}_3\text{F}$ .

The mean  $\text{CCl}_3\text{F}$  growth rate deduced from the data plotted in Fig. 10 is  $(17.3 \pm 4.3)\% \text{ yr}^{-1}$ . This result falls within the range of growth rates  $(13-28)\% \text{ yr}^{-1}$  determined by other researchers during the early to mid 1970's (see, e.g., Pack et al., 1977; Fraser and Pearman, 1978). Owing to the large 95% confidence limit uncertainty of  $4.3\% \text{ yr}^{-1}$  associated with the 17.3% growth rate, however, the data are not precise enough to permit a highly reliable estimate to be made of the atmospheric lifetime of  $\text{CCl}_3\text{F}$ .

$\text{CCl}_3\text{F}$  data for 1977-1979 shown in Fig. 11, except for those from South Pole station, are considerably improved in quality compared with those obtained earlier in the monitoring program. This is attested to by the much smaller residual standard deviations associated with regression lines fitted to the data. Here, the linear-regression analysis data are intended only to provide information on data quality, rather than to characterize the temporal behavior of  $\text{CCl}_3\text{F}$  in the atmosphere. Note, for example, that the data plots of Fig. 11 exhibit curvature. Thus, although the mean  $\text{CCl}_3\text{F}$  growth rate for 1977-1979 is deduced from the linear regression statistics to be  $11.85 \text{ pptv yr}^{-1}$ , the growth rate throughout this period is, in fact, decreasing as might be expected from the rate of input of  $\text{CCl}_3\text{F}$  into the atmosphere, which peaked in 1974 (CMAFPP, 1982). The  $\text{CCl}_3\text{F}$  distributions shown in Fig. 11 exhibit, furthermore, a marked latitudinal gradient. Another data feature, currently under investigation, is the cyclic (annual) variation discernable in the Barrow data. Additional data analyses in progress will yield more definitive information on  $\text{CCl}_3\text{F}$  secular trends and latitudinal gradients, as well as an estimate of the atmospheric residence time of  $\text{CCl}_3\text{F}$ .

The inferior quality of the South Pole  $\text{CCl}_3\text{F}$  data plotted in Fig. 11 most likely stems from deterioration of samples during extended storage times. Because of logistics constraints, up to 10 months can elapse between times of sample collection and analysis.

Selected  $\text{CCl}_2\text{F}_2$  data are plotted in Fig. 12. Here again, linear-regression statistics reveal the data to be of high quality, from which reliable information is obtainable about  $\text{CCl}_2\text{F}_2$  growth rates, concentrations, abundances, latitudinal distributions, and atmospheric residence time.  $\text{CCl}_2\text{F}_2$  growth rates determined from the individual stations' data are remarkably

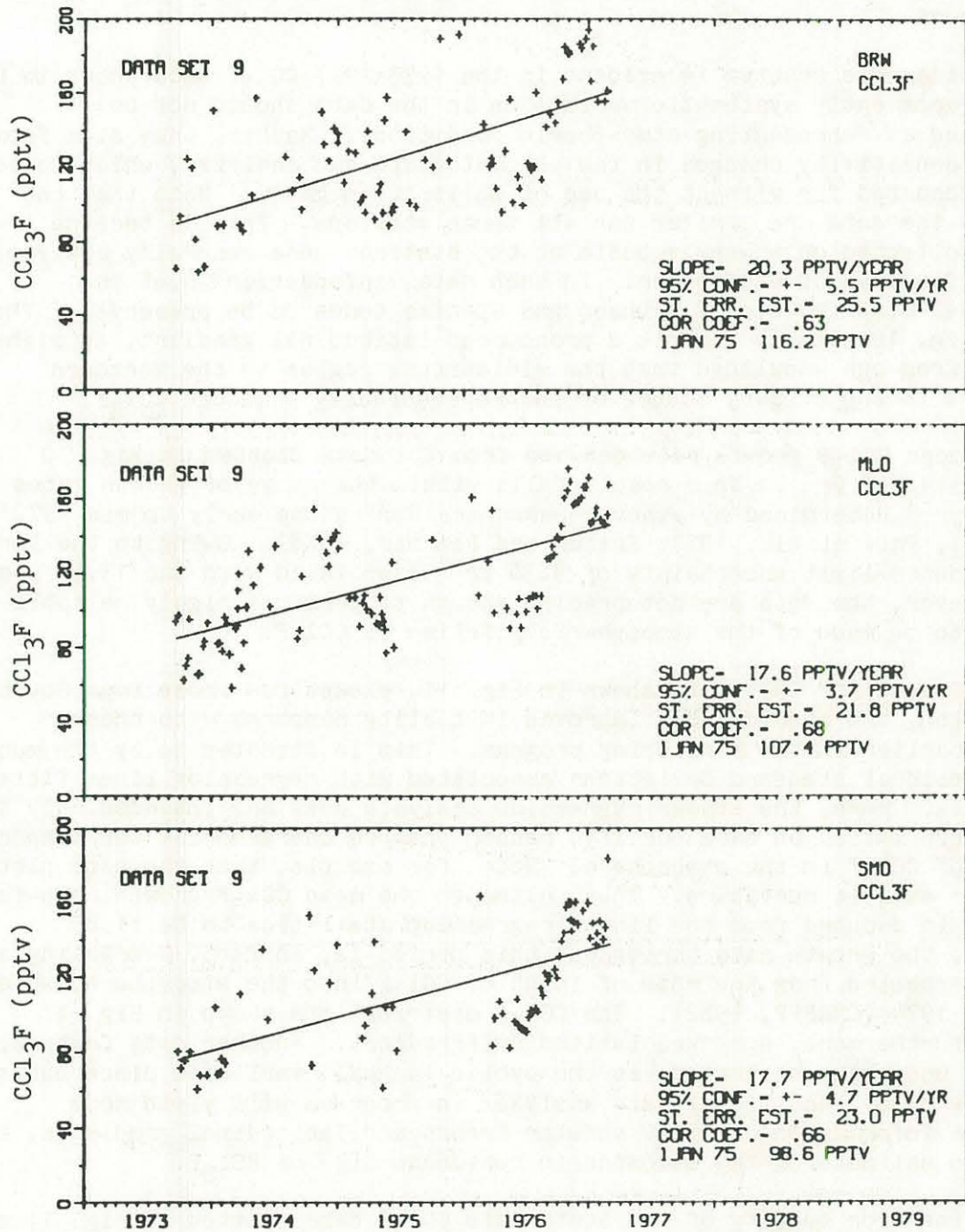


Figure 10.--Plots of selected 1973-1977 Barrow, Mauna Loa, and Samoa  $\text{CCl}_3\text{F}$  data fitted with regression lines.

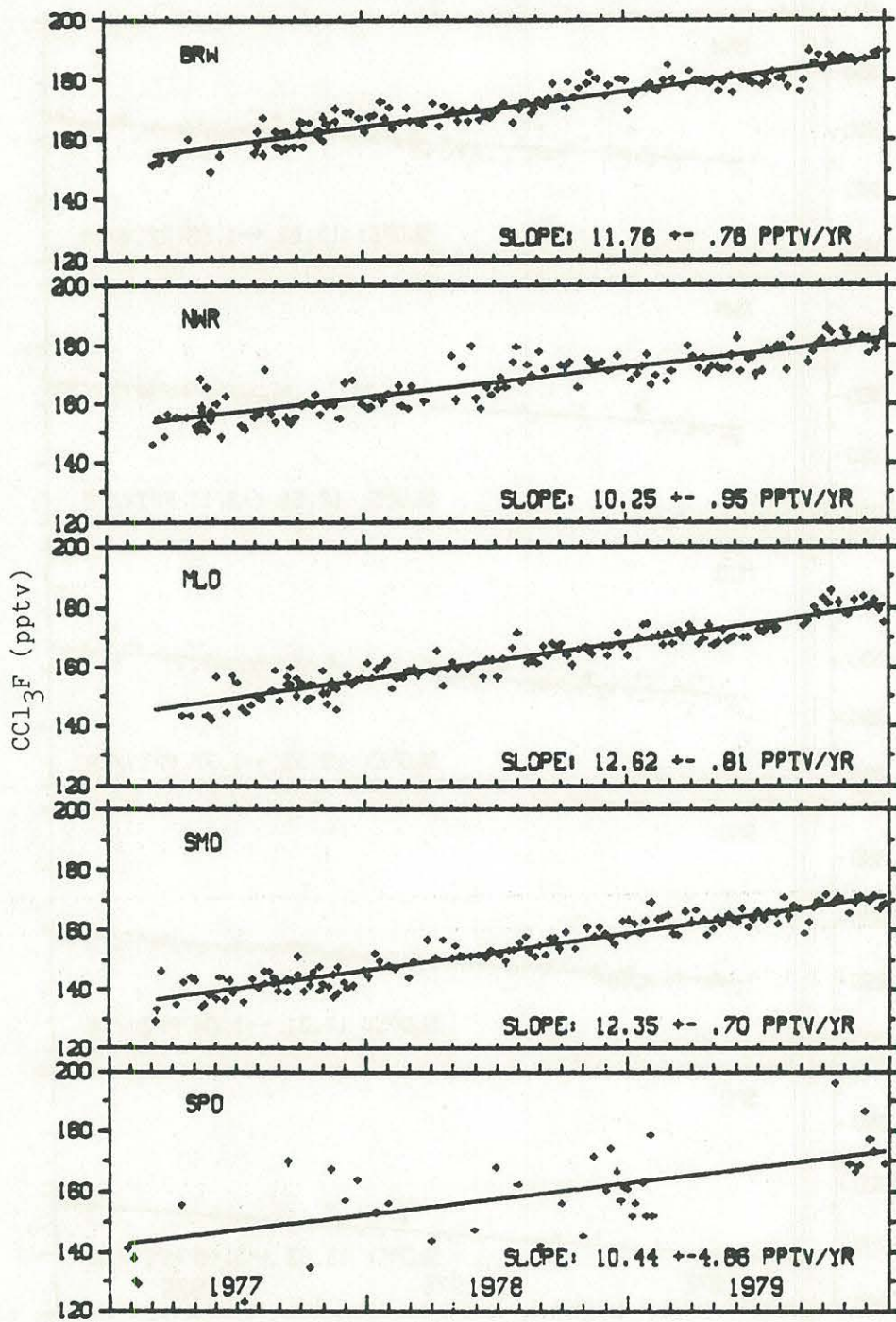


Figure 11.--Plots of selected 1977-1979 Barrow, Niwot Ridge, Mauna Loa, Samoa, and South Pole  $\text{CCl}_3\text{F}$  data fitted with regression lines.

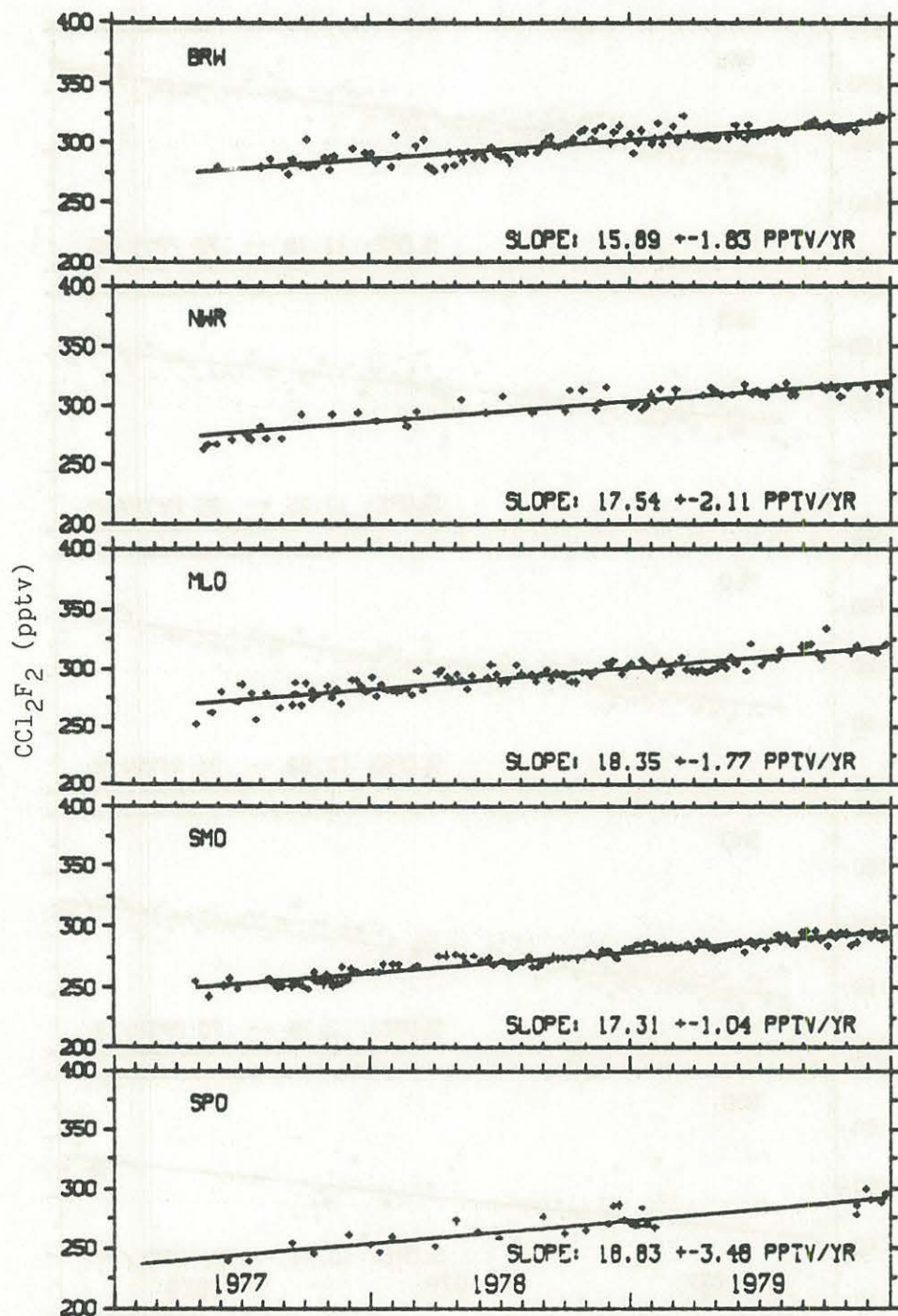


Figure 12.--Plots of selected 1977-1979 Barrow, Niwot Ridge, Mauna Loa, Samoa, and South Pole  $\text{CCl}_2\text{F}_2$  data fitted with regression lines.

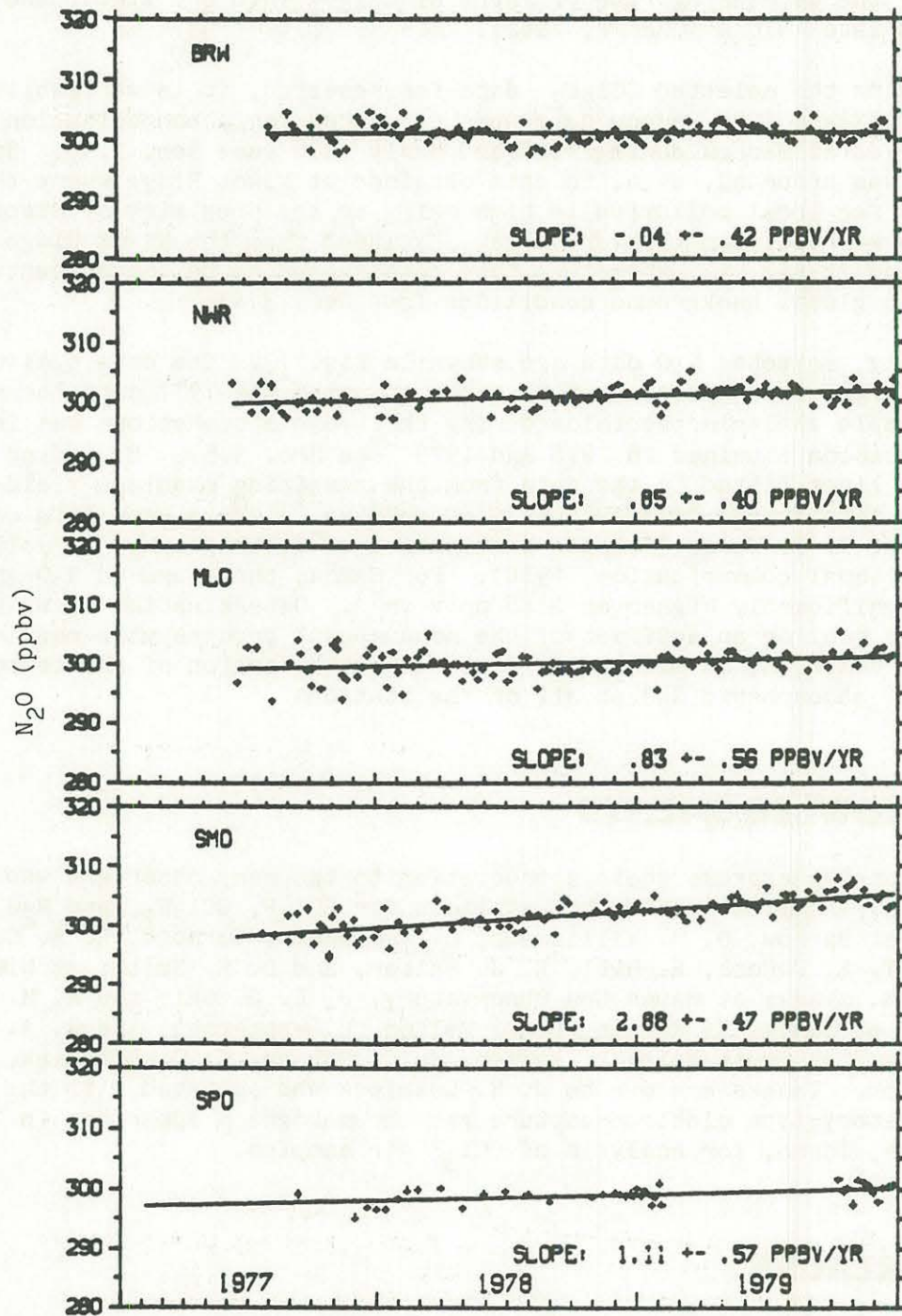


Figure 13.--Plots of selected 1977-1979 Barrow, Niwot Ridge, Mauna Loa, Samoa, and South Pole N<sub>2</sub>O data fitted with regression lines.

similar, with the mean growth rate being  $17.58 \text{ pptv yr}^{-1}$ . As in the case of the  $\text{CCl}_3\text{F}$  data, curvatures in the  $\text{CCl}_2\text{F}_2$  data plots are clearly evident, reflecting the decreasing rate of input of  $\text{CCl}_2\text{F}_2$  into the atmosphere during the mid to late 1970's (CMAFPP, 1982).

In using the selected  $\text{CCl}_2\text{F}_2$  data for research, it is worthwhile noting that the 1977 and 1978 Barrow data were corrected for a contamination problem that occurred at Barrow during 1977 and early 1978 (see Sec. 3.4). Special treatment was afforded, also, to data obtained at Niwot Ridge where the propensity for local pollution is high owing to the proximity of Niwot Ridge to a large metropolitan (Denver) area. Excluded from the Niwot Ridge  $\text{CCl}_2\text{F}_2$  data plotted in Fig. 12, therefore, are data deemed to be unrepresentative of atmospheric global background conditions (see Sec. 3.4).

Finally, selected  $\text{N}_2\text{O}$  data are shown in Fig. 13. The data quality is generally high, though care must be taken in using the 1977 data for research, in that sample analysis precision during that year's operations was inferior to the precision attained in 1978 and 1979 (see Sec. 3.5). Excluding Samoa, regression lines fitted to the data from the remaining stations yield a mean  $\text{N}_2\text{O}$  growth rate during 1977-1979 of  $0.69 \text{ ppbv yr}^{-1}$ . This result is compatible with data of R. F. Weiss (Scripps Institution of Oceanography, La Jolla, Calif.; personal communication, 1980). For Samoa, the measured  $\text{N}_2\text{O}$  growth rate is significantly higher at  $2.88 \text{ ppbv yr}^{-1}$ . Determination of whether this increase is real or an artifact of the measurement process will require additional research, as will an in-depth characterization of the temporal behavior of atmospheric  $\text{N}_2\text{O}$  at all of the stations.

## 6. ACKNOWLEDGMENTS

The authors express their appreciation to the many observers who collected air samples at the GMCC stations for  $\text{CCl}_3\text{F}$ ,  $\text{CCl}_2\text{F}_2$ , and  $\text{N}_2\text{O}$  analyses: at Barrow, D. M. Williamson, L. Westerman, E. Wood, R. A. C. Williams, T. E. DeFoor, S. Hill, B. J. Halter, and D. R. Smith; at Niwot Ridge, J. M. Clark; at Mauna Loa Observatory, J. F. S. Chin and A. M. Yoshinaga; at Samoa, V. Rumble, D. W. Nelson, L. Westerman, and R. A. C. Williams; and at South Pole, B. Halter, J. C. Osborn, J. C. Bortniak, and W. L. Hiscox. Thanks are due to J. E. Lovelock who assisted with the set-up of a laboratory-type electron-capture gas chromatograph apparatus in 1973 at Idaho Falls, Idaho, for analysis of  $\text{CCl}_3\text{F}$  air samples.

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## Appendix A: CCl<sub>3</sub>F Data for Barrow, Mauna Loa, and Samoa, 16 September 1973 to 6 March 1977

### Description of Data Sets:

1. Data analyzed on chromatograph; coulometric calibration.
2. Data corrected for use of unelectropolished sample flasks (correction factor = 0.936).
3. CCl<sub>3</sub>F mole fractions expressed in pptv dry air. Data set 3 is composed of corrected, unselected data. It is intended for use by researchers who desire to apply their own statistical and/or meteorological data selection criteria for improvement of data quality and identification of background measurement conditions.
4. Values less than 50.0 pptv and greater than 200.00 pptv discarded.
5. Values having standard deviations (s.d.) greater than 12.0 discarded.
6. Data lying outside 2 residual standard deviations (r.s.d.) of the regression line fitted to data set 5 discarded.
7. For wind speed less than 1.34 m s<sup>-1</sup>, data discarded lying above 1.65 r.s.d. of the data set (d.s.) 6 regression line.
8. For wind direction at BRW of 210° to 310°, MLO of 270° to 20°, and SMO of 225° to 315°, data discarded lying above 1.65 r.s.d. of data set 6 regression line. Data set 8 is composed of corrected, selected data presumably representing atmospheric background measurement conditions at the various stations. It is intended for use by researchers who accept the data selection procedures outlined in this report. Data quality is poor.

### Summary of Data Quantity (Data Loss Expressed in Percent):

	Total meas.	Loss d.s. 4	Loss d.s. 5	Loss d.s. 6	Loss d.s. 7	Loss d.s. 8	Cum. loss
BRW	118	17.8	4.2	2.5	0.0	0.0	24.6
MLO	149	14.1	8.0	2.0	0.0	1.3	25.5
SMO	121	24.0	7.4	3.3	0.0	0.0	34.7

### Data Base Codes:

MSG	Missing datum	*	Climatological data used
CLM	Wind calm, direction indeterminate	D	Datum discarded
-99.9	Low unrecorded dewpoint	U	Undetermined standard deviation

F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND M/S	DIR DEG	TEMP AIR	DEW PT	3 PPTV	4 PPTV	5 PPTV	6 PPTV	7 PPTV	8 PPTV	S.D. PPTV
BRW	73	259	2155	010001	69.5	65.1	1.6	6.3	90	5.0	3.0	65.5	65.5	65.5	65.5	65.5	65.5	1.6
BRW	73	273	0120	030002	99.8	33.4	4.0	12.5	90	-6	-1.6	93.9	93.9	93.9	93.9	93.9	93.9	4.0
BRW	73	284	0020	020003	412.7	386.3	52.4	6.3	50	-4.4	-14.2	387.1	0	0	0	0	0	0
BRW	73	292	2240	040004	133.0	124.5	4.9	1.8	45	-4.5	-7.9	124.9	124.9	124.9	124.9	124.9	124.9	4.9
BRW	73	306	2230	050005	128.1	119.9	5.5	8.1	90	-12.0	-99.9	120.1	120.1	120.1	120.1	120.1	120.1	5.5
BRW	73	317	1930	060006	86.6	81.1	7.9	1.3	4	-10.0	-13.3	81.2	81.2	81.2	81.2	81.2	81.2	7.9
BRW	73	324	2325	010007	67.8	63.5	6.7	1.8	45	-22.0	-32.8	63.5	63.5	63.5	63.5	63.5	63.5	6.7
BRW	73	334	2345	020008	152.7	142.9	18.0	3.1	60	-24.0	-38.5	143.0	143.0	0	0	0	0	0
BRW	73	343	0030	030009	70.7	66.2	7.5	8.5	65	-21.0	-99.9	66.3	66.3	66.3	66.3	66.3	66.3	7.5
BRW	74	4	0000	040010	160.5	150.2	5.9	4.0	180	-4.2	-11.1	150.6	150.6	150.6	150.6	150.6	150.6	5.9
BRW	74	16	2227	050011	94.5	88.5	6.2	3.5	70	-26.0	-99.9	88.6	88.6	88.6	88.6	88.6	88.6	6.2
BRW	74	32	2240	060012	95.2	89.1	3.1	3.6	80	-19.0	-99.9	89.3	89.3	89.3	89.3	89.3	89.3	3.1
BRW	74	80	1830	020013	95.1	89.0	1.3	7.6	60	-25.5	-99.9	89.2	89.2	89.2	89.2	89.2	89.2	1.3
BRW	74	89	1920	010014	91.5	95.6	5.4	5.4	50	-21.0	-99.9	85.8	85.8	85.8	85.8	85.8	85.8	5.4
BRW	74	115	2325	030015	112.4	105.2	4.1	8.5	120	-15.0	-99.9	105.4	105.4	105.4	105.4	105.4	105.4	4.1
BRW	74	128	1917	040016	167.5	156.8	4.8	6.7	60	-8.5	MSG	157.1	157.1	157.1	157.1	157.1	157.1	4.8
BRW	74	166	2230	050017	5986.0	5602.9	72.0	4.9	20	5.0	-8.3	5621.2	0	0	0	0	0	0
BRW	74	184	0023	060018	111.1	104.0	13.2	4.0	320	9.2	-1.8	104.5	104.5	0	0	0	0	0
BRW	74	190	2003	020019	381.3	356.9	15.2	6.7	30	5.0	-2	359.0	0	0	0	0	0	0
BRW	74	213	0132	010020	133.5	124.8	8.2	6.7	80	9.5	7.3	126.0	126.0	126.0	126.0	126.0	126.0	8.2
BRW	74	232	2207	030021	114.1	106.8	7.9	2.2	80	8.5	6.5	107.8	107.8	107.8	107.8	107.8	107.8	7.9
BRW	74	253	2244	040022	122.0	114.2	4.0	5.8	100	3.2	2.3	115.0	115.0	115.0	115.0	115.0	115.0	4.0
BRW	74	260	2330	050023	103.2	96.6	3.4	3.6	270	9.2	8.8	97.7	97.7	97.7	97.7	97.7	97.7	3.4
BRW	74	295	2319	050027	195.6	183.3	11.1	4.0	50	-21.1	-99.9	183.6	183.6	183.6	0	0	0	0
BRW	74	316	0028	040028	159.7	149.5	9.3	11.6	105	-22.0	-99.9	149.8	149.8	149.8	149.8	149.8	149.8	9.3
BRW	74	324	2355	060029	141.4	132.4	10.7	7.5	50	-20.1	-99.9	132.6	132.6	132.6	132.6	132.6	132.6	10.7
BRW	74	337	2327	010030	132.2	123.7	4.2	3.1	46	-31.7	-99.9	124.0	124.0	124.0	124.0	124.0	124.0	4.2
BRW	74	352	2330	050031	150.3	140.7	7.8	3.1	25	-23.8	-99.9	141.0	141.0	141.0	141.0	141.0	141.0	7.8
BRW	74	363	0320	040032	142.3	133.2	6.2	5.4	160	-42.2	-99.9	133.5	133.5	133.5	133.5	133.5	133.5	6.2
BRW	74	365	2317	010033	147.2	137.8	2.0	6.3	180	-43.9	-99.9	138.1	138.1	138.1	138.1	138.1	138.1	2.0
BRW	75	16	1918	040034	119.7	112.0	5.3	6.3	60	-38.2	-44.3	112.1	112.1	112.1	112.1	112.1	112.1	5.3
BRW	75	29	0015	030035	137.4	128.6	7.4	11.5	110	-23.1	-99.9	128.9	128.9	128.9	128.9	128.9	128.9	7.4
BRW	75	42	2329	020036	142.9	133.8	12.8	5.4	100	-33.5	-99.9	134.0	134.0	0	0	0	0	0
BRW	75	50	0128	050037	136.4	127.7	4.1	8.9	30	-31.1	-99.9	127.9	127.9	127.9	127.9	127.9	127.9	4.1
BRW	75	57	1845	010038	112.2	105.0	15.1	8.5	350	-31.8	-99.9	105.2	105.2	0	0	0	0	0
BRW	75	63	1842	060039	108.3	101.4	2.2	9.4	10	-25.0	-99.9	101.6	101.6	101.6	101.6	101.6	101.6	2.2
BRW	75	73	2309	040040	111.3	104.2	3.7	9.4	110	-17.0	-24.7	104.3	104.3	104.3	104.3	104.3	104.3	3.7
BRW	75	77	2020	030041	102.4	95.8	1.7	5.8	100	-28.0	-99.9	96.0	96.0	96.0	96.0	96.0	96.0	1.7
BRW	75	84	2220	020042	148.9	139.4	6.7	4.9	120	-23.9	-99.9	139.6	139.6	139.6	139.6	139.6	139.6	6.7
BRW	75	91	1848	050043	141.6	132.5	2.5	4.5	40	-23.1	-99.9	132.8	132.8	132.8	132.8	132.8	132.8	2.5
BRW	75	106	0115	010044	98.5	92.2	7.8	4.5	220	-20.7	-99.9	92.4	92.4	92.4	92.4	92.4	92.4	7.8
BRW	75	115	2022	060045	114.2	106.9	6.9	7.2	50	-15.3	-99.9	107.1	107.1	107.1	107.1	107.1	107.1	6.9
BRW	75	121	1821	040046	118.8	111.2	3.0	4.5	40	-13.4	-99.9	111.4	111.4	111.4	111.4	111.4	111.4	3.0
BRW	75	129	2320	030047	101.9	95.4	3.9	4.9	80	-8	-9.2	95.7	95.7	95.7	95.7	95.7	95.7	3.9
BRW	75	133	2330	020048	155.0	145.1	3.0	10.7	90	-6.4	-18.7	145.3	145.3	145.3	145.3	145.3	145.3	3.0
BRW	75	140	1845	050049	167.8	157.1	7.0	5.4	100	-5.0	-18.5	157.3	157.3	157.3	157.3	157.3	157.3	7.0
BRW	75	147	2235	010050	94.9	88.8	6.5	8.0	130	-1.0	-8.5	89.1	89.1	89.1	89.1	89.1	89.1	6.5
BRW	75	156	0025	060051	102.6	96.0	3.6	6.3	70	2.3	-7.7	96.4	96.4	96.4	96.4	96.4	96.4	3.6
BRW	75	161	2045	030052	105.5	98.7	5.0	5.8	100	1.3	-9.5	99.0	99.0	99.0	99.0	99.0	99.0	5.0
BRW	75	196	2322	040053	147.3	137.9	8.8	6.0	80	5.5	5.2	139.1	139.1	139.1	139.1	139.1	139.1	8.8
BRW	75	206	2335	020054	107.5	100.6	5.9	6.0	60	3.0	2.3	101.3	101.3	101.3	101.3	101.3	101.3	5.9

## F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.O.	WIND		TEMP DEG C		3 PPTV	4 PPTV	5 PPTV	6 PPTV	7 PPTV	8 PPTV	S.D. PPTV
								M/3	DEG	AIR	DEW PT							
BRW	75	215	1915	030055	117.3	109.8	14.8	4.5	100	4.2	1.6	110.5	110.5	0	0	0	0	0
BRW	75	226	2315	050056	104.8	98.1	7.2	5.4	120	7.5	7.5	99.1	99.1	99.1	99.1	99.1	99.1	7.2
BRW	75	250	0145	010057	132.1	123.6	8.5	7.5	150	-1.0	-1.0	124.3	124.3	124.3	124.3	124.3	124.3	8.5
BRW	75	262	0000	020058	203.1	190.1	5.5	8.0	30	-4.0	-4.0	191.0	191.0	191.0	0	0	0	0
BRW	75	269	1900	030059	219.9	205.8	9.5	6.3	70	-2.8	-3.9	206.8	0	0	0	0	0	0
BRW	75	274	1945	040060	128.2	120.0	8.0	8.5	100	-6.0	-7.1	120.4	120.4	120.4	120.4	120.4	120.4	8.0
BRW	75	283	0100	050061	540.2	505.6	10.1	8.0	80	-10.5	-12.5	506.8	0	0	0	0	0	0
BRW	75	287	1815	060062	231.4	215.6	4.7	8.1	50	-19.4	-21.7	216.8	0	0	0	0	0	0
BRW	75	296	0130	010063	201.6	189.7	10.7	6.7	90	-15.0	-16.7	189.0	189.0	189.0	189.0	189.0	189.0	10.7
BRW	75	316	1930	020064	271.6	254.2	6.1	4.0	40	-26.5	-27.0	254.4	0	0	0	0	0	0
BRW	75	323	0030	030065	132.4	123.9	4.7	4.5	80	-28.0	-28.0	124.0	124.0	124.0	124.0	124.0	124.0	4.7
BRW	75	350	2330	040066	204.1	191.0	7.9	10.3	70	-21.1	-23.9	191.2	191.2	191.2	191.2	191.2	191.2	7.9
BRW	75	358	0130	050067	947.9	887.2	6.1	2.7	40	-25.8	-33.7	887.7	0	0	0	0	0	0
BRW	75	364	2310	060068	250.8	234.7	7.4	6.7	105	-28.5	31.3	245.8	0	0	0	0	0	0
BRW	76	6	2230	010069	361.1	338.0	2.4	6.7	110	-24.4	-27.2	338.2	0	0	0	0	0	0
BRW	76	19	2240	020070	240.8	225.4	3.2	3.1	6	-40.0	-44.0	225.5	0	0	0	0	0	0
BRW	76	48	2300	010071	250.2	234.2	5.6	3.1	110	-31.1	-35.0	234.3	0	0	0	0	0	0
BRW	76	56	2130	040072	152.8	143.0	7.3	5.8	80	-35.0	-38.9	143.1	143.1	143.1	143.1	143.1	143.1	7.8
BRW	76	74	0000	030073	129.0	129.7	1.8	1.8	20	-22.8	-25.6	120.8	120.8	120.8	120.8	120.8	120.8	1.8
BRW	76	79	2055	020074	133.9	125.3	9.1	5.4	60	-23.3	-26.7	125.4	125.4	125.4	125.4	125.4	125.4	9.1
BRW	76	83	2250	010075	130.3	122.5	.8	7.2	20	-21.1	-23.3	122.6	122.6	122.6	122.6	122.6	122.6	.8
BRW	76	93	0052	030076	116.2	108.8	4.2	7.2	70	-24.0	-99.9	109.0	109.0	109.0	109.0	109.0	109.0	4.2
BRW	76	110	2125	010077	102.8	96.2	1.5	4.5	30	-14.2	-30.0	96.3	96.3	96.3	96.3	96.3	96.3	1.5
BRW	76	119	0032	020078	137.5	128.7	1.9	4.5	350	-8.3	-10.0	129.1	129.1	129.1	129.1	129.1	129.1	1.9
BRW	76	127	2335	050079	547.6	512.6	12.0	10.3	50	-3.1	-3.6	514.9	0	0	0	0	0	0
BRW	76	133	2238	030080	166.8	155.1	1.2	6.3	70	-7.2	-12.0	156.5	156.5	156.5	156.5	156.5	156.5	1.2
BRW	76	142	2052	060081	108.2	101.3	1.9	4.9	100	-7.5	-11.1	101.5	101.5	101.5	101.5	101.5	101.5	1.9
BRW	76	146	2222	010082	89.4	83.7	.5	7.2	20	1.0	0.0	84.2	84.2	84.2	0	0	0	0
BRW	76	155	2149	020083	122.4	114.6	4.7	11.5	90	2.0	1.8	115.4	115.4	115.4	115.4	115.4	115.4	4.7
BRW	76	151	0100	030084	115.7	108.3	.8	6.7	90	2.8	2.0	109.1	109.1	109.1	109.1	109.1	109.1	.8
BRW	76	171	2059	050085	105.9	99.1	.4	4.0	100	3.9	3.2	99.9	99.9	99.9	99.9	99.9	99.9	.4
BRW	76	185	2235	010086	129.6	121.3	1.7	8.1	80	5.6	5.6	122.4	122.4	122.4	122.4	122.4	122.4	1.7
BRW	76	189	2334	060087	330.9	309.7	1.0	3.5	60	4.4	4.4	312.3	0	0	0	0	0	0
BRW	76	195	2037	020088	126.1	118.0	1.5	3.1	40	5.2	5.0	119.1	119.1	119.1	119.1	119.1	119.1	1.5
BRW	76	203	2138	030089	127.8	119.6	.9	5.4	80	8.0	8.0	120.9	120.9	120.9	120.9	120.9	120.9	.8
BRW	76	209	2247	050090	169.6	158.7	3.1	3.5	80	5.0	4.8	160.1	160.1	160.1	160.1	160.1	160.1	3.1
BRW	76	225	2035	010091	120.8	113.1	1.5	6.3	80	4.4	3.9	114.0	114.0	114.0	114.0	114.0	114.0	1.5
BRW	76	238	0100	060092	150.1	140.5	1.0	5.8	100	7.2	7.2	141.9	141.9	141.9	141.9	141.9	141.9	1.0
BRW	76	251	2300	020093	157.1	147.0	3.4	7.2	160	8.3	8.3	148.6	148.6	148.6	148.6	148.6	148.6	3.4
BRW	76	259	0045	030094	414.3	387.8	3.0	11.2	70	4.4	4.4	391.0	0	0	0	0	0	0
BRW	76	266	0015	050095	152.0	142.3	2.1	10.3	220	11.1	11.1	144.1	144.1	144.1	144.1	144.1	144.1	2.1
BRW	76	273	1850	010096	164.7	154.2	1.0	9.3	50	-1.8	-1.8	155.0	155.0	155.0	155.0	155.0	155.0	1.0
BRW	76	279	2240	060097	223.8	209.5	.9	7.2	110	-3.5	-10.0	210.1	0	0	0	0	0	0
BRW	76	289	2125	020098	178.2	166.8	.3	9.8	110	-8.9	-12.8	167.2	167.2	167.2	167.2	167.2	167.2	.8
BRW	76	293	1830	030099	197.0	184.4	2.5	13.9	120	-10.6	-15.0	184.8	184.8	184.8	184.8	184.8	184.8	2.6
BRW	76	301	2147	050100	236.1	221.0	2.6	12.0	10	-20.0	-99.9	221.4	0	0	0	0	0	0
BRW	76	303	2215	010101	193.2	180.8	3.1	7.2	360	-13.9	-18.9	181.1	181.1	181.1	181.1	181.1	181.1	3.1
BRW	76	303	2215	200101	209.5	196.1	0	7.2	360	-13.9	-18.9	196.4	196.4	196.4	196.4	196.4	196.4	0
BRW	76	303	2330	040102	193.2	180.8	.3	8.1	360	-14.4	-16.7	181.1	181.1	181.1	181.1	181.1	181.1	.3
BRW	76	303	2330	220102	610.4	571.3	0	8.1	360	-14.4	-16.7	572.3	0	0	0	0	0	0
BRW	76	304	0135	060103	194.7	182.2	2.6	6.7	10	-16.1	-22.2	182.4	182.4	182.4	182.4	182.4	182.4	2.6

F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	#IND		TEMP DEG C		3 PPTV	4 PPTV	5 PPTV	6 PPTV	7 PPTV	8 PPTV	S.D. PPTV
								M/S	DEG	AIR	DEW PT							
BRW	76	304	0135	230103	1369.9	1282.2	U	6.7	10	-16.1	-22.2	1283.7	0	0	0	0	0	0
BRW	76	307	2158	020104	193.3	180.9	1.2	5.4	120	-26.0	-48.0	181.0	181.0	181.0	181.0	181.0	181.0	1.2
BRW	76	321	2005	030105	256.7	240.3	2.6	8.9	60	-12.0	-99.9	240.8	0	0	0	0	0	0
BRW	76	338	2130	020106	198.9	186.2	1.6	4.3	130	-36.0	-40.0	186.2	186.2	186.2	186.2	186.2	186.2	1.6
BRW	76	343	2330	030107	196.6	184.0	1.6	4.0	90	-31.7	-36.7	184.1	184.1	184.1	184.1	184.1	184.1	1.8
BRW	76	350	2325	050108	259.8	243.2	1.6	9.4	60	-23.3	-29.4	243.3	0	0	0	0	0	0
BRW	76	355	2245	020109	201.7	188.8	1.3	3.5	90	-30.0	-36.7	188.9	188.9	188.9	188.9	188.9	188.9	1.3
BRW	76	363	2100	030110	206.8	193.6	2.6	4.4	80	-24.0	-31.7	193.7	193.7	193.7	193.7	193.7	193.7	2.6
BRW	77	6	2030	020111	177.3	166.0	.5	5.4	110	-16.0	-21.0	166.2	166.2	166.2	166.2	166.2	166.2	.5
BRW	77	12	0005	050112	197.6	185.0	.8	4.0	80	-30.0	-35.6	185.0	185.0	185.0	185.0	185.0	185.0	.8
BRW	77	26	0008	030113	165.7	155.1	U	11.6	70	-22.0	-99.9	155.4	155.4	155.4	155.4	155.4	155.4	U
BRW	77	46	2313	020114	166.0	155.4	.6	7.2	80	-23.6	-99.9	155.7	155.7	155.7	155.7	155.7	155.7	.6
BRW	77	53	2238	050115	171.8	160.8	.6	13.0	66	-20.5	-99.9	161.1	161.1	161.1	161.1	161.1	161.1	.6

F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.O.	WIND M/S	DEG	TEMP AIR	DEG C	DEW PT	3 PPTV	4 PPTV	5 PPTV	6 PPTV	7 PPTV	8 PPTV	S.O. PPTV
MLO	73	262	2215	010001	100.0	93.6	4.7	5.2	0	14.4	-8.3		94.1	94.1	94.1	94.1	94.1	94.1	4.7
MLO	73	271	2100	020002	103.9	97.3	11.4	4.1	70	14.4	MSG		97.6	97.6	97.6	97.6	97.6	97.6	11.4
MLO	73	278	2010	030003	129.4	121.1	7.2	6.2	70	13.3	-6.7		121.8	121.8	121.8	121.8	121.8	121.8	7.2
MLO	73	265	2000	040004	66.4	62.2	1.8	6.2	300	17.8	-6.5		62.5	62.5	62.5	62.5	62.5	62.5	1.8
MLO	73	292	2015	050005	73.6	68.9	4.1	4.1	310	11.4	8.1		70.0	70.0	70.0	70.0	70.0	70.0	4.1
MLO	73	299	2021	060006	78.2	73.2	6.9	6.2	120	15.3	5.6		74.2	74.2	74.2	74.2	74.2	74.2	6.9
MLO	73	302	2300	010007	100.2	93.8	1.6	4.1	350	14.2	8.7		95.4	95.4	95.4	95.4	95.4	95.4	1.6
MLO	73	311	2145	020008	395.2	369.9	32.9	4.1	30	11.4	3.5		374.2	0	0	0	0	0	0
MLO	73	327	2050	040010	69.2	64.8	3.3	7.7	120	8.6	-2.5		65.3	65.3	65.3	65.3	65.3	65.3	3.3
MLO	73	330	2207	050011	69.5	65.1	6.5	5.1	90	9.2	6.3		66.0	66.0	66.0	66.0	66.0	66.0	6.5
MLO	73	341	2030	060012	85.5	80.0	10.5	4.6	340	11.1	MSG		80.3	80.3	80.3	80.3	80.3	80.3	10.5
MLO	73	346	2150	010013	87.5	81.9	7.1	8.7	150	13.3	7.5		83.2	83.2	83.2	83.2	83.2	83.2	7.1
MLO	73	355	2220	020014	98.6	92.3	8.9	15.5	140	13.8	3.5		93.4	93.4	93.4	93.4	93.4	93.4	8.9
MLO	74	17	0000	040015	86.5	81.0	6.5	7.8	270	13.3	2.8		81.9	81.9	81.9	81.9	81.9	81.9	6.5
MLO	74	25	2305	030016	87.5	81.9	5.1	4.1	90	3.6	-5.2		82.4	82.4	82.4	82.4	82.4	82.4	5.1
MLO	74	32	2350	050017	82.4	77.1	5.2	4.1	0	5.6	.9		77.9	77.9	77.9	77.9	77.9	77.9	5.2
MLO	74	39	2315	010018	101.9	95.4	2.6	7.7	80	5.8	4.0		96.5	96.5	96.5	96.5	96.5	96.5	2.6
MLO	74	45	2105	020019	98.6	92.3	2.3	2.6	0	11.1	1.5		93.2	93.2	93.2	93.2	93.2	93.2	2.3
MLO	74	53	2115	030020	80.8	75.6	1.3	7.7	140	9.7	-1.5		76.2	76.2	76.2	76.2	76.2	76.2	1.3
MLO	74	60	2015	040021	61.7	57.3	2.7	2.5	330	7.8	-1.4		58.2	58.2	58.2	58.2	58.2	58.2	2.7
MLO	74	70	2105	060022	96.3	90.1	5.3	1.8	0	10.0	-19.4		90.3	90.3	90.3	90.3	90.3	90.3	5.3
MLO	74	74	2050	050023	97.5	91.3	2.2	7.7	270	7.8	-7.8		91.7	91.7	91.7	91.7	91.7	91.7	2.2
MLO	74	78	2028	080024	5792.7	5422.0	U	4.5	120	4.2	-6.9		5451.4	0	0	0	0	0	0
MLO	74	78	2031	070025	156.9	146.9	4.0	4.5	120	3.9	-6.7		147.7	147.7	147.7	147.7	147.7	147.7	4.0
MLO	74	78	2035	090026	5244.0	4908.4	U	4.6	120	3.9	-5.6		4937.7	0	0	0	0	0	0
MLO	74	78	2035	100026	117.8	110.3	10.4	4.5	120	3.9	-5.6		110.9	110.9	110.9	110.9	110.9	110.9	10.4
MLO	74	78	2040	110027	121.8	114.0	7.6	4.1	110	4.4	-5.3		114.7	114.7	114.7	114.7	114.7	114.7	7.6
MLO	74	78	2040	120027	107.2	100.3	2.5	4.1	110	4.4	-5.3		101.0	101.0	101.0	101.0	101.0	101.0	2.5
MLO	74	81	0000	130028	126.9	118.8	14.5	7.7	270	10.0	-1.1		119.8	119.8	0	0	0	0	0
MLO	74	81	0000	140028	126.7	118.6	9.8	7.7	270	10.0	-1.1		119.6	119.6	119.6	119.6	119.6	119.6	9.8
MLO	74	88	2058	060029	73.3	68.6	1.6	4.1	30	13.3	-17.2		68.8	68.8	68.8	68.8	68.8	68.8	1.6
MLO	74	95	2230	010030	88.0	82.4	9.9	4.2	130	11.7	-13.3		82.6	82.6	82.6	82.6	82.6	82.6	9.9
MLO	74	102	2050	020031	107.8	100.9	2.5	8.2	300	8.9	-.6		101.8	101.8	101.8	101.8	101.8	101.8	2.5
MLO	74	109	2030	030032	139.5	130.6	2.5	9.3	150	4.4	0.0		131.8	131.8	131.8	131.8	131.8	131.8	2.5
MLO	74	123	2207	050033	120.3	112.6	12.0	6.2	15	9.4	0.0		113.6	113.6	113.6	113.6	113.6	113.6	12.0
MLO	74	137	2130	010034	131.9	123.5	15.2	5.1	300	6.7	1.7		124.7	124.7	0	0	0	0	0
MLO	74	143	2105	060035	131.1	122.7	9.8	5.1	45	15.0	-13.9		123.1	123.1	123.1	123.1	123.1	123.1	9.8
MLO	74	151	2100	020036	164.5	154.0	6.8	5.1	300	11.7	.6		155.4	155.4	155.4	0	0	0	0
MLO	74	158	2010	030037	122.0	114.2	14.7	12.3	130	12.2	-6.1		114.8	114.8	0	0	0	0	0
MLO	74	172	2050	050038	108.9	101.9	10.0	10.3	120	13.3	-18.9		102.1	102.1	102.1	102.1	102.1	102.1	10.0
MLO	74	179	2045	060039	150.9	141.2	25.4	5.1	0	8.9	2.2		142.7	142.7	0	0	0	0	0
MLO	74	186	2145	010040	143.2	134.0	4.5	7.7	90	13.9	-14.4		134.4	134.4	134.4	134.4	134.4	134.4	4.5
MLO	74	249	2155	020041	89.8	84.1	4.3	6.2	90	14.4	-2.8		84.7	84.7	84.7	84.7	84.7	84.7	4.3
MLO	74	256	2210	050042	95.2	89.1	3.0	7.2	30	14.4	-11.1		89.5	89.5	89.5	89.5	89.5	89.5	3.0
MLO	74	263	2040	030043	125.9	117.8	2.9	5.1	45	12.2	-11.7		118.3	118.3	118.3	118.3	118.3	118.3	2.9
MLO	74	291	2035	020047	149.5	139.9	13.1	3.5	0	10.0	-1.1		141.1	141.1	0	0	0	0	0
MLO	74	298	2015	050048	164.3	153.8	9.1	10.3	120	13.9	-14.4		154.3	154.3	154.3	154.3	154.3	154.3	9.1
MLO	74	305	2043	030049	161.9	151.5	5.0	4.1	0	11.1	-11.2		152.1	152.1	152.1	152.1	152.1	152.1	0

## F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND		TEMP DEG C		3 PPTV	4 PPTV	5 PPTV	6 PPTV	7 PPTV	8 PPTV	S.O. PPTV
								M/S	DEG	AIR	DEW PT							
MLO	74	313	1845	060050	147.3	137.9	6.9	3.1	300	8.3	-11.7	138.4	138.4	138.4	138.4	138.4	138.4	6.9
MLO	74	319	2030	070051	204.1	191.0	15.0	7.2	270	7.2	-21.7	191.4	191.4	D	D	D	D	D
MLO	74	333	2030	010052	139.3	130.4	3.1	7.2	90	13.3	-12.8	130.8	130.8	130.8	130.8	130.8	130.8	3.1
MLO	74	340	2145	020053	131.3	122.9	3.4	6.2	90	8.9	-2.8	123.8	123.8	123.8	123.8	123.8	123.8	3.4
MLO	74	347	2015	050054	145.3	136.0	3.1	14.4	120	6.7	-1.1	137.1	137.1	137.1	137.1	137.1	137.1	3.1
MLO	74	354	1955	030055	147.8	138.3	6.3	11.3	150	6.1	-5.6	139.2	139.2	139.2	139.2	139.2	139.2	6.3
MLO	74	361	2016	070056	150.0	140.4	1.3	7.7	160	6.1	-2.2	141.5	141.5	141.5	141.5	141.5	141.5	1.3
MLO	75	3	2120	010057	141.6	132.5	3.8	14.4	140	5.0	-9.4	133.1	133.1	133.1	133.1	133.1	133.1	3.8
MLO	75	10	2030	060058	148.8	139.3	12.8	1.5	300	7.9	-1.1	140.4	140.4	D	D	D	D	D
MLO	75	17	2035	020059	117.7	110.2	13.9	4.1	120	8.3	-20.6	110.4	110.4	D	D	D	D	D
MLO	75	34	1950	050060	112.7	105.5	8.2	.5	330	7.2	-.6	106.4	106.4	106.4	106.4	106.4	106.4	8.2
MLO	75	38	2030	070062	161.2	150.9	5.7	2.1	320	8.9	-18.9	151.2	151.2	151.2	151.2	151.2	D	D
MLO	75	51	0430	010063	113.5	106.2	6.8	5.0	180	3.3	-1.7	107.1	107.1	107.1	107.1	107.1	107.1	6.8
MLO	75	65	0520	020065	97.4	91.2	2.6	2.6	180	5.0	-9.4	91.6	91.6	91.6	91.6	91.6	91.6	2.6
MLO	75	72	0430	050066	110.4	103.3	6.1	6.2	120	3.9	-1.7	104.2	104.2	104.2	104.2	104.2	104.2	6.1
MLO	75	79	0430	070067	115.2	107.8	4.2	14.4	90	4.4	-17.8	108.1	108.1	108.1	108.1	108.1	108.1	4.2
MLO	75	85	0600	030068	107.2	100.3	9.2	5.1	180	5.6	-13.3	100.7	100.7	100.7	100.7	100.7	100.7	9.2
MLO	75	100	0720	010069	104.8	98.1	2.6	2.6	220	2.8	-13.3	98.4	98.4	98.4	98.4	98.4	98.4	2.6
MLO	75	107	0515	060070	1835.9	1718.4	20.9	3.1	180	8.3	-16.1	1723.0	D	D	D	D	D	D
MLO	75	114	0530	020071	99.3	92.9	4.0	3.1	180	5.6	-17.8	93.2	93.2	93.2	93.2	93.2	93.2	4.0
MLO	75	119	0710	050072	98.0	31.7	2.2	3.6	182	4.4	-6.7	92.2	92.2	92.2	92.2	92.2	92.2	2.2
MLO	75	123	0520	070073	114.0	106.7	4.9	6.2	160	10.0	-9.4	107.2	107.2	107.2	107.2	107.2	107.2	4.9
MLO	75	128	0605	030074	104.5	97.8	3.5	3.1	90	7.8	-26.1	97.9	97.9	97.9	97.9	97.9	97.9	3.5
MLO	75	133	0630	010075	100.3	93.9	6.8	3.6	140	4.4	-6.7	94.4	94.4	94.4	94.4	94.4	94.4	6.8
MLO	75	137	0600	060076	95.3	89.2	6.9	3.1	210	6.1	-6.7	89.7	89.7	89.7	89.7	89.7	89.7	6.9
MLO	75	141	0600	020077	82.1	76.8	10.3	3.1	195	4.4	-13.3	77.1	77.1	77.1	77.1	77.1	77.1	10.3
MLO	75	149	0630	050078	106.3	99.5	16.0	5.7	180	9.4	-11.1	99.9	99.9	D	D	D	D	D
MLO	75	158	0710	070079	133.9	125.3	9.8	4.1	180	7.8	-12.2	125.8	125.8	125.8	125.8	125.8	125.8	9.8
MLO	75	163	0645	030080	85.2	79.7	9.6	2.1	120	8.9	-12.8	80.0	80.0	80.0	80.0	80.0	80.0	9.6
MLO	75	182	0600	010081	775.9	726.2	24.4	10.8	155	0.0	0.0	732.8	D	D	D	D	D	D
MLO	75	189	0430	020082	185.5	173.6	22.2	0.0	CLM	11.5	2.5	175.5	175.5	D	D	D	D	D
MLO	75	226	0550	030083	104.6	97.9	18.2	10.3	120	10.0	-22.2	98.1	98.1	D	D	D	D	D
MLO	75	233	0400	050084	277.5	259.7	20.4	9.3	135	12.4	3.6	262.8	D	D	D	D	D	D
MLO	75	239	2030	060085	320.2	299.7	11.0	6.2	50	12.2	-18.9	300.3	D	D	D	D	D	D
MLO	75	248	1916	070086	185.0	173.2	15.5	9.3	120	13.3	-18.9	173.5	173.5	D	D	D	D	D
MLO	75	254	0610	060087	224.7	210.3	30.6	2.1	230	8.9	-23.3	210.6	D	D	D	D	D	D
MLO	75	261	0745	010088	242.9	227.4	4.3	6.2	130	8.9	-21.1	227.8	D	D	D	D	D	D
MLO	75	275	0430	030090	146.9	137.5	6.6	7.2	100	7.8	-14.4	137.9	137.9	137.9	137.9	137.9	137.9	6.6
MLO	75	282	0730	050091	345.6	323.5	11.6	4.1	140	5.0	-5.0	323.5	D	D	D	D	D	D
MLO	75	289	0605	060092	371.1	347.3	20.7	10.3	90	4.4	-20.6	348.0	D	D	D	D	D	D
MLO	75	297	2005	070093	331.2	310.0	5.1	9.8	125	11.1	-1.2	312.6	D	D	D	D	D	D
MLO	75	310	0500	010094	370.1	346.4	8.2	4.1	120	6.7	-13.9	347.5	D	D	D	D	D	D
MLO	76	9	0425	020095	1877.6	1757.4	2.6	10.3	120	.6	-17.8	1761.5	D	D	D	D	D	D
MLO	76	17	0330	030096	215.0	201.2	1.8	4.1	290	2.8	-2.2	202.8	D	D	D	D	D	D
MLO	76	24	0145	050097	170.2	159.3	1.8	3.1	320	4.4	-1.1	160.6	160.6	160.6	160.6	160.6	160.6	1.8
MLO	76	44	0530	060098	115.5	108.1	1.2	5.1	180	5.6	-28.9	108.2	108.2	108.2	108.2	108.2	108.2	1.2
MLO	76	71	2013	070099	133.7	125.1	1.1	10.3	180	6.7	-2.2	126.1	126.1	126.1	126.1	126.1	126.1	1.1
MLO	76	83	1920	010100	163.1	152.7	1.4	7.7	150	6.1	-3.3	153.7	153.7	153.7	153.7	153.7	153.7	1.4

## F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.O.	WIND M/S	DEG DEG	TEMP AIR	DEG C DEW PT	3 PPTV	4 PPTV	5 PPTV	6 PPTV	7 PPTV	8 PPTV	S.D. PPTV
MLO	76	90	0608	030101	104.9	98.2	.6	5.1	110	1.7	-4.4	98.8	98.8	98.8	98.8	98.8	98.8	.6
MLO	76	107	2245	050102	213.5	199.8	2.3	3.1	45	10.0	-2.8	201.3	0	0	0	0	0	0
MLO	76	126	2250	010104	107.1	100.2	1.7	7.2	330	7.2	.6	101.2	101.2	101.2	101.2	101.2	101.2	1.7
MLO	76	135	2330	020105	96.3	90.1	2.1	3.6	30	11.7	-5.6	90.7	90.7	90.7	90.7	90.7	90.7	2.1
MLO	76	147	0007	060106	88.5	82.8	1.2	3.1	240	5.6	-14.4	83.1	83.1	83.1	0	0	0	0
MLO	76	155	1950	030107	104.5	97.8	4.3	5.1	310	15.6	-11.1	98.2	98.2	98.2	98.2	98.2	98.2	4.3
MLO	76	162	2048	050108	112.6	105.4	2.3	5.1	340	11.7	-1.1	106.3	106.3	106.3	106.3	106.3	106.3	2.3
MLO	76	169	2047	060109	96.8	90.6	2.9	10.3	70	16.1	-16.7	90.8	90.8	90.8	90.8	90.8	90.8	2.9
MLO	76	183	2027	070110	105.9	99.1	4.1	5.1	0	15.6	-17.2	99.4	99.4	99.4	99.4	99.4	99.4	4.1
MLO	76	191	2355	010111	113.3	106.0	.7	6.2	50	15.6	-13.3	106.4	106.4	106.4	106.4	106.4	106.4	.7
MLO	76	204	2315	020112	114.2	106.9	3.7	9.3	100	16.7	-2.8	107.7	107.7	107.7	107.7	107.7	107.7	3.7
MLO	76	211	2140	030113	114.6	107.3	2.0	5.1	310	12.2	-6.1	107.9	107.9	107.9	107.9	107.9	107.9	2.0
MLO	76	216	2159	050114	107.7	100.8	.7	10.3	120	16.1	-16.7	101.1	101.1	101.1	101.1	101.1	101.1	.7
MLO	76	225	1940	060115	114.6	107.3	.8	5.1	120	12.2	-8.3	107.8	107.8	107.8	107.8	107.8	107.8	.8
MLO	76	231	2055	070116	288.0	269.6	5.0	6.2	60	13.3	-7.8	270.9	0	0	0	0	0	0
MLO	76	238	2130	010117	546.4	511.4	4.9	6.0	320	12.2	-2.2	515.4	0	0	0	0	0	0
MLO	76	243	2120	020118	135.9	127.2	1.9	5.1	340	15.0	-11.1	127.7	127.7	127.7	127.7	127.7	127.7	1.9
MLO	76	254	2010	030119	135.9	127.2	.6	5.1	360	13.9	-5.6	128.0	128.0	128.0	128.0	128.0	128.0	.6
MLO	76	260	1941	050120	142.5	133.4	.3	2.1	310	12.2	-5.6	134.2	134.2	134.2	134.2	134.2	134.2	.3
MLO	76	265	2035	060121	138.3	129.4	1.5	2.1	30	13.3	-13.9	129.9	129.9	129.9	129.9	129.9	129.9	1.5
MLO	76	272	2105	070122	147.5	138.1	1.5	7.2	340	14.4	0.0	139.3	139.3	139.3	139.3	139.3	139.3	1.5
MLO	76	280	2125	010123	146.4	137.0	1.1	3.1	330	13.9	-2.2	138.1	138.1	138.1	138.1	138.1	138.1	1.1
MLO	76	286	2000	020124	153.9	144.1	1.2	2.5	360	12.2	-3.3	145.1	145.1	145.1	145.1	145.1	145.1	1.2
MLO	76	294	2031	030125	171.1	160.1	1.0	2.6	360	11.1	-17.8	160.5	160.5	160.5	160.5	160.5	160.5	1.0
MLO	76	303	2102	050126	174.5	163.3	1.8	3.1	310	9.4	-7.2	164.2	164.2	164.2	164.2	164.2	164.2	1.8
MLO	76	306	0000	360127	1811.8	1695.8	U	4.1	210	3.3	-20.0	1699.2	0	0	0	0	0	0
MLO	76	306	0000	240127	1136.1	1063.4	U	4.1	210	3.3	-20.0	1065.5	0	0	0	0	0	0
MLO	76	306	2020	010128	182.5	170.8	.7	4.1	290	13.9	16.7	175.7	175.7	175.7	175.7	175.7	175.7	.7
MLO	76	306	2020	390128	4684.4	4384.6	U	4.1	290	13.9	16.7	4510.1	0	0	0	0	0	0
MLO	76	310	2230	060129	179.9	168.4	2.0	3.1	350	14.4	-13.3	168.9	168.9	168.9	168.9	168.9	168.9	2.0
MLO	76	315	2058	030130	198.6	185.9	.6	2.1	360	11.7	1.7	187.8	187.8	187.8	187.8	187.8	0	0
MLO	76	321	2001	050131	167.1	156.4	.8	6.2	270	11.7	-20.0	156.7	156.7	156.7	156.7	156.7	156.7	.8
MLO	76	327	2002	060132	168.0	157.2	1.5	4.1	90	9.4	-21.7	157.5	157.5	157.5	157.5	157.5	157.5	1.5
MLO	76	334	2033	030133	168.8	158.0	1.9	3.1	300	11.1	-15.0	158.5	158.5	158.5	158.5	158.5	158.5	1.9
MLO	76	344	1955	050134	170.4	159.5	2.1	2.1	360	6.7	-6.7	160.4	160.4	160.4	160.4	160.4	160.4	2.1
MLO	76	350	1954	060135	177.1	165.8	2.6	2.1	270	10.0	-20.6	166.1	166.1	166.1	166.1	166.1	166.1	2.6
MLO	76	357	1835	030136	176.7	165.4	1.5	1.6	110	9.0	-10.0	166.1	166.1	166.1	166.1	166.1	166.1	1.5
MLO	76	364	1833	050137	182.3	170.6	2.3	3.2	100	4.0	-17.0	171.1	171.1	171.1	171.1	171.1	171.1	2.3
MLO	77	6	2202	060138	156.4	146.4	1.5	5.1	300	15.0	-17.8	146.7	146.7	146.7	146.7	146.7	146.7	1.5
MLO	77	11	1949	030139	157.7	147.6	.9	1.0	330	8.9	-20.6	147.9	147.9	147.9	147.9	147.9	147.9	.9
MLO	77	19	2158	050140	162.6	152.2	1.5	3.1	300	12.2	-19.4	152.5	152.5	152.5	152.5	152.5	152.5	1.5
MLO	77	24	2009	060141	165.2	154.6	1.3	5.1	270	12.2	-21.1	154.9	154.9	154.9	154.9	154.9	154.9	1.3
MLO	77	35	2230	030142	158.4	148.3	1.2	3.1	330	14.4	-11.1	148.8	148.8	148.8	148.8	148.8	148.8	1.2
MLO	77	45	2042	050143	155.8	145.8	.7	1.5	360	12.8	-14.4	146.3	146.3	146.3	146.3	146.3	146.3	.7
MLO	77	54	2045	060144	161.2	150.9	U	7.7	90	6.7	-12.2	151.4	151.4	151.4	151.4	151.4	151.4	U
MLO	77	59	2115	030145	178.0	166.6	U	10.3	130	5.0	-8.3	167.4	167.4	167.4	167.4	167.4	167.4	U



F11 DATA BASE

STN	YR	JCD	GHT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND		TEMP		3 PPTV	4 PPTV	5 PPTV	6 PPTV	7 PPTV	8 PPTV	S.D. PPTV
								M/S	DEG	AIR	DEW PT							
SMO	73	269	0150	010001	64.0	78.6	2.0	0.0	CLM	28.4	27.5	80.4	80.4	80.4	80.4	80.4	80.4	2.0
SMO	73	277	2355	020002	75.1	70.3	3.6	9.4	30	31.2	29.2	71.8	71.8	71.8	71.8	71.8	71.8	3.6
SMO	73	289	0045	030003	79.2	74.1	4.6	2.2	270	28.9	27.3	75.8	75.8	75.8	75.8	75.8	75.8	4.6
SMO	73	297	0050	040004	135.8	127.1	15.6	3.6	90	28.3	27.4	129.9	129.9	0	0	0	0	0
SMO	73	304	0115	050005	84.1	78.7	6.8	5.4	50	27.8	27.0	80.4	80.4	80.4	80.4	80.4	80.4	6.8
SMO	73	311	2100	060006	164.9	154.3	15.2	6.3	90	28.9	27.7	157.7	157.7	0	0	0	0	0
SMO	73	318	2115	010007	157.6	147.5	14.1	8.9	100	29.7	28.8	150.8	150.8	0	0	0	0	0
SMO	73	325	2320	020008	63.7	59.6	10.6	10.7	110	27.8	26.7	60.9	60.9	60.9	60.9	60.9	60.9	10.6
SMO	73	333	0015	030009	71.3	66.7	5.4	7.2	120	30.0	28.7	68.2	68.2	68.2	68.2	68.2	68.2	5.4
SMO	73	340	0120	040010	154.4	144.5	4.5	9.8	250	25.0	24.4	147.7	147.7	0	0	0	0	0
SMO	73	353	2130	050011	71.2	66.6	6.6	6.7	110	29.0	28.0	68.1	68.1	68.1	68.1	68.1	68.1	6.6
SMO	74	2	2110	060012	159.9	149.7	4.8	4.5	60	27.0*	24.5*	153.0	153.0	153.0	0	0	0	0
SMO	74	12	0040	010013	108.4	101.5	4.5	9.8	90	27.0*	24.5*	103.7	103.7	103.7	103.7	103.7	103.7	4.5
SMO	74	19	2100	020014	71.8	67.2	2.0	8.1	290	29.2	28.4	68.7	68.7	68.7	68.7	68.7	68.7	2.0
SMO	74	27	0200	030015	72.8	68.1	4.3	4.5	270	29.3	28.1	69.6	69.6	69.6	69.6	69.6	69.6	4.3
SMO	74	30	2340	040016	80.3	75.2	2.6	6.7	250	29.3	28.1	76.8	76.8	76.8	76.8	76.8	76.8	2.6
SMO	74	41	0110	050017	78.0	73.0	2.6	6.3	100	27.0*	24.5*	74.6	74.6	74.6	74.6	74.6	74.6	2.6
SMO	74	85	0200	060018	115.9	108.5	4.7	8.9	270	25.8	25.4	110.9	110.9	110.9	110.9	110.9	110.9	4.7
SMO	74	95	0245	070019	2640.0	2471.0	0	2.2	110	28.4	27.2	2525.4	0	0	0	0	0	0
SMO	74	95	0245	080019	1054.0	986.5	85.0	2.2	110	28.4	27.2	1008.2	0	0	0	0	0	0
SMO	74	104	0130	090020	6546.0	6127.1	0	4.5	90	29.4	28.3	6261.8	0	0	0	0	0	0
SMO	74	104	0130	100020	3035.0	2840.8	0	4.5	90	29.4	28.3	2903.2	0	0	0	0	0	0
SMO	74	115	0225	110021	1464.0	1370.3	0	6.7	280	29.1	28.4	1400.4	0	0	0	0	0	0
SMO	74	115	0225	120021	4933.0	4617.3	0	6.7	280	29.1	28.4	4718.8	0	0	0	0	0	0
SMO	74	118	0212	010022	171.9	160.9	4.9	4.5	100	28.9	27.9	164.4	164.4	164.4	0	0	0	0
SMO	74	124	2359	020023	103.6	97.0	13.1	4.5	90	29.0	28.3	99.1	99.1	0	0	0	0	0
SMO	74	136	0210	030024	112.8	105.6	29.7	4.5	10	28.4	27.3	107.9	107.9	0	0	0	0	0
SMO	74	149	0100	040025	140.7	131.7	3.7	8.9	90	28.9	27.9	134.6	134.6	134.6	134.6	134.6	134.6	3.7
SMO	74	164	0040	050026	101.7	95.2	4.4	4.5	10	28.4	27.4	97.3	97.3	97.3	97.3	97.3	97.3	4.4
SMO	74	205	2200	060027	161.8	151.4	13.5	2.7	80	28.4	27.4	154.8	154.8	0	0	0	0	0
SMO	74	276	0205	030030	248.7	232.8	20.2	11.2	40	28.6	27.6	237.9	0	0	0	0	0	0
SMO	74	284	0125	040031	159.8	149.6	9.7	9.4	120	28.9	27.7	152.9	152.9	152.9	152.9	152.9	152.9	9.7
SMO	74	292	2205	050032	76.8	71.9	3.3	7.2	30	27.9	27.1	73.5	73.5	73.5	73.5	73.5	73.5	3.3
SMO	74	299	2025	060033	129.0	120.7	8.9	2.7	340	26.3	26.3	123.4	123.4	123.4	123.4	123.4	123.4	8.9
SMO	74	307	2128	010034	157.1	147.0	16.4	4.5	120	28.0	28.0	150.3	150.3	0	0	0	0	0
SMO	74	344	2040	030036	121.8	114.0	6.0	2.2	270	25.6	25.6	116.5	116.5	116.5	116.5	116.5	116.5	6.0
SMO	74	355	0210	040037	1579.0	1477.9	0	1.8	350	27.0*	24.5*	1510.4	0	0	0	0	0	0
SMO	74	365	0240	050038	143.2	134.0	7.6	2.2	90	30.0	29.1	137.0	137.0	137.0	137.0	137.0	137.0	7.6
SMO	75	4	2355	060039	155.4	145.5	7.1	1.3	10	27.0*	24.5*	148.7	148.7	148.7	148.7	0	0	0
SMO	75	15	0130	010040	163.9	153.4	21.3	2.2	270	27.0*	24.5*	156.8	156.8	0	0	0	0	0
SMO	75	22	0220	030041	940.8	860.6	44.0	2.2	150	27.0*	24.5*	900.0	0	0	0	0	0	0
SMO	75	31	2230	040042	170.3	159.4	20.8	2.2	150	27.0*	24.5*	162.9	162.9	0	0	0	0	0
SMO	75	72	2310	050043	91.5	85.6	10.3	4.5	120	28.3	27.5	87.5	87.5	87.5	87.5	87.5	87.5	10.3
SMO	75	81	0140	060044	98.6	92.3	10.4	2.2	20	27.0*	24.5*	94.3	94.3	94.3	94.3	94.3	94.3	10.4
SMO	75	90	2325	010045	106.0	99.2	7.2	2.2	40	27.0*	24.5*	101.4	101.4	101.4	101.4	101.4	101.4	7.2
SMO	75	101	0445	020046	116.1	108.7	4.1	2.2	160	27.0*	24.5*	111.1	111.1	111.1	111.1	111.1	111.1	4.1
SMO	75	109	0100	030047	145.0	135.7	9.6	4.5	110	27.0*	24.5*	138.7	138.7	138.7	138.7	138.7	138.7	9.6
SMO	75	126	0210	040048	5153.8	4824.0	1.0	8.0	170	29.6	27.8	4930.0	0	0	0	0	0	0

## F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.O.	WIND		TEMP AIR	DEG C DEW PT	3 PPTV	4 PPTV	5 PPTV	6 PPTV	7 PPTV	8 PPTV	S.O. PPTV
								M/S	DEG									
SMO	75	132	2214	050049	64.5	60.4	6.2	4.5	170	27.2	25.7	61.7	61.7	61.7	61.7	61.7	61.7	6.2
SMO	75	140	0055	060050	108.5	101.6	7.8	8.0	110	28.9	28.3	103.8	103.8	103.8	103.8	103.8	103.8	7.8
SMO	75	159	0035	010051	108.7	101.7	5.6	10.3	90	28.3	27.8	104.0	104.0	104.0	104.0	104.0	104.0	5.6
SMO	75	159	0035	020051	83.4	78.1	5.5	10.3	90	28.3	27.8	79.8	79.8	79.8	79.8	79.8	79.8	5.5
SMO	75	172	2225	030052	84.6	79.2	5.0	2.2	120	29.4	28.7	80.9	80.9	80.9	80.9	80.9	80.9	5.0
SMO	75	193	2222	040053	780.7	730.7	13.2	5.4	100	27.8	27.0	746.8	0	0	0	0	0	0
SMO	75	213	2350	050054	260.3	243.6	7.4	8.0	10	30.0	29.1	249.0	0	0	0	0	0	0
SMO	75	226	0135	060055	597.7	559.4	5.6	7.0	100	27.0*	24.5*	571.7	0	0	0	0	0	0
SMO	75	234	0235	010056	233.5	218.6	8.8	17.0	115	28.9	27.3	223.4	0	0	0	0	0	0
SMO	75	249	0130	020057	220.0	205.9	8.7	20.0	100	28.3	27.1	210.4	0	0	0	0	0	0
SMO	75	256	0215	030058	680.9	637.3	16.5	5.0	100	26.7	25.6	651.3	0	0	0	0	0	0
SMO	75	275	0045	050059	502.7	470.5	6.7	8.5	110	28.3	27.9	480.9	0	0	0	0	0	0
SMO	75	283	0135	060060	220.3	206.2	11.1	7.0	110	27.0*	24.5*	210.7	0	0	0	0	0	0
SMO	75	291	0100	040061	415.0	388.4	12.1	6.0	110	27.0*	24.5*	397.0	0	0	0	0	0	0
SMO	75	304	0130	010062	306.6	287.0	3.3	10.0	100	27.0*	24.5*	293.3	0	0	0	0	0	0
SMO	75	312	2045	020063	284.3	266.1	.5	15.0	330	28.3	27.5	272.0	0	0	0	0	0	0
SMO	75	348	0310	030064	256.3	239.9	1.8	6.0	340	28.5	27.5	245.2	0	0	0	0	0	0
SMO	76	25	0200	040065	199.6	186.8	1.3	6.0	165	27.0*	24.5*	190.9	190.9	190.9	0	0	0	0
SMO	76	50	0300	050066	170.7	159.8	.2	8.0	350	27.9	27.1	163.3	163.3	163.3	163.3	163.3	163.3	.2
SMO	76	69	0230	060067	225.5	211.1	.6	4.0	20	27.0*	24.5*	215.7	0	0	0	0	0	0
SMO	76	78	0235	010068	533.8	499.6	11.5	5.0	90	28.3	28.1	510.6	0	0	0	0	0	0
SMO	76	86	0230	020069	67.2	61.6	.6	4.5	60	28.5	28.3	63.4	83.4	83.4	83.4	83.4	83.4	.6
SMO	76	93	0110	030070	102.3	95.8	1.4	6.5	90	29.4	29.0	97.9	97.9	97.9	97.9	97.9	97.9	1.4
SMO	76	98	0200	040071	223.4	209.1	4.6	2.0	10	29.4	29.0	213.7	0	0	0	0	0	0
SMO	76	106	0210	050072	111.6	104.5	1.1	5.5	110	29.0	28.8	106.8	106.8	106.8	106.8	106.8	106.8	1.1
SMO	76	115	2000	060073	104.9	98.2	1.5	10.0	130	29.0	28.6	100.3	100.3	100.3	100.3	100.3	100.3	1.5
SMO	76	130	0130	010074	392.0	366.9	5.0	3.5	30	29.0	28.1	375.0	0	0	0	0	0	0
SMO	76	136	2145	020075	86.0	80.5	1.3	15.0	150	27.0*	24.5*	82.3	82.3	82.3	82.3	82.3	82.3	1.3
SMO	76	150	2000	030076	100.6	94.2	.9	4.5	90	27.2	26.4	96.2	96.2	96.2	96.2	96.2	96.2	.9
SMO	76	158	0245	040077	112.9	105.7	2.9	4.5	90	27.0	26.0	108.0	108.0	108.0	108.0	108.0	108.0	2.9
SMO	76	162	1945	050078	98.3	92.0	.9	8.0	120	27.0	26.4	94.0	94.0	94.0	94.0	94.0	94.0	.9
SMO	76	171	0220	060079	96.3	90.1	2.2	7.0	90	27.5	25.7	92.1	92.1	92.1	92.1	92.1	92.1	2.2
SMO	76	176	0140	010080	95.8	89.7	2.8	3.0	0	29.7	28.3	91.6	91.6	91.6	91.6	91.6	91.6	2.8
SMO	76	185	0120	020081	94.9	88.8	.5	7.0	140	27.5	26.8	90.8	90.8	90.8	90.8	90.8	90.8	.5
SMO	76	190	0035	030082	102.8	96.2	1.0	13.0	140	26.6	25.8	98.3	98.3	98.3	98.3	98.3	98.3	1.0
SMO	76	197	0235	040083	106.4	99.6	1.8	9.0	160	25.7	25.0	101.8	101.8	101.8	101.8	101.8	101.8	1.8
SMO	76	204	0300	050084	105.6	98.8	1.5	7.0	110	27.0	26.0	101.0	101.0	101.0	101.0	101.0	101.0	1.5
SMO	76	211	0250	060085	107.5	100.6	2.5	8.0	0	22.4	22.4	102.8	102.8	102.8	102.8	102.8	102.8	2.5
SMO	76	218	0135	010086	106.0	99.2	.7	2.5	140	27.5	26.6	101.4	101.4	101.4	101.4	101.4	101.4	.7
SMO	76	225	2100	020087	118.6	111.0	.9	7.0	170	26.9	26.1	113.5	113.5	113.5	113.5	113.5	113.5	.9
SMO	76	232	2115	030088	115.0	107.6	2.2	12.0	130	26.1	25.1	110.0	110.0	110.0	110.0	110.0	110.0	2.2
SMO	76	239	0030	040089	127.3	119.2	2.7	12.0	130	28.1	27.1	121.8	121.8	121.8	121.8	121.8	121.8	2.7
SMO	76	246	1950	050090	122.8	114.9	1.0	7.0	330	27.0*	24.5*	117.5	117.5	117.5	117.5	117.5	117.5	1.0
SMO	76	252	2145	060091	125.6	117.6	2.2	5.0	40	27.0*	24.5*	120.1	120.1	120.1	120.1	120.1	120.1	2.2
SMO	76	267	0140	010092	129.2	120.9	.6	7.5	150	24.9	24.1	123.6	123.6	123.6	123.6	123.6	123.6	.6
SMO	76	274	0220	020093	124.8	116.8	.5	6.0	130	26.4	25.5	119.4	119.4	119.4	119.4	119.4	119.4	.5
SMO	76	281	0115	030094	136.8	128.0	1.3	13.0	140	25.5	24.9	130.9	130.9	130.9	130.9	130.9	130.9	1.3
SMO	76	287	2030	040095	145.3	136.0	1.3	6.0	100	27.7	26.4	139.0	139.0	139.0	139.0	139.0	139.0	1.3
SMO	76	295	0130	050096	150.0	140.4	1.2	10.0	130	27.2	26.0	143.5	143.5	143.5	143.5	143.5	143.5	1.2
SMO	76	301	2010	060097	164.2	153.7	.8	9.0	130	27.2	26.2	157.1	157.1	157.1	157.1	157.1	157.1	.8
SMO	76	309	0015	040098	167.4	156.7	2.0	6.0	360	27.0*	24.5*	160.1	160.1	160.1	160.1	160.1	160.1	2.0

F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND		TEMP DEG C			3 PPTV	4 PPTV	5 PPTV	6 PPTV	7 PPTV	8 PPTV	S.D. PPTV
								M/S	DEG	AIR	CEW	PT							
SNO	76	313	0050	020099	157.4	147.3	2.8	4.0	160	25.5	25.1		150.6	150.6	150.6	150.6	150.6	150.6	2.8
SNO	76	313	0050	420099	813.8	761.7	U	4.0	160	25.5	25.1		778.5	0	0	0	0	0	0
SNO	76	313	0150	010100	166.7	156.0	2.8	7.5	140	27.2	26.8		159.5	159.5	159.5	159.5	159.5	159.5	2.8
SNO	76	313	0150	480100	459.7	430.3	U	7.5	140	27.2	26.8		439.7	0	0	0	0	0	0
SNO	76	313	0240	030101	157.2	147.1	3.3	6.0	140	26.6	25.8		150.4	150.4	150.4	150.4	150.4	150.4	3.3
SNO	76	313	0240	500101	411.1	384.8	U	6.0	140	26.6	25.8		393.2	0	0	0	0	0	0
SNO	76	316	2005	050102	151.1	141.4	1.2	5.5	90	28.9	27.7		144.5	144.5	144.5	144.5	144.5	144.5	1.2
SNO	76	323	0235	060103	156.3	146.3	1.3	6.0	110	29.2	27.9		149.5	149.5	149.5	149.5	149.5	149.5	1.3
SNO	76	330	0210	040104	167.3	156.6	2.6	3.7	100	27.8	27.2		160.0	160.0	160.0	160.0	160.0	160.0	2.6
SNO	76	336	2155	050105	154.7	144.8	1.2	10.0	130	28.4	27.4		148.0	148.0	148.0	148.0	148.0	148.0	1.2
SNO	76	351	0230	040106	162.6	152.2	1.5	1.0	0	28.5	27.2		155.5	155.5	155.5	155.5	155.5	155.5	1.5
SNO	76	365	0140	050107	166.7	156.0	.8	6.0	120	28.3	27.3		159.5	159.5	159.5	159.5	159.5	159.5	.8
SNO	77	6	0130	040108	147.0	137.6	1.2	10.0	150	29.0	27.6		140.6	140.6	140.6	140.6	140.6	140.6	1.2
SNO	77	13	0315	010109	155.6	145.6	1.0	10.0	120	29.4	28.3		148.8	148.8	148.8	148.8	148.8	148.8	1.0
SNO	77	23	0320	050110	143.2	134.0	2.0	4.0	100	29.7	28.7		137.0	137.0	137.0	137.0	137.0	137.0	2.0
SNO	77	27	0235	040111	149.8	140.2	.4	2.0	360	27.0*	24.5*		143.3	143.3	143.3	143.3	143.3	143.3	.4
SNO	77	34	0230	010112	156.6	146.6	1.6	5.0	20	29.7	28.0		149.8	149.8	149.8	149.8	149.8	149.8	1.6
SNO	77	43	2020	050113	146.3	136.9	.6	8.0	90	29.2	28.2		139.9	139.9	139.9	139.9	139.9	139.9	.6
SNO	77	49	0240	010114	153.1	143.3	.2	3.0	110	27.0*	24.5*		146.5	146.5	146.5	146.5	146.5	146.5	.2
SNO	77	57	2040	040115	191.8	179.5	2.1	10.0	120	29.1	28.1		183.5	183.5	183.5	183.5	183.5	183.5	2.1

## Appendix B: CCl<sub>3</sub>F Data for Barrow, Niwot Ridge, Mauna Loa, Samoa, and South Pole, 7 March 1977 to 31 December 1979

### Description of Data Sets:

1. Data analyzed on chromatograph; calibrations performed using reference gas 3072 (December 1977), 149.5 pptv.
2. Data corrected for use of unelectropolished sample flasks (correction factor = 0.936), and for an improved tank 3072 reference gas calibration value of 148.35 pptv.
3. CCl<sub>3</sub>F mole fractions in dry air. Flags F3 (column 14) associated with data set 3 are the following.
  - 0: Optimum pair-sample data--s.d.  $\leq 4.8$  pptv and concentration difference  $\leq 7.8$  pptv.
  - 1: Exceeded s.d. of 4.8 pptv.
  - 2: Single sample, or pair member of a sample already flagged.
  - 3: Concentration difference for samples of pair exceeded 7.8 pptv.
  - 4: Meteorological criteria not satisfied. Applied only to Niwot Ridge data. Acceptable wind speeds and directions are  $>1.5 \text{ m s}^{-1}$  and  $180^\circ$  through  $45^\circ$ , respectively.
  - 5: Previously unflagged data, subjectively determined to be outlying.

Data set 3 is intended for use by researchers who desire to apply their own data selection criteria for improvement of data quality and identification of background measurement conditions.

4. Select data set--CCl<sub>3</sub>F mole fractions in dry air. Flags F4 (column 16) associated with data set 4 are the following.
  - 0: Optimum pair-sample data, with pair values averaged. Also, CCl<sub>3</sub>F mole fractions (with pair values averaged), flagged 1 to 4 in data set 3, that lie within  $\pm 3$  r.s.d. of the regression line fitted to the optimum pair-sample data.
  - 1-5: As flags 1 to 5 of data set 3.

Data flagged 0 in data set 4 presumably represent atmospheric background measurement conditions at the various stations. They are intended for use by researchers who accept as satisfactory the data selection procedures outlined in this report.

## F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND M/S	DEG	TEMP AIR	JEG C JEW PT	3 PPTV	F3	4 PPTV	F4	S.D.
BRW	77	70	2100	020116	163.3	151.7	U	1.8	30	-30.0	-30.0	151.7	1	151.7	0	.0
BRW	77	78	2225	030117	164.3	152.6	.6	11.3	75	-24.6	-29.4	152.7	2	152.7	0	.6
BRW	77	83	2117	050118	164.5	152.8	.4	4.2	48	-31.4	-33.9	152.8	2	152.8	0	.4
BRW	77	98	2115	020119	165.1	153.3	3.8	5.3	67	-21.3	-26.4	153.4	2	153.4	0	3.8
BRW	77	103	2100	030120	166.7	154.8	2.5	4.2	75	-22.0	-27.7	154.9	2	154.9	0	2.5
BRW	77	110	0145	050121	714.0	663.1	3.7	5.8	90	-12.0	-15.0	664.4	2	664.4	2	3.7
BRW	77	122	2236	020122	172.2	153.9	2.6	6.4	54	-11.2	-16.5	160.2	2	160.2	0	2.6
BRW	77	144	2000	050124	181.5	168.6	1.2	6.6	65	-4.4	-9.1	169.1	2	169.1	2	1.2
BRW	77	153	0030	020125	160.3	148.9	1.9	2.4	178	3.9	-3.2	149.6	2	149.6	2	1.9
BRW	77	167	2350	020127	165.7	153.9	1.1	9.1	107	3.8	.2	154.8	2	154.8	0	1.1
BRW	77	215	0153	050128	181.7	168.7	1.4	6.1	275	10.0	6.1	170.3	2	170.3	2	1.4
BRW	77	220	2351	030129	174.2	161.8	5.9	11.2	85	4.0	3.3	163.0	1	163.0	0	5.9
BRW	77	229	0200	020130	177.9	165.2	3.5	4.0	110	15.5	11.9	167.5	2	167.5	2	3.5
BRW	77	247	0045	050131	173.5	161.1	4.4	3.3	260	8.5	7.9	162.8	2	162.8	0	4.4
BRW	77	254	0011	020132	257.8	239.4	5.8	8.5	76	2.2	-1.1	240.8	1	240.8	1	5.8
BRW	77	260	2025	030133	168.2	156.2	1.6	5.4	90	.2	-1.1	157.1	2	157.1	0	1.6
BRW	77	271	2205	050134	1530.0	1420.9	16.0	8.7	15	-2.2	-4.4	1427.1	1	1427.1	1	16.0
BRW	77	281	0005	020135	178.0	165.3	4.8	5.3	135	-6	-3.1	166.1	2	166.1	0	4.8
BRW	77	284	2353	030136	169.1	157.0	5.2	16.1	80	-3.3	-6.8	157.6	1	157.6	0	5.2
BRW	77	293	2302	050137	201.5	187.1	2.3	12.0	70	-7.2	-8.3	187.7	2	187.7	2	2.3
BRW	77	306	0055	020138	173.3	160.9	3.1	5.5	30	-21.3	-21.7	161.1	2	161.1	0	3.1
BRW	77	313	2238	030139	171.9	159.6	3.6	6.5	10	-26.1	-26.4	159.8	2	159.8	0	3.6
BRW	77	330	2200	020141	183.7	170.6	4.6	3.3	217	-22.5	-26.7	170.7	2	170.7	2	4.6
BRW	77	215	0153	180128	152.7	151.5	1.8	6.1	275	10.0	6.1	152.9	0	155.8	0	2.5
BRW	77	215	0153	190128	158.4	157.2	3.1	6.1	275	10.0	6.1	158.6	0	-1.0	0	-1.0
BRW	77	220	2351	200129	158.6	157.4	1.8	11.2	85	4.0	3.3	158.6	0	157.9	0	2.2
BRW	77	220	2351	210129	157.2	156.0	2.6	11.2	85	4.0	3.3	157.2	0	-1.0	0	-1.0
BRW	77	229	0200	220130	155.2	154.0	U	4.0	110	15.5	11.9	156.1	1	155.3	0	.0
BRW	77	229	0200	230130	153.6	152.4	2.0	4.0	110	15.5	11.9	154.5	2	-1.0	0	-1.0
BRW	77	247	0045	180131	159.0	157.8	4.3	3.9	260	8.5	7.9	159.4	0	157.5	0	4.0
BRW	77	247	0045	190131	155.1	153.9	3.6	3.3	250	8.5	7.9	155.5	0	-1.0	0	-1.0
BRW	77	254	0011	200132	153.8	152.6	3.5	8.5	76	2.2	-1.1	153.5	0	156.5	0	2.6
BRW	77	254	0011	210132	159.9	158.6	1.1	8.5	76	2.2	-1.1	159.5	0	-1.0	0	-1.0
BRW	77	260	2025	220133	163.2	161.9	3.0	5.4	90	.2	-1.1	162.8	3	162.8	0	3.0
BRW	77	260	2025	230133	194.8	193.3	3.8	5.4	90	.2	-1.1	194.4	3	194.4	3	3.8
BRW	77	271	2205	180134	157.4	156.2	7.6	8.7	15	-2.2	-4.4	156.9	1	157.7	0	7.6
BRW	77	271	2205	190134	159.1	157.9	2.9	8.7	15	-2.2	-4.4	158.5	2	-1.0	0	-1.0
BRW	77	281	0005	200135	163.2	161.9	7.6	5.3	135	-6	-3.1	162.7	1	162.5	0	7.6
BRW	77	281	0005	210135	162.7	161.4	3.8	5.3	135	-6	-3.1	162.2	2	-1.0	0	-1.0
BRW	77	284	2353	220136	167.0	165.7	3.3	16.0	80	-3.3	-6.8	166.3	0	165.9	0	2.8
BRW	77	284	2353	230136	166.2	164.9	2.1	16.0	80	-3.3	-6.8	165.5	0	-1.0	0	-1.0
BRW	77	293	2302	180137	165.6	164.3	1.1	12.0	70	-7.2	-8.3	164.8	0	165.7	0	2.8
BRW	77	293	2302	190137	167.3	166.0	3.8	12.0	70	-7.2	-8.3	166.5	0	-1.0	0	-1.0
BRW	77	306	0055	200138	164.2	162.9	2.7	5.5	30	-21.3	-21.7	163.1	0	163.1	0	2.5
BRW	77	306	0055	210138	164.1	162.8	2.2	5.5	30	-21.3	-21.7	163.0	0	-1.0	0	-1.0
BRW	77	313	2238	220139	169.5	168.2	2.2	6.5	10	-26.1	-26.4	168.3	2	167.6	0	2.2
BRW	77	313	2238	230139	168.0	166.7	5.5	6.5	10	-26.1	-26.4	166.8	1	-1.0	0	-1.0
BRW	77	318	2100	180140	166.3	165.0	4.7	8.0	62	-23.0	-25.6	165.1	0	165.1	0	3.6
BRW	77	318	2100	190140	166.2	164.9	1.9	8.0	62	-23.0	-25.6	165.0	0	-1.0	0	-1.0
BRW	77	330	2200	200141	168.1	166.8	2.3	3.3	217	-22.5	-26.7	166.9	0	166.3	0	2.8
BRW	77	330	2200	210141	166.8	165.5	3.3	3.3	217	-22.5	-26.7	165.6	0	-1.0	0	-1.0

F11 DATA BASE																
STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND		TEMP DEG C		3 PPTV	F3	4 PPTV	F4	S.D.
								M/S	DEG	AIR	DEW PT					
BRW	77	345	0142	220142	170.9	159.6	1.0	9.6	320	-30.0	-31.7	169.7	0	169.6	0	1.6
BRW	77	345	0142	230142	170.8	159.5	2.1	9.5	320	-30.0	-31.7	169.6	0	-1.0	0	-1.0
BRW	77	351	0130	180143	169.2	167.9	1.7	4.5	125	-34.4	-38.1	167.9	2	169.2	0	1.7
BRW	77	351	0130	190143	171.8	170.5	5.0	4.5	125	-34.4	-38.1	170.5	1	-1.0	0	-1.0
BRW	77	363	0036	200144	168.2	156.9	1.4	10.2	115	-16.5	-18.9	167.1	2	157.2	0	1.4
BRW	77	363	0036	210144	168.3	167.0	7.7	10.2	115	-16.5	-18.9	167.2	1	-1.0	0	-1.0
BRW	78	6	0142	220145	163.8	152.5	2.5	6.4	99	-21.3	-25.6	162.7	2	162.7	0	2.5
BRW	78	6	0142	230145	163.8	162.5	5.1	6.4	99	-21.3	-25.6	162.7	1	-1.0	0	-1.0
BRW	78	13	0110	200146	167.8	156.5	4.6	9.1	72	-15.3	-15.3	166.8	0	167.8	0	4.2
BRW	78	13	0110	210146	169.8	158.5	3.7	9.1	72	-15.3	-15.3	168.8	0	-1.0	0	-1.0
BRW	78	18	2340	180147	172.2	170.9	3.1	2.7	60	-21.0	-23.3	171.0	0	168.5	0	2.2
BRW	78	18	2340	190147	167.1	165.8	.4	2.7	50	-21.0	-23.3	166.0	0	-1.0	0	-1.0
BRW	78	28	0150	200148	174.4	173.0	3.5	4.2	75	-29.1	-30.6	173.1	2	173.1	2	3.5
BRW	78	28	0150	210148	188.5	187.0	5.2	4.2	75	-29.1	-30.6	187.1	1	187.1	1	5.2
BRW	78	33	0100	220149	168.7	157.4	3.7	7.0	72	-27.0	-30.6	167.5	3	167.5	0	3.7
BRW	78	33	0100	230149	180.4	179.0	.6	7.0	72	-27.0	-30.6	179.1	3	179.1	3	.6
BRW	78	40	2158	180150	172.3	171.0	.4	4.5	79	-39.3	-43.1	171.0	3	171.0	0	.4
BRW	78	40	2158	190150	181.0	179.6	4.8	4.5	79	-39.3	-43.1	179.6	3	179.6	3	4.8
BRW	78	45	2059	220151	167.0	165.7	3.3	8.3	60	-21.0	-26.7	165.8	0	163.9	0	2.6
BRW	78	45	2059	230151	163.1	161.8	1.5	8.3	60	-21.0	-26.7	162.0	0	-1.0	0	-1.0
BRW	78	54	2350	180152	167.0	165.7	3.7	4.2	57	-21.7	-27.2	165.8	0	166.0	0	3.2
BRW	78	54	2350	190152	167.3	166.0	2.5	4.2	57	-21.7	-27.2	166.1	0	-1.0	0	-1.0
BRW	78	64	0302	200153	173.1	171.7	3.7	8.9	35	-24.4	-29.4	171.9	2	170.8	0	3.7
BRW	78	64	0302	210153	171.0	169.7	5.8	8.9	35	-24.4	-29.4	169.8	1	-1.0	0	-1.0
BRW	78	67	2223	180154	166.6	165.3	4.4	12.3	59	-21.3	-23.9	165.5	0	166.5	0	3.8
BRW	78	67	2223	190154	168.6	167.3	3.2	12.3	59	-21.3	-23.9	167.4	0	-1.0	0	-1.0
BRW	78	78	0211	180155	166.1	164.8	.8	4.5	10	-19.3	-21.7	165.0	0	166.2	0	1.7
BRW	78	78	0211	190155	168.6	167.3	2.3	4.5	10	-19.3	-21.7	167.5	0	-1.0	0	-1.0
BRW	78	86	2037	220156	168.6	167.3	5.5	6.4	30	-22.0	-25.0	167.4	1	165.5	0	5.5
BRW	78	86	2037	230156	164.8	163.5	6.4	6.4	30	-22.0	-25.0	163.7	1	-1.0	0	-1.0
BRW	78	93	2034	200157	182.7	181.3	4.4	6.6	80	-25.6	-29.4	181.4	3	181.4	3	4.4
BRW	78	93	2034	210157	198.9	197.3	1.5	6.6	80	-25.6	-29.4	197.5	3	197.5	3	1.5
BRW	78	101	2139	220158	173.9	172.5	5.2	4.9	85	-20.7	-26.1	172.7	1	172.6	0	5.2
BRW	78	101	2139	230158	173.8	172.4	4.0	4.9	85	-20.7	-26.1	172.6	2	-1.0	0	-1.0
BRW	78	108	2339	180159	168.6	167.3	2.8	7.3	144	-11.0	-12.8	167.7	2	167.7	0	2.8
BRW	78	108	2339	190159	162.8	161.5	5.9	7.3	144	-11.0	-12.8	161.9	1	161.9	1	5.9
BRW	78	115	0044	200160	173.0	171.6	7.4	11.6	98	-11.5	-14.4	172.0	1	171.3	0	7.4
BRW	78	115	0044	210160	171.5	170.2	5.0	11.6	98	-11.5	-14.4	170.5	1	-1.0	0	-1.0
BRW	78	122	2353	220161	168.8	157.5	4.8	9.0	87	-12.0	-13.3	167.9	0	168.9	0	3.6
BRW	78	122	2353	230161	171.0	159.7	1.6	9.0	87	-12.0	-13.3	170.0	0	-1.0	0	-1.0
BRW	78	128	1939	180162	168.7	167.4	4.5	8.8	100	-11.4	-16.7	167.7	0	169.9	0	3.9
BRW	78	128	1939	190162	173.2	171.8	3.1	8.8	100	-11.4	-16.7	172.1	0	-1.0	0	-1.0
BRW	78	135	2340	200163	168.4	167.1	2.6	7.8	79	-12.4	-15.0	167.4	0	166.5	0	2.4
BRW	78	135	2340	210163	166.6	165.3	2.1	7.8	79	-12.4	-15.0	165.6	0	-1.0	0	-1.0
BRW	78	142	2250	220164	173.9	172.5	5.4	4.2	68	-3.3	-5.6	173.2	1	170.2	0	5.4
BRW	78	142	2250	230164	167.8	166.5	1.6	4.2	68	-3.3	-5.6	167.2	2	-1.0	0	-1.0
BRW	78	150	2350	200165	169.9	168.6	.8	6.4	145	-1.9	-1.9	169.5	0	166.5	0	1.7
BRW	78	150	2350	210165	163.9	162.6	2.3	6.4	145	-1.9	-1.9	163.5	0	-1.0	0	-1.0
BRW	78	160	2039	220166	172.5	171.2	1.3	4.0	110	3.7	-1.7	172.1	0	170.7	0	1.0
BRW	78	160	2039	230166	169.8	168.5	.5	4.0	110	3.7	-1.7	169.4	0	-1.0	0	-1.0
BRW	78	164	2325	200167	166.2	164.9	1.5	4.1	54	.6	-2.2	165.8	0	166.9	0	1.1

## F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND M/S	DEG	TEMP AIR	DEG C DEH PT	3 PPTV	F3	4 PPTV	F4	S.D.
BRW	78	164	2325	210167	168.5	167.2	.2	4.1	54	.6	-2.2	168.0	0	-1.0	0	-1.0
BRW	78	173	2017	230168	169.2	167.9	2.6	10.3	80	-8	-5.8	168.5	0	168.5	0	1.9
BRW	78	173	2017	220168	169.1	167.8	.3	10.3	80	-8	-5.8	168.4	0	-1.0	0	-1.0
BRW	78	179	1935	200169	168.3	167.0	1.8	3.5	95	2.7	-6	168.0	0	167.5	0	1.4
BRW	78	179	1935	210169	167.4	166.1	.8	3.5	95	2.7	-6	167.1	0	-1.0	0	-1.0
BRW	78	187	0115	220170	169.5	168.2	1.7	5.4	65	3.0	3.0	169.4	0	169.2	0	1.8
BRW	78	187	0115	230170	169.0	167.7	1.9	5.4	65	3.0	3.0	168.9	0	-1.0	0	-1.0
BRW	78	193	1925	200171	171.8	170.5	3.6	6.7	105	2.5	.3	171.5	0	171.0	0	3.3
BRW	78	193	1925	210171	170.8	169.5	2.9	6.7	105	2.5	.3	170.5	0	-1.0	0	-1.0
BRW	78	199	0140	220172	174.3	172.9	.4	9.4	110	1.4	1.4	174.1	0	172.6	0	1.4
BRW	78	199	0140	230172	171.3	170.0	1.9	9.4	110	1.4	1.4	171.1	0	-1.0	0	-1.0
BRW	78	212	1959	210173	163.5	162.2	3.1	5.8	170	15.4	13.3	164.7	0	165.7	0	2.5
BRW	78	212	1959	200173	165.5	164.2	1.8	5.8	170	15.4	13.3	166.7	0	-1.0	0	-1.0
BRW	78	221	2250	220174	170.1	168.8	1.0	6.7	90	.4	-1.9	169.7	0	170.3	0	2.6
BRW	78	221	2250	230174	171.4	170.1	3.5	6.7	90	.4	-1.9	171.0	0	-1.0	0	-1.0
BRW	78	228	1935	630175	173.2	171.8	1.0	8.5	115	-7	-1.4	172.8	2	172.8	0	1.0
BRW	78	238	0130	220176	166.8	165.5	2.4	4.0	75	2.3	1.1	166.6	0	169.1	0	1.8
BRW	78	238	0130	230176	171.8	170.5	.9	4.0	75	2.3	1.1	171.6	0	-1.0	0	-1.0
BRW	78	242	1945	200177	168.8	167.5	6.2	5.8	115	7.1	6.7	169.1	1	170.5	0	6.2
BRW	78	242	1945	210177	171.5	170.2	2.7	5.8	115	7.1	6.7	171.8	2	-1.0	0	-1.0
BRW	78	248	2330	630178	173.0	171.6	.6	3.5	115	7.5	7.5	173.4	2	173.4	0	.6
BRW	78	256	2030	230179	171.8	170.5	1.4	9.3	80	2.2	1.7	171.6	2	171.6	0	1.4
BRW	78	261	2003	200180	175.9	174.5	8.3	5.8	100	-1.6	-4.4	175.3	1	173.8	0	8.3
BRW	78	261	2003	210180	172.9	171.5	8.6	5.8	100	-1.6	-4.4	172.3	1	-1.0	0	-1.0
BRW	78	268	1910	590181	177.8	176.4	2.0	6.7	110	.4	.4	177.5	0	179.3	0	2.2
BRW	78	268	1910	600181	181.4	180.0	2.4	6.4	110	.4	.4	181.1	0	-1.0	0	-1.0
BRW	78	277	2005	220182	175.4	174.0	2.7	6.3	100	-6.2	-9.4	174.6	0	174.6	0	3.6
BRW	78	277	2005	230182	175.5	174.1	4.3	6.3	100	-6.2	-9.4	174.7	0	-1.0	0	-1.0
BRW	78	286	2340	210183	172.7	171.3	1.2	6.7	265	-3.3	-5.6	172.0	0	171.0	0	1.1
BRW	78	286	2340	200183	170.7	169.4	1.0	6.7	265	-3.3	-5.6	170.0	0	-1.0	0	-1.0
BRW	78	290	2030	600184	180.9	179.5	.2	4.9	70	-18.9	-18.9	179.7	0	179.8	0	.5
BRW	78	290	2030	590184	181.0	179.6	.7	4.9	70	-18.9	-18.9	179.8	0	-1.0	0	-1.0
BRW	78	297	0055	230185	176.7	175.3	2.8	6.7	85	-21.1	-23.9	175.5	0	174.7	0	2.1
BRW	78	297	0055	220185	175.1	173.7	1.0	6.7	85	-21.1	-23.9	173.9	0	-1.0	0	-1.0
BRW	78	304	2020	210186	178.8	177.4	1.3	4.5	40	-23.4	-26.0	177.5	0	177.7	0	1.0
BRW	78	304	2020	200186	179.2	177.8	.5	4.5	40	-23.4	-26.0	177.9	0	-1.0	0	-1.0
BRW	78	316	1622	590187	178.5	177.1	1.8	3.1	135	-7.0	-9.4	177.6	0	179.1	0	2.5
BRW	78	316	1622	600187	181.4	180.0	3.1	3.1	135	-7.0	-9.4	180.5	0	-1.0	0	-1.0
BRW	78	320	0125	630188	185.0	183.6	3.2	5.4	150	-24.2	-26.8	183.7	0	182.7	0	2.3
BRW	78	320	0125	220188	183.0	181.6	.4	5.4	150	-24.2	-26.8	181.7	0	-1.0	0	-1.0
BRW	78	329	2325	200189	182.6	181.2	.8	8.3	73	-23.4	-23.4	181.4	0	180.9	0	1.8
BRW	78	329	2325	210189	181.6	180.2	2.4	8.3	73	-23.4	-23.4	180.4	0	-1.0	0	-1.0
BRW	78	341	2245	590190	176.3	174.9	1.7	6.7	30	-21.0	-23.6	175.1	2	175.1	0	1.7
BRW	78	346	2150	200191	178.2	176.8	1.7	4.5	115	-27.8	-31.2	176.9	0	178.7	0	1.7
BRW	78	346	2150	210191	181.8	180.4	1.7	4.5	115	-27.8	-31.2	180.5	0	-1.0	0	-1.0
BRW	78	354	0205	590192	201.6	200.0	1.0	4.3	75	-34.5	-37.8	200.1	5	199.5	5	1.4
BRW	78	354	0205	600192	200.4	198.8	1.7	4.3	75	-34.5	-37.8	198.9	5	-1.0	5	-1.0
BRW	78	361	2005	220193	179.3	177.9	1.9	4.5	105	-36.6	-41.0	178.0	0	180.6	0	2.2
BRW	78	361	2005	630193	184.7	183.3	2.4	4.5	105	-36.6	-41.0	183.3	0	-1.0	0	-1.0
BRW	79	3	0335	200194	180.9	179.5	2.1	4.3	127	-11.4	-13.2	179.9	0	180.0	0	2.6
BRW	79	3	0335	210194	181.1	179.7	3.1	4.3	127	-11.4	-13.2	180.1	0	-1.0	0	-1.0

## F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND		TEMP DEG C		3	F3	4	F4	S.D.
								M/S	CEG	AIR	DEW PT	PPTV		PPTV		
BRW	79	8	2110	500195	171.6	170.3	.5	5.8	105	-18.9	-21.7	170.5	0	169.9	0	1.9
BRW	79	8	2110	590195	170.5	169.2	2.6	5.8	105	-18.9	-21.7	169.4	0	-1.0	0	-1.0
BRW	79	15	2305	220196	175.4	174.0	1.7	5.8	60	-20.7	-23.6	174.2	0	175.3	0	1.3
BRW	79	15	2305	630196	177.7	176.3	.6	5.8	60	-20.7	-23.6	176.5	0	-1.0	0	-1.0
BRW	79	18	2040	200197	177.7	176.3	1.3	10.3	70	-17.2	-19.8	176.5	2	176.7	0	1.3
BRW	79	18	2040	210197	178.0	176.6	11.7	10.3	70	-17.2	-19.8	176.8	1	-1.0	0	-1.0
BRW	79	33	2110	590198	176.9	175.5	1.5	3.6	300	-33.1	-37.7	175.6	0	177.9	0	1.1
BRW	79	33	2110	600198	181.6	180.2	.1	3.6	300	-33.1	-37.7	180.2	0	-1.0	0	-1.0
BRW	79	39	1935	220199	180.4	179.0	1.7	3.1	20	-25.2	-28.6	179.1	0	179.1	0	2.4
BRW	79	39	1935	630199	180.3	178.9	2.9	3.1	20	-25.2	-28.6	179.0	0	-1.0	0	-1.0
BRW	79	43	2035	200200	178.0	176.6	1.7	7.5	90	-34.9	-38.6	176.7	0	177.7	0	3.3
BRW	79	43	2035	210200	180.0	178.6	4.3	7.5	90	-34.9	-38.6	178.7	0	-1.0	0	-1.0
BRW	79	49	2250	590201	175.9	174.5	2.1	3.5	110	-28.3	-32.7	174.6	0	176.5	0	1.7
BRW	79	49	2250	600201	179.6	178.2	1.2	3.5	110	-28.3	-32.7	178.3	0	-1.0	0	-1.0
BRW	79	57	2205	630202	182.3	180.9	2.5	5.4	90	-27.6	-32.1	181.0	0	180.1	0	1.9
BRW	79	57	2205	220202	180.6	179.2	.9	5.4	90	-27.6	-32.1	179.3	0	-1.0	0	-1.0
BRW	79	64	2030	200203	187.5	186.0	1.4	11.5	65	-29.8	-34.8	186.1	0	185.2	0	1.5
BRW	79	64	2030	210203	185.6	184.1	1.5	11.6	65	-29.8	-34.8	184.2	0	-1.0	0	-1.0
BRW	79	71	1955	600204	180.3	178.9	4.3	5.4	70	-30.3	-35.1	179.0	0	180.5	0	3.1
BRW	79	71	1955	590204	183.3	181.9	.4	5.4	70	-30.3	-35.1	181.9	0	-1.0	0	-1.0
BRW	79	78	2325	220205	200.9	199.3	1.0	2.2	20	-31.5	-37.3	199.4	5	202.2	5	2.9
BRW	79	78	2325	630205	206.6	205.0	4.0	2.2	20	-31.5	-37.3	205.1	5	-1.0	5	-1.0
BRW	79	86	2005	200206	178.1	176.7	3.5	8.2	105	-14.6	-17.2	177.0	0	178.1	0	2.6
BRW	79	86	2005	210206	180.3	178.9	.9	8.2	105	-14.6	-17.2	179.2	0	-1.0	0	-1.0
BRW	79	94	0215	630207	183.0	181.6	1.3	10.3	80	-23.0	-26.5	181.7	0	183.1	0	1.3
BRW	79	94	0215	220207	185.7	184.2	1.3	10.3	80	-23.0	-26.5	184.4	0	-1.0	0	-1.0
BRW	79	102	0130	590208	179.8	178.4	2.1	7.1	98	-24.2	-30.0	178.5	0	180.2	0	1.6
BRW	79	102	0130	600208	183.2	181.8	.8	7.1	98	-24.2	-30.0	181.9	0	-1.0	0	-1.0
BRW	79	108	2155	210209	181.0	179.6	1.5	6.4	70	-22.7	-26.5	179.7	0	180.2	0	1.3
BRW	79	108	2155	200209	181.9	180.5	1.0	6.4	70	-22.7	-26.5	180.6	0	-1.0	0	-1.0
BRW	79	114	0220	630210	181.4	180.0	2.0	8.9	110	-4.2	-6.7	180.6	0	179.8	0	3.0
BRW	79	114	0220	220210	179.8	178.4	3.7	8.9	110	-4.2	-6.7	179.1	0	-1.0	0	-1.0
BRW	79	121	2055	600211	179.9	178.5	1.0	4.0	115	-4.5	-7.7	179.1	2	179.1	0	1.0
BRW	79	127	2055	200212	181.1	179.7	.6	7.5	100	-2.3	-5.8	180.4	0	180.9	0	1.0
BRW	79	127	2055	210212	182.2	180.8	1.3	7.5	100	-2.3	-5.8	181.5	0	-1.0	0	-1.0
BRW	79	135	1955	630213	179.4	178.0	1.4	4.0	70	-9.5	-12.3	178.4	0	176.7	0	1.1
BRW	79	135	1955	220213	176.0	174.6	.7	4.0	70	-9.5	-12.3	175.0	0	-1.0	0	-1.0
BRW	79	141	1855	590214	181.0	179.6	.6	4.3	40	-9.6	-11.1	180.1	0	179.8	0	1.2
BRW	79	141	1855	600214	180.4	179.0	1.6	4.3	40	-9.6	-11.1	179.5	0	-1.0	0	-1.0
BRW	79	151	2325	210215	182.1	180.7	.2	4.5	220	4.8	-.2	181.8	0	181.8	0	.9
BRW	79	151	2325	200215	182.1	180.7	1.2	4.5	220	4.8	-.2	181.8	0	-1.0	0	-1.0
BRW	79	155	1925	220216	177.8	176.4	1.6	5.8	75	.7	-2.1	177.3	0	176.1	0	1.3
BRW	79	155	1925	630216	175.4	174.0	.9	5.8	75	.7	-2.1	174.9	0	-1.0	0	-1.0
BRW	79	166	0001	600217	180.4	179.0	1.2	4.0	340	-.8	-2.6	179.9	0	181.1	0	2.8
BRW	79	166	0001	590217	182.8	181.4	3.7	4.0	340	-.8	-2.6	182.3	0	-1.0	0	-1.0
BRW	79	169	2042	200218	178.6	177.2	.3	8.3	115	1.3	-.5	178.2	0	180.4	0	.9
BRW	79	169	2042	210218	182.9	181.5	1.2	8.9	115	1.3	-.5	182.5	0	-1.0	0	-1.0
BRW	79	176	1940	220219	181.6	180.2	1.2	6.7	30	-1.0	-3.3	181.0	0	180.2	0	.9
BRW	79	176	1940	630219	179.9	178.5	.6	6.7	30	-1.0	-3.3	179.3	0	-1.0	0	-1.0
BRW	79	183	2047	600220	181.4	180.0	.9	2.7	105	7.2	4.9	181.5	0	179.0	0	1.0
BRW	79	183	2047	590220	176.4	175.0	1.0	2.7	105	7.2	4.9	176.5	0	-1.0	0	-1.0



F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.O.	WIND M/S DEG	TEMP AIR DEG C	3 PPTV	F3	4 PPTV	F4	S.O.
BRW	79	195	0215	200221	178.0	176.6	.8	6.7 270	11.2 7.3	178.4	0	178.5	0	1.0
BRW	79	195	0215	210221	178.2	176.8	1.2	6.7 270	11.2 7.3	178.6	0	-1.0	0	-1.0
BRW	79	200	1920	600222	180.9	179.5	2.3	3.5 130	11.2 8.4	181.5	0	181.7	0	2.6
BRW	79	200	1920	590222	181.3	179.9	2.9	3.5 130	11.2 9.4	181.9	0	-1.0	0	-1.0
BRW	79	204	2108	630223	179.0	177.6	1.9	5.0 115	4.0 3.0	178.9	0	179.7	0	2.2
BRW	79	204	2108	220223	180.6	179.2	2.5	5.0 115	4.0 3.0	180.5	0	-1.0	0	-1.0
BRW	79	211	0441	210224	183.2	181.8	3.9	4.9 105	4.9 4.7	183.3	0	183.1	0	3.4
BRW	79	211	0441	200224	182.8	181.4	2.7	4.9 105	4.9 4.7	182.9	0	-1.0	0	-1.0
BRW	79	218	1950	590225	182.0	180.6	1.6	10.7 90	1.8 1.2	181.8	0	180.9	0	1.3
BRW	79	218	1950	600225	180.2	178.8	.9	10.7 90	1.8 1.2	180.0	0	-1.0	0	-1.0
BRW	79	225	1855	200226	181.4	180.0	.3	8.9 105	7.4 5.3	181.6	0	181.0	0	1.0
BRW	79	225	1855	210226	180.2	178.8	1.4	8.9 105	7.4 5.3	180.4	0	-1.0	0	-1.0
BRW	79	232	2059	200227	178.4	177.0	1.2	4.0 135	12.4 11.2	179.4	0	178.3	0	1.3
BRW	79	232	2059	210227	176.4	175.0	1.3	4.0 135	12.4 11.2	177.3	0	-1.0	0	-1.0
BRW	79	249	1855	600229	177.5	176.1	.9	9.8 145	4.2 2.7	177.4	2	177.4	2	.9
BRW	79	249	1855	590229	176.1	174.7	6.3	9.8 145	4.2 2.7	176.0	1	176.0	1	6.3
BRW	79	253	1900	220230	183.7	182.3	4.8	4.9 140	.8 -.5	183.3	0	180.4	0	4.1
BRW	79	253	1900	630230	177.9	176.5	3.3	4.9 140	.8 -.5	177.5	0	-1.0	0	-1.0
BRW	79	262	1840	210231	194.1	192.6	1.6	5.4 85	-4 -4.1	193.4	0	190.2	0	1.5
BRW	79	262	1840	200231	187.6	186.1	1.3	5.4 85	-4 -4.1	187.0	0	-1.0	0	-1.0
BRW	79	268	2015	590232	186.3	184.8	3.7	8.0 115	1.8 -.2	185.9	2	186.4	0	3.7
BRW	79	268	2015	600232	187.2	185.7	6.8	8.0 115	1.8 -.2	186.8	1	-1.0	0	-1.0
BRW	79	274	1845	220233	189.1	187.6	3.7	8.1 85	-6 -2.2	188.6	0	188.9	0	3.8
BRW	79	274	1845	630233	189.8	188.3	3.8	8.1 85	-6 -2.2	189.3	0	-1.0	0	-1.0
BRW	79	281	2105	590234	185.0	183.6	1.0	7.5 80	-4.5 -5.7	184.3	0	184.4	0	1.3
BRW	79	281	2105	600234	185.3	183.8	1.6	7.5 80	-4.5 -5.7	184.6	0	-1.0	0	-1.0
BRW	79	289	2016	630235	189.8	188.3	.7	4.5 100	-11.0 -14.0	188.7	0	188.2	0	1.1
BRW	79	289	2016	220235	188.8	187.3	1.4	4.5 100	-11.0 -14.0	187.7	0	-1.0	0	-1.0
BRW	79	295	2140	210236	187.8	186.3	.9	11.6 70	-8.8 -9.7	186.9	0	186.9	0	.8
BRW	79	295	2140	200236	187.8	186.3	.6	11.5 70	-8.8 -9.7	186.9	0	-1.0	0	-1.0
BRW	79	302	0130	220237	186.0	184.5	.6	4.5 65	-18.2 -19.5	184.8	0	187.0	0	1.2
BRW	79	302	0130	630237	190.4	188.9	1.6	4.5 65	-18.2 -19.5	189.2	0	-1.0	0	-1.0
BRW	79	309	2030	210238	187.7	186.2	2.8	6.7 90	-11.0 -16.0	186.6	0	188.4	0	2.0
BRW	79	309	2030	200238	191.3	189.8	.6	6.7 90	-11.0 -16.0	190.1	0	-1.0	0	-1.0
BRW	79	319	0030	600239	188.4	186.9	1.5	4.9 70	-12.7 -18.0	187.2	0	187.9	0	1.1
BRW	79	319	0030	590239	189.8	188.3	.6	4.9 70	-12.7 -18.0	188.6	0	-1.0	0	-1.0
BRW	79	326	2150	630240	187.8	186.3	1.2	9.1 30	-23.6 -27.5	186.5	2	186.5	0	1.2
BRW	79	338	2130	590241	188.9	187.4	.7	6.9 98	-23.6 -27.5	187.6	0	187.2	0	.8
BRW	79	338	2130	600241	188.2	186.7	.9	6.9 98	-23.6 -27.5	186.9	0	-1.0	0	-1.0
BRW	79	348	2300	630242	517.3	513.3	1.0	12.4 230	-10.7 -12.3	514.5	2	514.5	2	1.0
BRW	79	352	2030	210243	198.9	197.3	2.0	4.5 60	-20.0 -24.4	197.5	3	197.5	3	2.0
BRW	79	352	2030	200243	190.9	189.4	1.4	4.5 60	-20.0 -24.4	189.6	3	189.6	0	1.4
BRW	79	358	2200	590244	192.1	190.6	1.3	7.7 68	-31.0 -37.3	190.7	0	190.1	0	1.9
BRW	79	358	2200	600244	190.9	189.4	2.3	7.7 68	-31.0 -37.3	189.5	0	-1.0	0	-1.0

## F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.O.	WIND M/S DEG	TEMP AIR	DEG C DEW PT	3 PPTV	F3	4 PPTV	F4	S.O.
NWR	77	68	2000	050050	146.9	145.8	U	8.9 248	-3.0	-22.2	146.0	1	146.0	1	.0
NWR	77	68	2000	060050	410.3	407.1	U	8.3 248	-3.0	-22.2	407.8	1	407.8	1	.0
NWR	77	77	2030	010051	155.9	154.7	2.5	4.5 270	-12.8	-12.8	155.2	0	155.1	0	1.8
NWR	77	77	2030	020051	155.6	154.4	.2	4.5 270	-12.8	-12.8	154.9	0	-1.0	0	-1.0
NWR	77	84	1800	030052	148.6	147.4	1.5	6.7 270	-1.1	-17.0	147.8	0	148.9	0	1.2
NWR	77	84	1800	040052	150.7	143.5	.9	6.7 270	-1.1	-17.0	149.9	0	-1.0	0	-1.0
NWR	77	89	2130	050053	157.1	155.9	U	3.3 270	-8.6	-15.8	156.3	1	156.3	0	.0
NWR	77	89	2130	060053	696.9	691.4	U	3.3 270	-8.6	-15.8	693.4	1	693.4	1	.0
NWR	77	97	0020	010054	2676.0	2655.1	U	0.0 CLM	2.0	-15.6	2662.6	1	2662.6	1	.0
NWR	77	97	0020	020054	5447.1	5404.5	U	0.0 CLM	2.0	-15.6	5419.8	1	5419.8	1	.0
NWR	77	103	2300	030055	155.9	154.7	1.7	11.2 270	-4.0	-7.2	155.5	0	155.3	0	2.3
NWR	77	103	2300	040055	155.5	154.3	2.8	11.2 270	-4.0	-7.2	155.1	0	-1.0	0	-1.0
NWR	77	112	0045	050056	216.1	214.4	.1	0.0 CLM	-4.3	-7.7	215.5	2	215.5	2	.1
NWR	77	112	0045	060056	331.5	328.9	U	0.0 CLM	-4.3	-7.7	330.6	1	330.6	1	.0
NWR	77	117	2120	010057	155.4	154.2	2.3	3.3 270	4.4	-4.5	155.2	2	155.2	0	2.3
NWR	77	117	2120	020057	188.9	187.4	6.6	3.3 270	4.4	-4.5	188.7	1	188.7	1	6.6
NWR	77	125	1900	030058	181.1	179.7	2.6	1.8 180	3.8	-3.2	181.0	5	184.8	5	2.7
NWR	77	125	1900	040058	188.7	187.2	2.8	1.8 180	3.8	-3.2	188.6	5	-1.0	5	-1.0
NWR	77	130	1613	070000	153.6	152.4	U	1.5 112	-3.3	-6.8	153.2	1	152.1	0	.0
NWR	77	130	1613	090000	151.4	150.2	U	1.5 112	-7.2	-8.3	151.0	1	-1.0	0	-1.0
NWR	77	132	1740	050059	150.5	149.3	2.3	.7 203	7.0	-11.5	149.9	4	150.7	0	1.7
NWR	77	132	1740	060059	152.0	150.8	.4	.7 203	7.0	-11.5	151.4	4	-1.0	0	-1.0
NWR	77	137	1855	050000	170.6	169.3	U	2.1 112	-22.5	-26.7	169.5	1	169.5	1	.0
NWR	77	137	1855	060000	167.4	166.1	U	2.1 112	10.0	6.1	168.5	1	168.5	1	.0
NWR	77	139	0840	070000	158.3	157.1	U	5.1 225	10.0	6.1	159.3	1	159.2	0	.0
NWR	77	139	0840	090000	158.5	157.3	U	5.1 225	4.0	3.3	159.1	1	-1.0	0	-1.0
NWR	77	139	1330	050000	156.9	155.7	U	7.7 270	4.0	3.3	157.5	1	157.6	0	.0
NWR	77	139	1330	060000	155.6	154.4	U	7.7 270	15.5	11.9	157.7	1	-1.0	0	-1.0
NWR	77	139	1740	010060	149.8	148.6	U	0.0 CLM	-1.0	-12.5	149.2	1	153.1	0	.0
NWR	77	139	1740	020060	157.7	156.5	.1	0.0 CLM	-1.0	-12.5	157.0	2	-1.0	0	-1.0
NWR	77	144	0935	050000	150.6	149.4	U	5.1 270	8.5	7.9	151.8	1	151.0	0	.0
NWR	77	144	0935	060000	150.0	148.8	U	5.1 270	2.2	-1.1	150.1	1	-1.0	0	-1.0
NWR	77	144	1310	070000	150.7	149.5	U	2.6 248	2.2	-1.1	150.8	1	151.2	0	.0
NWR	77	144	1310	090000	151.6	150.4	U	2.6 248	.2	-1.1	151.7	1	-1.0	0	-1.0
NWR	77	146	2050	040061	165.9	164.6	3.0	0.0 CLM	3.3	-3.8	165.8	4	165.6	4	2.8
NWR	77	146	2050	030061	165.5	164.2	2.6	0.0 CLM	3.3	-3.8	165.4	4	-1.0	0	-1.0
NWR	77	151	2100	050062	150.1	148.9	4.5	2.2 135	14.1	-4.0	150.0	3	157.4	0	4.5
NWR	77	151	2100	060062	165.1	163.8	.1	2.2 135	14.1	-4.0	164.9	3	-1.0	0	-1.0
NWR	77	152	1100	050000	153.1	151.9	U	1.3 202	-6	-3.1	153.0	1	154.5	0	.0
NWR	77	152	1100	060000	156.3	155.1	U	1.3 202	-3.3	-6.8	155.9	1	-1.0	0	-1.0
NWR	77	152	1400	030000	155.1	153.9	U	3.3 293	-3.3	-6.8	154.7	1	155.5	0	.0
NWR	77	152	1400	040000	156.8	155.6	U	3.3 293	-7.2	-8.3	156.3	1	-1.0	0	-1.0
NWR	77	159	2045	010063	166.3	165.0	.1	0.0 CLM	11.8	3.3	166.9	3	166.9	3	.1
NWR	77	159	2045	020063	152.3	151.1	.6	0.0 CLM	11.8	3.3	152.9	3	152.9	0	.6
NWR	77	166	2150	030064	149.4	148.2	U	2.2 225	17.6	-11.0	148.8	1	148.8	0	.0
NWR	77	166	2150	040064	148.8	147.6	U	2.2 225	17.6	-11.0	148.2	1	148.2	1	.0
NWR	77	172	1800	050065	162.8	161.5	5.3	4.5 270	14.0	-7.2	162.4	1	162.4	0	5.3
NWR	77	172	1800	060065	497.4	493.5	7.4	4.5 270	14.0	-7.2	496.2	1	496.2	1	7.4
NWR	77	179	1845	010066	5666.0	5621.7	U	2.2 135	17.5	7.0	5707.1	1	5707.1	1	.0
NWR	77	179	1845	020066	3122.0	3037.6	U	2.2 135	17.5	7.0	3144.7	1	3144.7	1	.0
NWR	77	194	1830	030067	148.9	147.7	U	8.9 270	11.5	3.7	149.5	1	152.8	0	.0

F11 DATA BASE																
STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.O.	WIND		TEMP		3	F3	4	F4	S.O.
								M/S	DEG	AIR	DEW PT	PPTV		PPTV		
NWR	77	194	1830	040067	155.4	154.2	U	8.3	270	11.5	3.7	156.0	1	-1.0	0	-1.0
NWR	77	200	1840	050068	150.8	149.6	2.9	0.0	CLM	16.0	4.2	151.5	2	151.5	0	2.9
NWR	77	200	1840	060068	206.0	204.4	5.1	0.0	CLM	16.0	4.2	206.9	1	206.9	1	5.1
NWR	77	208	2125	010069	3580.5	3552.5	U	11.2	90	16.2	1.8	3589.9	1	3589.9	1	.0
NWR	77	208	2125	020069	261.4	259.4	.1	11.2	90	16.2	1.8	262.1	2	262.1	2	.1
NWR	77	214	2030	030070	152.2	151.0	.4	6.7	270	19.0	-4.2	152.0	0	155.5	0	1.2
NWR	77	214	2030	040070	159.1	157.9	1.6	6.7	270	19.0	-4.2	158.9	0	-1.0	0	-1.0
NWR	77	222	1800	050071	156.3	155.1	2.5	2.2	270	15.0	.5	156.6	2	156.6	0	2.5
NWR	77	222	1800	060071	199.4	197.8	19.6	2.2	270	15.0	.5	199.7	1	199.7	1	19.6
NWR	77	229	1700	010072	170.5	169.2	2.9	1.3	180	12.0	7.1	171.8	2	171.8	2	2.9
NWR	77	237	1830	030073	150.8	149.6	.9	4.5	293	11.0	6.0	151.7	3	156.4	0	.9
NWR	77	237	1830	040073	160.1	158.8	2.1	4.5	293	11.0	6.0	161.1	3	-1.0	0	-1.0
NWR	77	244	2120	050074	154.2	153.0	2.0	0.0	CLM	14.5	-4.5	154.0	2	154.0	0	2.0
NWR	77	258	2000	040075	155.7	154.5	6.5	2.2	270	-4.0	-8.5	155.2	1	155.1	0	6.5
NWR	77	258	2000	030075	155.4	154.2	5.8	2.2	270	-4.0	-8.5	154.9	1	-1.0	0	-1.0
NWR	77	265	2245	010076	154.2	153.0	.4	1.3	270	13.5	-14.8	153.5	3	153.5	0	.4
NWR	77	265	2245	020076	180.8	179.4	4.6	1.3	270	13.5	-14.8	179.9	3	179.9	3	4.6
NWR	77	272	2020	030077	153.6	152.4	8.0	2.2	270	MSG	MSG	153.6	1	155.2	0	8.0
NWR	77	272	2020	040077	156.8	155.6	6.9	2.2	270	MSG	MSG	156.8	1	-1.0	0	-1.0
NWR	77	281	2300	010078	163.0	161.7	5.4	6.7	270	-2.0	-9.8	162.4	1	159.4	0	5.4
NWR	77	281	2300	020078	156.9	155.7	6.2	6.7	270	-2.0	-9.8	156.4	1	-1.0	0	-1.0
NWR	77	286	2140	030079	160.1	158.8	4.9	4.5	270	6.0	-10.5	159.5	1	160.7	0	4.9
NWR	77	286	2140	040079	162.5	161.2	3.0	4.5	270	6.0	-10.5	161.9	2	-1.0	0	-1.0
NWR	77	296	2215	010080	158.0	156.8	.5	2.2	270	2.5	-5.8	157.7	0	159.3	0	3.1
NWR	77	296	2215	020080	161.2	159.9	4.4	2.2	270	2.5	-5.8	160.9	0	-1.0	0	-1.0
NWR	77	300	2110	030081	164.8	163.5	3.3	2.2	180	6.5	-8.5	164.3	0	163.2	0	3.8
NWR	77	300	2110	040081	162.6	161.3	4.3	2.2	180	6.5	-8.5	162.1	0	-1.0	0	-1.0
NWR	77	307	2315	010082	159.1	157.9	3.2	2.2	225	3.5	-12.2	158.4	0	156.6	0	3.5
NWR	77	307	2315	020082	155.4	154.2	3.8	2.2	225	3.5	-12.2	154.8	0	-1.0	0	-1.0
NWR	77	315	2020	030083	157.7	156.5	3.3	4.5	270	3.0	-16.2	156.9	0	159.5	0	4.0
NWR	77	315	2020	040083	162.9	161.6	4.6	4.5	270	3.0	-16.2	162.1	0	-1.0	0	-1.0
NWR	77	325	2200	010084	159.7	158.5	7.3	4.5	270	-7.0	MSG	159.7	1	159.3	0	7.3
NWR	77	325	2200	020084	158.9	157.7	2.3	4.5	270	-7.0	MSG	158.9	2	-1.0	0	-1.0
NWR	77	333	2100	030085	148.9	147.7	4.1	4.5	270	-9.4	MSG	148.9	2	148.9	2	4.1
NWR	77	333	2100	040085	160.4	159.1	5.0	4.5	270	-9.4	MSG	160.4	1	160.4	0	5.0
NWR	77	341	2030	010086	168.4	167.1	3.6	2.2	270	-6.5	-8.8	167.9	2	167.4	0	3.6
NWR	77	341	2030	020086	167.4	166.1	14.6	2.2	270	-6.5	-8.8	166.9	1	-1.0	0	-1.0
NWR	77	351	0000	030087	168.8	167.5	4.2	11.2	270	-13.0	-99.9	168.8	0	168.2	0	3.5
NWR	77	351	0000	050087	167.6	166.3	2.7	11.2	270	-13.0	-99.9	167.6	0	-1.0	0	-1.0
NWR	77	365	0040	060088	159.8	158.5	.4	11.2	270	-5.0	MSG	159.8	2	159.8	0	.4
NWR	78	7	2130	010089	158.1	156.9	1.8	8.9	270	MSG	MSG	158.1	0	158.5	0	3.6
NWR	78	7	2130	020089	158.9	157.7	4.8	8.9	270	MSG	MSG	158.9	0	-1.0	0	-1.0
NWR	78	11	2150	030090	162.7	161.4	7.2	8.9	270	-8.6	-9.5	162.2	1	159.1	0	7.2
NWR	78	11	2150	040090	156.5	155.3	5.1	8.9	270	-8.6	-9.5	156.0	1	-1.0	0	-1.0
NWR	78	17	2020	050091	161.0	159.7	4.1	4.5	270	-8.5	-10.8	160.4	2	162.2	0	4.1
NWR	78	17	2020	060091	164.6	163.3	5.7	4.5	270	-8.5	-10.8	164.0	1	-1.0	0	-1.0
NWR	78	28	2200	010092	161.9	160.6	1.2	17.9	270	-7.0	-13.1	161.2	0	160.8	0	2.5
NWR	78	28	2200	020092	161.2	159.9	3.4	17.9	270	-7.0	-13.1	160.5	0	-1.0	0	-1.0
NWR	78	35	0030	030093	163.6	162.3	3.6	17.9	270	-7.2	-8.3	163.1	0	163.4	0	2.5
NWR	78	35	0030	040093	164.1	162.8	.1	17.9	270	-7.2	-8.3	163.6	0	-1.0	0	-1.0
NWR	78	50	0000	010094	163.7	162.4	6.0	6.7	270	MSG	MSG	163.7	1	166.4	0	6.0

F11 DATA BASE			SAMP.		1			2			WIND		TEMP		3		4		F4		S.D.	
STN	YR	JCO	GMT	NO.	PPTV	PPTV	S.D.	M/S	DEG	AIR	DEW	PT	PPTV	F3	PPTV	F4	S.D.					
NWR	78	50	0000	020094	169.0	167.7	2.8	6.7	270	MSG	MSG		169.0	2	-1.0	0	-1.0					
NWR	78	54	2109	030095	156.9	155.7	6.4	15.5	270	-6.5	-15.0		156.1	1	159.3	0	6.4					
NWR	78	54	2109	040095	163.2	161.9	1.0	15.6	270	-6.5	-15.0		162.4	2	-1.0	0	-1.0					
NWR	78	63	2045	050096	157.9	156.7	1.7	17.9	270	-5.0	-7.0		157.5	0	158.3	0	2.1					
NWR	78	63	2045	060096	159.4	158.2	2.4	17.9	270	-5.0	-7.0		159.0	0	-1.0	0	-1.0					
NWR	78	67	2150	010097	166.7	165.4	4.7	7.8	270	-4.0	-11.2		166.1	0	166.0	0	3.4					
NWR	78	67	2150	020097	166.5	165.2	1.2	7.8	270	-4.0	-11.2		165.9	0	-1.0	0	-1.0					
NWR	78	86	1930	030098	161.4	160.1	3.9	0.0	CLM	2.0	-11.2		160.8	3	160.8	0	3.9					
NWR	78	86	1930	040098	150.0	148.8	2.2	0.0	CLM	2.0	-11.2		149.4	3	149.4	3	2.2					
NWR	78	103	2330	020099	190.9	189.4	3.3	1.1	180	-2.5	-6.1		190.5	2	190.5	2	3.3					
NWR	78	103	2330	060099	198.5	196.9	U	1.1	180	-2.5	-6.1		198.1	1	198.1	1	.0					
NWR	78	123	1650	010100	177.0	175.6	1.1	17.5	270	2.0	-2.2		177.0	0	176.5	0	2.2					
NWR	78	123	1650	030100	176.0	174.6	2.9	17.5	270	2.0	-2.2		176.0	0	-1.0	0	-1.0					
NWR	78	130	1810	040101	160.4	159.1	3.0	17.5	270	1.5	-9.9		159.8	0	161.3	0	3.3					
NWR	78	130	1810	050101	163.4	162.1	3.5	17.5	270	1.5	-9.9		162.8	0	-1.0	0	-1.0					
NWR	78	138	2150	010102	172.8	171.4	3.4	7.5	270	0.0	-3.3		172.7	0	172.8	0	3.5					
NWR	78	138	2150	020102	173.1	171.7	3.6	7.5	270	0.0	-3.3		173.0	0	-1.0	0	-1.0					
NWR	78	152	2030	030103	179.7	178.3	1.4	2.2	180	1.5	-1.6		179.8	0	179.9	0	1.4					
NWR	78	152	2030	060103	180.0	178.6	1.4	2.2	180	1.5	-1.6		180.1	0	-1.0	0	-1.0					
NWR	78	158	2235	010104	161.0	159.7	1.5	11.3	270	2.0	-2.2		161.0	0	161.8	0	1.9					
NWR	78	158	2235	020104	162.6	161.3	2.3	11.3	270	2.0	-2.2		162.6	0	-1.0	0	-1.0					
NWR	78	165	1840	030105	157.7	156.5	4.9	1.1	270	15.5	-2.7		157.7	1	157.7	1	4.9					
NWR	78	165	1840	040105	159.1	157.9	5.6	1.1	270	15.5	-2.7		159.1	1	159.1	0	5.6					
NWR	78	173	2205	050106	167.8	166.5	1.6	1.1	220	17.5	.6		168.1	4	165.7	0	1.4					
NWR	78	173	2205	060106	163.0	161.7	1.2	1.1	220	17.5	.6		163.3	4	-1.0	0	-1.0					
NWR	78	179	2000	010107	162.2	160.9	1.9	1.1	135	8.5	6.6		163.3	4	162.9	0	1.9					
NWR	78	179	2000	020107	161.3	160.0	1.8	1.1	135	8.5	6.6		162.4	4	-1.0	0	-1.0					
NWR	78	188	2130	030108	165.6	164.3	2.9	1.1	180	15.8	-4.7		165.4	4	165.3	0	2.3					
NWR	78	188	2130	040108	165.5	164.2	1.5	1.1	180	15.8	-4.7		165.3	4	-1.0	0	-1.0					
NWR	78	193	0325	050109	170.9	169.6	.1	.8	270	11.3	1.2		171.3	4	169.3	0	1.1					
NWR	78	193	0325	060109	167.0	165.7	1.6	.8	270	11.3	1.2		167.4	4	-1.0	0	-1.0					
NWR	78	200	2300	010110	160.9	159.6	2.4	3.0	180	15.5	-4.4		161.1	3	165.5	0	2.4					
NWR	78	200	2300	020110	169.7	168.4	.9	3.0	180	15.5	-4.4		169.9	3	-1.0	0	-1.0					
NWR	78	209	2130	030111	172.8	171.4	1.6	2.0	270	17.0	5.6		173.8	0	174.2	0	2.4					
NWR	78	209	2130	040111	173.5	172.1	3.0	2.0	270	17.0	5.6		174.5	0	-1.0	0	-1.0					
NWR	78	215	2040	060112	179.4	178.0	1.8	2.0	90	11.0	4.1		180.2	4	179.3	4	2.5					
NWR	78	215	2040	050112	177.7	176.3	3.0	2.0	90	11.0	4.1		178.5	4	-1.0	4	-1.0					
NWR	78	222	1915	020113	168.2	166.9	3.2	2.0	270	13.5	5.2		169.1	0	167.2	0	2.4					
NWR	78	222	1915	010113	164.3	163.0	1.3	2.0	270	13.5	5.2		165.2	0	-1.0	0	-1.0					
NWR	78	230	0000	030114	169.4	168.1	2.7	11.0	270	1.0	-6.0		169.1	2	169.1	0	2.7					
NWR	78	230	0000	040114	177.6	176.2	7.0	11.0	270	1.0	-6.0		177.3	1	177.3	1	7.0					
NWR	78	235	1830	060115	170.0	168.7	2.7	5.0	270	14.5	-.7		170.2	0	169.7	0	3.7					
NWR	78	235	1830	050115	169.0	167.7	4.5	5.0	270	14.5	-.7		169.1	0	-1.0	0	-1.0					
NWR	78	246	1900	010116	179.2	177.8	4.7	2.0	120	14.5	-.2		179.4	4	178.0	4	3.7					
NWR	78	246	1900	020116	176.3	174.9	2.4	2.0	120	14.5	-.2		176.5	4	-1.0	0	-1.0					
NWR	78	254	2230	030117	172.6	171.2	1.7	3.5	270	.5	-4.5		172.4	0	172.0	0	3.5					
NWR	78	254	2230	040117	171.9	170.6	4.7	3.5	270	.5	-4.5		171.7	0	-1.0	0	-1.0					
NWR	78	268	2040	050118	183.3	181.9	4.7	2.0	60	9.0	-3.2		183.2	4	182.0	4	4.7					
NWR	78	268	2040	060118	181.0	179.6	4.7	2.0	60	9.0	-3.2		180.9	4	-1.0	4	-1.0					
NWR	78	276	2130	040119	171.4	170.1	3.5	2.9	270	9.0	-99.9		171.4	0	173.3	0	3.1					
NWR	78	276	2130	030119	175.1	173.7	2.7	2.9	270	9.0	-99.9		175.1	0	-1.0	0	-1.0					

## F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	4IND M/S	DEG	TEMP AIR	DEG C DEW PT	3 PPTV	F3	4 PPTV	F4	S.D.
NWR	78	283	2300	050120	174.8	173.4	2.4	2.0	0	2.0	-22.2	173.7	0	172.6	0	1.8
NWR	78	283	2300	060120	172.6	171.2	.8	2.0	0	2.0	-22.2	171.5	0	-1.0	0	-1.0
NWR	78	289	2110	010121	175.6	174.2	2.0	5.6	270	10.0	-99.9	175.6	0	174.5	0	2.1
NWR	78	289	2110	020121	173.3	171.9	2.1	5.5	270	10.0	-99.9	173.3	0	-1.0	0	-1.0
NWR	78	301	1735	040122	167.1	165.8	.9	8.8	270	5.0	-5.6	166.8	2	165.8	0	.9
NWR	78	301	1735	030122	165.1	163.8	6.3	8.3	270	5.0	-5.6	164.8	1	-1.0	0	-1.0
NWR	78	315	1930	010123	176.6	175.2	3.8	3.3	270	5.0	-6.4	176.2	0	175.3	0	2.7
NWR	78	315	1930	020123	174.7	173.3	.6	3.3	270	5.0	-6.4	174.3	0	-1.0	0	-1.0
NWR	78	320	1930	030124	172.3	171.0	2.5	8.8	270	-9.5	-11.1	171.6	0	173.9	0	2.2
NWR	78	320	1930	040124	176.9	175.5	1.8	8.8	270	-9.5	-11.1	176.2	0	-1.0	0	-1.0
NWR	78	326	2045	060125	176.0	174.6	1.9	3.5	190	-6.8	-15.0	175.1	0	173.2	0	1.4
NWR	78	326	2045	050125	172.0	170.7	.3	3.5	190	-6.9	-15.0	171.2	0	-1.0	0	-1.0
NWR	78	334	2040	010126	174.6	173.2	2.1	18.0	270	-7.8	-7.8	174.1	0	174.5	0	2.4
NWR	78	334	2040	020126	175.3	173.9	2.6	18.0	270	-7.8	-7.8	174.8	0	-1.0	0	-1.0
NWR	78	344	2000	050128	170.3	169.0	1.2	10.0	270	MSG	MSG	170.3	0	171.3	0	1.6
NWR	78	344	2000	060128	172.2	170.9	1.9	10.0	270	MSG	MSG	172.2	0	-1.0	0	-1.0
NWR	78	355	2320	010129	182.4	181.0	4.2	18.0	270	-13.0	-99.9	182.4	3	182.4	3	4.2
NWR	78	355	2320	020129	170.8	169.5	2.4	18.0	270	-13.0	-99.9	170.8	3	170.8	0	2.4
NWR	79	4	1545	030130	172.6	171.2	2.9	7.7	270	-6.0	-6.0	172.3	0	172.5	0	2.4
NWR	79	4	1545	040130	173.0	171.6	1.8	7.7	270	-6.0	-6.0	172.7	0	-1.0	0	-1.0
NWR	79	11	2300	010131	166.7	165.4	.3	5.0	270	-2.0	MSG	166.7	0	168.4	0	1.7
NWR	79	11	2300	020131	170.1	168.8	2.4	5.0	270	-2.0	MSG	170.1	0	-1.0	0	-1.0
NWR	79	18	2310	030132	168.6	167.3	3.9	5.0	270	-9.0	MSG	168.6	0	170.5	0	3.5
NWR	79	18	2310	040132	172.3	171.0	3.0	5.0	270	-9.0	MSG	172.3	0	-1.0	0	-1.0
NWR	79	26	2200	030133	172.9	171.5	.4	0.0	CLM	-19.0	-99.9	172.9	4	172.9	0	.4
NWR	79	26	2200	040133	172.9	171.5	.4	0.0	CLM	-19.0	-99.9	172.9	4	-1.0	0	-1.0
NWR	79	32	1750	050134	177.1	175.7	1.1	9.0	270	-8.3	-14.0	176.3	2	177.0	0	1.1
NWR	79	32	1750	060134	178.6	177.2	U	9.0	270	-8.3	-14.0	177.8	1	-1.0	0	-1.0
NWR	79	38	2330	010135	169.3	168.0	U	20.0	270	-7.8	-8.5	168.8	1	166.8	0	.0
NWR	79	38	2330	020135	165.2	163.9	.8	20.0	270	-7.8	-8.5	164.7	2	-1.0	0	-1.0
NWR	79	45	2045	030136	170.3	169.0	1.7	4.5	270	2.2	-8.5	169.8	0	169.7	0	2.1
NWR	79	45	2045	040136	170.2	168.9	2.4	4.5	270	2.2	-8.5	169.7	0	-1.0	0	-1.0
NWR	79	59	2045	040137	166.1	164.8	1.0	8.8	270	-8.0	MSG	166.1	0	167.9	0	.8
NWR	79	59	2045	030137	169.6	168.3	.5	8.8	270	-8.0	MSG	169.6	0	-1.0	0	-1.0
NWR	79	67	2200	040138	167.3	166.0	2.0	1.7	180	-9.0	MSG	167.3	3	171.3	0	2.0
NWR	79	67	2200	030138	175.3	173.9	4.5	1.7	180	-9.0	MSG	175.3	3	-1.0	0	-1.0
NWR	79	80	2330	050139	191.3	189.8	1.3	0.1	CLM	-7.2	-7.2	190.8	2	190.8	2	1.3
NWR	79	80	2330	060139	192.3	190.8	5.5	0.0	CLM	-7.2	-7.2	191.8	1	191.8	1	5.5
NWR	79	90	2120	030140	179.4	178.0	1.7	1.0	130	0.0	-3.6	179.3	4	180.2	0	3.3
NWR	79	90	2120	040140	181.3	179.9	4.3	1.0	130	0.0	-3.6	181.2	4	-1.0	0	-1.0
NWR	79	97	0100	050141	175.4	174.0	2.0	10.0	270	-4.7	-7.4	175.0	0	176.2	0	2.5
NWR	79	97	0100	060141	177.9	176.5	3.0	10.0	270	-4.7	-7.4	177.4	0	-1.0	0	-1.0
NWR	79	104	1930	030142	170.5	169.2	2.4	20.0	270	-5.6	-8.3	170.0	0	172.3	0	2.0
NWR	79	104	1930	040142	175.1	173.7	1.6	20.0	270	-5.6	-8.3	174.6	0	-1.0	0	-1.0
NWR	79	111	0145	060143	173.9	172.5	1.4	8.0	270	-4.2	-11.9	173.2	0	176.0	0	3.0
NWR	79	111	0145	050143	179.6	178.2	4.0	8.0	270	-4.2	-11.9	178.9	0	-1.0	0	-1.0
NWR	79	116	2200	030144	173.1	171.7	2.2	10.0	270	-6.4	-10.2	172.5	0	170.7	0	2.7
NWR	79	116	2200	040144	169.5	168.2	3.1	10.0	270	-6.4	-10.2	168.9	0	-1.0	0	-1.0
NWR	79	122	2030	050145	172.4	171.1	1.1	1.5	270	.6	-3.0	172.3	0	172.7	0	2.6
NWR	79	122	2030	060145	173.2	171.8	3.5	1.5	270	.6	-3.0	173.1	0	-1.0	0	-1.0
NWR	79	131	1800	040146	173.6	172.2	1.2	6.6	270	-5.6	-10.1	173.0	0	172.7	0	1.2

## F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.O.	WIND M/S	WIND DEG	TEMP AIR	DEG C DEW PT	3 PPTV	F3	4 PPTV	F4	S.O.
NWR	79	131	1800	030140	173.1	171.7	1.2	6.6	270	-5.6	-10.1	172.5	0	-1.0	0	-1.0
NWR	79	138	1530	060147	170.6	169.3	2.2	13.2	270	6.1	-3	170.8	0	171.7	0	2.7
NWR	79	138	1530	050147	172.5	171.2	3.1	13.2	270	6.1	-3	172.7	0	-1.0	0	-1.0
NWR	79	145	1100	030148	172.1	170.8	1.5	2.0	45	1.7	-4.5	171.9	0	172.5	0	1.3
NWR	79	145	1100	040143	173.4	172.0	1.0	2.0	45	1.7	-4.5	173.2	0	-1.0	0	-1.0
NWR	79	150	1830	050149	176.4	175.0	.3	2.0	180	-1.7	-2.0	176.4	0	176.7	0	1.0
NWR	79	150	1830	060149	176.9	175.5	1.2	2.0	180	-1.7	-2.0	176.9	0	-1.0	0	-1.0
NWR	79	159	2115	030150	181.9	180.5	2.8	2.0	270	-2.2	-99.9	181.9	0	182.3	0	2.1
NWR	79	159	2115	040150	183.6	182.2	.9	2.0	270	-2.2	-99.9	183.6	0	-1.0	0	-1.0
NWR	79	163	1500	060151	167.6	166.3	2.3	4.0	315	15.3	4.0	168.3	0	171.3	0	2.4
NWR	79	163	1500	050151	173.6	172.2	2.5	4.0	315	15.3	4.0	174.4	0	-1.0	0	-1.0
NWR	79	173	1600	030152	172.7	171.3	2.1	2.0	180	11.7	-7.8	172.2	0	175.4	0	2.2
NWR	79	173	1600	040152	179.1	177.7	2.3	2.0	180	11.7	-7.8	178.6	0	-1.0	0	-1.0
NWR	79	179	1300	050153	176.7	175.3	.2	2.0	270	12.8	-7	176.9	0	176.1	0	1.9
NWR	79	179	1300	060153	175.1	173.7	2.7	2.0	270	12.8	-7	175.3	0	-1.0	0	-1.0
NWR	79	184	1700	040154	172.7	171.3	.9	2.0	315	17.8	-2	172.9	2	172.9	0	.9
NWR	79	184	1700	030154	166.8	165.5	4.9	2.0	315	17.8	-2	167.0	1	167.0	1	4.9
NWR	79	192	1630	060155	173.8	172.4	1.0	1.0	90	19.0	-7.7	173.3	4	171.4	0	2.7
NWR	79	192	1630	050155	169.9	168.6	3.7	1.0	90	19.0	-7.7	169.4	4	-1.0	0	-1.0
NWR	79	200	1700	030156	178.0	176.6	.5	1.0	45	14.4	4.1	178.8	4	178.7	0	1.9
NWR	79	200	1700	040156	177.9	176.5	2.7	1.0	45	14.4	4.1	178.7	4	-1.0	0	-1.0
NWR	79	206	1530	050157	175.0	173.6	6.6	2.0	315	18.3	-6	175.2	1	178.5	0	6.6
NWR	79	206	1530	060157	181.6	180.2	3.7	2.0	315	18.3	-6	181.8	2	-1.0	0	-1.0
NWR	79	214	2130	030158	179.0	177.6	3.7	5.0	170	14.2	.6	179.3	4	179.8	0	2.7
NWR	79	214	2130	040158	179.9	178.5	.8	5.0	170	14.2	.6	180.2	4	-1.0	0	-1.0
NWR	79	220	2213	060159	178.6	177.2	2.7	5.0	270	13.3	6.0	179.7	0	179.8	0	2.8
NWR	79	220	2213	050159	178.7	177.3	2.9	5.0	270	13.3	6.0	179.8	0	-1.0	0	-1.0
NWR	79	228	1830	040160	168.9	167.6	1.6	5.0	260	12.5	5.0	169.8	0	171.6	0	3.5
NWR	79	228	1830	030160	172.4	171.1	4.7	5.0	260	12.5	5.0	173.3	0	-1.0	0	-1.0
NWR	79	234	1910	050161	179.4	178.0	5.7	1.0	270	10.5	-9	179.5	1	183.2	0	5.7
NWR	79	234	1910	060161	186.8	185.3	4.0	1.0	270	10.5	-9	186.9	2	-1.0	0	-1.0
NWR	79	250	1730	050163	146.8	145.7	U	5.0	270	19.5	-3.0	146.7	1	146.7	1	.0
NWR	79	250	1730	060163	160.4	159.1	U	5.0	270	19.5	-3.0	160.3	1	160.3	1	.0
NWR	79	257	1340	030164	173.1	171.7	.9	0.0	CLM	4.5	-22.0	172.0	4	174.6	0	1.2
NWR	79	257	1340	040164	178.3	176.9	1.5	0.0	CLM	4.5	-22.0	177.2	4	-1.0	0	-1.0
NWR	79	263	1827	050165	179.3	177.9	2.3	3.0	90	4.0	-2.0	179.3	2	178.0	0	2.3
NWR	79	263	1827	060165	176.6	175.2	6.2	3.0	90	4.0	-2.0	176.6	1	-1.0	0	-1.0
NWR	79	270	1630	040166	180.5	179.1	3.2	7.5	270	7.0	-4.0	180.3	3	180.3	0	3.2
NWR	79	270	1630	030166	195.3	194.3	2.5	7.5	270	7.0	-4.0	195.6	3	195.6	3	2.5
NWR	79	276	1700	060167	183.3	181.9	3.5	15.5	270	-31.0	-37.3	182.0	2	182.0	0	3.5
NWR	79	276	1700	050167	183.3	181.9	5.7	15.5	270	-31.0	-37.3	182.0	1	-1.0	0	-1.0
NWR	79	283	1930	030168	183.8	182.4	1.1	17.9	270	9.0	-13.8	183.0	2	183.0	0	1.1
NWR	79	283	1930	040168	190.7	189.2	6.9	17.9	270	9.0	-13.8	189.8	1	189.8	1	6.9
NWR	79	290	0100	050169	189.1	187.6	2.8	12.5	270	3.0	-9.5	188.5	0	184.8	0	2.2
NWR	79	290	0100	060169	181.7	180.3	1.4	12.5	270	3.0	-9.5	181.1	0	-1.0	0	-1.0
NWR	79	297	1740	040170	178.4	177.0	.1	0.0	CLM	2.0	-11.0	177.7	2	181.2	0	.1
NWR	79	297	1740	030170	185.3	183.8	5.8	0.0	CLM	2.0	-11.0	184.6	1	-1.0	0	-1.0
NWR	79	306	2301	050171	184.8	183.4	.9	5.0	270	-8.2	MSG	184.8	0	185.7	0	.9
NWR	79	306	2301	060171	186.5	185.0	.9	5.0	270	-8.2	MSG	186.5	0	-1.0	0	-1.0
NWR	79	311	1930	030172	198.4	196.8	U	10.0	270	MSG	MSG	198.4	1	198.4	1	.0
NWR	79	311	1930	040172	183.6	182.2	1.5	10.0	270	MSG	MSG	183.6	2	183.6	0	1.5

## F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1			2			WIND		TEMP DEG C		3	F3	4	F4	S.D.
					PPTV	PPTV	S.D.	M/S	DEG	AIR	DEW PT	PPTV	PPTV						
NWR	79	333	1530	040173	184.5	183.1	2.6	0.0	CLM	-13.0	-99.9	184.5	4	182.9	0	1.9			
NWR	79	333	1530	050173	181.3	179.9	.8	0.0	CLM	-13.0	-99.9	181.3	4	-1.0	0	-1.0			
NWR	79	341	1400	050174	179.1	177.7	3.2	15.0	270	-4.7	-12.5	178.3	0	177.5	0	2.3			
NWR	79	341	1400	060174	177.5	176.1	.8	15.0	270	-4.7	-12.5	176.7	0	-1.0	0	-1.0			
NWR	79	341	1400	740174	183.0	181.6	.9	15.0	270	-4.7	-12.5	182.2	0	182.3	0	1.6			
NWR	79	341	1400	750174	183.1	181.7	2.1	15.0	270	-4.7	-12.5	182.3	0	-1.0	0	-1.0			
NWR	79	352	2305	030175	179.8	178.4	.2	2.0	270	-.8	-20.0	178.8	0	178.9	0	.9			
NWR	79	352	2305	040175	180.0	178.6	1.2	2.0	270	-.8	-20.0	178.9	0	-1.0	0	-1.0			
NWR	79	352	2305	710175	182.9	181.5	1.4	2.0	270	-.8	-20.0	181.8	0	181.1	0	1.3			
NWR	79	352	2305	720175	181.5	180.1	1.2	2.0	270	-.8	-20.0	180.4	0	-1.0	0	-1.0			
NWR	79	363	0120	050176	185.8	184.3	5.6	3.5	270	-14.4	-16.9	184.8	1	183.5	0	5.6			
NWR	79	363	0120	060176	183.2	181.8	.3	3.5	270	-14.4	-16.9	182.2	2	-1.0	0	-1.0			
NWR	79	363	0120	740176	185.9	184.4	3.4	3.5	270	-14.4	-16.9	184.9	0	185.1	0	2.6			
NWR	79	363	0120	750176	186.2	184.7	1.4	3.5	270	-14.4	-16.9	185.2	0	-1.0	0	-1.0			

F11 DATA BASE																
STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.O.	WIND M/S	DEG	TEMP AIR	DEG C DEW PT	3 PPTV	F3	4 PPTV	F4	S.O.
MLO	77	68	2019	050146	159.1	147.8	2.5	7.7	130	16.1	-17.2	148.1	2	148.1	2	2.5
MLO	77	75	2045	060147	151.3	140.5	U	5.1	90	9.4	-14.4	140.9	1	140.9	1	.0
MLO	77	80	2035	030148	163.6	151.9	.1	6.2	150	-12.8	-12.8	152.5	2	152.5	2	.1
MLO	77	94	2004	050149	149.9	139.2	1.7	3.1	30	6.7	.6	140.5	2	140.5	2	1.7
MLO	77	103	2022	060150	147.6	137.1	1.8	5.1	90	11.7	-19.4	137.4	2	137.4	2	1.8
MLO	77	109	1946	030151	154.0	143.0	2.6	10.3	270	8.3	-15.0	143.4	2	143.4	0	2.6
MLO	77	116	2000	050152	171.3	159.1	1.6	3.1	30	7.2	0.0	160.5	2	160.5	2	1.6
MLO	77	122	2040	060153	153.8	142.8	1.7	4.1	30	11.1	-13.9	143.3	2	143.3	0	1.7
MLO	77	130	2036	030154	147.6	137.1	4.5	15.4	270	7.2	-2.2	138.1	2	138.1	2	4.5
MLO	77	136	1959	050155	177.9	165.2	4.5	10.3	30	10.6	-15.6	165.7	2	165.7	2	4.5
MLO	77	144	1954	060156	153.8	142.8	.6	10.3	90	14.4	-18.3	143.2	2	143.2	0	.6
MLO	77	151	2058	030157	152.6	141.7	2.0	7.7	90	13.9	-16.7	142.1	2	142.1	2	2.0
MLO	77	157	2120	050158	167.7	155.7	1.5	7.7	270	10.0	-5.0	156.7	2	156.7	2	1.5
MLO	77	167	1930	060159	149.8	139.1	2.2	12.4	120	11.1	-12.8	139.6	2	139.6	2	2.2
MLO	77	173	2029	030160	154.6	143.6	1.7	10.5	100	10.6	-8.9	144.2	2	144.2	0	1.7
MLO	77	181	2040	050161	166.9	155.0	.9	4.5	320	8.9	4.8	157.0	2	157.0	2	.9
MLO	77	187	2125	060162	165.1	153.3	4.4	12.0	120	14.4	0.0	154.7	2	154.7	0	4.4
MLO	77	194	1959	030163	156.4	145.2	U	4.1	300	12.2	-7.8	146.0	1	146.0	0	.0
MLO	77	200	2240	050164	153.6	142.6	4.1	5.1	190	14.4	4.4	144.4	2	144.4	0	4.1
MLO	77	208	2300	060165	156.8	145.6	.9	6.2	120	13.3	-1.1	146.8	2	146.8	0	.9
MLO	77	215	2312	030166	159.8	148.4	1.5	4.1	300	12.2	2.2	150.0	2	150.0	0	1.5
MLO	77	223	2104	050167	159.9	148.5	5.0	3.1	360	13.3	-9.4	149.2	1	149.2	0	5.0
MLO	77	242	2027	060169	169.1	157.0	.6	7.0	180	14.4	3.4	158.9	2	158.9	2	.6
MLO	77	249	2008	030170	158.3	147.0	2.3	4.1	270	11.1	3.6	148.7	2	148.7	0	2.3
MLO	77	258	2326	050171	166.1	154.3	6.5	3.5	147	13.1	8.8	156.9	1	156.9	0	6.5
MLO	77	263	2258	060172	170.4	158.2	3.0	1.8	360	9.3	2.0	159.9	2	159.9	2	3.0
MLO	77	271	2045	030173	161.4	149.9	2.9	9.5	212	12.9	-19.3	150.2	2	150.2	0	2.9
MLO	77	279	2336	050174	165.0	153.2	1.4	5.0	340	15.1	-11.3	153.8	2	153.8	0	1.4
MLO	77	286	2329	060175	158.4	147.1	9.3	5.0	60	7.9	5.5	149.1	1	149.1	0	9.3
MLO	77	292	2328	030176	160.5	149.1	4.8	2.1	60	10.7	-11.2	149.6	2	149.6	0	4.8
MLO	77	308	0549	050177	161.0	149.5	3.6	3.5	185	14.0	4.0	151.3	2	151.3	0	3.6
MLO	77	314	0444	060178	158.3	147.0	5.4	4.1	185	4.0	-8.0	147.7	1	147.7	0	5.4
MLO	77	321	0733	030179	164.1	152.4	6.5	4.5	170	11.0	-4.0	153.4	1	153.4	0	6.5
MLO	77	328	0540	050180	155.6	144.5	3.1	4.3	250	7.4	-6.1	145.3	2	145.3	2	3.1
MLO	77	237	2145	460168	153.9	152.7	1.9	6.6	90	14.5	-2.2	153.9	2	152.3	0	1.9
MLO	77	237	2145	470168	150.7	149.5	5.1	6.5	90	14.5	-2.2	150.7	1	-1.0	0	-1.0
MLO	77	258	2334	440171	151.2	150.0	7.9	3.6	147	13.1	8.8	152.5	1	154.2	0	7.9
MLO	77	258	2334	450171	154.5	153.3	1.5	3.5	147	13.1	8.8	155.9	2	-1.0	0	-1.0
MLO	77	263	2304	420172	154.4	153.2	5.6	1.8	360	9.3	2.0	154.8	1	154.1	0	5.6
MLO	77	263	2304	430172	153.0	151.8	3.7	1.8	360	9.3	2.0	153.4	2	-1.0	0	-1.0
MLO	77	271	2049	460173	154.3	153.1	7.0	9.5	212	12.9	-19.3	153.4	1	153.4	0	7.0
MLO	77	271	2049	470173	159.6	153.4	4.9	9.5	212	12.9	-19.3	158.7	1	158.7	1	4.9
MLO	77	279	2342	440174	159.2	158.0	4.6	5.0	340	15.1	-11.3	158.6	0	154.8	0	3.6
MLO	77	279	2342	450174	151.6	150.4	2.1	5.0	340	15.1	-11.3	151.0	0	-1.0	0	-1.0
MLO	77	286	2334	420175	146.1	145.0	1.5	5.0	60	7.9	5.5	146.9	0	148.3	0	1.8
MLO	77	286	2334	430175	148.9	147.7	2.1	5.0	60	7.9	5.5	149.7	0	-1.0	0	-1.0
MLO	77	292	2333	460176	153.8	152.6	2.8	2.1	60	10.7	-11.2	153.2	0	154.2	0	2.2
MLO	77	292	2333	470176	155.8	154.6	1.4	2.1	60	10.7	-11.2	155.2	0	-1.0	0	-1.0
MLO	77	308	0555	420177	157.2	156.0	4.5	3.5	185	14.0	4.0	157.9	0	158.8	0	3.7
MLO	77	308	0555	430177	159.1	157.9	2.7	3.5	185	14.0	4.0	159.8	0	-1.0	0	-1.0
MLO	77	314	0451	440178	153.4	152.2	3.5	4.1	185	4.0	-8.0	153.0	0	151.3	0	3.2



## F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND M/S	DEG	TEMP AIR	DEG C DEW PT	3 PPTV	F3	4 PPTV	F4	S.D.
MLO	77	314	0451	450178	150.1	148.9	2.8	4.1	185	4.0	-8.0	149.7	0	-1.0	0	-1.0
MLO	77	321	0740	460179	158.7	157.5	.2	4.5	170	11.0	-4.0	158.5	0	154.9	0	2.4
MLO	77	321	0740	470179	151.5	150.3	3.4	4.5	170	11.0	-4.0	151.3	0	-1.0	0	-1.0
MLO	77	328	0543	420180	153.8	152.5	1.2	4.3	250	7.4	-6.1	153.5	0	152.4	0	1.0
MLO	77	328	0543	430180	151.6	150.4	.8	4.3	250	7.4	-6.1	151.3	0	-1.0	0	-1.0
MLO	77	342	0650	420181	155.3	154.1	3.1	5.2	180	5.2	1.7	155.7	0	157.0	0	3.9
MLO	77	342	0650	430181	158.0	156.8	4.6	5.2	180	5.2	1.7	158.4	0	-1.0	0	-1.0
MLO	77	349	0620	440182	150.6	149.4	3.8	5.1	140	8.0	-2.3	150.6	2	154.3	0	3.8
MLO	77	349	0620	450182	158.0	156.8	4.9	5.1	140	8.0	-2.3	158.0	1	-1.0	0	-1.0
MLO	77	356	0421	460183	157.6	156.4	1.2	3.5	281	3.7	-22.2	156.6	0	155.7	0	3.0
MLO	77	356	0421	470183	155.7	154.5	4.0	3.6	281	3.7	-22.2	154.7	0	-1.0	0	-1.0
MLO	77	363	0555	420184	154.5	153.3	2.7	2.5	298	3.6	1.7	154.9	0	156.2	0	2.6
MLO	77	363	0555	430184	157.1	155.9	2.4	2.6	298	3.6	1.7	157.5	0	-1.0	0	-1.0
MLO	78	5	0700	440185	161.3	160.0	6.7	4.7	180	5.0	-15.0	160.5	1	160.5	0	6.7
MLO	78	5	0700	450185	163.0	161.7	2.3	4.7	180	5.0	-16.0	162.2	2	162.2	2	2.3
MLO	78	12	0543	460186	152.8	151.6	4.2	6.2	250	4.0	-16.0	152.0	2	156.3	0	4.2
MLO	78	12	0543	470186	161.5	160.2	5.2	6.2	250	4.0	-16.0	160.7	1	-1.0	0	-1.0
MLO	78	19	0510	420187	165.9	164.6	3.4	10.1	210	7.0	-14.4	165.1	2	165.1	2	3.4
MLO	78	19	0510	430187	154.0	152.8	5.0	10.1	210	7.0	-14.4	153.3	1	153.3	0	5.0
MLO	78	26	0423	440188	156.5	155.3	2.7	6.3	290	8.0	0.0	156.7	0	160.2	0	3.0
MLO	78	26	0423	450188	163.5	162.2	3.2	6.3	290	8.0	0.0	163.7	0	-1.0	0	-1.0
MLO	78	33	0641	460189	159.9	158.6	5.9	3.2	190	5.0	-10.0	159.3	1	159.3	0	5.9
MLO	78	33	0641	470189	166.3	165.0	4.3	3.2	190	5.0	-10.0	165.7	2	165.7	2	4.3
MLO	78	40	0410	420190	156.1	154.9	.5	2.6	270	12.0	-25.0	155.1	0	152.4	0	.9
MLO	78	40	0410	430190	150.6	149.4	1.2	2.6	270	12.0	-25.0	149.6	0	-1.0	0	-1.0
MLO	78	47	0555	440191	156.5	155.3	2.6	4.8	120	8.0	-4.0	156.3	3	156.3	0	2.6
MLO	78	47	0555	450191	176.5	175.1	2.6	4.8	120	8.0	-4.0	176.3	3	176.3	3	2.6
MLO	78	54	0410	460192	158.4	157.2	4.2	5.1	280	4.0	-1.1	158.5	0	156.4	0	4.4
MLO	78	54	0410	470192	154.2	153.0	4.6	5.1	280	4.0	-1.1	154.3	0	-1.0	0	-1.0
MLO	78	62	0450	420193	176.2	174.8	3.1	9.8	24	4.7	-24.0	175.1	3	175.1	3	3.1
MLO	78	62	0450	430193	159.7	158.5	1.5	9.8	24	4.7	-24.0	158.7	3	158.7	0	1.5
MLO	78	69	0440	440194	157.2	156.0	2.8	4.1	140	8.0	-22.0	156.2	0	159.5	0	2.9
MLO	78	69	0440	450194	163.7	162.4	3.0	4.1	140	8.0	-22.0	162.7	0	-1.0	0	-1.0
MLO	78	76	0440	460195	156.2	155.0	3.7	2.1	160	3.0	-3.0	156.1	0	157.5	0	3.5
MLO	78	76	0440	470195	158.9	157.7	3.3	2.1	160	3.0	-3.0	158.8	0	-1.0	0	-1.0
MLO	78	83	0440	420196	148.3	147.1	6.6	6.2	270	7.0	-17.8	147.5	1	147.5	1	6.6
MLO	78	83	0440	430196	146.8	145.7	2.5	6.2	270	7.0	-17.8	146.0	2	146.0	2	2.5
MLO	78	97	0330	420197	157.9	156.7	4.0	5.1	110	8.0	-9.4	157.4	0	158.5	0	3.2
MLO	78	97	0330	430197	160.2	158.9	2.2	5.1	110	8.0	-9.4	159.7	0	-1.0	0	-1.0
MLO	78	103	2351	440198	167.1	165.8	4.0	4.6	341	7.8	-21.8	166.1	2	166.1	2	4.0
MLO	78	103	2351	450198	165.5	164.2	5.3	4.6	341	7.8	-21.8	164.5	1	164.5	0	5.3
MLO	78	111	0010	460199	155.0	153.8	.7	7.5	270	12.0	-2.2	155.0	2	155.0	0	.7
MLO	78	111	0010	470199	152.2	151.0	4.9	7.5	270	12.0	-2.2	152.2	1	152.2	1	4.9
MLO	78	117	2144	420200	156.0	154.8	4.0	3.3	344	9.0	-5.8	155.7	0	159.1	0	3.2
MLO	78	117	2144	430200	162.9	161.5	2.2	3.3	344	9.0	-5.8	162.5	0	-1.0	0	-1.0
MLO	78	124	2118	440201	165.3	164.0	3.5	3.3	33	10.0	-17.0	164.4	0	161.7	0	3.3
MLO	78	124	2118	450201	159.8	158.5	3.0	3.3	33	10.0	-17.0	158.9	0	-1.0	0	-1.0
MLO	78	131	2148	460202	159.5	158.3	4.1	3.5	294	12.7	-15.6	158.7	0	159.1	0	3.0
MLO	78	131	2148	470202	160.4	159.1	1.3	3.6	294	12.7	-15.6	159.6	0	-1.0	0	-1.0
MLO	78	138	2142	420203	341.3	338.6	1.6	9.8	260	9.2	-17.9	339.4	2	339.4	2	1.6
MLO	78	138	2142	430203	305.4	303.0	5.4	9.8	260	9.2	-17.9	303.7	1	303.7	1	5.4

## F11 JATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND M/S	DEG	TEMP AIR	DEG C DEW PT	3 PPTV	F3	4 PPTV	F4	S.D.
MLO	78	145	2134	440204	159.5	158.3	.8	3.8	351	9.2	-17.9	158.6	0	159.5	0	1.3
MLO	78	145	2134	450204	161.3	160.0	1.6	3.8	351	9.2	-17.9	160.4	0	-1.0	0	-1.0
MLO	78	152	2228	460205	223.7	221.9	1.6	4.1	20	9.9	-17.9	222.5	3	222.5	3	1.6
MLO	78	152	2228	470205	161.6	160.3	2.3	4.1	20	9.9	-17.9	160.7	3	160.7	0	2.3
MLO	78	166	2324	420206	158.4	157.2	2.2	4.0	30	14.7	-13.6	157.7	0	156.5	0	3.0
MLO	78	166	2324	430206	156.1	154.9	3.7	4.0	30	14.7	-13.6	155.4	0	-1.0	0	-1.0
MLO	78	172	0234	440207	160.1	158.8	2.0	4.0	30	7.0	5.0	160.9	0	162.4	0	1.5
MLO	78	172	0234	450207	163.0	161.7	.5	4.0	30	7.0	5.0	163.8	0	-1.0	0	-1.0
MLO	78	180	2137	460208	160.4	159.1	2.1	5.0	300	11.7	8.0	161.7	0	162.6	0	1.6
MLO	78	180	2137	470208	162.2	160.9	1.0	5.0	300	11.7	8.0	163.5	0	-1.0	0	-1.0
MLO	78	187	2132	420209	154.8	153.6	1.7	5.7	138	8.6	-19.0	153.9	0	156.5	0	2.2
MLO	78	187	2132	430209	160.0	158.7	2.6	5.7	138	8.6	-19.0	159.1	0	-1.0	0	-1.0
MLO	78	194	2139	440210	163.6	162.3	2.2	4.2	20	10.8	-16.8	162.7	0	162.9	0	1.6
MLO	78	194	2139	450210	163.9	162.6	.7	4.2	20	10.8	-16.8	163.0	0	-1.0	0	-1.0
MLO	78	208	2245	420212	171.0	169.7	2.7	5.3	64	14.0	-6.4	170.6	3	170.6	3	2.7
MLO	78	208	2245	430212	162.7	161.4	1.6	5.3	64	14.0	-6.4	162.3	3	162.3	0	1.6
MLO	78	215	2145	440213	169.3	168.0	1.8	3.2	354	10.7	-2.4	169.2	0	171.6	0	2.0
MLO	78	215	2145	450213	174.1	172.7	2.1	3.2	354	10.7	-2.4	174.0	0	-1.0	0	-1.0
MLO	78	229	2337	470214	160.5	159.2	4.1	4.1	20	10.3	-18.3	159.6	0	161.5	0	3.1
MLO	78	229	2337	460214	164.4	163.1	1.4	4.1	20	10.3	-18.3	163.5	0	-1.0	0	-1.0
MLO	78	236	2233	430215	166.3	165.0	3.6	4.1	36	11.9	-16.6	165.4	0	162.2	0	3.1
MLO	78	236	2233	430215	159.8	158.5	2.4	4.1	36	11.9	-16.6	159.0	0	-1.0	0	-1.0
MLO	78	243	2323	440216	160.2	158.9	.5	7.0	131	10.8	-17.4	159.3	0	161.2	0	3.2
MLO	78	243	2323	450216	163.9	162.6	4.5	7.0	131	10.8	-17.4	163.0	0	-1.0	0	-1.0
MLO	78	250	2240	460217	168.7	167.4	3.3	7.1	50	13.0	-5.9	168.4	0	167.2	0	2.5
MLO	78	250	2240	470217	166.4	165.1	1.3	7.1	50	13.0	-5.9	166.1	0	-1.0	0	-1.0
MLO	78	257	2137	420219	166.4	165.1	.9	3.0	337	9.6	-17.1	165.5	0	163.8	0	1.7
MLO	78	257	2137	430219	163.0	161.7	2.3	3.0	337	9.6	-17.1	162.1	0	-1.0	0	-1.0
MLO	78	264	2134	440219	171.1	169.8	1.9	3.6	350	9.8	-17.0	170.2	0	168.0	0	2.5
MLO	78	264	2134	450219	166.7	165.4	2.9	3.6	350	9.8	-17.0	165.8	0	-1.0	0	-1.0
MLO	78	271	2124	460220	169.8	168.5	1.8	4.5	70	14.5	-11.0	169.1	0	167.0	0	1.4
MLO	78	271	2124	470220	165.5	164.2	.8	4.5	70	14.5	-11.0	164.9	0	-1.0	0	-1.0
MLO	78	276	2303	420221	171.6	170.3	3.5	2.5	40	12.4	-15.1	170.7	0	167.8	0	2.6
MLO	78	276	2303	430221	165.7	164.4	1.2	2.6	40	12.4	-15.1	164.9	0	-1.0	0	-1.0
MLO	78	284	2314	440222	165.7	164.4	1.0	4.1	350	10.5	-17.7	164.8	0	163.8	0	2.6
MLO	78	284	2314	450222	163.7	162.4	3.6	4.1	350	10.5	-17.7	162.8	0	-1.0	0	-1.0
MLO	78	292	2334	460223	161.8	160.5	1.8	3.3	40	8.1	-19.9	160.9	0	160.6	0	1.3
MLO	78	292	2334	470223	161.2	159.9	.3	3.8	40	8.1	-19.9	160.3	0	-1.0	0	-1.0
MLO	78	299	2336	430224	166.7	165.4	.7	3.6	20	9.9	-17.6	165.8	2	165.8	0	.7
MLO	78	310	2016	440225	168.3	167.0	2.6	8.0	180	6.2	-20.4	167.3	0	166.8	0	2.6
MLO	78	310	2016	450225	167.3	166.0	2.6	8.0	180	6.2	-20.4	166.3	0	-1.0	0	-1.0
MLO	78	313	2140	460226	165.5	164.2	1.4	2.0	350	10.6	-5.8	165.2	0	165.9	0	1.9
MLO	78	313	2140	470226	167.0	165.7	2.3	2.0	350	10.6	-5.8	166.7	0	-1.0	0	-1.0
MLO	78	320	2335	420227	165.5	164.2	.6	1.9	360	7.5	-19.7	164.5	2	164.5	0	.6
MLO	78	334	2230	440228	170.6	169.3	2.0	1.3	30	9.5	-17.1	169.7	0	167.0	0	2.0
MLO	78	334	2230	450228	165.3	164.0	1.9	1.8	30	9.5	-17.1	164.4	0	-1.0	0	-1.0
MLO	78	341	1319	470229	164.1	162.8	2.2	5.7	145	7.6	-19.3	163.2	0	164.1	0	1.6
MLO	78	341	1319	460229	166.1	164.8	.6	5.7	145	7.6	-19.3	165.1	0	-1.0	0	-1.0
MLO	78	344	2334	420230	170.2	168.9	4.3	5.5	102	10.3	-17.1	169.3	0	167.1	0	4.0
MLO	78	344	2334	430230	165.9	164.6	3.6	5.5	102	10.3	-17.1	165.0	0	-1.0	0	-1.0
MLO	78	355	2114	440231	177.5	176.1	3.0	6.1	330	4.8	-23.2	176.4	3	176.4	3	3.0

F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1			WIND		TEMP DEG C		3	F3	4	F4	S.D.
					PPTV	2	S.G.	M/S	DEG	AIR	DEW PT					
MLO	78	355	2114	450231	167.9	166.6	1.6	6.1	330	4.8	-23.2	166.8	3	166.8	0	1.6
MLO	78	362	2130	460232	167.0	165.7	1.7	5.4	81	10.7	-18.5	166.1	0	167.1	0	1.5
MLO	78	362	2130	470232	169.0	167.7	1.3	5.4	81	10.7	-18.5	168.0	0	-1.0	0	-1.0
MLO	79	4	2128	420233	165.2	163.9	1.7	3.0	350	10.0	-19.2	164.2	0	163.7	0	1.7
MLO	79	4	2128	430233	164.0	162.7	1.6	3.0	350	10.0	-19.2	163.1	0	-1.0	0	-1.0
MLO	79	18	2327	440234	173.7	172.3	1.8	6.6	140	6.0	-16.5	172.8	0	170.2	0	1.8
MLO	79	18	2327	450234	168.5	167.2	1.7	6.6	140	6.0	-16.5	167.6	0	-1.0	0	-1.0
MLO	79	25	2214	460235	174.0	172.6	4.7	1.5	20	8.0	-19.0	173.0	0	174.1	0	3.3
MLO	79	25	2214	470235	176.2	174.8	.1	1.5	20	8.0	-19.0	175.2	0	-1.0	0	-1.0
MLO	79	32	2219	420236	173.7	172.3	1.4	4.0	330	5.0	-24.0	172.6	0	174.6	0	2.3
MLO	79	32	2219	430236	178.2	176.8	2.9	4.0	330	5.0	-24.0	177.1	0	-1.0	0	-1.0
MLO	79	39	2033	440237	169.4	168.1	.5	4.1	320	7.0	-5.7	169.1	0	170.0	0	.4
MLO	79	39	2033	450237	171.2	169.9	.1	4.1	320	7.0	-5.7	170.9	0	-1.0	0	-1.0
MLO	79	46	2132	460238	171.7	170.4	4.8	5.1	260	7.0	-1.7	171.7	0	170.8	0	3.8
MLO	79	46	2132	470238	169.9	168.6	2.3	5.1	260	7.0	-1.7	169.9	0	-1.0	0	-1.0
MLO	79	53	2337	420239	169.2	167.9	.3	6.1	310	8.3	2.5	169.7	0	167.7	0	1.4
MLO	79	53	2337	430239	165.3	164.0	1.9	6.1	310	8.3	2.5	165.8	0	-1.0	0	-1.0
MLO	79	60	0020	450240	169.5	168.2	2.2	3.5	330	4.0	1.1	169.8	0	171.5	0	1.8
MLO	79	60	0020	440240	172.8	171.4	1.3	3.5	330	4.0	1.1	173.1	0	-1.0	0	-1.0
MLO	79	67	2121	430241	167.4	166.1	4.8	2.8	34	10.5	-12.8	166.7	0	167.9	0	4.8
MLO	79	67	2121	420241	169.9	168.6	4.8	2.8	34	10.5	-12.8	169.2	0	-1.0	0	-1.0
MLO	79	74	2100	460242	174.7	173.3	2.2	7.1	140	11.5	-14.7	173.8	0	172.5	0	1.9
MLO	79	74	2100	470242	172.0	170.7	1.5	7.1	140	11.5	-14.7	171.2	0	-1.0	0	-1.0
MLO	79	81	2147	440243	169.6	168.3	3.3	3.5	30	7.5	-16.7	168.7	0	170.0	0	2.9
MLO	79	81	2147	450243	172.3	171.0	2.4	3.5	30	7.5	-16.7	171.4	0	-1.0	0	-1.0
MLO	79	89	2136	460244	176.7	175.3	2.4	10.3	246	8.5	-17.9	175.7	0	173.9	0	1.9
MLO	79	89	2136	470244	173.0	171.6	1.1	10.3	246	8.5	-17.9	172.0	0	-1.0	0	-1.0
MLO	79	96	2026	430245	169.4	168.1	1.2	4.1	330	8.0	7.6	170.7	2	172.2	0	1.2
MLO	79	96	2026	420245	172.5	171.2	6.2	4.1	330	8.0	7.6	173.8	1	-1.0	0	-1.0
MLO	79	103	2331	440246	169.0	167.7	1.0	12.3	239	13.0	-3.3	168.9	0	167.9	0	.8
MLO	79	103	2331	450246	167.0	165.7	.6	12.3	239	13.0	-3.3	166.9	0	-1.0	0	-1.0
MLO	79	110	2338	470247	170.0	168.7	1.2	5.1	290	6.0	-2.1	170.0	0	169.6	0	1.4
MLO	79	110	2338	460247	169.3	168.0	1.6	5.1	290	6.0	-2.1	169.3	0	-1.0	0	-1.0
MLO	79	117	2206	430248	176.0	174.6	2.7	10.2	270	10.5	-26.5	174.8	0	174.4	0	1.9
MLO	79	117	2216	420248	175.1	173.7	.3	10.2	270	10.5	-26.5	173.9	0	-1.0	0	-1.0
MLO	79	123	2126	440249	168.8	167.5	.8	5.1	10	12.5	-7.4	168.4	0	167.7	0	.9
MLO	79	123	2126	450249	167.5	166.2	.9	5.1	10	12.5	-7.4	167.1	0	-1.0	0	-1.0
MLO	79	130	2039	460250	166.7	165.4	1.2	2.0	360	12.5	-1.4	166.7	0	168.3	0	.9
MLO	79	130	2039	470250	169.8	168.5	.4	2.0	360	12.5	-1.4	169.8	0	-1.0	0	-1.0
MLO	79	137	2117	430251	171.9	170.6	1.1	5.1	315	9.0	3.8	172.6	0	172.5	0	1.3
MLO	79	137	2117	420251	171.8	170.5	1.5	5.1	315	9.0	3.8	172.5	0	-1.0	0	-1.0
MLO	79	144	2204	440252	167.7	166.4	2.2	4.9	296	15.0	-4.9	167.4	0	169.1	0	1.7
MLO	79	144	2204	450252	171.1	169.8	.9	4.9	296	15.0	-4.9	170.8	0	-1.0	0	-1.0
MLO	79	151	2053	460253	171.3	170.0	1.0	6.6	20	9.0	MSG	170.6	0	170.5	0	.8
MLO	79	151	2053	470253	171.0	169.7	.4	6.6	20	9.0	MSG	170.3	0	-1.0	0	-1.0
MLO	79	165	2327	430254	172.4	171.1	1.6	5.1	270	15.0	MSG	171.7	0	170.2	0	1.2
MLO	79	165	2327	420254	169.3	168.0	.7	5.1	270	15.0	MSG	168.6	0	-1.0	0	-1.0
MLO	79	172	2245	450255	170.0	168.7	1.0	4.1	77	11.5	-9.0	169.4	0	169.9	0	1.6
MLO	79	172	2245	440255	170.9	169.6	2.1	4.1	77	11.5	-9.0	170.3	0	-1.0	0	-1.0
MLO	79	186	2142	430257	176.3	174.9	.7	4.1	318	13.5	-6.2	175.9	0	172.8	0	1.9
MLO	79	186	2142	420257	170.3	168.7	2.6	4.1	318	13.5	-6.2	169.6	0	-1.0	0	-1.0

## F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND M/ S DEG	TEMP AIR	DEG C DEW PT	3 PPTV	F3	4 PPTV	F4	S.D.
MLO	79	193	2300	450258	170.8	169.5	1.8	4.1 350	11.5	6.0	171.8	0	172.2	0	1.5
MLO	79	193	2300	440258	171.6	170.3	1.1	4.1 350	11.5	6.0	172.6	0	-1.0	0	-1.0
MLO	79	200	2339	470259	174.6	173.2	2.7	9.3 10	12.0	-14.7	173.7	0	173.4	0	2.5
MLO	79	200	2339	460259	173.8	172.4	2.2	9.3 10	12.0	-14.7	173.0	0	-1.0	0	-1.0
MLO	79	207	2300	420260	170.9	169.6	1.7	3.1 330	12.0	-6.0	170.5	0	172.9	0	1.3
MLO	79	207	2300	430260	175.6	174.2	.7	3.1 330	12.0	-6.0	175.2	0	-1.0	0	-1.0
MLO	79	212	2010	450261	174.8	173.4	2.3	3.1 345	11.5	-8.4	174.3	0	173.1	0	1.7
MLO	79	212	2010	440261	172.4	171.1	.9	3.1 345	11.5	-8.4	171.9	0	-1.0	0	-1.0
MLO	79	218	2235	460262	1740.8	1727.2	2.9	6.1 331	13.2	-4.6	1738.3	2	1738.3	2	2.9
MLO	79	249	2057	420266	177.3	175.9	1.4	5.1 60	12.0	-13.1	176.5	0	174.0	0	1.1
MLO	79	249	2057	430266	172.2	170.9	.6	5.1 60	12.0	-13.1	171.4	0	-1.0	0	-1.0
MLO	79	256	2144	450267	173.4	172.0	4.6	5.1 50	12.0	-10.3	172.8	0	175.7	0	3.6
MLO	79	256	2144	440267	179.3	177.9	2.3	5.1 50	12.0	-10.3	178.6	0	-1.0	0	-1.0
MLO	79	264	2132	470268	182.5	181.1	3.7	3.5 360	11.5	-4.3	182.3	0	180.4	0	2.9
MLO	79	264	2132	460268	178.7	177.3	1.6	3.5 360	11.5	-4.3	178.5	0	-1.0	0	-1.0
MLO	79	270	2130	430269	178.8	177.4	1.1	3.1 225	12.0	-6.0	178.4	0	178.0	0	1.7
MLO	79	270	2130	440269	177.9	176.5	2.1	3.1 225	12.0	-6.0	177.5	0	-1.0	0	-1.0
MLO	79	277	2059	440270	180.9	179.5	3.6	3.5 320	11.0	3.5	181.6	0	183.1	0	2.9
MLO	79	277	2059	450270	183.9	182.5	2.0	3.5 320	11.0	3.5	184.6	0	-1.0	0	-1.0
MLO	79	284	2100	470271	180.5	179.1	.9	3.5 20	10.5	3.5	181.2	3	181.2	0	.9
MLO	79	284	2100	460271	192.7	191.2	2.9	3.5 20	10.5	3.5	193.4	3	193.4	3	2.9
MLO	79	288	2118	430272	185.9	184.4	.1	6.5 70	11.0	.9	186.2	0	185.2	0	3.3
MLO	79	288	2118	420272	183.8	182.4	4.6	6.5 70	11.0	.9	184.1	0	-1.0	0	-1.0
MLO	79	298	2134	430273	178.9	177.5	3.3	2.5 340	12.5	-4.7	178.6	0	181.6	0	2.6
MLO	79	298	2134	420273	184.9	183.5	1.7	2.5 340	12.5	-4.7	184.6	0	-1.0	0	-1.0
MLO	79	310	2135	450274	178.3	176.9	1.5	7.7 115	11.0	-15.5	177.4	0	177.9	0	1.3
MLO	79	310	2135	440274	179.3	177.9	1.0	7.7 115	11.0	-15.5	178.4	0	-1.0	0	-1.0
MLO	79	319	2030	470275	180.4	179.0	1.0	5.1 290	7.5	2.4	180.9	2	182.3	0	1.0
MLO	79	319	2030	460275	183.1	181.7	5.0	5.1 290	7.5	2.4	183.6	1	-1.0	0	-1.0
MLO	79	333	2039	430276	183.9	182.5	2.3	1.0 45	12.0	-14.9	183.0	0	183.2	0	2.0
MLO	79	333	2039	420276	184.3	182.9	1.6	1.0 45	12.0	-14.9	183.4	0	-1.0	0	-1.0
MLO	79	340	2108	440277	180.1	178.7	1.6	4.5 345	9.5	-3.2	180.0	0	180.6	0	1.5
MLO	79	340	2108	450277	181.4	180.0	1.4	4.5 345	9.5	-3.2	181.3	0	-1.0	0	-1.0
MLO	79	347	2132	470278	183.2	181.8	3.7	2.0 300	12.0	-9.1	182.6	0	182.5	0	2.6
MLO	79	347	2132	460278	183.0	181.6	.2	2.0 300	12.0	-9.1	182.4	0	-1.0	0	-1.0
MLO	79	354	2127	430279	181.2	179.8	1.5	10.7 130	15.5	-11.3	180.5	0	179.5	0	2.8
MLO	79	354	2127	420279	179.3	177.9	3.6	10.7 130	15.5	-11.3	178.6	0	-1.0	0	-1.0
MLO	79	361	2149	460280	175.1	173.7	2.5	3.0 50	8.5	-16.3	174.2	0	175.2	0	2.4
MLO	79	361	2149	470280	177.1	175.7	2.3	3.0 50	8.5	-16.3	176.2	0	-1.0	0	-1.0

F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.O.	WIND		TEMP		3 PPTV	F3	4 PPTV	F4	S.O.
								M/S	DEG	AIR	DEG C JUN PT					
SMO	77	67	0340	050116	136.0	126.3	.9	5.0	90	26.9	25.1	129.1	2	129.1	2	.9
SMO	77	70	2030	010117	140.3	130.3	0	6.0	10	27.0*	24.5*	133.2	1	133.2	0	.0
SMO	77	76	2030	040118	154.2	143.2	2.1	7.0	340	28.4	24.7	146.4	2	146.4	2	2.1
SMO	77	91	0020	050119	135.0	125.4	1.9	4.0	12	30.8	24.0	128.1	2	128.1	2	1.9
SMO	77	98	2030	010120	142.2	132.1	3.2	6.0	130	29.2	25.2	135.0	2	135.0	0	3.2
SMO	77	109	2020	040121	150.2	139.5	2.5	3.0	150	28.0	25.7	142.6	2	142.6	0	2.5
SMO	77	120	0130	050122	151.7	140.9	4.9	3.0	330	29.9	25.1	144.0	1	144.0	0	4.9
SMO	77	125	2035	010123	151.1	140.3	3.5	4.0	350	28.0	24.3	143.4	2	143.4	0	3.5
SMO	77	134	2130	040124	141.0	130.9	2.0	10.0	140	28.9	25.1	133.8	2	133.8	2	2.0
SMO	77	139	0315	050125	142.2	132.1	4.9	3.0	340	27.0*	24.5*	135.0	1	135.0	0	4.9
SMO	77	146	2100	010126	145.3	134.9	3.5	7.0	130	27.8	22.2	137.9	2	137.9	0	3.5
SMC	77	156	0400	040127	144.4	134.1	2.0	7.0	140	26.3	21.9	137.0	2	137.0	0	2.0
SMO	77	161	0100	050128	151.8	141.0	.6	9.0	170	27.9	24.8	144.1	2	144.1	0	.6
SMO	77	169	0200	010129	143.7	133.5	2.2	8.0	140	26.6	21.8	136.4	2	136.4	0	2.2
SMO	77	174	2025	040130	150.8	140.0	8.0	7.7	158	26.7	23.3	143.1	1	143.1	0	8.0
SMO	77	180	2330	050131	146.5	136.1	3.3	9.0	120	27.0*	24.5*	139.0	2	139.0	0	3.3
SMO	77	195	0205	010132	143.3	133.1	0	8.5	50	26.8	24.7	136.0	1	136.0	1	.0
SMO	77	208	0300	040133	151.2	140.4	.9	8.0	170	27.0*	24.5*	143.5	2	143.5	0	.9
SMO	77	216	0255	050134	148.1	137.5	1.5	6.5	100	26.1	20.7	140.6	2	140.6	0	1.5
SMO	77	224	0030	040135	154.3	143.3	5.8	10.0	130	26.4	21.0	146.4	1	146.4	0	5.8
SMO	77	231	0010	010136	160.4	149.0	5.4	8.0	160	25.2	12.6	152.2	1	152.2	1	5.4
SMO	77	237	0150	050137	149.6	138.9	.6	6.0	160	25.8	19.7	142.0	2	142.0	0	.6
SMO	77	243	2025	040138	150.1	139.4	2.5	4.0	170	24.6	19.9	142.5	2	142.5	0	2.5
SMO	77	257	2345	010139	146.8	136.3	4.1	6.0	160	27.0*	24.5*	139.3	2	139.3	0	4.1
SMO	77	264	2025	050140	141.8	131.7	2.6	5.0	150	26.4	19.8	134.6	2	134.6	2	2.6
SMO	77	271	2030	040141	159.6	148.2	1.4	8.0	140	27.0*	24.5*	151.5	2	151.5	2	1.4
SMO	77	280	0230	010142	147.3	136.8	5.0	10.0	130	27.0	19.8	139.8	1	139.8	0	5.0
SMC	77	289	0135	050143	149.2	138.6	2.9	8.0	150	25.8	20.6	141.6	2	141.6	0	2.9
SMO	77	293	0055	040144	166.5	154.6	2.6	4.0	120	28.0	20.2	158.0	2	158.0	2	2.6
SMO	77	302	2335	010145	146.9	136.4	2.2	10.0	130	25.5	20.6	139.4	2	139.4	2	2.2
SMO	77	307	2045	050146	139.3	129.4	.1	3.5	150	26.5	21.2	132.2	2	132.2	2	.1
SMO	77	314	0220	040147	171.3	153.1	3.0	4.5	150	27.3	19.8	162.6	2	162.6	2	3.0
SMO	77	321	0215	010148	144.8	134.5	2.1	9.0	150	27.6	23.3	137.4	2	137.4	2	2.1
SMO	77	328	2100	050149	146.4	136.0	1.2	7.5	135	26.0	24.4	138.9	2	138.9	2	1.2
SMO	77	224	0020	510135	141.4	140.3	2.1	10.0	130	26.4	21.0	143.4	0	142.3	0	3.3
SMO	77	224	0020	520135	139.2	138.1	4.2	10.0	130	26.4	21.0	141.1	0	-1.0	0	-1.0
SMO	77	231	0010	530136	143.5	142.4	1.6	8.0	160	25.2	12.6	145.5	0	146.2	0	1.6
SMO	77	231	0010	540136	144.8	143.7	1.6	8.0	160	25.2	12.6	146.8	0	-1.0	0	-1.0
SMO	77	237	0150	550137	141.0	139.9	3.5	6.0	160	25.8	19.7	143.0	0	144.1	0	2.9
SMO	77	237	0150	560137	143.3	142.2	2.1	6.0	160	25.8	19.7	145.3	0	-1.0	0	-1.0
SMO	77	243	2025	510138	138.0	136.9	5.2	4.0	170	24.6	19.9	139.9	1	139.4	0	5.2
SMO	77	243	2025	520138	136.9	135.8	2.3	4.0	170	24.6	19.9	138.8	2	-1.0	0	-1.0
SMO	77	257	2345	530139	137.5	136.4	1.9	6.0	160	27.0*	24.5*	139.4	3	143.5	0	1.9
SMO	77	257	2345	540139	145.5	144.4	2.0	6.0	160	27.0*	24.5*	147.5	3	-1.0	0	-1.0
SMO	77	264	2025	510140	142.7	141.6	1.9	5.0	150	26.4	19.8	144.7	0	143.3	0	2.5
SMO	77	264	2025	520140	139.9	138.8	2.9	5.0	150	26.4	19.8	141.9	0	-1.0	0	-1.0
SMO	77	271	2030	550141	141.7	140.6	2.2	8.0	140	27.0*	24.5*	143.7	0	145.2	0	1.8
SMO	77	271	2030	560141	144.7	143.6	1.4	8.0	140	27.0*	24.5*	146.7	0	-1.0	0	-1.0
SMO	77	280	0215	530142	152.4	151.2	1.8	10.0	130	27.0	19.8	154.5	2	154.5	2	1.8
SMO	77	280	0215	540142	137.5	136.4	6.0	10.0	130	27.0	19.8	139.4	1	139.4	0	6.0
SMO	77	289	0135	510143	144.2	143.1	2.8	8.0	150	25.8	20.6	146.2	0	144.3	0	3.7

## F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1			2		WIND		TEMP		3	F3	4	F4	S.D.
					PPTV	PPTV	S.D.	M/S	DEG	AIR	DEW PT	PPTV	PPTV					
SMO	77	289	0135	520143	140.4	133.3	4.4	8.0	150	25.8	20.6	142.4	0	-1.0	0	-1.0		
SMO	77	293	0045	550144	143.8	142.7	4.5	4.0	115	28.0	20.2	145.8	2	146.0	0	4.5		
SMO	77	293	0045	560144	144.2	143.1	6.5	4.0	115	28.0	20.2	146.2	1	-1.0	0	-1.0		
SMO	77	302	2335	530145	134.6	133.5	3.3	10.0	130	25.5	20.6	136.5	3	136.5	3	3.3		
SMO	77	302	2335	540145	146.0	144.9	3.8	10.0	130	25.5	20.6	148.0	3	148.0	0	3.8		
SMO	77	307	2045	510146	142.5	141.4	3.7	3.5	150	26.5	21.2	144.5	0	141.9	0	3.2		
SMO	77	307	2045	520146	137.3	136.2	2.7	3.5	150	26.5	21.2	139.2	0	-1.0	0	-1.0		
SMO	77	314	0220	550147	138.6	137.5	6.5	4.5	150	27.3	19.8	140.5	1	140.9	0	6.5		
SMO	77	314	0220	560147	139.3	138.2	2.4	4.5	150	27.3	19.8	141.2	2	-1.0	0	-1.0		
SMO	77	321	0210	530148	146.0	144.9	5.4	9.0	150	27.6	23.3	148.0	1	145.3	0	5.4		
SMO	77	321	0210	540148	140.5	139.4	5.3	9.0	150	27.6	23.3	142.5	1	-1.0	0	-1.0		
SMO	77	328	2100	510149	147.6	146.4	4.8	7.5	135	26.0	24.4	149.7	0	147.7	0	4.4		
SMO	77	328	2100	520149	143.7	142.6	3.9	7.5	135	26.0	24.4	145.7	0	-1.0	0	-1.0		
SMO	77	337	2045	550150	141.0	139.9	5.4	4.0	150	29.8	25.8	143.0	1	142.7	0	5.4		
SMO	77	337	2045	560150	140.5	139.4	5.7	4.0	150	29.8	25.8	142.5	1	-1.0	0	-1.0		
SMO	77	341	2355	530151	136.7	135.6	6.8	7.5	140	29.2	24.9	138.6	1	138.6	1	6.8		
SMO	77	341	2355	540151	140.2	139.1	2.6	7.5	140	29.2	24.9	142.2	2	142.2	0	2.6		
SMO	77	349	0250	510152	139.5	138.4	3.9	8.5	140	28.4	25.4	141.5	0	141.4	0	3.9		
SMO	77	349	0250	520152	139.3	138.2	3.8	8.5	140	28.4	25.4	141.2	0	-1.0	0	-1.0		
SMO	77	364	2035	550153	145.6	144.5	.7	5.1	52	29.0	27.7	147.6	2	146.6	0	.7		
SMO	77	364	2035	560153	143.5	142.4	5.2	5.1	52	29.0	27.7	145.5	1	-1.0	0	-1.0		
SMO	78	5	0245	530154	142.3	141.2	.7	4.5	60	27.5	26.2	144.3	0	144.5	0	1.8		
SMO	78	5	0245	540154	142.7	141.6	2.5	4.5	60	27.5	26.2	144.7	0	-1.0	0	-1.0		
SMO	78	15	0230	510155	149.3	148.1	1.7	6.0	130	27.7	24.7	151.4	0	152.6	0	2.3		
SMO	78	15	0230	520155	151.6	150.4	2.7	6.0	130	27.7	24.7	153.7	0	-1.0	0	-1.0		
SMO	78	21	0250	550156	152.2	151.0	3.9	5.0	100	28.0	23.9	154.3	3	154.3	3	3.9		
SMO	78	21	0250	560156	142.9	141.8	3.2	5.0	100	28.0	23.9	144.9	3	144.9	0	3.2		
SMO	78	33	2230	510157	145.9	144.8	3.2	3.0	40	27.0*	24.5*	147.9	0	148.4	0	3.0		
SMO	78	33	2230	520157	146.9	145.8	2.8	3.0	40	27.0*	24.5*	149.0	0	-1.0	0	-1.0		
SMO	78	42	2305	530158	142.2	141.1	2.2	2.8	130	27.5	26.2	144.2	0	147.4	0	2.1		
SMO	78	42	2305	540158	148.6	147.4	2.0	2.8	130	27.5	26.2	150.7	0	-1.0	0	-1.0		
SMO	78	61	2145	550159	143.3	142.2	4.0	5.0	120	28.0	23.9	145.3	0	144.3	0	3.2		
SMO	78	61	2145	560159	141.4	140.3	2.0	5.0	120	28.0	23.9	143.4	0	-1.0	0	-1.0		
SMO	78	68	0305	510160	145.8	144.7	4.3	9.0	140	28.5	25.1	147.8	0	149.7	0	3.5		
SMO	78	68	0305	520160	149.4	148.2	2.5	9.0	140	28.5	25.1	151.5	0	-1.0	0	-1.0		
SMO	78	81	0100	530161	180.5	179.1	0	9.0	20	28.0	26.0	183.0	1	183.0	1	.0		
SMO	78	81	0100	540161	166.3	164.0	6.0	9.0	20	28.0	26.0	162.5	1	162.5	1	6.0		
SMO	78	87	2025	550162	157.6	156.4	2.9	7.5	340	26.7	24.7	159.8	0	156.9	0	2.2		
SMO	78	87	2025	560162	151.8	150.6	1.0	7.5	340	26.7	24.7	153.9	0	-1.0	0	-1.0		
SMO	78	99	0100	510163	147.5	146.3	4.6	6.0	130	27.8	26.5	149.6	0	150.7	0	3.3		
SMO	78	99	0100	520163	149.8	148.6	.8	6.0	130	27.8	26.5	151.9	0	-1.0	0	-1.0		
SMO	78	108	0440	530164	157.7	156.5	2.2	3.0	315	28.0	25.3	159.9	0	157.0	0	1.8		
SMO	78	108	0440	540164	152.0	150.8	1.3	3.0	315	28.0	25.3	154.1	0	-1.0	0	-1.0		
SMO	78	121	0255	560165	149.1	147.9	4.5	4.5	150	26.8	23.5	151.2	0	150.8	0	3.9		
SMO	78	121	0255	550165	148.3	147.1	3.3	4.5	150	26.8	23.5	150.4	0	-1.0	0	-1.0		
SMO	78	126	2355	520166	155.3	154.1	3.3	6.0	160	28.1	26.0	157.5	2	154.9	0	3.3		
SMO	78	126	2355	510166	150.3	149.1	0.1	6.0	160	28.1	26.0	152.4	1	-1.0	0	-1.0		
SMO	78	133	2250	540167	149.1	147.9	1.6	9.0	330	26.2	24.4	151.2	2	151.2	0	1.6		
SMO	78	137	2100	550168	149.2	148.0	2.4	7.5	120	27.4	24.4	151.3	0	151.3	0	2.4		
SMO	78	137	2100	560168	149.2	148.0	2.3	7.5	120	27.4	24.4	151.3	0	-1.0	0	-1.0		
SMO	78	148	0355	510169	148.8	147.6	1.6	6.0	80	26.3	23.1	150.9	0	151.2	0	2.5		

F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND M/S	DEG	TEMP AIR	DEG C	3 PPTV	F3	4 PPTV	F4	S.D.
SNO	78	148	0355	520169	149.4	148.2	3.2	6.0	80	26.3	23.1	151.5	0	-1.0	0	-1.0
SNO	78	159	2025	530170	146.3	148.1	1.7	5.0	130	27.3	24.4	151.4	0	151.8	0	1.5
SNO	78	159	2025	540170	150.1	148.9	1.2	5.0	130	27.3	24.4	152.2	0	-1.0	0	-1.0
SNO	78	168	0025	520171	147.1	145.9	.5	8.0	140	26.1	21.7	149.2	0	151.0	0	.7
SNO	78	169	0025	510171	150.7	149.5	.8	8.0	140	26.1	21.7	152.8	0	-1.0	0	-1.0
SNO	78	176	0240	560172	150.5	149.3	1.4	7.0	30	27.6	24.6	152.6	0	153.2	0	1.2
SNO	78	176	0240	550172	151.7	150.5	1.0	7.0	30	27.6	24.6	153.8	0	-1.0	0	-1.0
SNO	78	189	0055	510173	149.3	148.1	.9	2.5	30	28.0	23.0	151.4	0	151.7	0	1.4
SNO	78	189	0055	520173	150.0	148.8	1.8	2.5	30	28.0	23.0	152.1	0	-1.0	0	-1.0
SNO	78	196	2230	530174	148.2	147.0	.8	6.7	160	27.0	22.1	150.3	0	149.0	0	1.0
SNO	78	196	2230	540174	146.9	145.6	1.1	6.7	160	27.0	22.1	149.0	0	-1.0	0	-1.0
SNO	78	202	0340	550175	152.9	151.7	1.7	8.0	150	26.4	23.3	155.0	0	153.5	0	1.8
SNO	78	202	0340	560175	149.9	148.7	1.9	8.0	150	26.4	23.3	152.0	0	-1.0	0	-1.0
SNO	78	208	2005	510176	151.2	150.0	.3	7.0	140	27.0	24.3	153.3	0	153.4	0	.6
SNO	78	208	2005	520176	151.3	150.1	.8	7.0	140	27.0	24.3	153.4	0	-1.0	0	-1.0
SNO	78	217	0310	530177	153.2	152.0	4.2	8.5	150	27.0	21.3	155.3	0	156.1	0	4.0
SNO	78	217	0310	540177	154.6	153.4	3.8	8.5	150	27.0	21.3	156.8	0	-1.0	0	-1.0
SNO	78	225	0145	560178	152.3	155.1	1.1	3.0	30	26.0	23.2	158.5	0	158.1	0	1.2
SNO	78	225	0145	550178	155.6	154.4	1.3	3.0	30	26.0	23.2	157.8	0	-1.0	0	-1.0
SNO	78	229	0100	520179	151.7	150.5	.8	8.0	150	27.6	24.9	153.8	0	153.1	0	3.0
SNO	78	229	0100	510179	150.3	149.1	4.1	8.0	150	27.6	24.9	152.4	0	-1.0	0	-1.0
SNO	78	238	0000	530180	147.4	146.2	1.3	7.0	90	28.5	24.8	149.5	0	151.5	0	2.5
SNO	78	238	0000	540180	151.4	150.2	3.3	7.0	90	28.5	24.8	153.5	0	-1.0	0	-1.0
SNO	78	244	2320	550181	154.1	152.9	3.5	7.5	150	25.2	24.3	156.3	0	154.8	0	3.5
SNO	78	244	2320	550181	151.3	150.1	3.4	7.5	150	25.2	24.3	153.4	0	-1.0	0	-1.0
SNO	78	253	0400	530182	149.8	148.6	1.7	7.0	160	24.4	19.4	151.9	0	152.1	0	1.4
SNO	78	253	0400	540182	150.3	149.1	1.1	7.0	160	24.4	19.4	152.4	0	-1.0	0	-1.0
SNO	78	260	0405	510183	153.3	152.1	3.5	2.5	160	26.0	22.9	155.4	2	157.6	0	3.5
SNO	78	260	0405	520183	157.5	156.3	5.3	2.5	160	26.0	22.9	159.7	1	-1.0	0	-1.0
SNO	78	266	0025	550184	153.3	152.1	3.7	9.0	130	28.3	24.5	155.4	0	157.5	0	3.6
SNO	78	266	0025	560184	157.4	156.2	3.4	9.0	130	28.3	24.5	159.6	0	-1.0	0	-1.0
SNO	78	272	0245	530185	150.7	149.5	1.6	6.0	160	26.3	22.4	152.8	0	153.7	0	2.2
SNO	78	272	0245	540185	152.5	151.3	2.6	6.0	160	26.3	22.4	154.6	0	-1.0	0	-1.0
SNO	78	280	0355	550186	157.2	156.0	1.7	3.0	100	26.8	24.6	159.4	0	159.4	0	2.6
SNO	78	280	0355	560186	157.2	156.0	3.2	3.0	100	26.8	24.6	159.4	0	-1.0	0	-1.0
SNO	78	294	0545	510187	151.2	150.0	1.5	8.0	150	26.5	23.7	153.3	0	153.8	0	2.6
SNO	78	294	0545	520187	152.2	151.0	3.4	8.0	150	26.5	23.7	154.3	0	-1.0	0	-1.0
SNO	78	311	2245	530188	159.1	157.9	3.9	8.0	150	29.0	24.8	161.3	0	160.9	0	2.8
SNO	78	311	2245	540188	158.3	157.1	.4	8.0	150	29.0	24.8	160.5	0	-1.0	0	-1.0
SNO	78	322	0320	520189	156.8	155.6	2.3	8.0	120	25.5	24.1	159.0	0	157.9	0	2.8
SNO	78	322	0320	510189	154.6	153.4	3.2	8.0	120	25.5	24.1	156.8	0	-1.0	0	-1.0
SNO	78	328	2355	560190	156.9	155.7	.9	5.0	60	29.0	25.0	159.1	0	160.9	0	1.7
SNO	78	328	2355	550190	160.4	159.1	2.2	5.0	60	29.0	25.0	162.6	0	-1.0	0	-1.0
SNO	78	337	2355	530191	156.8	155.6	6.8	5.0	360	29.0	28.0	159.0	1	158.9	0	6.8
SNO	78	337	2355	540191	156.7	155.5	1.0	5.0	360	29.0	28.0	158.9	2	-1.0	0	-1.0
SNO	78	343	0430	510192	155.9	154.7	1.4	7.0	160	25.9	24.7	158.1	0	157.6	0	1.3
SNO	78	343	0430	520192	155.0	153.8	1.1	7.0	160	25.9	24.7	157.2	0	-1.0	0	-1.0
SNO	78	350	0355	550193	152.7	151.5	1.9	5.0	160	27.0	23.7	154.8	0	155.7	0	2.6
SNO	78	350	0355	560193	154.5	153.3	3.1	5.0	160	27.0	23.7	156.7	0	-1.0	0	-1.0
SNO	78	360	2315	530194	160.1	158.8	.9	9.0	80	27.0*	24.5*	162.3	0	163.2	0	2.4
SNO	78	360	2315	540194	161.8	160.5	3.2	9.0	80	27.0*	24.5*	164.1	0	-1.0	0	-1.0

## F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.O.	WIND M/S	DEG DEG	TEMP AIR	DEG C DEW PT	3 PPTV	F3	4 PPTV	F4	S.O.
SMO	78	364	0030	510195	156.9	155.7	.3	6.0	330	30.0	26.7	159.1	0	158.4	0	.5
SMO	78	364	0030	520195	155.5	154.3	.6	6.0	330	30.0	26.7	157.7	0	-1.0	0	-1.0
SMO	79	4	0225	550195	160.2	158.9	4.1	7.0	340	27.3	24.4	162.3	0	163.4	0	3.6
SMO	79	4	0255	560196	162.5	161.2	3.0	7.0	340	27.3	24.4	164.6	0	-1.0	0	-1.0
SMO	79	13	0350	530197	157.2	155.0	.5	10.0	290	26.8	24.3	159.1	0	162.2	0	2.4
SMO	79	13	0350	540197	163.2	161.9	3.4	10.0	290	26.8	24.3	165.2	0	-1.0	0	-1.0
SMO	79	21	0340	510198	157.2	156.0	4.5	3.0	160	28.0	23.9	158.8	0	159.2	0	4.0
SMO	79	21	0340	520198	157.9	156.7	3.4	3.0	160	28.0	23.9	159.6	0	-1.0	0	-1.0
SMO	79	27	0307	550199	156.7	155.5	1.7	6.8	110	27.7	24.5	158.5	2	158.5	0	1.7
SMO	79	27	0307	560199	165.9	164.6	5.9	6.8	110	27.7	24.5	167.8	1	167.8	1	6.9
SMO	79	35	0355	530200	168.5	157.2	2.1	4.0	120	27.3	24.4	170.6	0	169.3	0	2.2
SMO	79	35	0355	540200	166.0	164.7	2.3	4.0	120	27.3	24.4	168.0	0	-1.0	0	-1.0
SMO	79	44	2345	510201	160.7	159.4	1.5	2.7	130	29.0	24.5	162.4	0	163.6	0	2.0
SMO	79	44	2345	520201	163.0	161.7	2.4	2.7	130	29.0	24.5	164.7	0	-1.0	0	-1.0
SMO	79	51	0203	550202	161.6	160.3	.8	7.2	340	29.0	24.8	163.7	0	164.0	0	2.1
SMO	79	51	0203	560202	162.3	161.0	2.8	7.2	340	29.0	24.8	164.4	0	-1.0	0	-1.0
SMO	79	59	2239	510203	165.0	163.7	1.6	3.2	150	28.9	24.6	167.0	0	165.1	0	1.7
SMO	79	59	2239	520203	161.2	159.9	1.7	3.2	150	28.9	24.6	163.1	0	-1.0	0	-1.0
SMO	79	66	2104	530204	159.1	157.9	1.4	3.5	75	30.2	24.6	160.9	0	159.0	0	1.3
SMO	79	66	2104	540204	155.4	154.2	1.1	3.5	75	30.2	24.6	157.1	0	-1.0	0	-1.0
SMO	79	72	2300	550205	155.5	154.3	8.0	4.5	120	28.2	24.3	157.3	1	158.6	0	8.0
SMO	79	72	2300	560205	158.1	156.9	.8	4.5	120	28.2	24.3	159.9	2	-1.0	0	-1.0
SMO	79	83	2339	520206	163.1	161.8	1.4	6.2	325	29.3	24.8	165.4	0	166.5	0	1.6
SMO	79	83	2339	510206	165.1	163.8	1.8	6.2	325	29.3	24.8	167.5	0	-1.0	0	-1.0
SMO	79	92	0305	530207	163.2	161.9	2.7	5.0	140	28.5	25.8	165.3	0	162.9	0	2.2
SMO	79	92	0305	540207	158.6	157.4	1.4	5.0	140	28.5	25.8	160.6	0	-1.0	0	-1.0
SMO	79	98	0405	550208	165.0	163.7	2.3	4.0	150	27.4	24.1	167.3	0	166.6	0	1.7
SMO	79	98	0405	560208	163.7	162.4	.8	4.0	150	27.4	24.1	165.9	0	-1.0	0	-1.0
SMO	79	109	0050	510209	160.2	158.9	3.2	6.0	330	30.3	25.9	162.2	0	163.6	0	2.3
SMO	79	109	0050	520209	163.1	161.8	.3	6.5	330	30.3	25.9	165.1	0	-1.0	0	-1.0
SMO	79	114	2350	540210	152.6	151.4	5.8	2.0	160	27.8	24.0	154.6	1	154.6	1	5.8
SMO	79	114	2350	530210	160.6	159.3	1.3	2.0	160	27.8	24.0	162.7	2	162.7	0	1.3
SMO	79	122	0245	550211	159.3	158.1	.3	10.0	160	26.5	23.5	161.2	0	160.8	0	1.2
SMO	79	122	0245	560211	158.6	157.4	1.7	10.0	160	26.5	23.5	160.5	0	-1.0	0	-1.0
SMO	79	129	0235	520212	163.4	162.1	1.3	8.0	130	27.5	25.2	165.6	0	164.3	0	1.0
SMO	79	129	0235	510212	160.8	159.5	.7	8.0	130	27.5	25.2	163.0	0	-1.0	0	-1.0
SMO	79	135	2250	540213	157.4	156.2	1.0	8.0	140	27.0	24.4	160.0	0	162.1	0	.9
SMO	79	135	2250	530213	161.5	160.2	.7	8.0	140	27.0	24.4	164.2	0	-1.0	0	-1.0
SMO	79	143	0410	550214	161.8	160.5	.5	2.0	60	27.7	24.0	165.0	0	165.4	0	.9
SMO	79	143	0410	560214	162.7	161.4	1.1	2.0	60	27.7	24.0	165.9	0	-1.0	0	-1.0
SMO	79	150	0245	530215	159.4	158.2	.8	4.4	146	30.0	21.1	162.6	0	163.7	0	1.0
SMO	79	150	0245	540215	161.6	160.3	1.2	4.4	146	30.0	21.1	164.8	0	-1.0	0	-1.0
SMO	79	157	0248	510216	161.2	159.9	1.1	1.5	81	29.7	23.3	163.8	0	162.9	0	1.2
SMO	79	157	0248	520216	159.3	158.1	1.3	1.5	81	29.7	23.3	161.9	0	-1.0	0	-1.0
SMO	79	163	0142	550217	161.9	160.6	2.8	5.0	150	25.3	22.6	164.5	2	167.3	0	2.8
SMO	79	163	0142	560217	167.4	166.1	11.7	5.0	150	25.3	22.6	170.1	1	-1.0	0	-1.0
SMO	79	171	0057	540218	158.0	156.8	1.6	2.7	330	30.8	25.0	160.5	0	161.3	0	1.5
SMO	79	171	0057	530218	159.5	158.3	1.4	2.7	330	30.8	25.0	162.1	0	-1.0	0	-1.0
SMO	79	178	0338	520219	161.4	160.1	1.0	8.0	100	29.0	23.5	164.1	0	163.6	0	.8
SMO	79	178	0338	510219	160.4	159.1	.6	8.0	100	29.0	23.5	163.1	0	-1.0	0	-1.0
SMO	79	185	0045	550220	165.6	164.3	.3	2.7	170	26.0	24.5	168.5	0	166.4	0	.7



## F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1			2		WIND		TEMP		3	F3	4	F4	S.D.
					PPTV	PPTV	S.D.	M/S	DEG	AIR	DEW PT	PPTV	PPTV					
SMO	79	185	0045	560220	161.6	160.3	.9	2.7	170	26.0	24.5	164.4	0	-1.0	0	-1.0		
SMO	79	192	0118	540221	160.7	159.4	1.8	5.0	150	21.6	21.6	163.4	0	163.8	0	1.4		
SMO	79	192	0118	530221	161.6	160.3	.9	5.0	150	21.6	21.6	164.3	0	-1.0	0	-1.0		
SMO	79	199	0045	520222	165.3	164.0	.7	7.5	30	28.3	25.2	164.7	0	166.4	0	1.0		
SMO	79	199	0045	510222	161.9	160.6	1.2	7.5	30	28.3	25.2	164.7	0	-1.0	0	-1.0		
SMO	79	209	2100	550223	161.9	160.6	1.6	10.4	145	25.5	16.5	164.9	0	165.6	0	1.4		
SMO	79	209	2100	560223	163.3	162.0	1.1	10.4	145	25.5	16.5	166.3	0	-1.0	0	-1.0		
SMO	79	213	0200	540224	161.5	160.2	2.0	10.4	140	26.4	16.2	164.2	0	152.0	0	1.6		
SMO	79	213	0200	530224	157.2	156.0	1.1	10.4	140	26.4	16.2	159.9	0	-1.0	0	-1.0		
SMO	79	221	2130	520225	167.9	166.6	.7	3.6	340	29.0	26.4	170.5	0	170.9	0	.5		
SMO	79	221	2130	510225	168.6	167.3	.1	3.6	340	29.0	26.4	171.2	0	-1.0	0	-1.0		
SMO	79	227	0300	560226	164.1	162.8	4.0	2.7	110	27.0	19.8	166.5	0	164.5	0	4.4		
SMO	79	227	0300	550226	160.3	159.0	4.8	2.7	110	27.0	19.8	162.6	0	-1.0	0	-1.0		
SMO	79	234	2120	510227	165.8	164.5	3.7	3.2	140	28.0	25.3	168.1	2	168.1	0	3.7		
SMO	79	242	0107	540228	162.0	160.7	.6	6.3	135	27.0	24.3	164.4	2	167.2	0	.6		
SMO	79	242	0107	530228	167.4	166.1	6.2	6.3	135	27.0	24.3	169.9	1	-1.0	0	-1.0		
SMO	79	248	0301	550229	154.3	153.1	3.0	3.6	130	26.8	25.1	156.3	0	159.2	0	3.8		
SMO	79	248	0301	560229	160.0	158.7	4.4	3.6	130	26.8	25.1	162.0	0	-1.0	0	-1.0		
SMO	79	255	0000	520230	160.0	158.7	1.6	2.7	170	24.0	24.0	162.3	0	162.7	0	3.0		
SMO	79	255	0000	510230	160.7	159.4	3.9	2.7	170	24.0	24.0	163.1	0	-1.0	0	-1.0		
SMO	79	261	0054	540231	165.2	163.9	1.9	4.1	130	28.0	25.0	167.8	3	167.8	0	1.9		
SMO	79	261	0054	530231	177.0	175.6	2.5	4.1	130	28.0	25.0	179.8	3	179.8	3	2.5		
SMO	79	269	0146	550232	167.3	166.0	1.2	5.0	50	28.2	26.3	169.8	0	169.9	0	1.2		
SMO	79	269	0146	560232	167.5	166.2	1.2	5.0	50	28.2	26.3	170.0	0	-1.0	0	-1.0		
SMO	79	279	0200	510233	170.5	169.2	1.6	5.4	140	28.0	27.0	173.4	0	171.7	0	2.6		
SMO	79	279	0200	520233	167.2	165.9	3.3	5.4	140	28.0	27.0	170.0	0	-1.0	0	-1.0		
SMO	79	290	1322	560235	166.3	165.0	1.3	8.1	140	27.0	21.6	168.4	0	169.3	0	1.5		
SMO	79	290	1322	550235	168.2	166.9	1.6	8.1	140	27.0	21.6	170.3	0	-1.0	0	-1.0		
SMO	79	297	0252	520236	168.1	166.8	.9	2.3	340	29.2	26.3	170.4	0	170.9	0	.8		
SMO	79	297	0252	510236	169.0	167.7	.7	2.3	340	29.2	26.3	171.3	0	-1.0	0	-1.0		
SMO	79	304	0319	540237	189.8	188.3	.6	3.6	0	25.8	25.3	192.2	3	192.2	3	.6		
SMO	79	304	0319	530237	180.4	179.0	1.0	3.6	0	25.8	25.3	182.7	3	182.7	3	1.0		
SMO	79	311	0214	560238	163.8	162.5	2.5	1.8	150	28.0	26.7	165.8	0	165.9	0	2.0		
SMO	79	311	0214	550238	164.1	162.8	1.4	1.8	150	28.0	26.7	166.1	0	-1.0	0	-1.0		
SMO	79	319	0212	520239	168.1	166.8	1.5	7.2	160	27.0	21.7	170.0	0	169.3	0	1.2		
SMO	79	319	0212	510239	166.6	165.3	.8	7.2	160	27.0	21.7	168.5	0	-1.0	0	-1.0		
SMO	79	325	0243	540240	168.1	166.8	1.2	2.3	70	29.0	22.6	170.3	0	171.5	0	1.8		
SMO	79	325	0243	530240	170.3	169.0	2.3	2.3	70	29.0	22.6	172.6	0	-1.0	0	-1.0		
SMO	79	339	0221	550241	166.2	164.9	.6	6.3	150	27.0	25.0	168.3	0	169.9	0	.9		
SMO	79	339	0221	560241	169.5	168.2	1.2	6.3	150	27.0	25.0	171.6	0	-1.0	0	-1.0		
SMO	79	346	0048	510242	169.2	167.9	2.2	10.4	300	26.0	24.5	171.3	0	171.5	0	3.0		
SMO	79	346	0048	520242	169.5	168.2	3.6	10.4	300	26.0	24.5	171.6	0	-1.0	0	-1.0		
SMO	79	353	0250	530243	163.8	162.5	.5	14.0	155	27.2	23.6	165.6	0	167.5	0	.6		
SMO	79	353	0250	540243	167.7	166.4	.7	14.0	155	27.2	23.6	169.5	0	-1.0	0	-1.0		
SMO	79	361	2102	550244	168.0	166.7	.5	4.5	155	27.8	25.7	169.9	0	168.7	0	1.5		
SMO	79	361	2102	560244	165.5	164.2	2.1	4.5	155	27.8	25.7	167.4	0	-1.0	0	-1.0		

## F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.O.	WIND M/S	DEG	TEMP AIR	DEG C DEW PT	3 PPTV	F3	4 PPTV	F4	S.O.
SPO	77	26	0320	010013	141.4	140.3	3.1	2.5	30	-26.0	-99.9	140.3	0	141.4	0	3.3
SPO	77	26	0320	020013	143.6	142.5	3.4	2.5	30	-26.0	-99.9	142.5	0	-1.0	0	-1.0
SPO	77	35	0230	030014	137.4	136.3	3.1	5.5	65	-37.3	-99.9	136.3	2	138.1	0	3.1
SPO	77	35	0230	040014	141.0	139.9	10.8	5.5	65	-37.3	-99.9	139.9	1	-1.0	0	-1.0
SPO	77	38	0445	050015	132.4	131.4	1.6	3.2	90	-34.0	-99.9	131.4	0	130.1	0	1.5
SPO	77	38	0445	060015	129.8	128.8	1.4	3.2	90	-34.0	-99.9	128.8	0	-1.0	0	-1.0
SPO	77	41	0300	070016	99.4	98.6	U	4.0	120	-41.6	-99.9	98.6	1	98.6	1	.0
SPO	77	41	0300	080016	130.3	129.3	U	4.0	120	-41.6	-99.9	129.3	1	129.3	0	.0
SPO	77	72	2230	090017	73.4	72.8	U	3.5	30	-46.0	-99.9	72.8	1	72.8	1	.0
SPO	77	72	2230	100017	1857.6	1843.1	U	3.5	30	-46.0	-99.9	1843.1	1	1843.1	1	.0
SPO	77	105	0355	110018	79.2	78.6	U	3.4	40	-59.0	-99.9	78.6	1	78.6	1	.0
SPO	77	105	0355	120018	157.0	155.8	U	3.4	40	-59.0	-99.9	155.8	1	155.8	0	.0
SPO	77	134	0230	130019	420.7	417.4	U	8.0	25	-52.2	-99.9	417.4	1	417.4	1	.0
SPO	77	134	0230	140019	406.8	403.6	U	8.0	25	-52.2	-99.9	403.6	1	403.6	1	.0
SPO	77	195	0410	170021	124.2	123.2	U	9.0	345	-45.1	-99.9	123.2	1	123.2	1	.0
SPO	77	195	0410	270021	2806.9	2784.9	U	9.0	345	-45.1	-99.9	2784.9	1	2784.9	1	.0
SPO	77	229	2150	280022	663.3	658.1	U	4.0	10	-59.1	-99.9	658.1	1	658.1	1	.0
SPO	77	229	2150	290022	1724.3	1710.8	U	4.0	10	-59.1	-99.9	1710.8	1	1710.8	1	.0
SPO	77	257	1140	300023	171.2	169.9	U	3.5	25	-60.1	-99.9	169.9	1	169.9	1	.0
SPO	77	257	1140	310023	389.2	386.2	U	3.5	25	-60.1	-99.9	386.2	1	386.2	1	.0
SPO	77	287	2350	320024	1594.0	1581.5	U	6.2	360	-53.8	-99.9	1581.5	1	1581.5	1	.0
SPO	77	287	2350	330024	135.8	134.7	U	6.2	360	-53.8	-99.9	134.7	1	134.7	0	.0
SPO	77	316	1155	340025	433.5	430.1	U	2.7	325	-33.2	-99.9	430.1	1	430.1	1	.0
SPO	77	316	1155	350025	168.9	167.6	U	2.7	325	-33.2	-99.9	167.6	1	167.6	1	.0
SPO	77	336	0750	010026	153.6	152.4	3.7	3.8	4	-31.8	-99.9	152.4	3	157.3	0	3.7
SPO	77	336	0750	020026	163.5	162.2	1.6	3.8	4	-31.8	-99.9	162.2	3	-1.0	0	-1.0
SPO	77	353	0345	030027	186.1	184.6	2.3	2.7	99	-29.3	-99.9	184.6	3	184.6	3	2.3
SPO	77	353	0345	040027	165.1	163.8	2.3	2.7	99	-29.3	-99.9	163.8	3	163.8	0	2.3
SPO	78	1	0425	050028	280.6	278.4	15.0	4.4	320	-21.5	-99.9	278.4	1	278.4	1	15.8
SPO	78	1	0425	060028	252.6	250.6	5.7	4.4	320	-21.5	-99.9	250.6	1	250.6	1	5.7
SPO	78	15	0855	070029	146.3	145.2	3.1	1.2	75	-27.6	-99.9	145.2	2	153.5	0	3.1
SPO	78	15	0855	080029	163.2	161.9	5.3	1.2	75	-27.6	-99.9	161.9	1	-1.0	0	-1.0
SPO	78	31	0200	240030	153.4	152.2	1.2	3.2	102	-36.0	-99.9	152.2	2	156.3	0	1.2
SPO	78	31	0200	250030	161.6	160.3	9.6	3.2	102	-36.0	-99.9	160.3	1	-1.0	0	-1.0
SPO	78	45	2355	370031	479.8	476.0	U	4.3	70	-36.7	-99.9	476.0	1	476.0	1	.0
SPO	78	60	0212	270032	1651.9	1639.0	U	2.5	78	-57.8	-99.9	1639.0	1	1639.0	1	.0
SPO	78	60	0212	280032	197.1	195.6	3.1	2.5	78	-57.8	-99.9	195.6	2	195.6	2	3.1
SPO	78	91	0230	290033	221.3	219.6	5.5	8.1	16	-47.1	-99.9	219.6	1	219.6	1	5.5
SPO	78	91	0230	300033	145.3	144.2	1.8	9.1	16	-47.1	-99.9	144.2	2	144.2	0	1.8
SPO	78	121	0105	310034	67.7	57.2	.4	4.7	88	-63.6	-99.9	67.2	3	67.2	3	.4
SPO	78	121	0105	320034	86.9	86.2	.3	4.7	88	-63.6	-99.9	86.2	3	86.2	3	.3
SPO	78	152	0918	330035	140.2	139.1	3.9	7.8	14	-39.2	-99.9	139.1	2	147.8	0	3.9
SPO	78	152	0918	340035	157.7	156.5	8.6	7.8	14	-39.2	-99.9	156.5	1	-1.0	0	-1.0
SPO	78	182	1012	350036	169.4	168.1	1.2	3.6	84	-61.4	-99.9	168.1	3	168.1	0	1.2
SPO	78	182	1012	090036	98.6	97.8	1.2	3.5	84	-61.4	-99.9	97.8	3	97.8	3	1.2
SPO	78	213	0140	100037	160.3	159.0	.6	3.4	57	-61.7	-99.9	159.0	0	162.5	0	1.7
SPO	78	213	0140	110037	167.2	165.9	2.3	3.4	57	-61.7	-99.9	165.9	0	-1.0	0	-1.0
SPO	78	244	0910	120038	346.9	344.2	6.7	7.1	11	-49.8	-99.9	344.2	1	344.2	1	6.7
SPO	78	244	0910	130038	143.8	142.7	3.0	7.1	11	-49.8	-99.9	142.7	2	142.7	0	3.0
SPO	78	274	0450	150039	22.3	22.1	1.7	5.9	13	-58.0	-99.9	22.1	3	22.1	3	1.7
SPO	78	274	0450	140039	157.6	156.4	2.4	5.9	13	-58.0	-99.9	156.4	3	156.4	0	2.4

## F11 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND		TEMP		3 PPTV	F3	4 PPTV	F4	S.D.
								M/S	DEG	AIR	DEW PT					
SPO	78	305	0834	160040	111.6	110.7	2.5	3.7	101	-44.8	-99.9	110.7	3	110.7	3	2.5
SPO	78	305	0834	170040	146.7	145.6	1.2	3.7	101	-44.8	-99.9	145.6	3	145.6	0	1.2
SPO	78	320	0400	680041	171.3	170.0	3.4	3.1	69	-35.2	-99.9	170.0	0	171.9	0	2.5
SPO	78	320	0400	690041	175.2	173.8	1.1	3.1	69	-35.2	-99.9	173.8	0	-1.0	0	-1.0
SPO	78	336	2234	250042	161.7	160.4	.7	3.9	14	-29.9	-99.9	160.4	0	160.5	0	2.2
SPO	76	336	2234	240042	161.8	160.5	3.0	3.9	14	-29.9	-99.9	160.5	0	-1.0	0	-1.0
SPO	78	343	0140	010043	167.1	165.8	2.4	3.8	49	-26.8	-99.9	165.8	3	165.8	0	2.4
SPO	78	343	0140	020043	184.0	182.6	2.2	3.8	49	-26.8	-99.9	182.6	3	182.6	3	2.2
SPO	78	351	0210	060044	156.2	155.0	.6	2.2	83	-26.5	-99.9	155.0	3	166.8	0	.6
SPO	78	351	0210	070044	180.0	178.6	2.2	2.2	83	-26.5	-99.9	178.6	3	-1.0	0	-1.0
SPO	78	357	0045	030045	263.6	261.5	.5	2.3	15	-28.6	-99.9	261.5	3	261.5	3	.5
SPO	78	357	0045	040045	158.3	157.1	4.0	2.3	15	-28.6	-99.9	157.1	3	157.1	0	4.0
SPO	78	363	0110	080046	161.6	160.3	3.4	5.3	6	-16.6	-99.9	160.3	0	161.3	0	2.8
SPO	78	363	0110	050046	163.5	162.2	2.0	6.3	6	-16.6	-99.9	162.2	0	-1.0	0	-1.0
SPO	79	2	2240	340047	157.7	156.5	1.4	6.0	67	-20.9	-99.9	156.5	3	160.8	0	1.4
SPO	79	2	2240	350047	166.4	165.1	2.7	6.0	67	-20.9	-99.9	165.1	3	-1.0	0	-1.0
SPO	79	8	2300	330048	153.6	152.4	3.7	7.2	15	-22.2	-99.9	152.4	3	152.4	0	3.7
SPO	79	8	2300	370048	242.0	240.1	4.7	7.2	15	-22.2	-99.9	240.1	3	240.1	3	4.7
SPO	79	13	0145	290049	157.4	156.2	.8	4.0	74	-26.0	-99.9	156.2	0	156.4	0	2.5
SPO	79	13	0145	300049	157.9	156.7	3.4	4.0	74	-26.0	-99.9	156.7	0	-1.0	0	-1.0
SPO	79	18	0155	260050	251.9	249.9	2.2	3.4	109	-29.8	-99.9	249.9	2	249.9	2	2.2
SPO	79	23	0125	270051	167.0	165.7	2.7	4.0	8	-26.7	-99.9	165.7	0	162.9	0	2.5
SPO	79	23	0125	280051	161.4	160.1	2.3	4.0	8	-26.7	-99.9	160.1	0	-1.0	0	-1.0
SPO	79	27	0030	090052	151.3	150.1	.8	4.2	85	-30.3	-99.9	150.1	0	152.1	0	.9
SPO	79	27	0030	100052	155.2	154.0	1.0	4.2	85	-30.3	-99.9	154.0	0	-1.0	0	-1.0
SPO	79	34	0025	110053	182.6	181.2	1.5	5.8	40	-33.3	-99.9	181.2	0	178.7	0	1.2
SPO	79	34	0025	120053	177.6	176.2	.7	5.8	40	-33.3	-99.9	176.2	0	-1.0	0	-1.0
SPO	79	37	2325	130054	151.4	150.2	2.5	4.2	51	-39.1	-99.9	150.2	0	152.1	0	2.7
SPO	79	37	2325	140054	155.3	154.1	2.9	4.2	51	-39.1	-99.9	154.1	0	-1.0	0	-1.0
SPO	79	284	0040	020055	222.2	220.5	1.4	6.7	11	-53.0	-99.9	220.5	3	220.5	3	1.4
SPO	79	284	0040	010055	212.4	210.7	3.4	6.7	11	-53.0	-99.9	210.7	3	210.7	3	3.4
SPO	79	291	0430	060056	197.8	196.3	2.5	5.2	64	-54.2	-99.9	196.3	3	196.3	3	2.5
SPO	79	291	0430	070056	281.8	279.6	1.3	5.2	64	-54.2	-99.9	279.6	3	279.6	3	1.3
SPO	79	297	2320	250057	221.9	220.2	.6	4.7	55	-47.8	-99.9	220.2	3	220.2	3	.6
SPO	79	297	2320	240057	262.1	260.0	1.6	4.7	55	-47.8	-99.9	260.0	3	260.0	3	1.6
SPO	79	305	0330	690058	224.6	222.8	U	7.1	342	-43.2	-99.9	222.8	1	222.8	1	.0
SPO	79	305	0330	680058	205.2	203.6	2.0	7.1	342	-43.2	-99.9	203.6	2	203.6	2	2.0
SPO	79	312	0457	040059	170.4	169.1	1.0	4.4	330	-41.3	-99.9	169.1	3	169.1	0	1.0
SPO	79	312	0457	050059	215.7	214.0	1.5	4.4	330	-41.3	-99.9	214.0	3	214.0	3	1.5
SPO	79	319	2340	330060	167.8	166.5	.1	7.1	30	-40.8	-99.9	166.5	2	166.5	0	.1
SPO	79	319	2340	340061	167.8	166.5	2.3	7.1	30	-40.8	-99.9	166.5	2	166.5	0	2.3
SPO	79	319	2340	380061	260.0	258.0	7.6	7.1	30	-40.8	-99.9	258.0	1	258.0	1	7.6
SPO	79	325	2300	370062	230.9	229.1	1.7	5.3	67	-30.9	-99.9	229.1	3	229.1	3	1.7
SPO	79	325	2300	130062	170.0	168.7	3.9	5.3	67	-30.9	-99.9	168.7	3	168.7	0	3.9
SPO	79	333	2310	520063	188.0	186.5	1.7	3.8	117	26.2	-99.9	186.5	3	186.5	0	1.7
SPO	79	333	2310	400063	272.3	270.2	1.8	3.8	117	27.4	-99.9	270.2	3	270.2	3	1.8
SPO	79	340	2320	350064	178.9	177.5	2.3	3.8	30	-31.1	-99.9	177.5	2	177.5	0	2.3
SPO	79	346	2300	110065	251.4	249.4	1.9	4.2	90	-27.0	-99.9	249.4	3	249.4	3	1.9
SPO	79	346	2300	140065	174.5	173.1	2.3	4.2	90	-27.0	-99.9	173.1	3	173.1	0	2.3
SPO	79	354	2255	120066	257.2	255.2	1.2	2.5	67	-24.0	-99.9	255.2	3	255.2	3	1.2
SPO	79	354	2255	290066	211.0	209.3	2.5	2.5	67	-24.0	-99.9	209.3	3	209.3	3	2.5
SPO	79	360	2305	080067	170.3	169.0	1.6	4.9	5	-26.0	-99.9	169.0	3	169.0	0	1.6
SPO	79	360	2305	280067	210.6	209.0	1.5	4.9	5	-26.0	-99.9	209.0	3	209.0	3	1.5

## Appendix C: CCl<sub>2</sub>F<sub>2</sub> Data for Barrow, Niwot Ridge, Mauna Loa, Samoa, and South Pole, 7 March 1977 to 31 December 1979

### Description of Data Sets:

1. Data analyzed on chromatograph; calibrations performed using reference gas 3072 (December 1977), 253.4 pptv.
2. Data corrected for use of unelectropolished sample flasks (correction factor = 0.900), for CCl<sub>2</sub>F<sub>2</sub> reference gas calibration drift [see Eq. (3) of Sec. 2.3], and for flask air sample contamination during 1977 and 1978 at Barrow where pure CCl<sub>2</sub>F<sub>2</sub> was used to calibrate a nephelometer.
3. CCl<sub>2</sub>F<sub>2</sub> mole fractions in dry air. Flags F3 (column 14) associated with data set 3 are the following.
  - 0: Optimum pair-sample data--s.d.  $\leq 6.0$  pptv and concentration difference  $\leq 9.8$  pptv.
  - 1: Exceeded s.d. of 6.0 pptv.
  - 2: Single sample, or pair member of sample already flagged.
  - 3: Concentration difference for samples of pair exceeded 9.8 pptv.
  - 4: Meteorological criteria not satisfied. Applied only to Niwot Ridge data. Acceptable wind speeds and directions are  $>1.5 \text{ m s}^{-1}$  and  $180^\circ$  through  $45^\circ$ , respectively.
  - 5: Previously unflagged data, subjectively determined to be outlying.
  - 6: Sample not representative of global background conditions due to local pollution and/or sample contamination. Applicable only to Niwot Ridge data.

Data set 3 is intended for use by researchers who desire to apply their own data selection criteria for improvement of data quality and identification of background measurement conditions.

4. Select data set-CCl<sub>2</sub>F<sub>2</sub> mole fractions in dry air. Flags F4 (column 16) associated with data set 4 are the following.
  - 0: Optimum pair-sample data, with pair values averaged. Also, CCl<sub>2</sub>F<sub>2</sub> mole fractions (with pair values averaged), flagged 1 to 4 in data set 3, that lie within  $\pm 3$  r.s.d. of the regression line fitted to the optimum pair-sample data.
  - 1-6: As flags 1 to 6 of data set 3.

Data flagged 0 in data set 4 presumably represent atmospheric background measurement conditions at the various stations. They are intended for use by researchers who accept as satisfactory the data selection procedures outlined in this report.

F12 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.C.	HIND M/S	DEG DEG	TEMP AIR	DEG C DEW PT	3 PPTV	F3	4 PPTV	F4	S.O.
BRW	77	122	2236	020122	550.5	493.1	5.6	5.4	54	-11.2	-16.5	493.9	2	493.9	2	5.6
BRW	77	144	2000	050124	2630.0	2356.8	12.7	6.5	65	-4.4	-9.1	2364.1	1	2364.1	1	12.7
BRW	77	153	0030	020125	311.2	278.9	1.3	2.4	178	3.9	-3.2	280.3	2	280.3	0	1.3
BRW	77	167	2350	020127	367.0	329.0	U	9.1	107	3.8	.2	331.1	1	331.1	1	.0
BRW	77	215	0153	050128	3172.0	2846.9	10.0	6.1	275	10.0	6.1	2864.3	1	2864.3	1	10.0
BRW	77	220	2351	030129	426.4	382.7	1.1	11.2	85	4.0	3.3	381.0	2	381.0	2	1.1
BRW	77	229	0200	020130	377.4	338.8	14.1	4.0	110	15.5	11.9	334.4	1	334.4	1	14.1
BRW	77	247	0045	050131	1008.0	905.3	10.6	3.3	260	8.5	7.9	868.6	1	868.6	1	10.6
BRW	77	254	0011	020132	504.5	453.2	14.7	8.5	76	2.2	-1.1	429.1	1	429.1	1	14.7
BRW	77	260	2025	030133	434.4	390.2	2.8	5.4	90	.2	-1.1	367.1	2	367.1	2	2.8
BRW	77	271	2205	050134	555.8	499.4	3.7	8.7	15	-2.2	-4.4	464.4	2	464.4	2	3.7
BRW	77	281	0005	020135	365.4	328.4	3.0	5.3	135	-6	-3.1	303.1	2	303.1	2	3.0
BRW	77	284	2353	030136	527.4	474.0	41.3	16.0	80	-3.3	-6.8	436.0	1	436.0	1	41.3
BRW	77	293	2302	050137	683.6	614.6	34.5	12.0	70	-7.2	-8.3	561.7	1	561.7	1	34.5
BRW	77	306	0055	020138	463.2	416.5	1.9	5.5	30	-21.3	-21.7	377.4	2	377.4	2	1.9
BRW	77	313	2238	030139	641.1	576.6	7.9	6.5	10	-26.1	-26.4	520.7	1	520.7	1	7.9
BRW	77	330	2290	020141	1167.0	1050.0	23.3	3.3	217	-22.5	-26.7	943.3	1	943.3	1	23.3
BRW	77	215	0153	180128	267.6	266.9	1.5	6.1	275	10.0	6.1	268.5	3	268.5	3	1.5
BRW	77	215	0153	190128	289.4	288.6	2.7	6.1	275	10.0	6.1	290.4	3	290.4	0	2.7
BRW	77	220	2351	200129	330.2	329.3	24.8	11.2	85	4.0	3.3	327.8	1	327.8	1	24.8
BRW	77	220	2351	210129	350.8	349.9	3.6	11.2	85	4.0	3.3	348.3	2	348.3	2	3.6
BRW	77	229	0200	220130	283.9	283.2	5.4	4.0	110	15.5	11.9	279.5	3	286.6	0	5.4
BRW	77	229	0200	230130	298.4	297.7	4.0	4.0	110	15.5	11.9	293.8	3	-1.0	0	-1.0
BRW	77	247	0045	180131	283.1	282.5	1.5	3.9	260	8.5	7.9	271.0	3	271.0	3	1.5
BRW	77	247	0045	190131	302.6	302.0	2.2	3.9	260	8.5	7.9	289.7	3	289.7	0	2.2
BRW	77	254	0011	200132	289.8	289.0	6.9	8.5	76	2.2	-1.1	273.7	1	273.7	0	6.9
BRW	77	254	0011	210132	280.1	279.6	1.2	8.5	76	2.2	-1.1	264.7	2	264.7	2	1.2
BRW	77	260	2025	220133	282.9	282.4	1.3	5.4	90	.2	-1.1	265.7	3	265.7	3	1.3
BRW	77	260	2025	230133	304.8	304.2	3.3	5.4	90	.2	-1.1	286.2	3	286.2	0	3.3
BRW	77	271	2205	180134	294.3	293.8	3.2	8.7	15	-2.2	-4.4	273.2	3	281.7	0	3.2
BRW	77	271	2205	190134	312.5	312.0	1.6	8.7	15	-2.2	-4.4	290.1	3	-1.0	0	-1.0
BRW	77	281	0005	200135	304.4	304.0	1.8	5.3	135	-6	-3.1	280.5	3	280.5	0	1.8
BRW	77	281	0005	210135	286.0	285.6	3.6	5.3	135	-6	-3.1	263.6	3	263.6	3	3.6
BRW	77	284	2353	220136	292.6	292.2	3.3	16.0	80	-3.3	-6.8	268.8	2	268.8	2	3.3
BRW	77	284	2353	230136	317.6	317.2	7.8	16.0	80	-3.3	-6.8	291.7	1	291.7	0	7.8
BRW	77	293	2302	180137	308.1	307.8	4.0	12.0	70	-7.2	-8.3	281.3	3	281.3	0	4.0
BRW	77	293	2302	190137	333.9	333.5	2.8	12.0	70	-7.2	-8.3	304.9	3	304.9	3	2.8
BRW	77	306	0055	200138	310.6	310.3	2.7	5.5	30	-21.3	-21.7	281.2	3	287.3	0	2.7
BRW	77	306	0055	210138	324.1	323.8	2.9	5.5	30	-21.3	-21.7	293.4	3	-1.0	0	-1.0
BRW	77	313	2238	220139	299.0	298.8	2.0	6.5	10	-26.1	-26.4	269.8	3	269.8	3	2.0
BRW	77	313	2238	230139	315.8	315.6	.4	6.5	10	-26.1	-26.4	285.0	3	285.0	0	.4
BRW	77	318	2100	180140	317.7	317.5	3.5	8.0	62	-23.0	-25.6	286.2	0	288.8	0	2.5
BRW	77	318	2100	190140	323.4	323.2	.8	8.0	62	-23.0	-25.6	291.4	0	-1.0	0	-1.0
BRW	77	330	2200	200141	366.1	366.0	3.0	3.3	217	-22.5	-26.7	328.8	3	328.8	3	3.0
BRW	77	330	2200	210141	391.1	391.0	3.6	3.3	217	-22.5	-26.7	351.2	3	351.2	3	3.6
BRW	77	345	0142	220142	323.9	323.9	1.1	9.5	320	-30.0	-31.7	290.2	0	295.0	0	3.1
BRW	77	345	0142	230142	334.6	334.6	4.2	9.6	320	-30.0	-31.7	299.8	0	-1.0	0	-1.0
BRW	77	351	0130	180143	344.0	344.0	3.4	4.5	125	-34.4	-38.1	308.0	5	308.9	5	2.5
BRW	77	351	0130	190143	345.9	345.9	.9	4.5	125	-34.4	-38.1	309.7	5	-1.0	5	-1.0
BRW	77	363	0036	200144	323.2	323.3	8.0	10.2	115	-16.5	-18.9	289.7	1	291.7	0	8.0
BRW	77	363	0036	210144	327.5	327.6	2.0	10.2	115	-16.5	-18.9	293.6	2	-1.0	0	-1.0

F12 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1			WIND		TEMP		3	F3	4	F4	S.D.
					PPTV	2	S.L.	M/S	DEG	AIR	DEW PT					
BRW	78	6	0142	220145	315.1	315.3	2.7	6.4	99	-21.3	-25.6	282.5	3	291.0	0	2.7
BRW	78	6	0142	230145	334.1	334.3	4.8	6.4	99	-21.3	-25.6	299.5	3	-1.0	0	-1.0
BRW	78	13	0110	200146	317.7	317.9	1.8	9.1	72	-15.3	-15.3	285.4	0	284.0	0	1.6
BRW	78	13	0110	210146	314.8	315.0	1.3	9.1	72	-15.3	-15.3	282.7	0	-1.0	0	-1.0
BRW	78	18	2340	180147	4948.0	4951.9	37.0	2.7	60	-21.0	-23.3	4443.7	1	4443.7	1	37.0
BRW	78	18	2340	190147	4958.0	4962.0	19.0	2.7	60	-21.0	-23.3	4452.6	1	4452.6	1	19.0
BRW	78	28	0150	200148	353.1	353.5	5.1	4.2	75	-29.1	-30.6	317.6	3	317.6	3	5.1
BRW	78	28	0150	210148	466.9	467.4	3.6	4.2	75	-29.1	-30.6	419.9	3	419.9	3	3.6
BRW	78	33	0100	220149	311.4	311.7	5.7	7.0	72	-27.0	-30.6	280.4	3	280.4	0	5.7
BRW	78	33	0100	230149	353.1	353.5	.6	7.0	72	-27.0	-30.6	318.0	3	318.0	3	.6
BRW	78	40	2158	180150	336.3	336.7	.1	4.5	79	-39.3	-43.1	303.3	5	306.9	5	1.3
BRW	78	40	2158	190150	344.3	344.7	1.8	4.5	79	-39.3	-43.1	310.5	5	-1.0	5	-1.0
BRW	78	45	2059	220151	316.1	316.5	2.0	8.3	60	-21.0	-26.7	285.6	0	289.2	0	1.5
BRW	78	45	2059	230151	323.9	324.3	.5	8.3	60	-21.0	-26.7	292.7	0	-1.0	0	-1.0
BRW	78	54	2350	180152	348.6	349.1	5.8	4.2	57	-21.7	-27.2	315.9	5	318.0	5	4.4
BRW	78	54	2350	190152	353.3	353.9	2.3	4.2	57	-21.7	-27.2	320.2	5	-1.0	5	-1.0
BRW	78	64	0302	200153	931.4	933.1	2.1	8.3	35	-24.4	-29.4	846.9	5	846.5	5	2.0
BRW	78	64	0302	210153	930.5	932.2	1.8	8.9	35	-24.4	-29.4	846.1	5	-1.0	5	-1.0
BRW	78	67	2223	180154	321.7	322.3	2.6	12.3	59	-21.3	-23.9	293.0	0	297.4	0	2.1
BRW	78	67	2223	190154	331.5	332.1	1.4	12.3	59	-21.3	-23.9	301.9	0	-1.0	0	-1.0
BRW	78	78	0211	180155	331.0	331.7	1.9	4.5	10	-19.3	-21.7	302.8	3	302.8	0	1.9
BRW	78	78	0211	190155	375.9	376.7	2.2	4.5	10	-19.3	-21.7	343.9	3	343.9	3	2.2
BRW	78	86	2037	220156	301.1	301.8	8.4	6.4	30	-22.0	-25.0	276.3	1	276.3	1	8.4
BRW	78	86	2037	230156	309.3	310.0	6.2	6.4	30	-22.0	-25.0	283.9	1	283.9	0	6.2
BRW	78	93	2034	200157	303.8	304.5	2.7	6.6	80	-25.6	-29.4	279.6	0	275.7	0	2.3
BRW	78	93	2034	210157	295.3	296.0	1.8	6.5	80	-25.6	-29.4	271.8	0	-1.0	0	-1.0
BRW	78	101	2139	220158	283.5	284.2	3.2	4.3	85	-20.7	-26.1	261.9	3	261.9	3	3.2
BRW	78	101	2139	230158	294.6	295.4	1.5	4.3	85	-20.7	-26.1	272.2	3	272.2	3	1.5
BRW	78	108	2339	180159	296.9	297.7	9.5	7.3	144	-11.0	-12.8	275.7	1	275.7	1	9.5
BRW	78	108	2339	190159	305.0	305.8	8.1	7.3	144	-11.0	-12.8	283.2	1	283.2	0	8.1
BRW	78	115	0044	200160	313.6	314.5	2.8	11.6	98	-11.5	-14.4	292.1	3	292.1	0	2.8
BRW	78	115	0044	210160	294.7	295.5	1.7	11.5	98	-11.5	-14.4	274.5	3	274.5	3	1.7
BRW	78	122	2353	220161	295.7	296.6	3.8	9.0	87	-12.0	-13.3	276.4	3	276.4	3	3.8
BRW	78	122	2353	230161	306.5	307.4	3.4	9.0	87	-12.0	-13.3	286.5	3	286.5	0	3.4
BRW	78	128	1939	180162	295.4	300.3	.6	8.8	100	-11.4	-16.7	280.6	3	280.6	3	.6
BRW	78	128	1939	190162	323.6	324.6	4.4	8.8	100	-11.4	-16.7	303.3	3	303.3	0	4.4
BRW	78	135	2340	200163	303.7	304.7	3.1	7.8	79	-12.4	-15.0	285.7	3	285.7	0	3.1
BRW	78	135	2340	210163	291.4	292.4	4.9	7.8	79	-12.4	-15.0	274.2	3	274.2	3	4.9
BRW	78	142	2250	220164	307.9	309.0	16.2	4.2	68	-3.3	-5.6	291.3	1	292.8	0	16.2
BRW	78	142	2250	230164	311.0	312.1	9.5	4.2	68	-3.3	-5.6	294.3	1	-1.0	0	-1.0
BRW	78	150	2350	200165	303.0	304.1	2.4	6.4	145	-1.9	-1.9	288.3	3	288.3	0	2.4
BRW	78	150	2350	210165	289.0	290.0	.7	6.4	145	-1.9	-1.9	275.0	3	275.0	3	.7
BRW	78	160	2039	220166	296.7	297.8	3.7	4.0	110	3.7	-1.7	283.8	3	290.6	0	3.7
BRW	78	160	2039	230166	311.0	312.2	2.1	4.0	110	3.7	-1.7	297.5	3	-1.0	0	-1.0
BRW	78	164	2325	200167	305.2	306.4	4.0	4.1	54	.6	-2.2	292.5	3	292.5	0	4.0
BRW	78	164	2325	210167	292.5	293.6	1.0	4.1	54	.6	-2.2	280.3	3	280.3	3	1.0
BRW	78	173	2017	230168	308.2	309.5	3.3	10.3	80	-8	-5.8	296.4	3	296.4	0	3.3
BRW	78	173	2017	220168	287.7	288.9	1.4	10.3	80	-8	-5.8	276.7	3	276.7	3	1.4
BRW	78	179	1935	200169	309.4	310.7	2.8	3.5	95	2.7	-6	299.0	2	291.9	0	2.8
BRW	78	179	1935	210169	294.7	295.9	6.8	3.5	95	2.7	-6	284.8	1	-1.0	0	-1.0
BRW	78	187	0115	220170	286.8	288.1	1.7	5.4	65	3.0	3.0	278.8	3	278.8	3	1.7

## F12 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND		TEMP		JEG C	3 PPTV	F3	4 PPTV	F4	S.D.
								M/S	DEG	AIR	DEW PT						
BRW	78	187	0115	230170	307.7	309.1	3.6	5.4	65	3.0	3.0		299.1	3	239.1	0	3.6
BRW	78	193	1925	200171	302.4	303.8	6.8	6.7	105	2.5	.3		294.5	1	294.5	0	6.8
BRW	78	193	1925	210171	290.1	291.4	.9	6.7	105	2.5	.3		282.5	2	282.5	2	.9
BRW	78	199	0140	220172	287.5	288.8	2.0	9.4	110	1.4	1.4		281.0	0	284.5	0	1.6
BRW	78	199	0140	230172	294.7	296.1	1.2	9.4	110	1.4	1.4		288.0	0	-1.0	0	-1.0
BRW	78	212	1959	210173	292.9	294.3	4.2	5.8	170	15.4	13.3		290.6	0	291.6	0	3.2
BRW	78	212	1959	200173	295.1	296.6	1.7	5.8	170	15.4	13.3		292.7	0	-1.0	0	-1.0
BRW	78	221	2250	220174	287.2	288.7	.7	6.7	90	.4	-1.9		283.3	3	283.3	3	.7
BRW	78	221	2250	230174	304.1	305.7	4.6	6.7	90	.4	-1.9		300.0	3	300.0	0	4.6
BRW	78	228	1935	630175	337.3	339.1	6.4	8.5	115	-7	-1.4		333.9	1	333.9	1	6.4
BRW	78	238	0130	220176	281.9	283.4	6.0	4.0	75	2.3	1.1		280.6	3	280.6	3	6.0
BRW	78	238	0130	230176	304.4	306.1	.4	4.0	75	2.3	1.1		303.0	3	303.0	0	.4
BRW	78	242	1945	200177	304.1	305.8	6.4	5.8	115	7.1	6.7		304.2	1	295.4	0	6.4
BRW	78	242	1945	210177	286.5	288.1	8.0	5.3	115	7.1	6.7		286.6	1	-1.0	0	-1.0
BRW	78	248	2330	630178	299.4	301.1	1.0	3.5	115	7.5	7.5		300.4	2	300.4	0	1.0
BRW	78	256	2030	230179	304.0	305.8	5.7	9.3	80	2.2	1.7		305.0	2	305.0	0	5.7
BRW	78	261	2003	200180	303.2	305.0	4.2	5.8	100	-1.6	-4.4		304.0	2	298.0	0	4.2
BRW	78	261	2003	210180	291.1	292.8	7.8	5.8	100	-1.6	-4.4		291.9	1	-1.0	0	-1.0
BRW	78	268	1910	590181	297.0	298.8	1.1	6.7	110	.4	.4		299.2	0	297.0	0	1.2
BRW	78	268	1910	600181	292.8	294.6	1.2	6.4	110	.4	.4		294.9	0	-1.0	0	-1.0
BRW	78	277	2005	220182	296.7	298.6	1.8	6.3	100	-9.4	-9.4		298.9	3	298.9	0	1.8
BRW	78	277	2005	230182	327.6	329.7	1.0	6.3	100	-6.2	-9.4		330.0	3	330.0	3	1.0
BRW	78	286	2340	210183	294.4	296.3	.3	6.7	265	-3.3	-5.6		297.5	0	301.7	0	1.2
BRW	78	286	2340	200183	302.7	304.7	1.6	6.7	265	-3.3	-5.6		305.9	0	-1.0	0	-1.0
BRW	78	290	2030	600184	298.3	300.3	1.6	4.3	70	-18.9	-18.9		300.7	0	304.5	0	1.4
BRW	78	290	2030	590184	305.8	307.8	1.2	4.3	70	-18.9	-18.9		308.3	0	-1.0	0	-1.0
BRW	78	297	0055	230185	343.4	345.7	1.2	6.7	85	-21.1	-23.9		346.1	3	346.1	3	1.2
BRW	78	297	0055	220185	306.6	308.7	.5	6.7	85	-21.1	-23.9		309.0	3	309.0	0	.5
BRW	78	304	2020	210186	305.7	307.8	.9	4.5	40	-23.4	-26.0		308.1	0	312.4	0	1.0
BRW	78	304	2020	200186	314.3	316.5	1.0	4.5	40	-23.4	-26.0		316.7	0	-1.0	0	-1.0
BRW	78	316	1622	590187	299.6	301.7	1.0	3.1	135	-7.0	-9.4		302.6	0	303.0	0	2.6
BRW	78	316	1622	600187	300.2	302.3	3.6	3.1	135	-7.0	-9.4		303.3	0	-1.0	0	-1.0
BRW	78	320	0125	630188	308.1	310.3	.3	5.4	150	-24.2	-26.8		310.6	0	311.3	0	.4
BRW	78	320	0125	220188	309.6	311.8	.4	5.4	150	-24.2	-26.8		312.1	0	-1.0	0	-1.0
BRW	78	329	2325	200189	314.8	317.1	.5	8.3	73	-23.4	-23.4		317.5	0	314.3	0	.5
BRW	78	329	2325	210189	308.6	310.9	.4	8.3	73	-23.4	-23.4		311.2	0	-1.0	0	-1.0
BRW	78	341	2245	590190	297.3	299.6	.1	6.7	30	-21.0	-23.6		299.9	2	299.9	0	.1
BRW	78	346	2150	200191	310.6	313.0	2.9	4.5	115	-27.8	-31.2		313.2	0	309.8	0	2.2
BRW	78	346	2150	210191	303.9	306.3	1.9	4.5	115	-27.8	-31.2		306.4	0	-1.0	0	-1.0
BRW	78	354	0205	590192	312.6	315.1	4.2	4.9	75	-34.5	-37.8		315.2	3	315.2	3	4.2
BRW	78	354	0205	600192	322.8	325.4	1.8	4.9	75	-34.5	-37.8		325.5	3	325.5	3	1.8
BRW	78	351	2005	220193	299.9	302.3	.2	4.5	105	-36.6	-41.0		302.4	0	302.3	0	.6
BRW	78	361	2005	630193	299.6	302.0	.8	4.5	105	-36.6	-41.0		302.1	0	-1.0	0	-1.0
BRW	79	3	0335	200194	308.7	311.2	2.6	4.9	127	-11.4	-13.2		311.9	0	308.4	0	1.9
BRW	79	3	0335	210194	301.7	304.2	.3	4.9	127	-11.4	-13.2		304.9	0	-1.0	0	-1.0
BRW	79	8	2110	500195	289.9	292.3	.5	5.8	105	-18.9	-21.7		292.7	0	291.2	0	1.3
BRW	79	8	2110	590195	287.0	289.4	1.7	5.8	105	-18.9	-21.7		289.7	0	-1.0	0	-1.0
BRW	79	15	2305	220196	298.6	301.1	1.4	5.8	60	-20.7	-23.6		301.4	2	300.0	0	1.4
BRW	79	15	2305	630196	295.8	298.3	6.8	5.8	60	-20.7	-23.6		298.6	1	-1.0	0	-1.0
BRW	79	18	2040	200197	312.1	314.8	1.1	10.3	70	-17.2	-19.8		315.2	0	311.4	0	2.4
BRW	79	18	2040	210197	304.5	307.1	3.2	10.3	70	-17.2	-19.8		307.5	0	-1.0	0	-1.0

## F12 DATA BASE

STN	YR	JCD		SAMP. NO.	1			WIND		TEMP		3	F3	4	F4	S.D.
		GMT	PPTV		PPTV	S.D.	M/S	DEG	AIR	DEW PT	PPTV					
BRW	79	33	2110	590198	293.5	296.1	2.7	3.5	300	-33.1	-37.7	296.2	0	299.2	0	1.9
BRW	79	33	2110	600198	299.3	302.0	.4	3.5	300	-33.1	-37.7	302.1	0	-1.0	0	-1.0
BRW	79	39	1935	220199	321.1	324.0	1.4	3.1	20	-25.2	-28.6	324.2	3	324.2	3	1.4
BRW	79	39	1935	630199	301.8	304.5	3.7	3.1	20	-25.2	-28.6	304.7	3	304.7	0	3.7
BRW	79	43	2035	200200	314.9	317.8	2.7	7.5	90	-34.9	-38.6	317.9	0	317.1	0	2.8
BRW	79	43	2035	210200	313.4	316.3	2.8	7.5	90	-34.9	-38.6	316.4	0	-1.0	0	-1.0
BRW	79	49	2250	590201	297.4	300.1	1.2	3.5	110	-28.3	-32.7	300.3	0	299.1	0	1.1
BRW	79	49	2250	600201	295.0	297.7	.9	3.5	110	-28.3	-32.7	297.9	0	-1.0	0	-1.0
BRW	79	57	2205	630202	302.0	304.8	.6	5.4	90	-27.6	-32.1	305.0	0	307.3	0	1.3
BRW	79	57	2205	220202	306.6	309.5	1.8	5.4	90	-27.6	-32.1	309.7	0	-1.0	0	-1.0
BRW	79	64	2030	200203	310.1	313.1	2.3	11.6	65	-29.8	-34.8	313.2	0	314.3	0	1.8
BRW	79	64	2030	210203	312.3	315.3	1.2	11.6	65	-29.8	-34.8	315.4	0	-1.0	0	-1.0
BRW	79	71	1955	600204	296.7	299.6	3.6	5.4	70	-30.3	-35.1	299.7	0	302.1	0	2.6
BRW	79	71	1955	590204	301.5	304.4	.5	5.4	70	-30.3	-35.1	304.6	0	-1.0	0	-1.0
BRW	79	78	2325	220205	320.5	323.7	0	2.2	20	-31.5	-37.3	323.8	1	323.8	1	.0
BRW	79	78	2325	630205	322.5	325.7	.8	2.2	20	-31.5	-37.3	325.8	2	325.8	2	.8
BRW	79	86	2005	200206	307.4	310.5	1.0	8.2	105	-14.6	-17.2	311.0	0	307.5	0	1.6
BRW	79	86	2005	210206	300.5	303.5	2.0	8.2	105	-14.6	-17.2	304.0	0	-1.0	0	-1.0
BRW	79	94	0215	630207	301.9	305.0	.8	10.3	80	-23.0	-26.5	305.2	0	305.4	0	1.7
BRW	79	94	0215	220207	302.3	305.4	2.2	10.3	80	-23.0	-26.5	305.6	0	-1.0	0	-1.0
BRW	79	102	0130	590208	300.6	303.7	1.0	7.1	98	-24.2	-30.0	303.9	0	303.3	0	1.7
BRW	79	102	0130	600208	299.4	302.5	2.2	7.1	98	-24.2	-30.0	302.7	0	-1.0	0	-1.0
BRW	79	108	2155	210209	299.9	303.0	1.0	6.4	70	-22.7	-26.5	303.3	0	305.7	0	1.0
BRW	79	108	2151	200209	304.7	307.9	1.0	6.4	70	-22.7	-26.5	308.1	0	-1.0	0	-1.0
BRW	79	114	0220	630210	302.7	305.9	1.2	8.3	110	-4.2	-6.7	307.0	0	306.5	0	1.4
BRW	79	114	0220	220210	301.7	304.9	1.5	8.3	110	-4.2	-6.7	306.0	0	-1.0	0	-1.0
BRW	79	121	2055	600211	299.3	302.5	1.5	4.0	115	-4.5	-7.7	303.6	2	303.6	0	1.5
BRW	79	127	2055	200212	300.4	303.7	1.1	7.5	100	-2.3	-5.8	304.9	0	304.9	0	1.2
BRW	79	127	2055	210212	300.4	303.7	1.2	7.5	100	-2.3	-5.8	304.9	0	-1.0	0	-1.0
BRW	79	135	1955	630213	398.6	403.0	2.0	4.0	70	-9.5	-12.3	404.0	5	400.3	5	3.0
BRW	79	135	1955	220213	391.3	395.6	3.7	4.0	70	-9.5	-12.3	396.6	5	-1.0	5	-1.0
BRW	79	141	1855	590214	302.4	305.8	1.1	4.3	40	-9.6	-11.1	306.6	0	304.8	0	1.0
BRW	79	141	1855	600214	298.9	302.2	.9	4.9	40	-9.6	-11.1	303.0	0	-1.0	0	-1.0
BRW	79	151	2325	210215	310.1	313.6	.6	4.5	220	4.8	-.2	315.5	3	315.5	0	.6
BRW	79	151	2325	200215	326.6	330.3	1.0	4.5	220	4.8	-.2	332.3	3	332.3	3	1.0
BRW	79	155	1925	220216	303.6	307.1	2.5	5.8	75	.7	-2.1	308.7	0	306.7	0	1.8
BRW	79	155	1925	630216	299.7	303.1	.4	5.8	75	.7	-2.1	304.7	0	-1.0	0	-1.0
BRW	79	166	0001	600217	299.4	302.9	.2	4.0	340	-.8	-2.6	304.4	0	304.3	0	.2
BRW	79	166	0001	590217	299.1	302.6	.1	4.0	340	-.8	-2.6	304.1	0	-1.0	0	-1.0
BRW	79	169	2042	200218	314.9	318.6	1.7	8.3	115	1.3	-.5	320.5	0	316.4	0	2.4
BRW	79	169	2042	210218	306.9	310.5	3.0	8.3	115	1.3	-.5	312.3	0	-1.0	0	-1.0
BRW	79	176	1940	220219	302.9	306.5	2.2	6.7	30	-1.0	-3.3	308.0	0	308.0	0	2.6
BRW	79	176	1940	630219	303.0	306.6	2.9	6.7	30	-1.0	-3.3	308.1	0	-1.0	0	-1.0
BRW	79	183	2047	600220	298.6	302.2	1.7	2.7	105	7.2	4.9	304.8	0	307.2	0	1.5
BRW	79	183	2047	590220	303.2	306.9	1.2	2.7	105	7.2	4.9	309.5	0	-1.0	0	-1.0
BRW	79	195	0215	200221	304.8	308.6	2.1	6.7	270	11.2	7.3	311.7	0	309.8	0	1.8
BRW	79	195	0215	210221	301.1	304.8	1.4	6.7	270	11.2	7.3	307.9	0	-1.0	0	-1.0
BRW	79	200	1920	600222	305.3	309.1	1.6	3.5	130	11.2	8.4	312.5	0	312.4	0	1.6
BRW	79	200	1920	590222	305.2	309.0	1.6	3.6	130	11.2	8.4	312.4	0	-1.0	0	-1.0
BRW	79	204	2108	630223	302.4	306.2	2.1	5.0	115	4.0	3.0	308.5	0	309.5	0	1.6
BRW	79	204	2108	220223	304.3	308.1	.7	5.0	115	4.0	3.0	310.4	0	-1.0	0	-1.0



## F12 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1			WIND		TEMP		3	F3	4	F4	S.O.
					PPTV	2	S.O.	M/S	DEG	AIR	DEW PT					
BRW	79	211	0441	210224	305.4	309.3	1.8	4.9	105	4.9	4.7	311.9	0	313.1	0	1.7
BRW	79	211	0441	200224	307.7	311.6	1.5	4.9	105	4.9	4.7	314.2	0	-1.0	0	-1.0
BRW	79	218	1950	590225	305.0	308.9	1.0	10.7	90	1.8	1.2	311.0	0	308.8	0	1.0
BRW	79	218	1950	500225	300.8	304.7	.9	10.7	90	1.8	1.2	306.7	0	-1.0	0	-1.0
BRW	79	225	1855	200226	303.6	307.5	1.5	8.9	105	7.4	5.3	310.3	0	309.7	0	1.1
BRW	79	225	1855	210226	302.4	306.3	.4	8.9	105	7.4	5.3	309.0	0	-1.0	0	-1.0
BRW	79	232	2059	200227	360.9	365.6	.7	4.0	135	12.4	11.2	370.5	3	370.5	3	.7
BRW	79	232	2059	210227	334.9	339.3	2.3	4.0	135	12.4	11.2	343.8	3	343.8	3	2.3
BRW	79	249	1855	600229	309.5	313.7	16.4	9.8	145	4.2	2.7	316.0	1	314.9	0	16.4
BRW	79	249	1855	590229	307.3	311.4	3.7	9.8	145	4.2	2.7	313.7	2	-1.0	0	-1.0
BRW	79	253	1900	220230	311.0	315.2	3.2	4.9	140	.8	-.5	317.1	0	317.6	0	2.6
BRW	79	253	1900	630230	312.0	316.2	1.8	4.9	140	.8	-.5	318.1	0	-1.0	0	-1.0
BRW	79	262	1840	210231	310.7	315.0	1.7	5.4	85	-.4	-4.1	316.4	0	320.1	0	2.2
BRW	79	262	1840	200231	318.0	322.4	2.6	5.4	85	-.4	-4.1	323.8	0	-1.0	0	-1.0
BRW	79	268	2015	590232	308.0	312.3	1.2	8.0	115	1.8	-.2	314.1	2	314.7	0	1.2
BRW	79	268	2015	600232	309.0	313.3	6.8	8.0	115	1.8	-.2	315.2	1	-1.0	0	-1.0
BRW	79	274	1845	220233	308.5	312.8	3.2	8.1	85	-.6	-2.2	314.4	0	314.4	0	2.4
BRW	79	274	1845	630233	308.5	312.8	1.3	8.1	85	-.6	-2.2	314.4	0	-1.0	0	-1.0
BRW	79	281	2105	590234	312.7	317.1	.2	7.5	80	-4.5	-5.7	318.4	0	316.9	0	.4
BRW	79	281	2105	600234	309.7	314.1	.6	7.5	80	-4.5	-5.7	315.3	0	-1.0	0	-1.0
BRW	79	289	2016	630235	307.0	311.4	1.2	4.5	100	-11.0	-14.0	312.1	0	313.4	0	1.4
BRW	79	289	2016	220235	309.6	314.0	1.5	4.5	100	-11.0	-14.0	314.7	0	-1.0	0	-1.0
BRW	79	295	2140	210236	305.1	309.5	1.3	11.6	70	-8.8	-9.7	310.4	0	311.5	0	1.3
BRW	79	295	2140	200236	307.2	311.6	1.3	11.6	70	-8.8	-9.7	312.6	0	-1.0	0	-1.0
BRW	79	302	0130	220237	303.5	307.9	1.3	4.5	65	-18.2	-19.5	308.4	0	310.3	0	.9
BRW	79	302	0130	530237	307.3	311.8	.3	4.5	65	-18.2	-19.5	312.2	0	-1.0	0	-1.0
BRW	79	309	2030	210238	304.2	308.7	5.0	6.7	90	-11.0	-16.0	309.3	0	312.8	0	3.5
BRW	79	309	2030	200238	311.1	315.7	.3	6.7	90	-11.0	-16.0	316.3	0	-1.0	0	-1.0
BRW	79	319	0030	600239	303.2	307.7	3.1	4.9	70	-12.7	-18.0	308.2	0	310.7	0	2.8
BRW	79	319	0030	590239	308.0	312.6	2.4	4.9	70	-12.7	-18.0	313.1	0	-1.0	0	-1.0
BRW	79	326	2150	630240	313.4	318.1	4.1	9.1	30	-23.6	-27.5	318.4	2	318.4	0	4.1
BRW	79	338	2130	590241	314.7	319.5	3.6	6.9	98	-23.6	-27.5	319.8	0	318.2	0	2.7
BRW	79	338	2130	600241	311.6	316.4	1.2	6.9	98	-23.6	-27.5	316.6	0	-1.0	0	-1.0
BRW	79	348	2300	630242	314.0	318.9	1.8	12.4	230	-10.7	-12.3	319.7	2	319.7	0	1.8
BRW	79	352	2030	210243	318.0	323.0	2.3	4.5	60	-20.0	-24.4	323.3	0	323.1	0	2.2
BRW	79	352	2030	200243	317.6	322.6	2.1	4.5	60	-20.0	-24.4	322.9	0	-1.0	0	-1.0
BRW	79	358	2200	590244	320.4	325.5	2.0	7.7	68	-31.0	-37.3	325.6	0	322.2	0	1.5
BRW	79	358	2200	600244	313.8	318.8	.8	7.7	68	-31.0	-37.3	318.9	0	-1.0	0	-1.0

F12 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND		TEMP AIR	DEG C DEW PT	3 PPTV	F3	4 PPTV	F4	S.D.
NWR	77	125	1900	030058	345.3	343.7	8.3	1.8	180	3.8	-3.2	346.2	1	346.2	1	8.3
NWR	77	125	1900	040058	317.9	316.4	1.4	1.8	180	3.8	-3.2	318.7	2	318.7	2	1.4
NWR	77	132	1740	050059	263.5	262.3	3.5	.7	203	7.0	-11.5	263.3	3	263.3	0	3.5
NWR	77	132	1740	060059	339.9	338.4	1.0	.7	203	7.0	-11.5	339.7	3	339.7	3	1.0
NWR	77	139	1740	010060	267.0	265.8	3.3	0.0	CLM	-1.0	-12.5	266.8	3	266.8	0	3.3
NWR	77	139	1740	020060	334.2	332.7	3.6	0.0	CLM	-1.0	-12.5	333.9	3	333.9	3	3.6
NWR	77	146	2050	040061	290.5	289.3	2.9	0.0	CLM	3.3	-3.8	291.3	3	291.3	7	2.9
NWR	77	146	2050	030061	312.7	311.4	.6	0.0	CLM	3.3	-3.8	313.5	3	313.5	3	.6
NWR	77	151	2100	050062	266.1	265.0	2.7	2.2	135	14.1	-4.0	266.8	3	266.8	0	2.7
NWR	77	151	2100	060062	367.7	366.2	2.1	2.2	135	14.1	-4.0	368.7	3	368.7	3	2.1
NWR	77	159	2045	010063	805.7	802.5	.8	0.0	CLM	11.8	3.3	811.9	3	811.9	3	.8
NWR	77	159	2045	020063	323.5	322.2	.2	0.0	CLM	11.8	3.3	326.0	3	326.0	3	.2
NWR	77	166	2150	030064	303.8	302.6	4.7	2.2	225	17.6	-11.0	303.9	3	284.7	7	4.7
NWR	77	166	2150	040064	265.5	264.5	1.8	2.2	225	17.6	-11.0	265.6	3	-1.0	7	-1.0
NWR	77	172	1800	050065	270.2	269.2	3.8	4.5	270	14.0	-7.2	270.7	2	270.7	0	3.8
NWR	77	172	1800	060065	1120.0	1115.9	69.0	4.5	270	14.0	-7.2	1121.9	1	1121.9	1	69.0
NWR	77	179	1845	010066	9999.9	9964.4	U	2.2	135	17.5	7.0	*****	1	*****	1	.0
NWR	77	179	1845	020066	7359.0	7332.9	U	2.2	135	17.5	7.0	7444.3	1	7444.3	1	.0
NWR	77	194	1830	030067	271.9	271.0	2.5	8.9	270	11.5	3.7	274.3	0	273.8	0	2.7
NWR	77	194	1830	040067	270.9	270.0	2.8	8.9	270	11.5	3.7	273.3	0	-1.0	0	-1.0
NWR	77	200	1840	050068	281.0	280.1	U	0.0	CLM	16.0	4.2	283.6	1	283.6	7	.0
NWR	77	200	1840	060068	254.2	253.4	U	0.0	CLM	16.0	4.2	256.6	1	256.6	1	.0
NWR	77	208	2125	010069	8562.0	8536.9	U	11.2	90	16.2	1.8	8626.8	1	8626.8	1	.0
NWR	77	208	2125	020069	327.8	326.8	4.4	11.2	90	16.2	1.8	330.3	2	330.3	2	4.4
NWR	77	214	2030	030070	284.8	284.0	1.7	6.7	270	19.0	-4.2	285.9	0	282.3	0	2.6
NWR	77	214	2030	040070	277.5	276.7	3.3	6.7	270	19.0	-4.2	278.6	0	-1.0	0	-1.0
NWR	77	222	1800	050071	270.4	269.7	5.0	2.2	270	15.0	.5	272.3	3	272.3	0	5.0
NWR	77	222	1800	060071	484.7	483.4	2.8	2.2	270	15.0	.5	488.1	3	488.1	3	2.8
NWR	77	229	1700	010072	368.9	368.0	16.5	1.3	180	12.0	7.1	373.6	1	373.6	1	16.5
NWR	77	237	1830	030073	312.6	311.9	5.7	4.5	293	11.0	6.0	316.3	3	316.3	3	5.7
NWR	77	237	1830	040073	277.3	276.7	5.1	4.5	293	11.0	6.0	280.6	3	280.6	0	5.1
NWR	77	244	2120	050074	270.5	269.9	1.8	0.0	CLM	14.5	-4.5	271.7	2	271.7	0	1.8
NWR	77	258	2000	040075	283.8	283.3	7.2	2.2	270	-4.0	-8.5	284.7	1	292.7	7	7.2
NWR	77	258	2000	030075	299.9	299.3	1.2	2.2	270	-4.0	-8.5	300.8	2	-1.0	7	-1.0
NWR	77	265	2245	010076	308.5	308.0	2.6	1.3	270	13.5	-14.8	308.9	3	308.9	7	2.6
NWR	77	265	2245	020076	375.2	374.6	1.1	1.3	270	13.5	-14.8	375.7	3	375.7	3	1.1
NWR	77	272	2020	030077	304.4	303.9	5.3	2.2	270	MSG	MSG	306.4	3	292.0	7	5.3
NWR	77	272	2020	040077	275.9	275.5	3.2	2.2	270	MSG	MSG	277.7	3	-1.0	7	-1.0
NWR	77	281	2300	010078	305.6	305.2	5.7	6.7	270	-2.0	-9.8	306.5	3	306.5	7	5.7
NWR	77	281	2300	020078	332.3	331.8	2.6	6.7	270	-2.0	-9.8	333.3	3	333.3	3	2.6
NWR	77	286	2140	030079	340.0	339.6	1.9	4.5	270	6.0	-10.5	341.0	3	341.0	3	1.9
NWR	77	286	2140	040079	293.2	297.8	2.3	4.5	270	6.0	-10.5	299.1	3	299.1	7	2.3
NWR	77	296	2215	010080	308.2	307.9	2.1	2.2	270	2.5	-5.8	309.7	3	309.7	7	2.1
NWR	77	296	2215	020080	356.0	355.6	1.2	2.2	270	2.5	-5.8	357.8	3	357.8	3	1.2
NWR	77	300	2110	030081	311.1	310.8	3.0	2.2	180	6.5	-8.5	312.3	3	303.4	7	3.0
NWR	77	300	2110	040081	293.3	293.0	1.9	2.2	180	6.5	-8.5	294.5	3	-1.0	7	-1.0
NWR	77	307	2315	010082	292.1	291.9	3.3	2.2	225	3.5	-12.2	292.9	2	292.9	7	3.3
NWR	77	307	2315	020082	321.2	320.9	6.9	2.2	225	3.5	-12.2	322.1	1	322.1	1	6.9
NWR	77	315	2020	030083	306.9	306.7	5.7	4.5	270	3.0	-16.2	307.5	3	292.4	7	5.7
NWR	77	315	2020	040083	276.7	276.5	2.2	4.5	270	3.0	-16.2	277.3	3	-1.0	7	-1.0
NWR	77	325	2200	010084	288.1	288.0	3.3	4.5	270	-7.0	MSG	290.3	3	299.0	7	3.3

## F12 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND M/S DEG	TEMP AIR DEG C	DEW DEW PT	3 PPTV	F3	4 PPTV	F4	S.D.
NWR	77	325	2200	020084	305.4	305.3	2.1	4.5 270	-7.0	MSG	307.7	3	-1.0	7	-1.0
NWR	77	333	2100	030085	314.0	313.9	2.1	4.5 270	-9.4	MSG	316.4	3	316.4	3	2.1
NWR	77	333	2100	040085	294.1	294.0	1.9	4.5 270	-9.4	MSG	296.4	3	296.4	7	1.9
NWR	77	341	2030	010086	398.7	398.7	11.1	2.2 270	-6.5	-8.8	400.6	1	400.6	1	11.1
NWR	77	341	2030	020086	367.5	367.5	16.4	2.2 270	-6.5	-8.8	369.2	1	369.2	1	16.4
NWR	77	351	0000	030087	290.8	290.8	1.6	11.2 270	-13.0	-99.9	293.2	0	293.7	0	4.2
NWR	77	351	0000	050087	291.8	291.8	5.7	11.2 270	-13.0	-99.9	294.2	0	-1.0	0	-1.0
NWR	77	365	0040	060088	307.6	307.7	.6	11.2 270	-5.0	MSG	310.2	2	310.2	7	.6
NWR	78	7	2130	010089	301.1	301.3	6.6	8.3 270	MSG	MSG	303.7	1	303.7	7	6.6
NWR	78	7	2130	020089	332.4	332.6	2.9	8.9 270	MSG	MSG	335.2	2	335.2	2	2.9
NWR	78	11	2150	030090	299.7	299.9	4.3	8.3 270	-8.6	-9.5	301.3	2	297.3	0	4.3
NWR	78	11	2150	040090	272.0	272.2	8.1	8.9 270	-8.6	-9.5	273.4	1	-1.0	0	-1.0
NWR	78	17	2020	050091	283.2	283.4	7.1	4.5 270	-8.5	-10.8	284.6	1	284.6	0	7.1
NWR	78	17	2020	060091	326.8	327.1	5.2	4.5 270	-8.5	-10.8	328.4	2	328.4	2	5.2
NWR	78	28	2200	010092	307.9	308.2	1.9	17.9 270	-7.0	-13.1	309.3	3	309.3	7	1.9
NWR	78	28	2200	020092	362.3	362.7	5.7	17.9 270	-7.0	-13.1	363.9	3	363.9	3	5.7
NWR	78	35	0030	030093	320.8	321.2	5.0	17.9 270	-7.2	-8.3	322.8	3	322.8	3	5.0
NWR	78	35	0030	040093	279.9	280.2	3.5	17.9 270	-7.2	-8.3	281.6	3	281.6	0	3.5
NWR	78	50	0000	010094	286.2	286.6	1.0	6.7 270	MSG	MSG	288.9	3	288.9	0	1.0
NWR	78	50	0000	020094	330.8	331.3	1.5	6.7 270	MSG	MSG	333.9	3	333.9	3	1.5
NWR	78	54	2109	030095	286.9	287.3	4.5	15.6 270	-6.5	-15.0	288.2	3	282.4	0	4.5
NWR	78	54	2109	040095	275.4	275.8	3.1	15.6 270	-6.5	-15.0	276.6	3	-1.0	0	-1.0
NWR	78	63	2045	050096	263.2	263.7	6.1	17.9 270	-5.0	-7.0	265.1	1	265.1	1	8.1
NWR	78	63	2045	060096	384.5	385.2	20.4	17.9 270	-5.0	-7.0	387.3	1	387.3	1	20.4
NWR	78	67	2150	010097	294.8	295.3	.9	7.8 270	-4.0	-11.2	296.5	0	294.7	0	.7
NWR	78	67	2150	020097	291.2	291.7	.2	7.8 270	-4.0	-11.2	292.9	0	-1.0	0	-1.0
NWR	78	86	1930	030098	327.1	327.8	5.6	0.0 CLM	2.0	-11.2	329.1	3	329.1	3	5.6
NWR	78	86	1930	040098	287.2	287.8	2.7	0.0 CLM	2.0	-11.2	289.0	3	289.0	0	2.7
NWR	78	103	2330	020099	330.8	331.7	6.9	1.1 180	-2.5	-6.1	333.6	1	333.6	1	6.9
NWR	78	103	2330	060099	468.5	469.7	7.9	1.1 180	-2.5	-6.1	472.5	1	472.5	1	7.9
NWR	78	123	1650	010100	318.9	319.9	6.8	17.5 270	2.0	-2.2	322.4	1	322.4	7	6.8
NWR	78	123	1650	030100	363.1	364.2	11.5	17.5 270	2.0	-2.2	367.1	1	367.1	1	11.5
NWR	78	130	1810	040101	302.9	303.9	8.3	17.5 270	1.5	-9.9	305.2	1	305.2	7	8.3
NWR	78	130	1810	050101	335.2	336.3	13.5	17.5 270	1.5	-9.9	337.7	1	337.7	1	13.5
NWR	78	138	2150	010102	336.5	337.6	7.9	7.5 270	0.0	-3.3	340.1	1	340.1	1	7.9
NWR	78	138	2150	020102	317.2	318.3	2.9	7.5 270	0.0	-3.3	320.6	2	320.6	7	2.9
NWR	78	152	2030	030103	348.1	349.4	3.2	2.2 180	1.5	-1.6	352.2	3	352.2	3	3.2
NWR	78	152	2030	060103	373.6	375.0	2.5	2.2 180	1.5	-1.6	378.0	3	378.0	3	2.5
NWR	78	158	2235	010104	310.8	312.0	2.8	11.3 270	2.0	-2.2	314.4	2	318.0	7	2.8
NWR	78	158	2235	020104	317.8	319.0	6.2	11.3 270	2.0	-2.2	321.5	1	-1.0	7	-1.0
NWR	78	165	1840	030105	349.6	351.0	6.8	1.1 270	15.5	-2.7	353.6	1	353.6	1	8.8
NWR	78	165	1840	040105	290.7	291.8	2.7	1.1 270	15.5	-2.7	294.1	2	294.1	0	2.7
NWR	78	173	2205	050106	390.2	391.8	2.1	1.1 220	17.5	.6	395.6	2	395.6	2	2.1
NWR	78	173	2205	060106	319.7	321.0	9.5	1.1 220	17.5	.6	324.1	1	324.1	7	9.5
NWR	78	179	2000	010107	306.2	307.5	3.1	1.1 135	8.5	6.6	312.0	3	312.0	7	3.1
NWR	78	179	2000	020107	330.2	331.6	1.7	1.1 135	8.5	6.6	336.5	3	336.5	3	1.7
NWR	78	188	2130	030108	318.8	320.2	4.9	1.1 180	15.8	-4.7	322.3	3	307.5	7	4.9
NWR	78	188	2130	040108	289.6	290.9	.8	1.1 180	15.8	-4.7	292.8	3	-1.0	7	-1.0
NWR	78	193	0325	050109	337.4	338.9	.1	.8 270	11.3	1.2	342.3	3	342.3	3	.1
NWR	78	193	0325	060109	313.4	314.8	5.7	.8 270	11.3	1.2	318.0	3	318.0	7	5.7
NWR	78	200	2300	010110	317.4	318.9	1.5	3.0 180	15.5	-4.4	321.7	0	317.8	7	1.1

## F12 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND M/S	DEG DFG	TEMP AIR	DEG C UEW PT	3 PPTV	F3	4 PPTV	F4	S.D.
NWR	78	200	2300	020110	309.6	311.0	.3	3.0	180	15.5	-0.4	313.8	0	-1.0	7	-1.0
NWR	78	209	2130	030111	315.8	317.3	2.7	2.0	270	17.0	5.6	321.7	0	319.3	7	4.3
NWR	78	209	2130	040111	311.1	312.6	5.5	2.0	270	17.0	5.6	316.9	0	-1.0	7	-1.0
NWR	78	215	2040	060112	1298.5	1305.0	13.0	2.0	90	11.0	4.1	1321.2	1	1321.2	1	13.0
NWR	78	215	2040	050112	1302.0	1308.5	7.0	2.0	90	11.0	4.1	1324.7	1	1324.7	1	7.0
NWR	78	222	1915	020113	321.3	323.0	3.4	2.0	270	13.5	5.2	327.3	3	327.3	3	3.4
NWR	78	222	1915	010113	311.3	312.9	1.1	2.0	270	13.5	5.2	317.1	3	317.1	7	1.1
NWR	78	230	0000	030114	344.7	346.5	1.6	11.0	270	1.0	-6.0	348.6	3	348.6	3	1.6
NWR	78	230	0000	040114	289.9	291.4	1.5	11.0	270	1.0	-6.0	293.2	3	293.2	0	1.5
NWR	78	235	1830	060115	329.7	331.5	2.3	5.0	270	14.5	-0.7	334.4	3	334.4	3	2.3
NWR	78	235	1830	050115	319.5	321.2	2.0	5.0	270	14.5	-0.7	324.1	3	324.1	7	2.0
NWR	78	246	1900	010116	358.7	360.7	3.9	2.0	120	14.5	-0.2	364.0	2	364.0	2	3.9
NWR	78	246	1900	020116	370.4	372.5	8.0	2.0	120	14.5	-0.2	375.9	1	375.9	1	8.0
NWR	78	254	2230	030117	332.5	334.4	3.7	3.5	270	.5	-4.5	336.7	3	336.7	3	3.7
NWR	78	254	2230	040117	291.0	292.7	4.3	3.5	270	.5	-4.5	294.6	3	294.6	0	4.3
NWR	78	268	2040	050118	330.9	332.9	.4	2.0	60	9.0	-3.2	335.4	3	335.4	3	.4
NWR	78	268	2040	060118	348.9	351.0	4.7	2.0	60	9.0	-3.2	353.6	3	353.6	3	4.7
NWR	78	276	2130	040119	291.2	293.0	4.1	2.9	270	9.0	-99.9	295.4	2	295.4	0	4.1
NWR	78	276	2130	030119	340.8	342.9	6.5	2.9	270	9.0	-99.9	345.7	1	345.7	1	6.5
NWR	78	283	2300	050120	305.7	307.7	1.9	2.0	0	2.0	-22.2	308.2	0	312.4	7	2.0
NWR	78	283	2300	060120	314.0	316.0	2.1	2.0	0	2.0	-22.2	316.6	0	-1.0	7	-1.0
NWR	78	289	2110	010121	437.2	440.1	3.1	5.5	270	10.0	-99.9	443.6	3	443.6	3	3.1
NWR	78	289	2110	020121	334.0	336.2	2.6	5.6	270	10.0	-99.9	338.9	3	338.9	3	2.6
NWR	78	301	1735	040122	303.3	305.4	7.8	8.8	270	5.0	-5.6	307.2	1	313.1	7	7.8
NWR	78	301	1735	030122	314.8	316.9	.9	8.8	270	5.0	-5.6	318.9	2	-1.0	7	-1.0
NWR	78	315	1930	010123	322.6	324.9	5.3	3.3	270	5.0	-6.4	326.8	0	328.9	7	4.2
NWR	78	315	1930	020123	326.8	329.1	2.8	3.3	270	5.0	-6.4	331.0	0	-1.0	7	-1.0
NWR	78	320	1930	030124	296.4	298.5	1.6	8.8	270	-9.5	-11.1	299.7	0	296.1	0	1.5
NWR	78	320	1930	040124	289.1	291.2	1.4	8.8	270	-9.5	-11.1	292.4	0	-1.0	0	-1.0
NWR	78	326	2045	060125	302.2	304.4	6.5	3.5	190	-6.8	-15.0	305.3	1	302.5	0	6.5
NWR	78	326	2045	050125	296.7	298.9	1.9	3.5	190	-6.8	-15.0	299.8	2	-1.0	0	-1.0
NWR	78	334	2040	010126	315.9	318.3	1.6	18.0	270	-7.8	-7.8	319.9	0	315.5	7	1.3
NWR	78	334	2040	020126	307.1	309.4	.8	18.0	270	-7.8	-7.8	311.0	0	-1.0	7	-1.0
NWR	78	344	2000	050128	305.7	308.1	1.6	10.0	270	MSG	MSG	310.5	3	316.5	7	1.6
NWR	78	344	2000	060128	317.4	319.9	1.7	10.0	270	MSG	MSG	322.4	3	-1.0	7	-1.0
NWR	78	355	2320	010129	347.2	350.0	1.4	18.0	270	-13.0	-99.9	352.8	3	352.8	3	1.4
NWR	78	355	2320	020129	329.6	332.2	1.8	18.0	270	-13.0	-99.9	334.9	3	334.9	3	1.8
NWR	79	4	1545	030130	299.1	301.6	3.4	7.7	270	-6.0	-6.0	303.4	0	299.1	0	3.4
NWR	79	4	1545	040130	290.7	293.1	3.3	7.7	270	-6.0	-6.0	294.8	0	-1.0	0	-1.0
NWR	79	11	2300	010131	301.8	304.3	3.5	5.0	270	-2.0	MSG	306.8	3	301.7	0	3.5
NWR	79	11	2300	020131	291.9	294.4	2.8	5.0	270	-2.0	MSG	296.7	3	-1.0	0	-1.0
NWR	79	18	2310	030132	294.7	297.2	4.0	5.0	270	-9.0	MSG	299.6	0	296.4	0	3.9
NWR	79	18	2310	040132	288.3	290.8	3.7	5.0	270	-9.0	MSG	293.1	0	-1.0	0	-1.0
NWR	79	26	2200	030133	297.4	300.0	.3	0.0	CLM	-19.0	-99.9	302.4	4	299.5	0	.5
NWR	79	26	2200	040133	291.7	294.3	.6	0.0	CLM	-19.0	-99.9	296.6	4	-1.0	0	-1.0
NWR	79	32	1750	050134	302.6	305.3	11.1	9.0	270	-8.3	-14.0	306.3	1	309.6	0	11.1
NWR	79	32	1750	060134	309.1	311.8	U	9.0	270	-8.3	-14.0	312.8	1	-1.0	0	-1.0
NWR	79	38	2330	010135	300.2	302.9	U	20.0	270	-7.8	-8.5	304.4	1	303.5	0	.0
NWR	79	38	2330	020135	298.4	301.1	9.8	20.0	270	-7.8	-8.5	302.6	1	-1.0	0	-1.0
NWR	79	45	2045	030136	311.6	314.5	7.5	4.5	270	2.2	-8.5	316.0	1	314.1	0	7.5
NWR	79	45	2045	040136	307.8	310.6	4.1	4.5	270	2.2	-8.5	312.1	2	-1.0	0	-1.0

## F12 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND M/S	DEG	TEMP AIR	DEG C DEW PT	3 PPTV	F3	4 PPTV	F4	S.D.
NWR	79	59	2045	040137	297.0	299.8	1.4	8.3	270	-8.0	MSG	302.2	0	304.0	0	2.0
NWR	79	59	2045	030137	300.5	303.3	2.5	8.3	270	-8.0	MSG	305.8	0	-1.0	0	-1.0
NWR	79	67	2200	040138	300.9	303.8	.6	1.7	180	-9.0	MSG	306.2	3	313.5	0	.6
NWR	79	67	2200	030138	315.2	318.2	2.9	1.7	180	-9.0	MSG	320.8	3	-1.0	0	-1.0
NWR	79	80	2330	050139	342.0	345.4	2.0	0.0	CLM	-7.2	-7.2	347.3	4	348.9	4	2.3
NWR	79	80	2330	060139	345.3	348.7	2.5	0.0	CLM	-7.2	-7.2	350.6	4	-1.0	4	-1.0
NWR	79	90	2120	030140	322.6	325.9	2.2	1.0	130	0.0	-3.6	328.2	3	322.6	7	2.2
NWR	79	90	2120	040140	311.6	314.8	.3	1.0	130	0.0	-3.6	317.0	3	-1.0	7	-1.0
NWR	79	97	0100	050141	330.7	334.1	3.0	10.0	270	-4.7	-7.4	335.9	0	333.5	7	2.1
NWR	79	97	0100	060141	326.0	329.3	.4	10.0	270	-4.7	-7.4	331.1	0	-1.0	7	-1.0
NWR	79	104	1930	030142	312.0	315.2	3.1	20.0	270	-5.6	-8.3	316.8	3	309.1	0	3.1
NWR	79	104	1930	040142	296.8	299.9	4.9	20.0	270	-5.6	-8.3	301.4	3	-1.0	0	-1.0
NWR	79	111	0145	060143	324.4	327.8	.5	8.0	270	-4.2	-11.9	329.1	3	329.1	7	.5
NWR	79	111	0145	050143	345.6	349.2	1.7	8.0	270	-4.2	-11.9	350.6	3	350.6	3	1.7
NWR	79	116	2200	030144	322.9	325.3	2.6	10.0	270	-6.4	-10.2	327.7	3	315.6	0	2.6
NWR	79	116	2200	040144	298.9	302.1	1.8	10.0	270	-6.4	-10.2	303.4	3	-1.0	0	-1.0
NWR	79	122	2030	050145	305.7	309.0	1.1	1.5	270	.6	-3.0	311.3	0	312.8	0	3.1
NWR	79	122	2030	060145	308.6	311.9	4.2	1.5	270	.6	-3.0	314.2	0	-1.0	0	-1.0
NWR	79	131	1800	040146	296.1	299.4	2.4	6.6	270	-5.6	-10.1	300.7	3	308.5	0	2.4
NWR	79	131	1800	030146	311.6	315.0	1.3	6.6	270	-5.6	-10.1	316.4	3	-1.0	0	-1.0
NWR	79	138	1530	060147	311.4	314.9	1.9	13.2	270	6.1	-3	317.7	2	317.7	7	1.9
NWR	79	138	1530	050147	333.2	336.9	9.4	13.2	270	6.1	-3	340.0	1	340.0	1	9.4
NWR	79	145	1100	030148	305.6	309.0	1.2	2.0	45	1.7	-4.5	311.1	0	309.0	0	2.4
NWR	79	145	1100	040148	301.4	304.8	3.1	2.0	45	1.7	-4.5	306.8	0	-1.0	0	-1.0
NWR	79	150	1830	050149	309.9	313.4	1.3	2.0	180	-1.7	-2.0	315.9	0	319.8	7	1.1
NWR	79	150	1830	060149	317.4	321.0	.8	2.0	180	-1.7	-2.0	323.6	0	-1.0	7	-1.0
NWR	79	159	2115	030150	338.8	342.7	.9	2.0	270	-2.2	-99.9	345.5	0	343.2	7	.7
NWR	79	159	2115	040150	334.3	338.2	.4	2.0	270	-2.2	-99.9	340.9	0	-1.0	7	-1.0
NWR	79	163	1500	060151	309.2	312.8	1.7	4.0	315	15.3	4.0	316.7	0	317.4	0	2.0
NWR	79	163	1500	050151	310.6	314.2	2.2	4.0	315	15.3	4.0	318.1	0	-1.0	0	-1.0
NWR	79	173	1600	030152	303.2	306.8	18.9	2.0	180	11.7	-7.8	308.4	1	309.8	0	18.9
NWR	79	173	1600	040152	305.9	309.5	2.4	2.0	180	11.7	-7.8	311.1	2	-1.0	0	-1.0
NWR	79	179	1300	050153	306.8	310.5	4.9	2.0	270	12.8	-7	313.2	0	313.0	0	4.1
NWR	79	179	1300	060153	306.4	310.1	3.0	2.0	270	12.8	-7	312.8	0	-1.0	0	-1.0
NWR	79	184	1700	040154	298.5	302.1	1.9	2.0	315	17.8	-2	304.9	3	309.9	0	1.9
NWR	79	184	1700	030154	308.4	312.1	3.6	2.0	315	17.8	-2	315.0	3	-1.0	0	-1.0
NWR	79	192	1630	060155	302.4	306.1	3.5	1.0	90	19.0	-7.7	307.7	4	308.3	0	2.7
NWR	79	192	1630	050155	303.6	307.3	1.6	1.0	90	19.0	-7.7	308.9	4	-1.0	0	-1.0
NWR	79	200	1700	030156	323.2	327.2	2.7	1.0	45	14.4	4.1	331.3	3	323.0	7	2.7
NWR	79	200	1700	040156	307.1	310.9	2.4	1.0	45	14.4	4.1	314.8	3	-1.0	7	-1.0
NWR	79	206	1530	050157	305.2	309.0	5.7	2.0	315	18.3	-6	311.8	0	315.0	0	4.3
NWR	79	206	1530	060157	311.6	315.5	2.3	2.0	315	18.3	-6	318.3	0	-1.0	0	-1.0
NWR	79	214	2130	030158	323.6	327.7	3.9	5.0	170	14.2	.6	330.9	4	328.6	7	3.7
NWR	79	214	2130	040158	319.1	323.2	3.4	5.0	170	14.2	.6	326.3	4	-1.0	7	-1.0
NWR	79	220	2213	060159	312.7	316.7	.7	5.0	270	13.3	6.0	321.2	0	319.0	7	.8
NWR	79	220	2213	050159	308.3	312.3	.8	5.0	270	13.3	6.0	316.7	0	-1.0	7	-1.0
NWR	79	228	1830	040160	297.3	301.2	3.0	5.0	260	12.5	5.0	305.2	0	309.1	0	2.4
NWP	79	228	1830	030160	305.0	309.0	1.5	5.0	260	12.5	5.0	313.1	0	-1.0	0	-1.0
NWP	79	234	1910	050161	301.5	305.5	5.8	1.0	270	10.5	-9	308.1	4	309.3	0	4.6
NWR	79	234	1910	060161	303.2	307.8	2.8	1.0	270	10.5	-9	310.5	4	-1.0	0	-1.0
NWR	79	250	1730	050163	314.1	318.3	2.7	5.0	270	19.5	-3.0	320.7	0	321.7	7	4.3

## F12 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND		TEMP DEG C		3 PPTV	F3	4 PPTV	F4	S.D.
								M/S	DEG	AIR	DEW PT					
NWR	79	250	1730	060163	316.0	320.3	5.4	5.0	270	19.5	-3.0	322.6	0	-1.0	7	-1.0
NWR	79	257	1340	030164	335.1	339.7	3.1	0.0	CLM	4.5	-22.0	340.3	3	330.5	7	3.1
NWR	79	257	1340	040164	315.8	320.1	5.9	0.0	CLM	4.5	-22.0	320.7	3	-1.0	7	-1.0
NWR	79	263	1827	050165	324.0	328.5	.1	3.0	90	4.0	-2.0	331.1	4	335.5	7	3.6
NWR	79	263	1827	060165	332.6	337.2	5.1	3.0	90	4.0	-2.0	339.9	4	-1.0	7	-1.0
NWR	79	270	1630	040166	298.5	302.7	6.0	7.5	270	7.0	-4.0	304.7	3	316.2	0	6.0
NWR	79	270	1630	030166	321.0	325.5	2.3	7.5	270	7.0	-4.0	327.7	3	-1.0	0	-1.0
NWR	79	276	1700	060167	313.5	317.9	9.3	15.6	270	-23.6	-27.5	318.3	1	314.4	0	9.3
NWR	79	276	1700	050167	305.9	310.2	11.9	15.6	270	-23.6	-27.5	310.6	1	-1.0	0	-1.0
NWR	79	283	1930	030168	314.7	319.2	3.6	17.9	270	9.0	-13.8	320.2	0	317.3	0	2.6
NWR	79	283	1930	040168	308.9	313.3	.8	17.9	270	9.0	-13.8	314.3	0	-1.0	0	-1.0
NWR	79	290	0100	050169	311.3	315.8	.8	12.5	270	3.0	-9.5	317.2	0	313.9	0	1.7
NWR	79	290	0100	060169	304.8	309.2	2.3	12.5	270	3.0	-9.5	310.6	0	-1.0	0	-1.0
NWR	79	297	1740	040170	300.8	305.2	.8	0.0	CLM	2.0	-11.0	306.4	4	308.2	0	4.3
NWR	79	297	1740	030170	304.4	308.8	6.0	0.0	CLM	2.0	-11.0	310.1	4	-1.0	0	-1.0
NWR	79	306	2301	050171	306.5	311.0	1.5	5.0	270	-8.2	MSG	313.5	0	315.6	0	1.8
NWR	79	306	2301	060171	310.7	315.3	2.0	5.0	270	-8.2	MSG	317.8	0	-1.0	0	-1.0
NWR	79	311	1930	030172	327.3	332.2	3.8	10.0	270	MSG	MSG	334.8	3	323.6	7	3.8
NWR	79	311	1930	040172	305.4	309.9	.3	10.0	270	MSG	MSG	312.4	3	-1.0	7	-1.0
NWR	79	333	1530	040173	313.5	318.3	2.7	0.0	CLM	-13.0	-99.9	320.8	2	316.0	0	2.7
NWR	79	333	1530	050173	304.0	308.6	6.3	0.0	CLM	-13.0	-99.9	311.1	1	-1.0	0	-1.0
NWR	79	341	1400	050174	340.1	345.4	.9	15.0	270	-4.7	-12.5	346.6	3	346.6	7	.9
NWR	79	341	1400	060174	359.6	365.2	3.9	15.0	270	-4.7	-12.5	366.5	3	366.5	3	3.9
NWR	79	341	1400	740174	338.5	343.7	3.4	15.0	270	-4.7	-12.5	345.0	0	342.6	7	2.4
NWR	79	341	1400	750174	333.9	339.1	.4	15.0	270	-4.7	-12.5	340.3	0	-1.0	7	-1.0
NWR	79	352	2305	030175	316.7	321.7	2.7	2.0	270	-.8	-20.0	322.3	3	316.8	0	2.7
NWR	79	352	2305	040175	305.9	310.7	2.5	2.0	270	-.8	-20.0	311.3	3	-1.0	0	-1.0
NWR	79	352	2305	710175	306.7	311.5	2.1	2.0	270	-.8	-20.0	312.1	0	310.5	0	1.5
NWR	79	352	2305	720175	303.4	308.2	.3	2.0	270	-.8	-20.0	308.8	0	-1.0	0	-1.0
NWR	79	363	0120	050176	321.7	326.8	5.7	3.5	270	-14.4	-16.9	327.7	0	324.7	7	4.1
NWR	79	363	0120	060176	315.9	320.9	1.3	3.5	270	-14.4	-16.9	321.8	0	-1.0	7	-1.0
NWR	79	363	0120	740176	311.9	316.9	.2	3.5	270	-14.4	-16.9	317.7	0	317.0	0	.7
NWR	79	363	0120	750176	310.6	315.5	.9	3.5	270	-14.4	-16.9	316.4	0	-1.0	0	-1.0

## F12 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1			2		HIND		TEMP		3	F3	4	F4	S.O.
					PPTV	PPTV	S.O.	M/S	DEG	AIP	DEG C	DEW PT	PPTV					
MLO	77	122	2040	060153	280.7	251.4	9.4	4.1	30	11.1	-13.9	252.2	1	252.2	1	9.4		
MLO	77	130	2036	030154	257.6	230.8	6.2	15.4	270	7.2	-2.2	232.6	1	232.6	1	6.2		
MLO	77	136	1959	050155	357.3	320.7	2.4	10.3	30	10.0	-15.6	321.6	2	321.6	2	2.4		
MLO	77	144	1954	060156	292.6	262.2	3.3	10.3	90	14.4	-19.3	262.8	2	262.8	0	3.3		
MLO	77	151	2058	030157	261.5	234.4	2.4	7.7	90	13.9	-16.7	235.0	2	235.0	2	2.4		
MLO	77	157	2120	050158	310.2	278.1	7.4	7.7	270	10.0	-5.0	279.8	1	279.8	0	7.4		
MLO	77	167	1930	060159	343.0	307.5	4.7	12.4	120	11.1	-12.8	308.6	2	308.6	2	4.7		
MLO	77	173	2029	030160	266.7	239.1	6.6	10.5	100	10.6	-8.9	240.3	1	240.3	1	6.6		
MLO	77	181	2040	050161	298.9	268.1	17.4	4.5	320	8.9	4.8	271.5	1	271.5	0	17.4		
MLO	77	187	2125	060162	316.5	283.9	4.5	12.0	120	14.4	0.0	286.5	2	286.5	2	4.5		
MLO	77	194	1959	030163	275.2	246.9	2.8	4.1	300	12.2	-7.8	248.1	2	248.1	2	2.8		
MLO	77	200	2240	050164	307.4	275.8	7.0	5.1	190	14.4	4.4	279.2	1	279.2	0	7.0		
MLO	77	208	2300	060165	283.2	254.1	3.3	6.2	120	13.3	-1.1	256.3	2	256.3	2	3.3		
MLO	77	215	2312	030166	976.9	876.8	13.8	4.1	300	12.2	2.2	886.1	1	886.1	1	13.8		
MLO	77	223	2104	050167	309.9	278.2	6.5	3.1	360	13.3	-9.4	279.4	1	279.4	0	6.5		
MLO	77	242	2027	060169	293.0	263.1	1.8	7.0	180	14.4	3.4	266.2	2	266.2	0	1.8		
MLO	77	249	2008	030170	272.8	245.0	1.5	4.1	270	11.1	3.5	247.9	2	247.9	2	1.5		
MLO	77	258	2326	050171	328.5	295.1	4.4	3.6	147	13.1	8.8	300.1	2	300.1	2	4.4		
MLO	77	263	2258	060172	316.7	284.5	3.9	1.8	360	9.3	2.0	287.5	2	287.5	0	3.9		
MLO	77	271	2045	030173	272.2	244.6	1.8	9.6	212	12.9	-19.3	245.1	2	245.1	2	1.8		
MLO	77	279	2336	050174	335.3	301.3	3.2	5.0	340	15.1	-11.3	302.5	2	302.5	2	3.2		
MLO	77	286	2329	060175	300.2	269.8	2.7	5.0	60	7.9	5.5	273.5	2	273.5	0	2.7		
MLO	77	292	2328	030176	828.7	745.0	U	2.1	50	10.7	-11.2	747.9	1	747.9	1	.0		
MLO	77	308	0549	050177	349.0	313.8	4.5	3.5	185	14.0	4.0	317.6	2	317.6	2	4.5		
MLO	77	314	0444	060178	308.6	277.6	7.4	4.1	185	4.0	-8.0	278.9	1	278.9	0	7.4		
MLO	77	321	0733	030179	280.9	252.7	3.2	4.5	170	11.0	-4.0	254.4	2	254.4	2	3.2		
MLO	77	328	0540	050180	332.3	299.4	3.9	4.3	250	7.4	-6.1	301.1	2	301.1	2	3.9		
MLO	77	237	2145	460168	314.5	313.8	5.3	6.5	90	14.5	-2.2	316.2	3	316.2	3	5.3		
MLO	77	237	2145	470168	295.9	295.2	1.2	6.5	90	14.5	-2.2	297.5	3	297.5	3	1.2		
MLO	77	258	2334	440171	266.2	265.7	6.7	3.6	147	13.1	8.8	270.2	1	268.9	0	6.7		
MLO	77	258	2334	450171	263.6	263.1	7.0	3.6	147	13.1	8.8	267.5	1	-1.0	0	-1.0		
MLO	77	263	2304	420172	289.2	288.7	4.1	1.8	360	9.3	2.0	291.7	3	291.7	3	4.1		
MLO	77	263	2304	430172	264.4	263.9	1.1	1.3	360	9.3	2.0	266.7	3	266.7	0	1.1		
MLO	77	271	2049	460173	274.0	273.6	.5	9.6	212	12.9	-19.3	274.1	3	274.1	0	.5		
MLO	77	271	2049	470173	264.1	263.7	.6	9.6	212	12.9	-19.3	264.2	3	264.2	3	.6		
MLO	77	279	2342	440174	290.4	290.0	10.6	5.0	340	15.1	-11.3	291.1	1	291.1	1	10.6		
MLO	77	279	2342	450174	283.6	283.2	7.3	5.0	340	15.1	-11.3	284.3	1	284.3	0	7.3		
MLO	77	286	2334	420175	277.5	277.1	6.6	5.0	60	7.9	5.5	280.9	1	280.9	0	6.6		
MLO	77	286	2334	430175	322.1	321.7	3.1	5.0	60	7.9	5.5	326.0	2	326.0	2	3.1		
MLO	77	292	2333	460176	275.5	275.2	5.0	2.1	60	10.7	-11.2	276.3	0	276.0	0	3.6		
MLO	77	292	2333	470176	275.0	274.7	.6	2.1	60	10.7	-11.2	275.8	0	-1.0	0	-1.0		
MLO	77	308	0555	420177	281.3	281.1	1.0	3.5	185	14.0	4.0	284.5	0	285.0	0	4.0		
MLO	77	308	0555	430177	282.3	282.1	5.5	3.5	185	14.0	4.0	285.5	0	-1.0	0	-1.0		
MLO	77	314	0451	440178	273.9	273.7	3.5	4.1	185	4.0	-8.0	275.1	0	274.8	0	3.0		
MLO	77	314	0451	450178	273.3	273.1	2.4	4.1	185	4.0	-8.0	274.5	0	-1.0	0	-1.0		
MLO	77	321	0740	460179	288.3	288.1	4.6	4.5	170	11.0	-4.0	290.1	2	282.5	0	4.6		
MLO	77	321	0740	470179	273.2	273.1	6.5	4.5	170	11.0	-4.0	274.9	1	-1.0	0	-1.0		
MLO	77	328	0543	420180	271.0	270.9	3.7	4.3	250	7.4	-6.1	272.5	0	270.2	0	2.7		
MLO	77	328	0543	430180	266.5	266.4	.6	4.3	250	7.4	-6.1	267.9	0	-1.0	0	-1.0		
MLO	77	342	0650	420181	286.6	286.6	U	5.2	180	5.2	1.7	289.5	1	290.6	0	.0		
MLO	77	342	0650	430181	288.7	288.7	4.8	5.2	180	5.2	1.7	291.6	2	-1.0	0	-1.0		

## F12 DATA BASE

STN	YR	JCD	GHT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND		TEMP	DEG C	3	F3	4	F4	S.D.
								M/S	DEG	AIR	DEW PT	PPTV		PPTV		
MLO	77	349	0620	440182	287.9	287.9	2.2	5.1	140	8.0	-2.3	290.1	0	290.2	0	1.8
MLO	77	349	0620	450182	288.1	288.1	1.4	5.1	140	8.0	-2.3	290.3	0	-1.0	0	-1.0
MLO	77	356	0421	460183	292.9	293.0	6.5	3.6	281	3.7	-22.2	293.5	1	293.5	1	6.5
MLO	77	356	0421	470183	275.8	275.9	3.0	3.5	281	3.7	-22.2	276.3	2	276.3	0	3.0
MLO	77	363	0555	420184	279.4	280.0	2.7	2.5	298	3.6	1.7	282.9	0	280.4	0	2.1
MLO	77	363	0555	430184	275.0	275.1	1.1	2.5	298	3.6	1.7	277.9	0	-1.0	0	-1.0
MLO	78	5	0700	440185	287.5	287.6	10.8	4.7	180	5.0	-16.0	288.4	1	288.4	0	10.8
MLO	78	5	0700	450185	297.5	297.7	5.8	4.7	180	5.0	-16.0	298.5	2	298.5	2	5.8
MLC	78	12	0543	460186	276.1	276.3	1.4	6.2	260	4.0	-16.0	277.0	3	277.0	0	1.4
MLO	78	12	0543	470186	302.9	303.1	4.0	6.2	250	4.0	-16.0	303.9	3	303.9	3	4.0
MLO	78	19	0510	420187	300.6	300.8	11.5	10.1	210	7.0	-14.4	301.8	1	301.8	1	11.5
MLC	78	19	0510	430187	285.3	285.5	6.1	10.1	210	7.0	-14.4	286.4	1	286.4	0	6.1
MLO	78	26	0423	440188	278.3	278.6	6.0	6.3	290	8.0	0.0	281.1	0	281.2	0	4.3
MLO	78	26	0423	450188	278.5	278.8	1.1	6.3	290	8.0	0.0	281.3	0	-1.0	0	-1.0
MLO	78	33	0641	460189	280.0	280.3	7.5	3.2	190	5.0	-10.0	281.5	1	281.5	0	7.6
MLO	78	33	0641	470189	321.2	321.6	.8	3.2	190	5.0	-10.0	322.9	2	322.9	2	.8
MLO	78	40	0410	420190	278.2	278.6	1.5	2.6	270	12.0	-25.0	278.9	0	280.0	0	3.7
MLO	78	40	0410	430190	280.4	280.8	5.0	2.5	270	12.0	-25.0	281.1	0	-1.0	0	-1.0
MLO	78	47	0555	440191	281.5	281.9	2.7	4.8	120	8.0	-4.0	283.8	0	282.0	0	1.9
MLO	78	47	0555	450191	277.9	278.3	.3	4.8	120	8.0	-4.0	280.2	0	-1.0	0	-1.0
MLC	78	54	0410	460192	278.0	278.4	.4	5.1	280	4.0	-1.1	280.8	0	283.2	0	2.2
MLO	78	54	0410	470192	282.8	283.2	3.1	5.1	280	4.0	-1.1	285.6	0	-1.0	0	-1.0
MLO	78	62	0450	420193	277.9	278.4	1.6	9.8	24	4.7	-24.0	278.8	0	277.8	0	2.2
MLO	78	62	0450	430193	276.0	276.5	2.7	9.5	24	4.7	-24.0	276.9	0	-1.0	0	-1.0
MLO	78	69	0440	440194	296.1	296.7	6.0	4.1	140	8.0	-22.0	297.2	0	297.7	0	4.4
MLO	78	69	0440	450194	297.1	297.7	1.5	4.1	140	8.0	-22.0	298.2	0	-1.0	0	-1.0
MLO	78	76	0440	460195	275.4	276.0	3.0	2.1	160	3.0	-3.0	278.0	2	281.4	0	3.0
MLO	78	76	0440	470195	282.3	282.9	6.8	2.1	150	3.0	-3.0	284.9	1	-1.0	0	-1.0
MLO	78	83	0440	420196	312.1	312.8	9.2	6.2	270	7.0	-17.8	313.5	1	313.5	1	9.2
MLO	78	83	0440	430196	304.0	304.7	5.6	6.2	270	7.0	-17.8	305.4	2	305.4	2	5.6
MLO	78	97	0330	420197	299.1	299.8	4.2	5.1	110	8.0	-9.4	301.2	3	301.2	3	4.2
MLO	78	97	0330	430197	289.3	290.0	4.8	5.1	110	8.0	-9.4	291.3	3	291.3	0	4.8
MLO	78	103	2351	440198	332.0	332.9	5.7	4.6	341	7.8	-21.8	333.4	1	333.4	1	6.7
MLO	78	103	2351	450198	297.6	298.4	8.2	4.6	341	7.8	-21.8	298.9	1	298.9	1	8.2
MLO	78	111	0010	460199	295.3	296.1	7.3	7.5	270	12.0	-2.2	298.4	1	293.7	0	7.3
MLO	78	111	0010	470199	285.9	286.7	5.3	7.5	270	12.0	-2.2	288.9	2	-1.0	0	-1.0
MLO	78	117	2144	420200	312.7	313.6	16.5	3.3	344	9.0	-5.8	315.5	1	315.5	1	16.5
MLO	78	117	2144	430200	287.3	288.1	2.4	3.3	344	9.0	-5.8	289.8	2	289.8	0	2.4
MLO	78	124	2118	440201	317.8	318.8	8.6	3.3	33	10.0	-17.0	319.6	1	319.6	1	8.6
MLO	78	124	2118	450201	294.1	295.0	8.9	3.3	33	10.0	-17.0	295.7	1	295.7	0	8.9
MLO	78	131	2148	460202	293.6	294.5	6.7	3.5	294	12.7	-15.6	295.4	1	290.2	0	6.7
MLO	78	131	2148	470202	283.3	284.2	3.1	3.5	294	12.7	-15.6	285.0	2	-1.0	0	-1.0
MLO	78	138	2142	420203	281.1	282.0	2.3	9.8	260	9.2	-17.9	282.7	3	282.7	0	2.3
MLC	78	138	2142	430203	348.2	349.4	5.4	9.8	260	9.2	-17.9	350.2	3	350.2	3	5.4
MLO	78	145	2134	440204	289.4	290.4	6.2	3.8	351	9.2	-17.9	291.1	1	294.0	0	6.2
MLO	78	145	2134	450204	295.2	296.2	13.5	3.8	351	9.2	-17.9	296.9	1	-1.0	0	-1.0
MLO	78	152	2228	460205	362.4	363.7	6.2	4.1	20	9.9	-17.9	364.6	1	364.6	1	6.2
MLC	78	152	2228	470205	318.9	320.1	6.1	4.1	20	9.9	-17.9	320.8	1	320.8	1	6.1
MLO	78	166	2324	420206	294.8	296.0	5.0	4.0	30	14.7	-13.6	296.9	0	292.5	0	5.1
MLO	78	166	2324	430206	286.1	287.2	5.1	4.0	30	14.7	-13.6	288.2	0	-1.0	0	-1.0
MLO	78	172	0234	440207	300.0	301.2	2.9	4.0	30	7.0	5.0	305.1	0	303.5	0	3.1



F12 DATA BASE				SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND		TEMP		3 PPTV	F3	4 PPTV	F4	S.D.
STN	YR	JCD	GMT					M/S	DEG	AIR	DEW PT					
MLO	78	172	0234	450207	296.8	298.0	3.2	4.0	30	7.0	5.0	301.9	0	-1.0	0	-1.0
MLO	78	180	2137	460208	292.9	294.1	1.7	5.0	300	11.7	8.0	298.8	0	295.8	0	2.4
MLO	78	180	2137	470208	286.9	288.1	2.9	5.0	300	11.7	8.0	292.7	0	-1.0	0	-1.0
MLO	78	187	2132	420209	291.3	292.6	5.3	5.7	138	8.6	-19.0	293.2	0	288.6	0	4.0
MLO	78	187	2132	430209	282.2	283.4	2.1	5.7	138	8.6	-19.0	284.0	0	-1.0	0	-1.0
MLO	78	194	2139	440210	289.0	290.3	5.3	4.2	20	10.8	-16.8	291.0	0	289.8	0	3.8
MLO	78	194	2139	450210	286.6	287.9	.4	4.2	20	10.8	-16.8	288.6	0	-1.0	0	-1.0
MLO	78	208	2245	420212	310.1	311.6	2.6	5.3	64	14.0	-6.4	313.4	3	313.4	3	2.6
MLO	78	208	2245	430212	300.2	301.7	1.6	5.3	64	14.0	-6.4	303.4	3	303.4	0	1.6
MLO	78	215	2145	440213	291.0	292.5	2.2	3.2	354	10.7	-2.4	294.7	0	296.2	0	1.9
MLO	78	215	2145	450213	294.1	295.6	1.5	3.2	354	10.7	-2.4	297.8	0	-1.0	0	-1.0
MLO	78	229	2337	470214	290.2	291.7	5.2	4.1	20	10.3	-18.3	292.4	0	295.1	0	3.8
MLO	78	229	2337	460214	295.6	297.2	1.1	4.1	20	10.3	-18.3	297.8	0	-1.0	0	-1.0
MLO	78	236	2233	430215	287.3	288.9	2.5	4.1	36	11.9	-16.6	289.6	0	289.8	0	2.0
MLO	78	236	2233	430215	287.6	289.2	1.4	4.1	36	11.9	-16.6	289.9	0	-1.0	0	-1.0
MLO	78	243	2323	440216	291.4	293.0	2.4	7.0	131	10.8	-17.4	293.7	0	295.5	0	2.3
MLO	78	243	2323	450216	295.0	296.6	2.1	7.0	131	10.8	-17.4	297.4	0	-1.0	0	-1.0
MLO	78	250	2240	460217	302.5	304.2	2.5	7.1	50	13.0	-5.9	306.0	3	306.0	3	2.6
MLO	78	250	2240	470217	288.7	290.4	2.0	7.1	50	13.0	-5.9	292.1	3	292.1	0	2.0
MLO	78	257	2137	420218	288.8	290.5	1.3	3.0	337	9.6	-17.1	291.2	0	290.3	0	.9
MLO	78	257	2137	430218	287.0	288.7	.1	3.0	337	9.6	-17.1	289.4	0	-1.0	0	-1.0
MLO	78	264	2134	440219	292.2	294.0	2.0	3.6	350	9.8	-17.0	294.7	2	296.3	0	2.0
MLO	78	264	2134	450219	295.4	297.2	7.8	3.6	350	9.8	-17.0	297.9	1	-1.0	0	-1.0
MLO	78	271	2124	460220	300.1	302.0	2.3	4.5	70	14.5	-11.0	303.2	3	294.9	0	2.3
MLO	78	271	2124	470220	283.8	285.6	1.6	4.5	70	14.5	-11.0	286.7	3	-1.0	0	-1.0
MLO	78	276	2303	420221	294.4	296.3	.1	2.6	40	12.4	-15.1	297.1	0	294.9	0	1.0
MLO	78	276	2303	430221	290.0	291.8	1.4	2.6	40	12.4	-15.1	292.7	0	-1.0	0	-1.0
MLO	78	284	2314	440222	286.6	288.5	3.1	4.1	350	10.5	-17.7	289.1	0	289.3	0	2.4
MLO	78	284	2314	450222	287.0	288.9	1.5	4.1	350	10.5	-17.7	289.5	0	-1.0	0	-1.0
MLO	78	292	2334	460223	288.8	290.7	1.3	3.8	40	8.1	-19.9	291.3	0	288.6	0	1.1
MLO	78	292	2334	470223	283.5	285.4	.9	3.8	40	8.1	-19.9	285.9	0	-1.0	0	-1.0
MLO	78	299	2336	430224	294.3	296.3	2.9	3.5	20	9.9	-17.6	297.0	2	297.0	0	2.9
MLO	78	310	2016	440225	295.5	297.6	8.7	8.0	180	6.2	-20.4	298.1	1	295.5	0	8.7
MLO	78	310	2016	450225	290.3	292.3	2.6	8.0	180	6.2	-20.4	292.9	2	-1.0	0	-1.0
MLO	78	313	2140	460226	290.7	292.8	1.2	2.0	350	10.6	-5.8	294.5	0	295.0	0	3.4
MLO	78	313	2140	470226	291.8	293.9	4.7	2.0	350	10.6	-5.8	295.6	0	-1.0	0	-1.0
MLO	78	320	2335	420227	295.8	297.9	1.5	1.9	360	7.5	-19.7	298.5	2	298.5	0	1.5
MLO	78	334	2230	440228	305.5	307.8	7.8	1.8	30	9.5	-17.1	308.6	1	304.6	0	7.8
MLO	78	334	2230	450228	297.7	299.9	3.3	1.8	30	9.5	-17.1	300.7	2	-1.0	0	-1.0
MLO	78	341	1319	470229	295.1	297.4	3.9	5.7	145	7.6	-19.3	298.0	3	298.0	0	3.9
MLO	78	341	1319	460229	308.3	310.7	1.4	5.7	145	7.6	-19.3	311.3	3	311.3	3	1.4
MLO	78	344	2334	420230	314.1	316.5	1.5	5.5	102	10.3	-17.1	317.3	3	317.3	3	1.5
MLO	78	344	2334	430230	304.3	306.7	1.8	5.5	102	10.3	-17.1	307.4	3	307.4	0	1.0
MLO	78	355	2114	440231	301.7	304.1	5.2	6.1	330	4.8	-23.2	304.6	2	304.6	0	5.2
MLO	78	355	2114	450231	283.7	286.0	6.2	6.1	330	4.8	-23.2	286.4	1	286.4	1	6.2
MLO	78	362	2130	460232	302.0	304.5	1.0	5.4	91	10.7	-18.5	305.1	0	301.0	0	.8
MLO	78	362	2130	470232	293.6	296.2	.5	5.4	81	10.7	-18.5	296.8	0	-1.0	0	-1.0
MLO	79	4	2128	420233	303.5	306.0	2.3	3.0	350	10.0	-19.2	306.7	0	304.4	0	3.0
MLO	79	4	2128	430233	299.1	301.6	3.5	3.0	350	10.0	-19.2	302.2	0	-1.0	0	-1.0
MLO	79	18	2327	440234	308.4	311.0	2.2	6.5	140	6.0	-16.5	311.8	0	307.6	0	1.8
MLO	79	18	2327	450234	300.0	302.6	1.2	6.5	140	6.0	-16.5	303.4	0	-1.0	0	-1.0

F12 DATA BASE				SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND		TEMP AIR	DEG C DEW PT	3 PPTV	F3	4 PPTV	F4	S.D.
STN	YR	JCD	GMT					M/S	DEG							
MLO	79	25	2214	460235	318.3	321.1	4.5	1.5	20	8.0	-19.0	321.8	3	321.8	3	4.5
MLO	79	25	2214	470235	300.5	303.1	4.2	1.5	20	8.0	-19.0	303.8	3	303.8	0	4.2
MLO	79	32	2219	420236	294.2	296.8	3.9	4.0	330	5.0	-24.0	297.2	0	299.9	0	4.3
MLO	79	32	2219	430236	299.5	302.2	4.5	4.0	330	5.0	-24.0	302.6	0	-1.0	0	-1.0
MLO	79	39	2033	440237	443.8	447.8	U	4.1	320	7.0	-5.7	450.5	1	450.5	1	.0
MLO	79	39	2033	450237	315.7	318.5	5.8	4.1	320	7.0	-5.7	320.4	2	320.4	2	5.8
MLO	79	46	2132	460238	307.1	309.9	1.5	5.1	260	7.0	-1.7	312.4	3	306.5	0	1.5
MLO	79	46	2132	470238	295.6	298.3	.8	5.1	260	7.0	-1.7	300.7	3	-1.0	0	-1.0
MLO	79	53	2337	420239	289.2	291.9	1.6	6.1	310	8.3	2.5	295.1	0	296.3	0	2.8
MLO	79	53	2337	430239	291.7	294.4	3.5	6.1	310	8.3	2.5	297.6	0	-1.0	0	-1.0
MLO	79	60	0020	450240	293.6	296.4	.9	3.5	330	4.0	1.1	299.3	2	298.8	0	.9
MLO	79	60	0020	440240	292.7	295.5	10.8	3.5	330	4.0	1.1	298.4	1	-1.0	0	-1.0
MLO	79	67	2121	430241	297.2	300.1	6.3	2.8	34	10.5	-12.8	301.1	1	304.6	0	6.3
MLO	79	67	2121	420241	304.1	307.0	1.6	2.8	34	10.5	-12.8	308.1	2	-1.0	0	-1.0
MLO	79	74	2100	460242	319.9	323.0	.9	7.1	140	11.5	-14.7	324.0	3	324.0	3	.9
MLO	79	74	2100	470242	305.4	308.4	.5	7.1	140	11.5	-14.7	309.3	3	309.3	0	.5
MLO	79	81	2147	440243	296.3	299.2	1.8	3.5	30	7.5	-16.7	300.0	0	299.3	0	1.8
MLO	79	81	2147	450243	295.0	297.9	1.8	3.5	30	7.5	-16.7	298.7	0	-1.0	0	-1.0
MLO	79	89	2136	460244	296.6	299.6	.1	10.3	246	8.5	-17.9	300.3	0	298.7	0	.4
MLO	79	89	2136	470244	293.4	296.4	.6	10.3	246	8.5	-17.9	297.0	0	-1.0	0	-1.0
MLO	79	96	2026	430245	286.6	289.5	1.0	4.1	330	8.0	7.6	294.0	0	297.6	0	2.4
MLO	79	96	2026	420245	293.6	296.6	3.2	4.1	330	8.0	7.6	301.2	0	-1.0	0	-1.0
MLO	79	103	2331	440246	293.7	296.8	1.9	12.3	239	13.0	-3.3	298.9	0	299.9	0	1.4
MLO	79	103	2331	450246	295.8	298.9	.5	12.3	239	13.0	-3.3	301.0	0	-1.0	0	-1.0
MLO	79	110	2338	470247	288.9	291.9	.4	5.1	290	6.0	-2.1	294.2	0	297.0	0	2.3
MLO	79	110	2338	460247	294.4	297.5	3.2	5.1	290	6.0	-2.1	299.8	0	-1.0	0	-1.0
MLO	79	117	2206	430248	291.6	294.7	1.3	10.2	270	10.5	-26.5	295.1	0	299.6	0	1.8
MLO	79	117	2216	420248	300.5	303.7	2.2	10.2	270	10.5	-26.5	304.1	0	-1.0	0	-1.0
MLO	79	123	2126	440249	295.9	299.1	4.6	5.1	10	12.5	-7.4	300.7	0	300.3	0	3.4
MLO	79	123	2126	450249	295.2	298.4	1.2	5.1	10	12.5	-7.4	299.9	0	-1.0	0	-1.0
MLO	79	130	2039	460250	300.4	303.7	.7	2.0	360	12.5	-1.4	306.2	0	304.8	0	1.2
MLO	79	130	2039	470250	297.7	301.0	1.6	2.0	360	12.5	-1.4	303.4	0	-1.0	0	-1.0
MLO	79	137	2117	430251	289.1	292.3	2.5	5.1	315	9.0	3.8	295.8	3	301.2	0	2.5
MLO	79	137	2117	420251	299.6	302.9	2.0	5.1	315	9.0	3.8	306.5	3	-1.0	0	-1.0
MLO	79	144	2204	440252	303.1	306.5	.8	4.9	296	15.0	-4.9	308.4	0	309.9	0	1.0
MLO	79	144	2204	450252	306.0	309.4	1.2	4.9	296	15.0	-4.9	311.4	0	-1.0	0	-1.0
MLO	79	151	2053	460253	310.5	314.0	1.6	6.6	20	9.0	MSG	315.3	3	304.9	0	1.0
MLO	79	151	2053	470253	290.1	293.4	2.6	6.6	20	9.0	MSG	294.6	3	-1.0	0	-1.0
MLO	79	165	2327	430254	292.8	296.2	.6	5.1	270	15.0	MSG	297.4	0	298.1	0	.6
MLO	79	165	2327	420254	294.2	297.6	.6	5.1	270	15.0	MSG	298.8	0	-1.0	0	-1.0
MLO	79	172	2245	450255	315.4	319.1	3.9	4.1	77	11.5	-9.0	320.6	2	320.6	2	3.9
MLO	79	172	2245	440255	317.2	321.0	U	4.1	77	11.5	-9.0	322.4	1	322.4	1	.0
MLO	79	186	2142	430257	297.7	301.3	1.0	4.1	318	13.5	-6.2	303.0	0	303.8	0	1.5
MLO	79	186	2142	420257	299.2	302.8	1.8	4.1	318	13.5	-6.2	304.6	0	-1.0	0	-1.0
MLO	79	193	2300	450258	302.7	306.4	1.4	4.1	350	11.5	6.0	310.7	0	308.5	0	1.8
MLO	79	193	2300	440258	298.5	302.2	2.1	4.1	350	11.5	6.0	306.4	0	-1.0	0	-1.0
MLO	79	200	2339	470259	300.6	304.3	1.4	9.3	10	12.0	-14.7	305.2	0	310.0	0	1.2
MLO	79	200	2339	460259	309.9	313.8	1.0	9.3	10	12.0	-14.7	314.7	0	-1.0	0	-1.0
MLO	79	207	2300	420260	299.5	303.3	2.2	3.1	330	12.0	-6.0	305.0	0	308.1	0	2.2
MLO	79	207	2300	430260	305.6	309.5	2.1	3.1	330	12.0	-6.0	311.2	0	-1.0	0	-1.0
MLO	79	212	2010	450261	312.3	316.3	1.1	3.1	345	11.5	-8.4	317.8	0	315.9	0	1.4

## F12 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1			2			WIND		TEMP DEG C		3	F3	4	F4	S.D.
					PPTV	PPTV	S.O.	M/S	DEG	AIR	DEW PT	PPTV	PPTV						
MLO	79	212	2010	440261	308.6	312.5	1.6	3.1	345	11.5	-8.4	314.0	0		-1.0	0	-1.0		
MLO	79	218	2235	460262	3000.6	3039.1	1.7	6.1	331	13.2	-4.6	3058.7	2		3058.7	2	1.7		
MLO	79	242	2120	470265	313.4	317.6	9.0	15.3	120	11.0	-6.8	319.3	1		319.3	0	9.0		
MLO	79	249	2057	420266	316.2	320.5	3.3	5.1	60	12.0	-13.1	321.5	0		319.5	0	3.6		
MLO	79	249	2057	430266	312.2	316.4	3.8	5.1	60	12.0	-13.1	317.5	0		-1.0	0	-1.0		
MLO	79	256	2144	450267	321.3	325.7	2.4	5.1	50	12.0	-10.3	327.0	3		327.0	3	2.4		
MLO	79	256	2144	440267	308.9	313.1	1.1	5.1	50	12.0	-10.3	314.4	3		314.4	0	1.1		
MLO	79	264	2132	470268	307.6	311.9	1.9	3.5	360	11.5	-4.3	313.9	3		313.9	0	1.9		
MLO	79	264	2132	460268	330.5	335.1	3.9	3.5	360	11.5	-4.3	337.3	3		337.3	3	3.9		
MLO	79	270	2130	430269	302.9	307.1	2.4	3.1	225	12.0	-6.0	308.9	0		309.0	0	1.7		
MLO	79	270	2130	440269	303.0	307.2	.2	3.1	225	12.0	-6.0	309.0	0		-1.0	0	-1.0		
MLO	79	277	2059	440270	329.0	333.6	2.8	3.5	320	11.0	3.5	337.5	0		333.8	0	2.3		
MLO	79	277	2059	450270	321.7	326.2	1.7	3.5	320	11.0	3.5	330.0	0		-1.0	0	-1.0		
MLO	79	284	2100	470271	350.6	355.6	.6	3.5	20	10.5	3.5	359.7	3		359.7	3	.6		
MLO	79	284	2100	460271	442.7	449.0	3.3	3.5	20	10.5	3.5	454.2	3		454.2	3	3.3		
MLO	79	288	2118	430272	349.2	354.2	3.5	6.5	70	11.0	.9	357.6	3		357.6	3	3.5		
MLO	79	288	2118	420272	396.1	401.8	.8	6.6	70	11.0	.9	405.7	3		405.7	3	.8		
MLO	79	298	2134	430273	332.2	337.0	.2	2.5	340	12.5	-4.7	339.2	5		341.8	5	1.1		
MLO	79	298	2134	420273	337.3	342.2	1.6	2.5	340	12.5	-4.7	344.4	5		-1.0	5	-1.0		
MLO	79	310	2135	450274	310.5	315.1	.6	7.7	115	11.0	-15.5	316.0	0		314.3	0	2.1		
MLO	79	310	2135	440274	307.3	311.8	2.9	7.7	115	11.0	-15.5	312.7	0		-1.0	0	-1.0		
MLO	79	319	2030	470275	305.3	309.9	1.3	5.1	290	7.5	2.4	313.2	3		319.4	0	1.3		
MLO	79	319	2030	460275	317.3	322.1	1.4	5.1	290	7.5	2.4	325.5	3		-1.0	0	-1.0		
MLO	79	333	2039	430276	392.6	398.6	3.6	1.0	45	12.0	-14.9	399.8	5		396.2	5	3.4		
MLO	79	333	2039	420276	385.6	391.5	3.1	1.0	45	12.0	-14.9	392.6	5		-1.0	5	-1.0		
MLO	79	340	2108	440277	310.1	314.9	.4	4.5	345	9.5	-3.2	317.1	0		315.9	0	.6		
MLO	79	340	2108	450277	307.6	312.3	.7	4.5	345	9.5	-3.2	314.6	0		-1.0	0	-1.0		
MLO	79	347	2132	470278	307.5	312.3	4.3	2.0	300	12.0	-9.1	313.7	3		313.7	0	4.3		
MLO	79	347	2132	460278	331.4	336.6	3.1	2.0	300	12.0	-9.1	338.1	3		338.1	3	3.1		
MLO	79	354	2127	430279	384.4	390.4	2.8	10.7	130	15.5	-11.3	392.0	3		392.0	3	2.8		
MLO	79	354	2127	420279	348.5	354.0	1.3	10.7	130	15.5	-11.3	355.4	3		355.4	3	1.3		
MLO	79	361	2149	460280	347.5	353.0	1.0	3.0	50	8.5	-16.3	353.9	3		353.9	3	1.0		
MLO	79	361	2149	470280	315.0	320.0	1.6	3.0	50	8.5	-16.3	320.8	3		320.8	0	1.6		

## F12 DATA BASE

STN	YR	JCD	GHT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND		TEMP		3 PPTV	F1	4 PPTV	F2	S.O.
								M/S	DEG	AIR	DEG C DEW PT					
SMO	77	120	0130	050122	279.6	250.4	4.2	3.0	330	29.9	25.1	255.9	2	255.9	2	4.2
SMO	77	125	2035	010123	292.5	262.0	5.8	4.0	350	28.0	24.3	267.8	2	267.8	2	5.8
SMO	77	134	2130	040124	249.8	223.8	5.7	10.0	140	28.9	25.1	228.7	2	228.7	2	5.7
SMO	77	139	0315	050125	265.6	238.0	7.4	3.0	340	27.0*	24.5*	243.2	1	243.2	0	7.4
SMO	77	146	2100	010126	299.0	268.0	7.7	7.0	130	27.8	22.2	273.8	1	273.8	1	7.7
SMO	77	156	0400	040127	247.0	221.4	1.0	7.0	140	26.3	21.9	226.3	2	226.3	2	1.0
SMO	77	161	0100	050128	275.2	246.7	3.3	9.0	170	27.9	24.8	252.1	2	252.1	0	3.3
SMO	77	169	0200	010129	281.6	252.5	1.3	8.0	140	26.6	21.8	258.0	2	258.0	0	1.3
SMO	77	174	2025	040130	260.5	233.6	6.1	7.7	158	26.7	23.3	238.7	1	238.7	1	6.1
SMO	77	180	2330	050131	271.2	243.2	5.2	9.0	120	27.0*	24.5*	248.6	2	248.6	0	5.2
SMO	77	195	0205	010132	254.5	228.3	7.1	8.5	50	26.8	24.7	233.3	1	233.3	1	7.1
SMO	77	208	0300	040133	252.1	226.2	1.1	8.0	170	27.0*	24.5*	231.2	2	231.2	2	1.1
SMO	77	216	0255	050134	261.6	234.8	2.7	6.5	100	26.1	20.7	240.0	2	240.0	2	2.7
SMO	77	224	0030	040135	258.6	232.1	2.5	10.0	130	26.4	21.0	237.2	2	237.2	2	2.5
SMO	77	231	0010	010136	340.3	305.5	10.0	8.0	160	25.2	12.6	312.2	1	312.2	1	10.0
SMO	77	237	0150	050137	272.3	244.5	1.0	6.0	160	25.8	19.7	249.9	2	249.9	0	1.0
SMO	77	243	2025	040138	257.4	231.2	3.4	4.0	170	24.6	19.9	236.2	2	236.2	2	3.4
SMO	77	257	2345	010139	299.6	269.1	.6	6.0	160	27.0*	24.5*	275.0	2	275.0	2	.6
SMO	77	264	2025	050140	263.2	236.5	4.5	5.0	150	26.4	19.8	241.7	2	241.7	2	4.5
SMO	77	271	2030	040141	266.3	239.3	4.2	8.0	140	27.0*	24.5*	244.6	2	244.6	2	4.2
SMO	77	280	0230	010142	297.6	267.5	3.5	10.0	130	27.0	19.8	273.3	2	273.3	2	3.5
SMO	77	289	0135	050143	286.8	257.8	4.1	8.0	150	25.8	20.6	263.5	2	263.5	0	4.1
SMO	77	293	0055	040144	277.8	249.7	2.6	4.0	120	28.0	20.2	255.2	2	255.2	0	2.6
SMO	77	302	2335	010145	311.1	279.7	4.1	10.0	130	25.5	20.6	285.9	2	285.9	2	4.1
SMO	77	307	2045	050146	278.9	250.8	1.7	3.5	150	26.5	21.2	256.3	2	256.3	0	1.7
SMO	77	314	0220	040147	276.2	248.4	2.9	4.5	150	27.3	19.8	253.9	2	253.9	0	2.9
SMO	77	321	0215	010148	297.2	267.3	3.4	9.0	150	27.6	23.3	273.2	2	273.2	2	3.4
SMO	77	328	2100	050149	290.6	261.4	1.2	7.5	135	26.0	24.4	267.2	2	267.2	2	1.2
SMO	77	224	0020	510135	247.0	246.4	3.1	10.0	130	26.4	21.0	251.8	3	251.8	0	3.1
SMO	77	224	0020	520135	258.7	258.0	4.0	10.0	130	26.4	21.0	263.7	3	263.7	3	4.0
SMO	77	231	0010	530136	250.4	249.8	4.4	8.0	160	25.2	12.6	255.3	0	253.8	0	5.0
SMO	77	231	0010	540136	247.4	246.8	5.6	8.0	160	25.2	12.6	252.2	0	-1.0	0	-1.0
SMO	77	237	0150	550137	247.6	247.0	5.5	6.0	160	25.8	19.7	252.5	2	254.6	0	5.5
SMO	77	237	0150	560137	251.8	251.2	7.2	6.0	160	25.8	19.7	256.7	1	-1.0	0	-1.0
SMO	77	243	2025	510138	244.0	243.5	3.8	4.0	170	24.6	19.9	248.8	0	252.1	0	2.7
SMO	77	243	2025	520138	250.4	249.9	.5	4.0	170	24.6	19.9	255.3	0	-1.0	0	-1.0
SMO	77	257	2345	530139	245.5	245.0	3.2	6.0	160	27.0*	24.5*	250.4	0	250.9	0	3.1
SMO	77	257	2345	540139	246.5	246.0	2.9	6.0	160	27.0*	24.5*	251.4	0	-1.0	0	-1.0
SMO	77	264	2025	510140	251.1	250.7	2.0	5.0	150	26.4	19.8	256.2	0	253.7	0	1.9
SMO	77	264	2025	520140	246.2	245.8	1.7	5.0	150	26.4	19.8	251.2	0	-1.0	0	-1.0
SMO	77	271	2030	550141	243.8	243.4	2.8	8.0	140	27.0*	24.5*	248.8	0	251.7	0	2.9
SMO	77	271	2030	560141	249.5	249.1	2.9	8.0	140	27.0*	24.5*	254.6	0	-1.0	0	-1.0
SMO	77	280	0215	530142	268.3	267.9	2.5	10.0	130	27.0	19.8	273.8	3	273.8	3	2.5
SMO	77	280	0215	540142	243.9	243.6	2.4	10.0	130	27.0	19.8	248.9	3	248.9	0	2.4
SMO	77	289	0135	510143	247.9	247.6	4.4	8.0	150	25.8	20.6	253.0	2	256.6	0	4.4
SMO	77	289	0135	520143	254.8	254.5	6.3	8.0	150	25.8	20.6	260.1	1	-1.0	0	-1.0
SMO	77	293	0045	550144	249.3	249.0	5.7	4.0	115	28.0	20.2	254.5	0	255.6	0	4.3
SMO	77	293	0045	560144	251.4	251.1	2.2	4.0	115	28.0	20.2	256.6	0	-1.0	0	-1.0
SMO	77	302	2335	530145	264.2	264.0	6.9	10.0	130	25.5	20.6	269.8	1	269.8	1	6.9
SMO	77	302	2335	540145	248.3	248.1	3.0	10.0	130	25.5	20.6	253.5	2	253.5	0	3.0
SMO	77	307	2045	510146	256.7	256.5	1.5	3.5	150	26.5	21.2	262.1	0	261.0	0	1.1

F12 DATA BASE				SAMP.	1	2		WIND		TEMP		3	F3	4	F4	S.O.
STN	YR	JCD	GMT	NO.	PPTV	PPTV	S.D.	M/S	DEG	AIR	DEW PT	PPTV		PPTV		S.O.
SMO	77	307	2045	520146	254.5	254.3	.3	3.5	150	26.5	21.2	259.9	0	-1.0	0	-1.0
SMO	77	314	0220	550147	247.9	247.7	1.8	4.5	150	27.3	19.8	253.2	0	251.9	0	2.5
SMO	77	314	0220	560147	245.4	245.2	3.1	4.5	150	27.3	19.8	250.6	0	-1.0	0	-1.0
SMO	77	321	0210	530148	250.0	249.9	3.3	9.0	150	27.6	23.3	255.4	0	253.4	0	2.4
SMO	77	321	0210	540148	246.1	246.0	1.0	9.0	150	27.6	23.3	251.4	0	-1.0	0	-1.0
SMO	77	328	2100	510149	248.6	248.5	1.2	7.5	135	26.0	24.4	254.0	0	253.7	0	1.5
SMO	77	328	2100	520149	248.0	247.9	1.8	7.5	135	26.0	24.4	253.4	0	-1.0	0	-1.0
SMO	77	337	2045	550150	254.4	254.4	5.5	4.0	150	29.8	25.8	259.9	0	257.3	0	4.4
SMO	77	337	2045	560150	249.2	249.2	2.9	4.0	150	29.8	25.8	254.6	0	-1.0	0	-1.0
SMO	77	341	2355	530151	256.7	256.7	3.7	7.5	140	29.2	24.9	262.3	0	265.7	0	4.8
SMO	77	341	2355	540151	263.4	263.4	5.7	7.5	140	29.2	24.9	269.2	0	-1.0	0	-1.0
SMO	77	349	0250	510152	259.6	259.6	6.9	8.5	140	28.4	25.4	265.3	1	263.5	0	6.9
SMO	77	349	0250	520152	256.0	256.0	3.1	8.5	140	28.4	25.4	261.6	2	-1.0	0	-1.0
SMO	77	364	2035	550153	257.7	257.8	5.4	5.1	52	29.0	27.7	263.5	0	263.5	0	4.6
SMO	77	364	2035	560153	257.8	257.9	3.7	5.1	52	29.0	27.7	263.6	0	-1.0	0	-1.0
SMO	78	5	0245	530154	259.7	259.8	7.4	4.5	60	27.5	26.2	265.5	1	263.2	0	7.4
SMO	78	5	0245	540154	255.1	255.2	5.1	4.5	60	27.5	26.2	260.8	2	-1.0	0	-1.0
SMO	78	15	0230	510155	255.5	255.7	2.2	6.0	130	27.7	24.7	261.3	0	262.9	0	1.9
SMO	78	15	0230	520155	258.7	258.9	1.6	6.0	130	27.7	24.7	264.6	0	-1.0	0	-1.0
SMO	78	21	0250	550156	263.8	264.0	8.7	5.0	100	28.0	23.9	269.8	1	269.8	1	8.7
SMO	78	21	0250	560156	267.3	267.5	5.5	5.0	100	28.0	23.9	273.4	2	273.4	2	5.5
SMO	78	33	2230	510157	264.7	265.0	9.8	3.0	40	27.0*	24.5*	270.8	1	270.8	1	9.8
SMO	78	33	2230	520157	262.0	262.3	4.9	3.0	40	27.0*	24.5*	268.1	2	268.1	0	4.9
SMO	78	42	2305	530158	264.9	265.2	7.6	2.8	130	27.5	26.2	271.1	1	271.1	1	7.6
SMO	78	42	2305	540158	260.7	261.0	3.7	2.8	130	27.5	26.2	266.8	2	266.8	0	3.7
SMO	78	61	2145	550159	264.2	264.7	8.8	5.0	120	28.0	23.9	270.5	1	265.4	0	8.8
SMO	78	61	2145	560159	254.3	254.7	4.7	5.0	120	28.0	23.9	260.3	2	-1.0	0	-1.0
SMO	78	68	0305	510160	259.4	259.9	6.8	9.0	140	28.5	25.1	265.6	1	268.0	0	6.8
SMO	78	68	0305	520160	264.0	264.5	6.5	9.0	140	28.5	25.1	270.3	1	-1.0	0	-1.0
SMO	78	81	0100	530161	301.7	302.3	U	9.0	20	28.0	26.0	309.0	1	309.0	1	.0
SMO	78	81	0100	540161	285.0	285.6	9.4	9.0	20	28.0	26.0	291.9	1	291.9	1	9.4
SMO	78	87	2025	550162	301.0	301.7	4.1	7.5	340	26.7	24.7	308.3	5	308.8	5	4.0
SMO	78	87	2025	560162	301.9	302.6	3.9	7.5	340	26.7	24.7	309.2	5	-1.0	5	-1.0
SMO	78	99	0100	510163	295.9	296.6	6.3	6.0	130	27.8	26.5	303.2	1	303.2	1	6.3
SMO	78	99	0100	520163	268.8	269.5	.9	6.0	130	27.8	26.5	275.4	2	275.4	2	.9
SMO	78	108	0440	530164	296.5	297.3	23.3	3.0	315	28.0	25.3	303.8	1	303.8	1	23.3
SMO	78	108	0440	540164	269.8	270.5	3.2	3.0	315	28.0	25.3	276.5	2	276.5	2	3.2
SMO	78	121	0255	560165	275.5	276.3	6.2	4.5	150	26.8	23.5	282.4	1	282.4	1	6.2
SMO	78	121	0255	550165	270.3	271.1	6.0	4.5	150	26.8	23.5	277.1	2	277.1	2	6.0
SMO	78	126	2355	520166	302.1	303.0	9.6	6.0	160	28.1	26.0	309.7	1	309.7	1	9.6
SMO	78	126	2355	510166	274.2	275.0	3.4	6.0	160	28.1	26.0	281.1	2	281.1	2	3.4
SMO	78	133	2250	540167	269.2	270.1	4.9	9.0	330	26.2	24.4	276.0	2	276.0	2	4.9
SMO	78	137	2100	550168	267.3	268.2	4.9	7.5	120	27.4	24.4	274.1	0	270.9	0	4.0
SMO	78	137	2100	560168	261.0	261.9	2.7	7.5	120	27.4	24.4	267.6	0	-1.0	0	-1.0
SMO	78	148	0355	510169	283.0	284.0	4.0	6.0	80	26.3	23.1	290.3	2	290.3	2	4.0
SMO	78	148	0355	520169	269.4	270.4	7.8	6.0	80	26.3	23.1	276.3	1	276.3	1	7.8
SMO	78	159	2025	530170	266.6	267.6	6.8	5.0	130	27.3	24.4	273.5	1	271.7	0	6.8
SMO	78	159	2025	540170	263.1	264.1	3.2	5.0	130	27.3	24.4	269.9	2	-1.0	0	-1.0
SMO	78	168	0025	520171	266.9	268.0	5.6	8.0	140	26.1	21.7	273.9	0	274.4	0	5.5
SMO	78	168	0025	510171	267.9	269.0	5.3	8.0	140	26.1	21.7	274.9	0	-1.0	0	-1.0
SMO	78	176	0240	560172	261.0	262.1	3.0	7.0	30	27.6	24.6	267.8	0	268.0	0	2.4

## F12 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1			WIND		TEMP DEG C		3 PPTV	F3	4 PPTV	F4	S.D.
					PPTV	PPTV	S.D.	M/S	DEG	AIR	DEW PT					
SMO	78	176	0240	550172	261.3	262.4	1.5	7.0	30	27.6	24.6	268.2	0	-1.0	0	-1.0
SMO	78	189	0055	510173	261.5	262.7	1.1	2.5	30	28.0	23.0	268.4	2	272.1	0	1.1
SMO	78	189	0055	520173	268.7	269.9	6.7	2.5	30	28.0	23.0	275.8	1	-1.0	0	-1.0
SMO	78	196	2230	530174	264.6	265.8	3.8	6.7	160	27.0	22.1	271.7	0	268.9	0	3.3
SMO	78	196	2230	540174	259.3	260.5	2.7	6.7	160	27.0	22.1	266.2	0	-1.0	0	-1.0
SMO	78	202	0340	550175	260.6	261.8	3.5	8.0	150	26.4	23.3	267.6	0	266.9	0	3.0
SMO	78	202	0340	560175	259.3	260.5	2.4	8.0	150	26.4	23.3	266.3	0	-1.0	0	-1.0
SMO	78	208	2005	510176	262.5	263.8	3.3	7.0	140	27.0	24.3	269.6	0	269.9	0	2.4
SMO	78	208	2005	520176	263.2	264.5	.9	7.0	140	27.0	24.3	270.3	0	-1.0	0	-1.0
SMO	78	217	0310	530177	265.1	266.4	1.4	8.5	150	27.0	21.3	272.3	0	270.7	0	1.4
SMO	78	217	0310	540177	262.0	263.3	1.4	8.5	150	27.0	21.3	269.1	0	-1.0	0	-1.0
SMO	78	225	0145	560178	271.0	272.4	2.1	3.0	30	26.0	23.2	278.4	0	275.6	0	1.9
SMO	78	225	0145	550178	265.5	266.9	1.7	3.0	30	26.0	23.2	272.8	0	-1.0	0	-1.0
SMO	78	229	0100	520179	258.6	260.0	5.6	8.0	150	27.6	24.9	265.7	0	266.4	0	4.1
SMO	78	229	0100	510179	259.9	261.3	1.3	8.0	150	27.6	24.9	267.0	0	-1.0	0	-1.0
SMO	78	238	0000	530180	264.0	265.4	1.2	7.0	90	28.5	24.8	271.3	0	267.4	0	3.6
SMO	78	238	0000	540180	256.4	257.8	5.0	7.0	90	28.5	24.8	263.5	0	-1.0	0	-1.0
SMO	78	244	2320	560181	262.5	264.0	1.4	7.5	150	25.2	24.3	269.8	0	270.2	0	1.4
SMO	78	244	2320	550181	263.3	264.8	1.4	7.5	150	25.2	24.3	270.6	0	-1.0	0	-1.0
SMO	78	253	0400	530182	270.3	271.9	1.0	7.0	160	24.4	19.4	277.8	3	272.3	0	1.0
SMO	78	253	0400	540182	259.6	261.1	1.3	7.0	160	24.4	19.4	266.8	3	-1.0	0	-1.0
SMO	78	260	0405	510183	264.5	266.1	1.5	2.5	160	26.0	22.9	271.9	0	275.2	0	3.2
SMO	78	260	0405	520183	270.9	272.5	4.3	2.5	160	26.0	22.9	278.5	0	-1.0	0	-1.0
SMO	78	266	0025	550184	261.6	263.2	1.0	9.0	130	28.3	24.5	269.0	3	274.0	0	1.0
SMO	78	266	0025	560184	271.4	273.1	2.9	9.0	130	28.3	24.5	279.1	3	-1.0	0	-1.0
SMO	78	272	0245	530185	272.0	273.7	2.7	6.0	160	26.3	22.4	279.7	0	274.9	0	2.1
SMO	78	272	0245	540185	262.6	264.2	1.1	6.0	160	26.3	22.4	270.0	0	-1.0	0	-1.0
SMO	78	280	0355	550186	267.7	269.4	2.8	3.0	100	26.8	24.6	275.3	0	275.0	0	2.5
SMO	78	280	0355	560186	267.0	268.7	2.2	3.0	100	26.8	24.6	274.6	0	-1.0	0	-1.0
SMO	78	294	0545	510187	266.3	268.1	1.7	8.0	150	26.5	23.7	274.0	0	274.0	0	2.8
SMO	78	294	0545	520187	266.3	268.1	3.5	8.0	150	26.5	23.7	274.0	0	-1.0	0	-1.0
SMO	78	311	2245	530188	275.0	276.9	1.4	8.0	150	29.0	24.8	283.0	0	278.8	0	2.9
SMO	78	311	2245	540188	266.7	268.6	3.8	8.0	150	29.0	24.8	274.5	0	-1.0	0	-1.0
SMO	78	322	0320	520189	268.6	270.6	2.3	8.0	120	25.5	24.1	276.5	0	276.2	0	1.9
SMO	78	322	0320	510189	268.0	270.0	1.4	8.0	120	25.5	24.1	275.9	0	-1.0	0	-1.0
SMO	78	328	2355	560190	271.1	273.1	3.4	5.0	60	29.0	25.0	279.1	0	281.2	0	2.8
SMO	78	328	2355	550190	275.1	277.1	2.0	5.0	60	29.0	25.0	283.2	0	-1.0	0	-1.0
SMO	78	337	2355	530191	255.5	257.4	7.4	5.0	360	29.0	28.0	263.1	1	263.1	1	7.4
SMO	78	337	0138	540191	273.2	275.3	1.3	5.0	360	29.0	28.0	281.3	2	281.3	0	1.3
SMO	78	343	0430	510192	265.7	267.8	1.6	7.0	150	25.9	24.7	273.6	0	276.9	0	3.2
SMO	78	343	0430	520192	272.1	274.2	4.3	7.0	160	25.9	24.7	280.2	0	-1.0	0	-1.0
SMO	78	350	0355	550193	266.6	268.7	.7	5.0	160	27.0	23.7	274.6	0	273.6	0	1.6
SMO	78	350	0355	560193	264.7	266.8	2.2	5.0	160	27.0	23.7	272.6	0	-1.0	0	-1.0
SMO	78	360	2315	530194	277.6	279.8	4.4	9.0	80	27.0*	24.5*	286.0	0	282.1	0	3.5
SMO	78	360	2315	540194	270.0	272.2	2.3	9.0	80	27.0*	24.5*	278.2	0	-1.0	0	-1.0
SMO	78	364	0030	510195	273.7	275.9	.7	6.0	330	30.0	26.7	282.0	0	281.5	0	1.1
SMO	78	364	0030	520195	272.8	275.0	1.4	6.0	330	30.0	26.7	281.1	0	-1.0	0	-1.0
SMO	79	4	0225	550196	275.4	277.7	1.5	7.0	340	27.3	24.4	283.5	0	284.0	0	2.5
SMO	79	4	0255	560196	276.4	278.7	3.2	7.0	340	27.3	24.4	284.5	0	-1.0	0	-1.0
SMO	79	13	0350	530197	278.0	280.4	2.6	10.0	290	26.8	24.3	286.1	0	285.7	0	2.4
SMO	79	13	0350	540197	277.4	279.7	2.1	10.0	290	26.8	24.3	285.4	0	-1.0	0	-1.0

F12 DATA BASE																
STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND		TEMP DEG C		3 PPTV	F3	4 PPTV	F4	S.D.
								M/S	DEG	AIR	DEW PT					
SMO	79	21	0340	510198	276.5	278.9	7.2	3.0	160	28.0	23.9	284.0	1	284.6	0	7.2
SMO	79	21	0340	520198	277.6	280.0	6.1	3.0	160	28.0	23.9	285.2	1	-1.0	0	-1.0
SMO	79	27	0307	550199	279.1	281.5	4.5	6.8	110	27.7	24.5	287.0	2	287.0	0	4.5
SMO	79	27	0307	560199	286.8	289.3	8.8	6.8	110	27.7	24.5	294.9	1	294.9	1	8.8
SMO	79	35	0355	530200	280.3	282.8	2.3	4.0	120	27.3	24.4	288.5	0	286.5	0	2.4
SMO	79	35	0355	540200	276.4	278.9	2.4	4.0	120	27.3	24.4	284.5	0	-1.0	0	-1.0
SMO	79	44	2345	510201	273.2	275.7	2.0	2.7	130	29.0	24.5	280.8	0	282.0	0	2.9
SMO	79	44	2345	520201	275.6	278.1	3.5	2.7	130	29.0	24.5	283.3	0	-1.0	0	-1.0
SMO	79	51	0203	550202	274.8	277.3	2.4	7.2	340	29.0	24.8	283.1	0	285.3	0	3.9
SMO	79	51	0203	560202	279.0	281.6	4.9	7.2	340	29.0	24.8	287.4	0	-1.0	0	-1.0
SMO	79	59	2239	510203	276.2	278.8	1.2	3.2	150	28.9	24.6	284.4	0	284.7	0	1.2
SMO	79	59	2239	520203	276.9	279.5	1.2	3.2	150	28.9	24.6	285.1	0	-1.0	0	-1.0
SMO	79	66	2104	530204	274.7	277.3	2.3	3.6	75	30.2	24.6	282.7	3	282.7	0	2.3
SMO	79	66	2104	540204	257.8	260.3	2.5	3.6	75	30.2	24.6	265.3	3	265.3	3	2.5
SMO	79	72	2300	550205	274.0	276.7	1.9	4.5	120	28.2	24.3	282.1	0	283.3	0	3.1
SMO	79	72	2300	560205	276.4	279.1	4.0	4.5	120	28.2	24.3	284.5	0	-1.0	0	-1.0
SMO	79	83	2339	520206	276.7	279.5	3.3	6.2	325	29.3	24.8	285.7	0	285.6	0	3.5
SMO	79	83	2339	510206	276.5	279.3	3.6	6.2	325	29.3	24.8	285.5	0	-1.0	0	-1.0
SMO	79	92	0305	530207	273.0	275.8	2.2	5.0	140	28.5	25.8	281.4	0	281.1	0	2.2
SMO	79	92	0305	540207	272.3	275.1	2.1	5.0	140	28.5	25.8	280.7	0	-1.0	0	-1.0
SMO	79	98	0405	550208	280.1	283.0	1.7	4.0	150	27.4	24.1	289.1	0	289.1	0	1.4
SMO	79	98	0405	560208	280.1	283.0	1.0	4.0	150	27.4	24.1	289.1	0	-1.0	0	-1.0
SMO	79	109	0050	510209	277.9	280.8	2.6	6.0	330	30.3	25.9	286.5	0	287.6	0	3.9
SMO	79	109	0050	520209	280.0	282.9	4.9	6.5	330	30.3	25.9	288.7	0	-1.0	0	-1.0
SMO	79	114	2350	540210	273.3	276.2	3.2	2.0	160	27.8	24.0	282.0	0	283.6	0	2.7
SMO	79	114	2350	530210	276.3	279.2	2.1	2.0	160	27.8	24.0	285.1	0	-1.0	0	-1.0
SMO	79	122	0245	550211	272.1	275.0	1.4	10.0	160	26.5	23.5	280.5	0	281.5	0	2.0
SMO	79	122	0245	560211	274.0	277.0	2.5	10.0	160	26.5	23.5	282.4	0	-1.0	0	-1.0
SMO	79	129	0235	520212	276.3	279.3	2.0	8.0	130	27.5	25.2	285.3	0	283.7	0	1.5
SMO	79	129	0235	510212	273.1	276.1	.7	8.0	130	27.5	25.2	282.0	0	-1.0	0	-1.0
SMO	79	135	2250	540213	272.1	275.1	2.4	8.0	140	27.0	24.4	281.8	0	284.2	0	2.2
SMO	79	135	2250	530213	276.6	279.7	1.9	8.0	140	27.0	24.4	286.5	0	-1.0	0	-1.0
SMO	79	143	0410	550214	275.3	278.4	.8	2.0	60	27.7	24.0	286.1	0	285.9	0	.6
SMO	79	143	0410	560214	274.8	277.9	.3	2.0	60	27.7	24.0	285.6	0	-1.0	0	-1.0
SMO	79	150	0245	530215	274.4	277.5	3.7	4.4	146	30.0	21.1	285.3	0	285.8	0	3.4
SMO	79	150	0245	540215	275.3	278.4	3.1	4.4	146	30.0	21.1	286.2	0	-1.0	0	-1.0
SMO	79	157	0248	510216	278.7	281.9	2.4	1.5	81	29.7	23.3	288.8	0	286.8	0	2.0
SMO	79	157	0248	520216	274.9	278.1	1.5	1.5	81	29.7	23.3	284.9	0	-1.0	0	-1.0
SMO	79	163	0142	550217	269.0	272.1	2.4	5.0	150	25.3	22.6	278.7	0	280.2	0	4.3
SMO	79	163	0142	560217	271.9	275.1	5.6	5.0	150	25.3	22.6	281.7	0	-1.0	0	-1.0
SMO	79	171	0057	540218	277.9	281.2	1.1	2.7	330	30.8	25.0	288.0	0	288.1	0	1.1
SMO	79	171	0057	530218	278.2	281.5	1.0	2.7	330	30.8	25.0	288.3	0	-1.0	0	-1.0
SMO	79	178	0338	520219	275.8	279.1	2.4	8.0	100	29.0	23.5	286.0	0	284.7	0	2.0
SMO	79	178	0338	510219	273.2	276.5	1.5	8.0	100	29.0	23.5	283.3	0	-1.0	0	-1.0
SMO	79	185	0045	550220	282.3	285.7	4.1	2.7	170	26.0	24.5	293.0	0	288.8	0	3.1
SMO	79	185	0045	560220	274.2	277.5	1.6	2.7	170	26.0	24.5	284.6	0	-1.0	0	-1.0
SMO	79	192	0118	540221	273.0	276.4	.8	5.0	150	21.6	21.6	283.2	0	282.0	0	2.1
SMO	79	192	0118	530221	270.7	274.0	2.9	5.0	150	21.6	21.6	280.8	0	-1.0	0	-1.0
SMO	79	199	0045	520222	279.2	282.7	.9	7.5	30	28.3	25.2	289.8	0	288.2	0	1.2
SMO	79	199	0045	510222	276.1	279.5	1.4	7.5	30	28.3	25.2	286.6	0	-1.0	0	-1.0
SMO	79	209	2100	550223	284.5	288.1	2.2	10.4	145	25.5	16.5	295.7	0	293.3	0	3.0

F12 DATA BASE				SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND		TEMP AIR	DEG C		3 PPTV	F3	4 PPTV	F4	S.D.
STN	YR	JCD	GMT					M/S	DEG		DEW	PT					
SMO	79	209	2100	560223	279.8	283.3	3.7	10.4	145	25.5	16.5	290.9	0	-1.0	0	-1.0	
SMO	79	213	0200	540224	276.0	279.5	3.1	10.4	140	26.4	16.2	286.5	0	288.5	0	3.0	
SMO	79	213	0200	530224	279.9	283.5	2.9	10.4	140	26.4	16.2	290.5	0	-1.0	0	-1.0	
SMO	79	221	2130	520225	283.4	287.1	1.7	3.6	340	29.0	26.4	293.8	0	293.0	0	1.4	
SMO	79	221	2130	510225	281.8	285.4	1.0	3.6	340	29.0	26.4	292.2	0	-1.0	0	-1.0	
SMO	79	227	0300	560226	277.4	281.0	4.6	2.7	110	27.0	19.8	287.3	0	287.4	0	3.3	
SMO	79	227	0300	550226	277.7	281.3	.2	2.7	110	27.0	19.8	287.6	0	-1.0	0	-1.0	
SMO	79	234	2120	510227	276.0	279.6	1.8	3.2	140	28.0	25.3	285.8	2	285.8	0	1.8	
SMO	79	242	0107	540228	284.9	288.7	7.1	6.3	135	27.0	24.3	295.3	1	295.3	0	7.1	
SMO	79	242	0107	530228	291.3	295.2	4.9	6.3	135	27.0	24.3	302.0	2	302.0	2	4.9	
SMO	79	248	0301	550229	289.8	293.7	16.1	3.5	130	26.8	25.1	299.8	1	299.8	1	16.1	
SMO	79	248	0301	560229	282.4	286.2	5.7	3.6	130	26.8	25.1	292.2	2	292.2	0	5.7	
SMO	79	255	0000	520230	278.7	282.5	2.3	2.7	170	24.0	24.0	288.9	0	289.8	0	2.2	
SMO	79	255	0000	510230	280.5	284.3	2.0	2.7	170	24.0	24.0	290.8	0	-1.0	0	-1.0	
SMO	79	261	0054	540231	281.8	295.7	1.9	4.1	130	28.0	25.0	292.5	0	296.7	0	2.9	
SMO	79	261	0054	530231	289.9	293.9	3.6	4.1	130	28.0	25.0	300.9	0	-1.0	0	-1.0	
SMO	79	269	0146	550232	278.9	282.8	1.4	5.0	50	28.2	26.3	289.3	0	290.1	0	1.5	
SMO	79	269	0146	560232	280.4	284.3	1.6	5.0	50	28.2	26.3	290.8	0	-1.0	0	-1.0	
SMO	79	279	0200	510233	274.6	278.5	.9	5.4	140	28.0	27.0	285.4	0	285.4	0	3.1	
SMO	79	279	0200	520233	274.6	278.5	4.3	5.4	140	28.0	27.0	285.4	0	-1.0	0	-1.0	
SMO	79	283	0259	540234	283.3	287.3	1.2	5.4	140	27.0	22.8	295.1	0	294.9	0	2.3	
SMO	79	283	0259	530234	282.8	286.8	3.0	5.4	140	27.0	22.8	294.6	0	-1.0	0	-1.0	
SMO	79	290	1322	560235	280.5	284.5	3.8	8.1	140	27.0	21.6	290.4	0	291.7	0	2.9	
SMO	79	290	1322	550235	283.1	287.2	1.5	8.1	140	27.0	21.6	293.0	0	-1.0	0	-1.0	
SMO	79	297	0252	520236	286.2	290.4	1.3	2.3	340	29.2	26.3	296.6	0	295.5	0	1.4	
SMO	79	297	0252	510236	283.9	288.0	1.4	2.3	340	29.2	26.3	294.3	0	-1.0	0	-1.0	
SMO	79	304	0319	540237	285.4	289.6	2.6	3.6	0	25.8	25.3	295.5	0	294.5	0	2.1	
SMO	79	304	0319	530237	283.4	287.6	1.5	3.6	0	25.8	25.3	293.5	0	-1.0	0	-1.0	
SMO	79	311	0214	560238	275.5	279.6	.5	1.8	150	28.0	26.7	285.2	0	285.3	0	2.2	
SMO	79	311	0214	550238	275.6	279.7	3.1	1.8	150	28.0	26.7	285.3	0	-1.0	0	-1.0	
SMO	79	319	0212	520239	276.6	280.7	.7	7.2	160	27.0	21.7	286.2	0	287.5	0	1.8	
SMO	79	319	0212	510239	279.0	283.2	2.5	7.2	160	27.0	21.7	288.7	0	-1.0	0	-1.0	
SMO	79	325	0243	540240	283.3	287.6	1.2	2.3	70	29.0	22.6	293.7	0	295.6	0	2.0	
SMO	79	325	0243	530240	286.9	291.2	2.5	2.3	70	29.0	22.6	297.4	0	-1.0	0	-1.0	
SMO	79	339	0221	550241	280.4	284.7	.8	6.3	150	27.0	25.0	290.5	0	291.7	0	.9	
SMO	79	339	0221	560241	282.7	287.1	1.0	6.3	150	27.0	25.0	292.9	0	-1.0	0	-1.0	
SMO	79	346	0048	510242	284.4	288.8	.6	10.4	300	26.0	24.5	294.8	0	295.7	0	3.8	
SMO	79	346	0048	520242	286.3	290.8	5.3	10.4	300	26.0	24.5	296.7	0	-1.0	0	-1.0	
SMO	79	353	0250	530243	278.4	282.8	1.3	14.0	155	27.2	23.6	288.1	0	289.6	0	1.3	
SMO	79	353	0250	540243	281.3	285.7	1.3	14.0	155	27.2	23.6	291.1	0	-1.0	0	-1.0	
SMO	79	361	2102	550244	281.9	286.4	.9	4.5	155	27.8	25.7	291.9	0	291.0	0	1.4	
SMO	79	361	2102	560244	280.1	284.5	1.8	4.5	155	27.8	25.7	290.1	0	-1.0	0	-1.0	



## F12 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	HIND M/S	DEG	TEMP AIR	DEG C UEW PT	3 PPTV	F3	4 PPTV	F4	S.D.
SPO	77	38	0445	050015	232.6	231.1	U	3.2	90	-34.0	-99.9	231.1	1	231.1	1	.0
SPO	77	38	0445	060015	256.3	254.6	U	3.2	90	-34.0	-99.9	254.6	1	254.6	1	.0
SPO	77	41	0300	070016	242.6	241.0	U	4.0	120	-41.6	-99.9	241.0	1	241.0	1	.0
SPO	77	41	0300	080016	244.6	243.0	U	4.0	120	-41.6	-99.9	243.0	1	243.0	1	.0
SPO	77	72	2230	090017	229.4	228.1	U	3.5	30	-46.0	-99.9	228.1	1	228.1	1	.0
SPO	77	72	2230	100017	576.3	572.9	U	3.5	30	-46.0	-99.9	572.9	1	572.9	1	.0
SPO	77	105	0355	110019	234.9	233.7	U	3.4	40	-59.0	-99.9	233.7	1	233.7	1	.0
SPO	77	105	0355	120018	332.8	331.1	U	3.4	40	-59.0	-99.9	331.1	1	331.1	1	.0
SPO	77	134	0230	130019	276.6	275.4	U	8.0	25	-52.2	-99.9	275.4	1	275.4	1	.0
SPO	77	134	0230	140019	256.0	254.8	U	8.0	25	-52.2	-99.9	254.8	1	254.8	1	.0
SPO	77	165	2340	150020	242.1	241.2	U	3.4	20	-64.3	-99.9	241.2	1	239.6	0	.0
SPO	77	165	2340	160020	239.0	238.1	U	3.4	20	-64.3	-99.9	238.1	1	-1.0	0	-1.0
SPO	77	195	0410	170021	240.2	239.4	U	9.0	345	-45.1	-99.9	239.4	1	239.4	0	.0
SPO	77	195	0410	270021	5119.0	5102.6	U	9.0	345	-45.1	-99.9	5102.6	1	5102.6	1	.0
SPO	77	229	2150	280022	2164.0	2158.6	U	4.0	10	-59.1	-99.9	2158.6	1	2158.6	1	.0
SPO	77	229	2150	290022	2166.0	2160.6	U	4.0	10	-59.1	-99.9	2160.6	1	2160.6	1	.0
SPO	77	257	1140	300023	255.8	255.3	U	3.5	25	-60.1	-99.9	255.3	1	255.3	0	.0
SPO	77	257	1140	310023	628.9	627.7	U	3.5	25	-60.1	-99.9	627.7	1	627.7	1	.0
SPO	77	287	2350	320024	1670.0	1667.9	U	6.2	360	-53.8	-99.9	1667.9	1	1667.9	1	.0
SPO	77	287	2350	330024	245.9	245.6	U	6.2	360	-53.8	-99.9	245.6	1	245.6	0	.0
SPO	77	316	1155	340025	878.0	877.4	U	2.7	325	-33.2	-99.9	877.4	1	877.4	1	.0
SPO	77	316	1155	350025	333.7	333.5	U	2.7	325	-33.2	-99.9	333.5	1	333.5	1	.0
SPO	77	336	0750	010026	263.3	263.2	.2	3.8	4	-31.8	-99.9	263.2	0	261.2	0	1.6
SPO	77	336	0750	020025	259.2	259.1	2.2	3.8	4	-31.8	-99.9	259.1	0	-1.0	0	-1.0
SPO	77	353	0345	030027	274.6	274.6	.9	2.7	99	-29.3	-99.9	274.6	2	274.6	2	.9
SPO	77	353	0345	040027	294.9	294.9	11.5	2.7	99	-29.3	-99.9	294.9	1	294.9	1	11.5
SPO	78	1	0425	050028	330.6	330.7	22.3	4.4	320	-21.5	-99.9	330.7	1	330.7	1	22.3
SPO	78	1	0425	060028	252.9	253.0	3.4	4.4	320	-21.5	-99.9	253.0	2	253.0	0	3.4
SPO	78	15	0855	070029	247.3	247.5	4.9	1.2	75	-27.6	-99.9	247.5	2	247.5	0	4.9
SPO	78	15	0855	080029	286.3	286.5	45.8	1.2	75	-27.6	-99.9	286.5	1	286.5	1	45.8
SPO	78	31	0200	240030	259.5	259.8	10.5	3.2	102	-36.0	-99.9	259.8	1	259.8	0	10.5
SPO	78	31	0200	250030	276.8	277.1	29.4	3.2	102	-36.0	-99.9	277.1	1	277.1	1	29.4
SPO	78	45	2355	370031	720.4	721.4	U	4.3	70	-36.7	-99.9	721.4	1	721.4	1	.0
SPO	78	60	0212	270032	1211.4	1213.5	U	2.5	78	-57.8	-99.9	1213.5	1	1213.5	1	.0
SPO	78	60	0212	280032	349.2	349.8	1.0	2.5	78	-57.8	-99.9	349.8	2	349.8	2	1.0
SPO	78	91	0230	290033	393.2	394.1	1.1	8.1	16	-47.1	-99.9	394.1	3	394.1	3	1.1
SPO	78	91	0230	300033	251.1	251.7	.4	8.1	16	-47.1	-99.9	251.7	3	251.7	0	.4
SPO	78	121	0105	310034	272.7	273.5	1.0	4.7	88	-63.6	-99.9	273.5	3	273.5	3	1.0
SPO	78	121	0105	320034	328.0	329.0	1.4	4.7	88	-63.6	-99.9	329.0	3	329.0	3	1.4
SPO	78	152	0918	330035	257.7	258.6	.6	7.8	14	-39.2	-99.9	258.6	3	264.3	0	.6
SPO	78	152	0918	340035	269.0	270.0	.3	7.8	14	-39.2	-99.9	270.0	3	-1.0	0	-1.0
SPO	78	182	1012	350036	369.0	370.6	.5	3.6	84	-61.4	-99.9	370.6	3	370.6	3	.5
SPO	78	182	1012	090036	257.3	258.4	.7	3.5	84	-61.4	-99.9	258.4	3	258.4	0	.7
SPO	78	213	0140	100037	282.6	284.0	7.0	3.4	57	-61.7	-99.9	284.0	1	284.0	1	7.0
SPO	78	244	0910	120038	685.8	689.7	2.4	7.1	11	-49.8	-99.9	689.7	3	689.7	3	2.4
SPO	78	244	0910	130038	274.9	276.4	1.0	7.1	11	-49.8	-99.9	276.4	3	276.4	0	1.0
SPO	78	274	0450	150039	256.6	258.2	1.7	5.9	13	-58.0	-99.9	258.2	0	263.0	0	1.5
SPO	78	274	0450	140039	266.2	267.9	1.2	5.9	13	-58.0	-99.9	267.9	0	-1.0	0	-1.0
SPO	78	305	0834	160040	263.2	265.0	.1	3.7	101	-44.8	-99.9	265.0	0	264.9	0	.5
SPO	78	305	0834	170040	262.9	264.7	.7	3.7	101	-44.8	-99.9	264.7	0	-1.0	0	-1.0
SPO	78	320	0400	680041	292.6	294.7	.6	3.1	69	-35.2	-99.9	294.7	3	294.7	3	.6

F12 DATA BASE																
STN	YR	JCD	GMT	SAMP. NO.	1 PPTV	2 PPTV	S.D.	WIND		TEMP DEG C		3	F3	4	F4	S.D.
								M/S	JEG	AIR	DEW PT	PPTV		PPTV		
SPO	78	320	0400	690041	305.4	307.6	.2	3.1	69	-35.2	-99.9	307.6	3	307.6	3	.2
SPO	78	336	2234	250042	268.8	270.8	2.6	3.9	14	-29.9	-99.9	270.8	0	269.8	0	2.1
SPO	78	336	2234	240042	266.8	268.8	1.4	3.3	14	-29.9	-99.9	268.8	0	-1.0	0	-1.0
SPO	78	343	0140	010043	283.8	286.0	1.8	3.8	49	-26.8	-99.9	286.0	3	286.0	3	1.8
SPO	78	343	0140	020043	306.6	309.0	1.6	3.6	49	-26.6	-99.9	309.0	3	309.0	3	1.6
SPO	78	351	0210	060044	284.1	286.3	1.9	2.2	83	-26.5	-99.9	286.3	3	286.3	3	1.9
SPO	78	351	0210	070044	314.1	316.6	.6	2.2	83	-26.5	-99.9	316.6	3	316.6	3	.6
SPO	78	357	0045	030045	285.8	288.1	1.9	2.3	15	-28.6	-99.9	288.1	3	288.1	3	1.9
SPO	78	357	0045	040045	272.3	274.5	4.0	2.3	15	-28.6	-99.9	274.5	3	274.5	0	4.0
SPO	78	363	0110	080046	271.2	273.4	1.3	6.3	6	-16.6	-99.9	273.4	0	272.8	0	.9
SPO	78	363	0110	050046	269.9	272.1	.1	6.3	6	-16.6	-99.9	272.1	0	-1.0	0	-1.0
SPO	79	2	2240	340047	266.6	268.8	.9	6.0	67	-20.9	-99.9	268.8	0	271.0	0	.6
SPO	79	2	2240	350047	271.0	273.2	.1	6.0	67	-20.9	-99.9	273.2	0	-1.0	0	-1.0
SPO	79	8	2300	330048	267.3	269.5	.2	7.2	15	-22.2	-99.9	269.5	3	269.5	0	.2
SPO	79	8	2300	370048	310.0	312.6	2.1	7.2	15	-22.2	-99.9	312.6	3	312.6	3	2.1
SPO	79	13	0145	290049	267.5	269.8	2.9	4.0	74	-26.0	-99.9	269.8	0	269.4	0	2.8
SPO	79	13	0145	300049	266.8	269.1	2.7	4.0	74	-26.0	-99.9	269.1	0	-1.0	0	-1.0
SPO	79	18	0155	260050	282.2	284.6	1.3	3.4	109	-29.8	-99.9	284.6	2	284.6	2	1.3
SPO	79	23	0125	270051	267.0	269.3	1.2	4.0	8	-26.7	-99.9	269.3	0	268.8	0	2.2
SPO	79	23	0125	280051	265.9	268.2	2.8	4.0	8	-26.7	-99.9	268.2	0	-1.0	0	-1.0
SPO	79	27	0030	090052	265.1	267.4	.8	4.2	85	-30.3	-99.9	267.4	0	270.0	0	.9
SPO	79	27	0030	100052	270.2	272.6	1.0	4.2	85	-30.3	-99.9	272.6	0	-1.0	0	-1.0
SPO	79	34	0025	110053	312.8	315.6	3.1	5.8	40	-33.3	-99.9	315.6	3	315.6	3	3.1
SPO	79	34	0025	120053	353.6	356.8	3.1	5.8	40	-33.3	-99.9	356.8	3	356.8	3	3.1
SPO	79	37	2325	130054	265.2	267.6	.6	4.2	51	-39.1	-99.9	267.6	0	267.1	0	.6
SPO	79	37	2325	140054	264.2	266.6	.5	4.2	51	-39.1	-99.9	266.6	0	-1.0	0	-1.0
SPO	79	284	0040	020055	319.9	324.5	.8	6.7	11	-53.0	-99.9	324.5	3	324.5	3	.8
SPO	79	284	0040	010055	310.1	314.5	5.8	6.7	11	-53.0	-99.9	314.5	3	314.5	3	5.8
SPO	79	291	0430	060056	302.3	306.7	2.2	5.2	64	-54.2	-99.9	306.7	2	306.7	2	2.2
SPO	79	291	0430	070056	368.9	374.2	U	5.2	64	-54.2	-99.9	374.2	1	374.2	1	.0
SPO	79	297	2320	250057	323.5	328.2	1.2	4.7	55	-47.8	-99.9	328.2	3	328.2	3	1.2
SPO	79	297	2320	240057	344.7	349.7	3.3	4.7	55	-47.8	-99.9	349.7	3	349.7	3	3.3
SPO	79	305	0330	690058	318.0	322.7	2.8	7.1	342	-43.2	-99.9	322.7	3	322.7	3	2.8
SPO	79	305	0330	680058	302.7	307.1	.6	7.1	342	-43.2	-99.9	307.1	3	307.1	3	.6
SPO	79	312	0457	040059	2030.0	2060.1	9.7	4.4	330	-41.3	-99.9	2060.1	1	2060.1	1	9.7
SPO	79	312	0457	050059	9999.9	9999.9	52.7	4.4	330	-41.3	0.0	9999.9	1	9999.9	1	52.7
SPO	79	319	2340	330060	281.1	285.3	1.5	7.1	30	-40.8	-99.9	285.3	2	285.3	0	1.5
SPO	79	319	2340	340061	274.3	278.4	10.6	7.1	30	-40.8	-99.9	278.4	1	278.4	0	10.6
SPO	79	319	2340	380061	330.9	335.9	.2	7.1	30	-40.8	-99.9	335.9	2	335.9	2	.2
SPO	79	325	2300	370062	305.9	310.5	1.5	5.3	67	-30.9	-99.9	310.5	3	310.5	3	1.5
SPO	79	325	2300	130062	330.0	335.0	1.6	5.3	67	-30.9	-99.9	335.0	3	335.0	3	1.6
SPO	79	333	2310	620063	296.4	300.9	2.6	3.8	117	27.3	-99.9	300.9	0	299.5	0	1.8
SPO	79	333	2310	400063	293.6	298.1	.2	3.3	117	26.1	-99.9	298.1	0	-1.0	0	-1.0
SPO	79	340	2320	350064	286.8	291.2	1.5	3.8	30	-31.1	-99.9	291.2	2	291.2	0	1.5
SPO	79	346	2300	110065	864.0	877.4	U	4.2	90	-27.0	-99.9	877.4	1	877.4	1	.0
SPO	79	346	2300	140065	312.4	317.3	1.7	4.2	90	-27.0	-99.9	317.3	2	317.3	2	1.7
SPO	79	354	2255	120066	286.3	290.8	.9	2.5	67	-24.0	-99.9	290.8	0	287.8	0	.9
SPO	79	354	2255	290066	280.3	284.7	.8	2.5	67	-24.0	-99.9	284.7	0	-1.0	0	-1.0
SPO	79	360	2305	080067	281.9	286.4	2.3	4.9	5	-26.0	-99.9	286.4	3	286.4	0	2.3
SPO	79	360	2305	280067	300.9	305.7	2.3	4.9	5	-26.0	-99.9	305.7	3	305.7	3	2.3

## Appendix D: N<sub>2</sub>O Data for Barrow, Niwot Ridge, Mauna Loa, Samoa, and South Pole, 7 March 1977 to 31 December 1979

### Description of Data Sets:

1. Data analyzed on chromatograph; calibrations performed using reference gas 3072 (December 1977), 331.40 ppbv.
2. Data corrected for use of unelectropolished sample flasks (correction factor = 0.965), for N<sub>2</sub>O chromatograph trace baseline error [see Eq. (2) of Sec. 2.2] and for change from R. A. Rasmussen to NOAA/GMCC N<sub>2</sub>O calibration scale (correction factor = 0.898).
3. N<sub>2</sub>O mole fractions in dry air. Flags F3 (Column 14) associated with data set 3 are the following.
  - 0: Optimum pair-sample data--s.d.  $\leq 3.8$  ppbv and concentration difference  $\leq 6.2$  ppbv.
  - 1: Exceeded s.d. of 3.8 ppbv.
  - 2: Single sample, or pair member of sample already flagged.
  - 3: Concentration difference for samples of pair exceeded 6.2 ppbv.
  - 4: Meteorological criteria not satisfied. Applied only to Niwot Ridge data. Acceptable wind speeds and directions are  $>1.5$  m s<sup>-1</sup> and 180° through 45°, respectively.
  - 5: Previously unflagged data subjectively determined to be outlying.

Data set 3 is intended for use by researchers who desire to apply their own data selection criteria for improvement of data quality and identification of background measurement conditions.

4. Select data set--N<sub>2</sub>O mole fractions in dry air. The data have been adjusted by the correction factor 0.8933 (see Sec. 2.3) to express results in the NOAA/GMCC N<sub>2</sub>O calibration scale. Flags F4 (column 16) associated with data set 4 are the following.
  - 0: Optimum pair-sample data, with pair values averaged. Also, N<sub>2</sub>O mole fractions (with pair values averaged), flagged 1 to 4 in data set 3, that lie within  $\pm 3$  r.s.d. of the regression line fitted to the optimum pair-sample data.
  - 1-5: As flags 1 to 5 of data set 3.

Data flagged 0 in data set 4 presumably represent atmospheric background measurement conditions at the various stations. They are intended for use by researchers who accept as satisfactory the data selection procedures outlined in this report.

## N2O DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1			WIND		TEMP		3	F3	4		S.D.
					PPBV	2	S.D.	M/S	DEG	AIR	DEW PT			PPBV	F4	
BRW	77	215	0153	050128	393.1	333.0	3.2	6.1	275	10.0	6.1	336.1	2	336.1	2	3.2
BRW	77	220	2351	030129	381.4	324.3	11.3	11.2	85	4.0	3.3	326.8	1	326.8	1	11.3
BRW	77	229	0200	020130	407.6	343.7	8.4	4.0	110	15.5	11.9	348.5	1	348.5	1	8.4
BRW	77	247	0045	050131	373.3	318.3	5.9	3.3	260	8.5	7.9	321.7	1	321.7	1	5.9
BRW	77	254	0011	020132	333.1	288.5	14.3	8.5	76	2.2	-1.1	290.2	1	290.2	1	14.3
BRW	77	260	2025	030133	331.3	287.2	14.5	5.4	90	.2	-1.1	288.8	1	288.8	1	14.5
BRW	77	271	2205	050134	326.1	283.4	7.6	8.7	15	-2.2	-4.4	284.6	1	284.6	1	7.6
BRW	77	281	0005	020135	344.4	296.9	1.2	5.3	135	-6	-3.1	298.3	2	298.3	2	1.2
BRW	77	284	2353	030136	327.0	284.0	7.9	16.0	80	-3.3	-6.8	285.1	1	295.1	1	7.9
BRW	77	293	2302	050137	320.5	279.2	13.9	12.0	70	-7.2	-8.3	280.1	1	280.1	1	13.9
BRW	77	306	0055	020138	330.7	286.8	4.7	5.5	30	-21.3	-21.7	287.1	1	287.1	1	4.7
BRW	77	313	2238	030139	337.3	291.6	5.1	6.5	10	-26.1	-26.4	291.9	1	291.9	1	5.1
BRW	77	330	2200	020141	330.2	286.4	0	3.3	217	-22.5	-26.7	286.6	1	286.6	1	.0
BRW	77	215	0153	180128	347.3	309.9	7.8	6.1	275	10.0	6.1	312.8	1	312.8	1	7.8
BRW	77	215	0153	190128	339.8	304.1	4.1	6.1	275	10.0	6.1	307.0	1	307.0	1	4.1
BRW	77	220	2351	200129	335.7	301.0	6.3	11.2	85	4.0	3.3	303.3	1	302.4	0	6.3
BRW	77	220	2351	210129	333.4	299.2	10.5	11.2	85	4.0	3.3	301.5	1	-1.0	0	-1.0
BRW	77	229	0200	220130	329.9	296.5	5.1	4.0	110	15.5	11.9	300.7	1	300.7	0	5.1
BRW	77	229	0200	230130	323.5	291.6	12.0	4.0	110	15.5	11.9	295.7	1	295.7	1	12.0
BRW	77	247	0045	180131	336.2	301.4	5.3	3.9	260	8.5	7.9	304.6	1	304.6	1	5.3
BRW	77	247	0045	190131	339.9	304.2	1.6	3.9	260	8.5	7.9	307.4	2	307.4	2	1.6
BRW	77	254	0011	200132	328.6	295.6	7.3	8.5	76	2.2	-1.1	297.2	1	297.2	1	7.3
BRW	77	254	0011	210132	335.7	301.0	17.8	8.5	76	2.2	-1.1	302.7	1	302.7	0	17.8
BRW	77	260	2025	220133	331.8	298.0	11.7	5.4	90	.2	-1.1	299.7	1	301.7	0	11.7
BRW	77	260	2025	230133	337.1	302.1	12.0	5.4	90	.2	-1.1	303.8	1	-1.0	0	-1.0
BRW	77	271	2205	180134	327.5	294.7	.8	8.7	15	-2.2	-4.4	296.0	2	296.0	2	.8
BRW	77	271	2205	190134	327.6	294.8	7.1	8.7	15	-2.2	-4.4	296.1	1	296.1	1	7.1
BRW	77	281	0005	200135	338.7	303.3	3.7	5.3	135	-6	-3.1	304.8	0	302.5	0	2.7
BRW	77	281	0005	210135	332.7	298.7	1.0	5.3	135	-6	-3.1	300.1	0	-1.0	0	-1.0
BRW	77	284	2353	220136	329.4	296.2	4.8	16.0	80	-3.3	-6.8	297.3	1	297.3	1	4.8
BRW	77	284	2353	230136	328.4	295.4	5.0	16.0	80	-3.3	-6.8	296.5	1	296.5	1	5.0
BRW	77	293	2302	180137	336.9	301.9	3.4	12.0	70	-7.2	-8.3	302.9	2	302.9	0	3.4
BRW	77	293	2302	190137	339.1	303.6	5.7	12.0	70	-7.2	-8.3	304.6	1	304.6	1	5.7
BRW	77	306	0055	200138	335.8	299.5	2.8	5.5	30	-21.3	-21.7	299.9	2	300.5	0	2.8
BRW	77	306	0055	210138	335.4	300.8	4.7	5.5	30	-21.3	-21.7	301.1	1	-1.0	0	-1.0
BRW	77	313	2238	220139	331.4	297.7	3.9	6.5	10	-26.1	-26.4	297.9	1	297.9	1	3.9
BRW	77	313	2238	230139	336.4	301.5	4.5	6.5	10	-26.1	-26.4	301.8	1	301.8	0	4.5
BRW	77	318	2100	180140	334.1	299.8	2.1	8.0	62	-23.0	-25.6	300.0	0	298.1	0	2.0
BRW	77	318	2100	190140	329.0	295.9	1.9	8.0	62	-23.0	-25.6	296.1	0	-1.0	0	-1.0
BRW	77	330	2200	200141	346.3	309.1	7.0	3.3	217	-22.5	-26.7	309.4	1	309.4	1	7.0
BRW	77	330	2200	210141	332.2	298.3	6.7	3.3	217	-22.5	-26.7	298.5	1	298.5	1	6.7
BRW	77	345	0142	220142	330.1	296.7	7.1	9.6	320	-30.0	-31.7	296.9	1	296.9	1	7.1
BRW	77	345	0142	230142	339.3	303.8	10.4	9.6	320	-30.0	-31.7	303.9	1	303.9	1	10.4
BRW	77	351	0130	180143	338.8	303.4	1.6	4.5	125	-34.4	-38.1	303.5	0	302.9	0	2.3
BRW	77	351	0130	190143	337.2	302.1	2.9	4.5	125	-34.4	-38.1	302.3	0	-1.0	0	-1.0
BRW	77	363	0036	200144	339.0	304.0	2.7	10.2	115	-16.5	-18.9	304.4	2	304.4	2	2.7
BRW	77	363	0036	210144	340.3	304.5	4.5	10.2	115	-16.5	-18.9	305.0	1	305.0	1	4.5
BRW	78	6	0142	220145	336.5	301.6	.5	6.4	99	-21.3	-25.6	301.9	0	302.3	0	2.2
BRW	78	6	0142	230145	337.7	302.5	3.0	6.4	99	-21.3	-25.6	302.8	0	-1.0	0	-1.0
BRW	78	13	0110	200146	338.3	303.0	2.1	9.1	72	-15.3	-15.3	303.6	2	303.6	0	2.1
BRW	78	13	0110	210146	339.5	303.9	6.9	9.1	72	-15.3	-15.3	304.5	1	304.5	1	6.9

## N20 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPBV	2 PPBV	S.D.	WIND		TEMP		3 PPBV	F3	4 PPBV	F4	S.D.
								M/S	DEG	AIR	DEW PT					
BRW	78	18	2340	180147	336.2	301.4	2.4	2.7	60	-21.0	-23.3	301.7	0	302.7	0	1.8
BRW	78	18	2340	190147	338.7	303.3	.8	2.7	60	-21.0	-23.3	303.6	0	-1.0	0	-1.0
BRW	78	28	0150	200148	339.4	303.8	4.5	4.2	75	-29.1	-30.6	304.0	1	304.0	1	4.5
BRW	78	28	0150	210148	332.3	298.4	4.8	4.2	75	-29.1	-30.6	298.6	1	298.6	1	4.8
BRW	78	33	0100	220149	336.9	301.9	1.1	7.0	72	-27.0	-30.6	302.1	0	302.7	0	1.4
BRW	78	33	0100	230149	338.4	303.1	1.7	7.0	72	-27.0	-30.6	303.3	0	-1.0	0	-1.0
BRW	78	40	2158	180150	333.5	299.3	3.0	4.5	79	-39.3	-43.1	299.4	0	300.6	0	2.2
BRW	78	40	2158	190150	336.5	301.6	.8	4.5	79	-39.3	-43.1	301.7	0	-1.0	0	-1.0
BRW	78	45	2059	220151	337.9	302.7	2.7	8.3	60	-21.0	-26.7	302.9	0	304.7	0	2.2
BRW	78	45	2059	230151	342.6	306.3	1.4	8.3	60	-21.0	-26.7	306.5	0	-1.0	0	-1.0
BRW	78	54	2350	180152	336.8	301.8	.7	4.2	57	-21.7	-27.2	302.1	0	302.0	0	.9
BRW	78	54	2350	190152	336.5	301.6	1.0	4.2	57	-21.7	-27.2	301.8	0	-1.0	0	-1.0
BRW	78	64	0302	200153	337.6	302.5	1.1	8.9	35	-24.4	-29.4	302.7	0	302.5	0	1.4
BRW	78	64	0302	210153	337.2	302.1	1.7	8.9	35	-24.4	-29.4	302.3	0	-1.0	0	-1.0
BRW	78	67	2223	180154	338.9	303.5	6.3	12.3	59	-21.3	-23.9	303.7	1	303.7	0	6.3
BRW	78	67	2223	190154	340.8	304.9	5.3	12.3	59	-21.3	-23.9	305.2	1	305.2	1	5.3
BRW	78	78	0211	180155	333.9	299.6	U	4.5	10	-19.3	-21.7	300.0	1	299.8	0	.0
BRW	78	78	0211	190155	333.4	299.2	U	4.5	10	-19.3	-21.7	299.6	1	-1.0	0	-1.0
BRW	78	86	2037	220156	336.4	301.5	1.7	6.4	30	-22.0	-25.0	301.8	0	301.2	0	2.1
BRW	78	86	2037	230156	334.9	300.4	2.4	6.4	30	-22.0	-25.0	300.7	0	-1.0	0	-1.0
BRW	78	93	2034	200157	336.5	301.6	1.0	6.5	80	-25.6	-29.4	301.8	0	301.7	0	1.2
BRW	78	93	2034	210157	336.3	301.5	1.4	6.6	80	-25.6	-29.4	301.7	0	-1.0	0	-1.0
BRW	78	101	2139	220158	336.4	301.5	1.5	4.3	85	-20.7	-26.1	301.8	0	301.4	0	2.0
BRW	78	101	2139	230158	335.5	300.8	2.4	4.9	85	-20.7	-26.1	301.1	0	-1.0	0	-1.0
BRW	78	108	2339	180159	335.1	300.5	1.5	7.3	144	-11.0	-12.8	301.2	0	300.8	0	1.2
BRW	78	108	2339	190159	334.0	299.7	.8	7.3	144	-11.0	-12.8	300.4	0	-1.0	0	-1.0
BRW	78	115	0044	200160	333.4	299.2	3.0	11.6	98	-11.5	-14.4	299.8	0	301.3	0	2.4
BRW	78	115	0044	210160	337.2	302.1	1.6	11.5	98	-11.5	-14.4	302.8	0	-1.0	0	-1.0
BRW	78	122	2353	220161	336.0	301.2	2.3	9.0	87	-12.0	-13.3	301.9	0	302.2	0	2.0
BRW	78	122	2353	230161	336.8	301.8	1.7	9.0	87	-12.0	-13.3	302.5	0	-1.0	0	-1.0
BRW	78	128	1939	180162	335.2	300.6	.9	8.3	100	-11.4	-16.7	301.1	0	301.2	0	.9
BRW	78	128	1939	190162	335.4	300.8	.8	8.8	100	-11.4	-16.7	301.3	0	-1.0	0	-1.0
BRW	78	135	2340	200163	334.4	300.0	3.0	7.8	79	-12.4	-15.0	300.6	0	300.5	0	2.5
BRW	78	135	2340	210163	334.3	299.9	2.0	7.8	79	-12.4	-15.0	300.5	0	-1.0	0	-1.0
BRW	78	142	2250	220164	336.3	301.5	1.4	4.2	58	-3.3	-5.6	302.7	0	301.9	0	1.5
BRW	78	142	2250	230164	334.4	300.0	1.6	4.2	68	-3.3	-5.6	301.2	0	-1.0	0	-1.0
BRW	78	150	2350	200165	338.0	302.8	3.7	6.4	145	-1.9	-1.9	304.4	0	302.0	0	2.7
BRW	78	150	2350	210165	331.8	298.0	.6	6.4	145	-1.9	-1.9	299.6	0	-1.0	0	-1.0
BRW	78	160	2039	220166	334.1	299.8	2.1	4.0	110	3.7	-1.7	301.4	0	301.9	0	1.7
BRW	78	160	2039	230166	335.5	300.8	1.2	4.0	110	3.7	-1.7	302.5	0	-1.0	0	-1.0
BRW	78	164	2325	200167	334.8	300.3	1.6	4.1	54	.6	-2.2	301.9	0	301.4	0	1.7
BRW	78	164	2325	210167	333.7	299.5	1.8	4.1	54	.6	-2.2	301.0	0	-1.0	0	-1.0
BRW	78	173	2017	230168	334.9	300.4	1.6	10.3	80	-.8	-5.8	301.6	0	301.2	0	1.4
BRW	78	173	2017	220168	333.9	299.6	1.2	10.3	80	-.8	-5.8	300.8	0	-1.0	0	-1.0
BRW	78	179	1935	200169	334.4	300.0	.9	3.5	95	2.7	-.6	301.7	0	301.0	0	1.0
BRW	78	179	1935	210169	332.5	298.5	1.0	3.5	95	2.7	-.6	300.3	0	-1.0	0	-1.0
BRW	78	187	0115	220170	332.0	298.2	.9	5.4	65	3.0	3.0	300.4	0	300.5	0	1.2
BRW	78	187	0115	230170	332.3	298.4	1.4	5.4	65	3.0	3.0	300.6	0	-1.0	0	-1.0
BRW	78	193	1925	200171	330.2	296.8	.9	6.7	105	2.5	.3	298.6	0	298.9	0	1.6
BRW	78	193	1925	210171	330.8	297.2	2.0	6.7	105	2.5	.3	299.1	0	-1.0	0	-1.0
BRW	78	199	0140	220172	330.2	296.8	1.6	9.4	110	1.4	1.4	298.8	0	299.2	0	2.2

N2O DATA BASE																	
STN	YR	JCD	GMT	SAMP. NO.	1 PPBV	2 PPBV	S.D.	WIND M/S	DEG	TEMP AIR	DEG C	DEW PT	3 PPBV	F3	4 PPBV	F4	S.D.
BRW	78	199	0140	230172	331.3	297.6	2.6	9.4	110	1.4	1.4		299.6	0	-1.0	0	-1.0
BRW	78	212	1959	210173	332.4	298.5	.4	5.8	170	15.4	13.3		303.0	0	303.1	0	.5
BRW	78	212	1959	200173	332.5	298.5	.5	5.8	170	15.4	13.3		303.1	0	-1.0	0	-1.0
BRW	78	221	2250	220174	329.7	296.4	.5	6.7	90	.4	-1.9		298.0	0	297.8	0	1.2
BRW	78	221	2250	230174	329.3	296.1	1.6	6.7	90	.4	-1.9		297.7	0	-1.0	0	-1.0
BRW	78	228	1935	630175	330.9	297.3	1.5	8.5	115	-.7	-1.4		298.9	2	298.9	0	1.5
BRW	78	238	0130	220176	330.5	297.0	1.5	4.0	75	2.3	1.1		299.0	0	298.4	0	1.5
BRW	78	238	0130	230176	329.0	295.9	1.5	4.0	75	2.3	1.1		297.8	0	-1.0	0	-1.0
BRW	78	242	1945	200177	332.5	298.5	.4	5.8	115	7.1	6.7		301.5	0	301.0	0	.8
BRW	78	242	1945	210177	331.2	297.5	1.0	5.8	115	7.1	6.7		300.4	0	-1.0	0	-1.0
BRW	78	248	2330	630178	333.9	299.6	1.6	3.5	115	7.5	7.5		302.7	2	302.7	0	1.6
BRW	78	256	2030	230179	330.3	296.9	.3	9.3	80	2.2	1.7		298.9	2	298.9	0	.3
BRW	78	261	2003	200180	332.3	298.4	.8	5.8	100	-1.6	-4.4		299.7	0	299.4	0	1.0
BRW	78	261	2003	210180	331.5	297.8	1.2	5.8	100	-1.6	-4.4		299.1	0	-1.0	0	-1.0
BRW	78	268	1910	590181	332.9	298.9	.9	6.7	110	.4	.4		300.7	0	301.3	0	1.1
BRW	78	268	1910	600181	334.3	299.9	1.2	6.4	110	.4	.4		301.8	0	-1.0	0	-1.0
BRW	78	277	2005	220182	334.3	299.9	1.4	6.3	100	-6.2	-9.4		300.8	0	300.1	0	1.1
BRW	78	277	2005	230182	332.5	298.5	.8	6.3	100	-6.2	-9.4		299.4	0	-1.0	0	-1.0
BRW	78	286	2340	210183	334.0	299.7	.3	6.7	265	-3.3	-5.6		300.9	0	300.5	0	1.2
BRW	78	286	2340	200183	332.9	298.9	1.6	6.7	265	-3.3	-5.6		300.0	0	-1.0	0	-1.0
BRW	78	290	2030	600184	332.5	298.5	.2	4.9	70	-18.9	-18.9		299.0	0	300.2	0	1.3
BRW	78	290	2030	590184	335.8	301.1	1.8	4.9	70	-18.9	-18.9		301.5	0	-1.0	0	-1.0
BRW	78	297	0055	230185	331.1	297.5	1.7	6.7	85	-21.1	-23.9		297.8	0	299.6	0	1.3
BRW	78	297	0055	220185	336.0	301.2	.8	6.7	85	-21.1	-23.9		301.5	0	-1.0	0	-1.0
BRW	78	304	2020	210186	334.5	300.1	1.2	4.5	40	-23.4	-26.0		300.3	0	300.2	0	.9
BRW	78	304	2020	200186	334.2	299.8	.3	4.5	40	-23.4	-26.0		300.1	0	-1.0	0	-1.0
BRW	78	316	1622	590187	334.7	300.2	.2	3.1	135	-7.0	-9.4		301.1	0	301.3	0	.8
BRW	78	316	1622	600187	335.0	300.5	1.1	3.1	135	-7.0	-9.4		301.4	0	-1.0	0	-1.0
BRW	78	320	0125	630188	334.0	299.7	.5	5.4	150	-24.2	-26.8		299.9	0	300.3	0	.6
BRW	78	320	0125	220188	335.0	300.5	.6	5.4	150	-24.2	-26.8		300.7	0	-1.0	0	-1.0
BRW	78	329	2325	200189	335.1	300.5	.3	8.3	73	-23.4	-23.4		300.8	0	301.1	0	.6
BRW	78	329	2325	210189	335.8	301.1	.8	8.3	73	-23.4	-23.4		301.4	0	-1.0	0	-1.0
BRW	78	341	2245	590190	336.3	301.5	1.2	6.7	30	-21.0	-23.6		301.8	2	301.8	0	1.2
BRW	78	346	2150	200191	334.4	300.0	.5	4.5	115	-27.8	-31.2		300.2	0	300.7	0	.6
BRW	78	346	2150	210191	335.7	301.0	.6	4.5	115	-27.8	-31.2		301.2	0	-1.0	0	-1.0
BRW	78	354	0205	590192	334.3	299.9	.3	4.9	75	-34.5	-37.8		300.0	0	299.3	0	.7
BRW	78	354	0205	600192	332.3	298.4	1.0	4.3	75	-34.5	-37.8		298.5	0	-1.0	0	-1.0
BRW	78	361	2005	220193	335.2	300.6	.7	4.5	105	-36.6	-41.0		300.7	0	301.1	0	.5
BRW	78	361	2005	630193	336.3	301.5	.1	4.5	105	-36.6	-41.0		301.6	0	-1.0	0	-1.0
BRW	79	3	0335	200194	334.0	299.7	1.2	4.9	127	-11.4	-13.2		300.4	0	300.4	0	1.1
BRW	79	3	0335	210194	334.2	299.8	.9	4.3	127	-11.4	-13.2		300.5	0	-1.0	0	-1.0
BRW	79	8	2110	600195	334.2	299.8	.8	5.8	105	-18.9	-21.7		300.2	0	300.0	0	.9
BRW	79	8	2110	590195	333.6	299.4	1.0	5.8	105	-18.9	-21.7		299.7	0	-1.0	0	-1.0
BRW	79	15	2305	220196	333.0	298.9	.2	5.8	60	-20.7	-23.6		299.2	0	299.3	0	.3
BRW	79	15	2305	630196	333.3	299.2	.4	5.8	60	-20.7	-23.6		299.5	0	-1.0	0	-1.0
BRW	79	18	2040	200197	337.1	302.1	1.1	10.3	70	-17.2	-19.8		302.5	0	302.1	0	.8
BRW	79	18	2040	210197	336.1	301.3	.1	10.3	70	-17.2	-19.8		301.7	0	-1.0	0	-1.0
BRW	79	33	2110	590198	333.9	299.6	1.6	3.5	300	-33.1	-37.7		299.7	0	300.4	0	1.2
BRW	79	33	2110	600198	335.6	300.9	.4	3.5	300	-33.1	-37.7		301.0	0	-1.0	0	-1.0
BRW	79	39	1935	220199	334.7	300.2	.6	3.1	20	-25.2	-28.6		300.4	0	300.9	0	.8
BRW	79	39	1935	630199	335.8	301.1	1.0	3.1	20	-25.2	-28.6		301.3	0	-1.0	0	-1.0

## N2O DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPBV	2 PPBV	S.D.	WIND		TEMP DEG C		3 PPBV	F3	4 PPBV	F4	S.D.
								M/S	DEG	AIR	DEW PT					
BRW	79	43	2035	200200	336.7	301.8	2.5	7.5	90	-34.9	-38.6	301.9	0	301.6	0	2.1
BRW	79	43	2035	210200	335.9	301.2	1.5	7.5	90	-34.9	-38.6	301.3	0	-1.0	0	-1.0
BRW	79	49	2250	590201	334.9	300.4	.3	3.5	110	-28.3	-32.7	300.5	0	300.2	0	1.1
BRW	79	49	2250	600201	334.0	299.7	1.5	3.6	110	-28.3	-32.7	299.9	0	-1.0	0	-1.0
BRW	79	57	2205	630202	336.1	301.3	.5	5.4	90	-27.6	-32.1	301.5	0	302.0	0	.8
BRW	79	57	2205	220202	337.4	302.3	1.0	5.4	90	-27.6	-32.1	302.5	0	-1.0	0	-1.0
BRW	79	64	2030	200203	334.7	300.2	.8	11.6	65	-29.8	-34.8	300.4	0	301.1	0	.6
BRW	79	64	2030	210203	336.5	301.6	.2	11.6	65	-29.8	-34.8	301.8	0	-1.0	0	-1.0
BRW	79	71	1955	600204	334.5	300.1	.5	5.4	70	-30.3	-35.1	300.2	0	301.3	0	.6
BRW	79	71	1955	590204	337.3	302.2	.6	5.4	70	-30.3	-35.1	302.4	0	-1.0	0	-1.0
BRW	79	78	2325	220205	337.2	302.1	2.1	2.2	20	-31.5	-37.3	302.3	0	303.2	0	1.5
BRW	79	78	2325	630205	339.6	304.0	.3	2.2	20	-31.5	-37.3	304.1	0	-1.0	0	-1.0
BRW	79	86	2005	200206	335.8	301.1	1.4	8.2	105	-14.6	-17.2	301.6	0	301.4	0	2.0
BRW	79	86	2005	210206	335.3	300.7	2.4	8.2	105	-14.6	-17.2	301.2	0	-1.0	0	-1.0
BRW	79	94	0215	630207	338.6	303.2	1.5	10.3	80	-23.0	-26.5	303.5	0	302.3	0	1.5
BRW	79	94	0215	220207	335.6	300.9	1.5	10.3	80	-23.0	-26.5	301.2	0	-1.0	0	-1.0
BRW	79	102	0130	590208	335.6	300.9	1.3	7.1	98	-24.2	-30.0	301.1	0	301.1	0	1.5
BRW	79	102	0130	630208	335.6	300.9	1.7	7.1	98	-24.2	-30.0	301.1	0	-1.0	0	-1.0
BRW	79	108	2155	210209	334.9	300.4	.7	6.4	70	-22.7	-26.5	300.6	0	301.2	0	1.1
BRW	79	108	2151	200209	336.3	301.5	1.4	6.4	70	-22.7	-26.5	301.7	0	-1.0	0	-1.0
BRW	79	114	0220	630210	337.4	302.3	.4	8.9	110	-4.2	-6.7	303.4	0	302.6	0	1.0
BRW	79	114	0220	220210	335.4	300.8	1.3	8.9	110	-4.2	-6.7	301.9	0	-1.0	0	-1.0
BRW	79	121	2055	600211	337.6	302.5	1.3	4.0	115	-4.5	-7.7	303.5	2	303.5	0	1.3
BRW	79	127	2055	200212	339.1	302.8	3.6	7.5	100	-2.3	-5.8	304.0	0	303.3	0	2.8
BRW	79	127	2055	210212	336.3	301.5	1.7	7.6	100	-2.3	-5.8	302.7	0	-1.0	0	-1.0
BRW	79	135	1955	630213	336.8	301.3	1.7	4.0	70	-9.5	-12.3	302.6	0	302.5	0	1.7
BRW	79	135	1955	220213	336.5	301.6	1.6	4.0	70	-9.5	-12.3	302.3	0	-1.0	0	-1.0
BRW	79	141	1855	590214	336.4	301.5	2.1	4.9	40	-9.6	-11.1	302.3	0	301.7	0	1.8
BRW	79	141	1855	500214	334.8	300.3	1.4	4.9	40	-9.6	-11.1	301.1	0	-1.0	0	-1.0
BRW	79	151	2325	210215	336.3	301.5	1.2	4.5	220	4.8	-.2	303.3	0	303.1	0	1.4
BRW	79	151	2325	200215	336.0	301.2	1.5	4.5	220	4.8	-.2	303.0	0	-1.0	0	-1.0
BRW	79	155	1925	220216	337.0	302.0	2.0	5.8	75	.7	-2.1	303.6	0	302.6	0	2.1
BRW	79	155	1925	630216	334.5	300.1	2.2	5.8	75	.7	-2.1	301.6	0	-1.0	0	-1.0
BRW	79	166	0001	600217	335.0	300.5	1.9	4.0	340	-.8	-2.6	302.0	0	302.4	0	1.4
BRW	79	166	0031	590217	336.1	301.3	.7	4.0	340	-.8	-2.6	302.8	0	-1.0	0	-1.0
BRW	79	169	2042	200218	334.8	300.3	.9	8.9	115	1.3	-.5	302.1	0	302.5	0	1.1
BRW	79	169	2042	210218	335.9	301.2	1.2	8.9	115	1.3	-.5	302.9	0	-1.0	0	-1.0
BRW	79	176	1940	220219	334.6	300.2	1.2	6.7	30	-1.0	-3.3	301.6	0	302.5	0	1.3
BRW	79	176	1940	630219	336.9	301.9	1.4	6.7	30	-1.0	-3.3	303.4	0	-1.0	0	-1.0
BRW	79	183	2047	600220	332.5	298.5	2.5	2.7	105	7.2	4.9	301.1	0	301.9	0	1.8
BRW	79	183	2047	590220	334.6	300.2	.2	2.7	105	7.2	4.9	302.7	0	-1.0	0	-1.0
BRW	79	195	0215	200221	331.1	297.5	1.9	6.7	270	11.2	7.3	300.5	0	301.0	0	1.6
BRW	79	195	0215	210221	332.4	298.5	1.2	6.7	270	11.2	7.3	301.5	0	-1.0	0	-1.0
BRW	79	200	1920	600222	333.8	299.5	.4	3.6	130	11.2	8.4	302.8	0	302.3	0	1.1
BRW	79	200	1920	590222	332.4	298.5	1.5	3.5	130	11.2	8.4	301.7	0	-1.0	0	-1.0
BRW	79	204	2108	630223	332.7	298.7	1.1	5.0	115	4.0	3.0	300.9	0	301.1	0	1.0
BRW	79	204	2108	220223	333.2	299.1	.8	5.0	115	4.0	3.0	301.3	0	-1.0	0	-1.0
BRW	79	211	0441	210224	331.9	298.1	1.7	4.9	105	4.9	4.7	300.6	0	301.1	0	1.7
BRW	79	211	0441	200224	333.1	299.0	1.7	4.9	105	4.9	4.7	301.5	0	-1.0	0	-1.0
BRW	79	218	1950	590225	331.8	298.0	2.4	10.7	90	1.8	1.2	300.0	0	300.0	0	1.8
BRW	79	218	1950	600225	331.9	298.1	.7	10.7	90	1.8	1.2	300.1	0	-1.0	0	-1.0

## N2O DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1		S.D.	WIND		TEMP DEG C		3	F3	4	F4	S.D.
					PPBV	2		M/S	DEG	AIR	DEW PT					
BRW	79	225	1855	200226	330.7	297.2	1.0	8.3	105	7.4	5.3	299.8	0	299.8	0	1.0
BRW	79	225	1855	210226	330.6	297.1	.9	8.9	105	7.4	5.3	299.7	0	-1.0	0	-1.0
BRW	79	232	2059	200227	335.7	301.0	2.5	4.0	135	12.4	11.2	305.0	0	304.4	0	2.0
BRW	79	232	2059	210227	334.3	299.9	1.3	4.0	135	12.4	11.2	303.9	0	-1.0	0	-1.0
BRW	79	249	1855	500229	333.8	299.5	1.3	9.8	145	4.2	2.7	301.7	0	301.9	0	1.6
BRW	79	249	1855	590229	334.3	299.9	1.9	9.8	145	4.2	2.7	302.1	0	-1.0	0	-1.0
BRW	79	253	1900	220230	340.7	304.8	.5	4.9	140	.8	-.5	306.6	2	306.6	2	.5
BRW	79	253	1900	630230	337.6	302.5	6.9	4.9	140	.8	-.5	304.2	1	304.2	1	6.9
BRW	79	262	1840	210231	333.7	299.5	.9	5.4	85	-.4	-4.1	300.8	0	301.1	0	1.4
BRW	79	262	1840	200231	334.5	300.1	1.7	5.4	85	-.4	-4.1	301.4	0	-1.0	0	-1.0
BRW	79	268	2015	590232	331.2	297.5	1.0	8.0	115	1.8	-.2	299.3	0	300.0	0	2.6
BRW	79	268	2015	600232	332.9	298.9	3.5	8.0	115	1.8	-.2	300.6	0	-1.0	0	-1.0
BRW	79	274	1845	220233	333.9	299.6	2.5	8.1	85	-.6	-2.2	301.2	0	300.2	0	2.2
BRW	79	274	1845	630233	331.3	297.6	1.9	8.1	85	-.6	-2.2	299.2	0	-1.0	0	-1.0
BRW	79	281	2105	590234	333.2	299.1	2.9	7.5	80	-4.5	-5.7	300.3	0	301.5	0	2.2
BRW	79	281	2105	600234	336.4	301.5	1.3	7.5	80	-4.5	-5.7	302.7	0	-1.0	0	-1.0
BRW	79	289	2016	630235	333.7	299.5	1.8	4.5	100	-11.0	-14.0	300.1	0	299.7	0	1.5
BRW	79	289	2016	220235	332.8	298.8	1.0	4.5	100	-11.0	-14.0	299.4	0	-1.0	0	-1.0
BRW	79	295	2140	210236	334.8	300.3	1.3	11.6	70	-8.8	-9.7	301.2	0	301.1	0	1.5
BRW	79	295	2140	200236	334.6	300.2	1.6	11.6	70	-8.8	-9.7	301.0	0	-1.0	0	-1.0
BRW	79	302	0130	220237	330.9	297.3	2.1	4.5	65	-18.2	-19.5	297.7	0	299.8	0	2.0
BRW	79	302	0130	630237	336.2	301.4	1.9	4.5	65	-18.2	-19.5	301.8	0	-1.0	0	-1.0
BRW	79	309	2030	210238	331.7	297.9	3.8	6.7	90	-11.0	-16.0	298.5	0	300.2	0	2.8
BRW	79	309	2030	200238	336.2	301.4	1.2	6.7	90	-11.0	-16.0	301.9	0	-1.0	0	-1.0
BRW	79	319	0030	590239	335.3	300.7	1.8	4.9	70	-12.7	-18.0	301.2	2	301.2	0	1.8
BRW	79	326	2150	630240	335.9	301.2	1.2	9.1	30	-23.6	-27.5	301.4	2	301.4	0	1.2
BRW	79	338	2130	590241	338.4	303.1	2.5	6.3	98	-23.6	-27.5	303.3	0	302.4	0	1.8
BRW	79	338	2130	600241	336.0	301.2	.3	6.9	98	-23.6	-27.5	301.5	0	-1.0	0	-1.0
BRW	79	348	2300	630242	338.0	302.8	1.4	12.4	230	-10.7	-12.3	303.5	2	303.5	0	1.4
BRW	79	352	2030	210243	339.9	304.2	1.2	4.5	60	-20.0	-24.4	304.5	0	303.3	0	1.3
BRW	79	352	2030	200243	336.7	301.8	1.4	4.5	60	-20.0	-24.4	302.0	0	-1.0	0	-1.0
BRW	79	358	2200	590244	335.5	300.8	1.8	7.7	68	-31.0	-37.3	301.0	0	300.5	0	1.5
BRW	79	358	2200	600244	334.2	299.8	1.1	7.7	68	-31.0	-37.3	300.0	0	-1.0	0	-1.0



N2O DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPBV	2 PPBV	S.D.	WIND		TEMP AIR	DEG C DEW PT	3 PPBV	F3	4 PPBV	F4	S.D.
								M/S	DEG							
NWR	77	166	2150	030064	336.8	301.8	1.4	2.2	225	17.6	-11.0	303.1	2	303.1	2	1.4
NWR	77	166	2150	040064	327.2	294.5	9.8	2.2	225	17.6	-11.0	295.7	1	295.7	1	9.8
NWR	77	172	1800	050065	324.9	292.7	2.2	4.5	270	14.0	-7.2	294.3	3	294.3	3	2.2
NWR	77	172	1800	060065	358.7	318.6	2.6	4.5	270	14.0	-7.2	320.4	3	320.4	3	2.6
NWR	77	179	1845	010066	530.6	450.5	U	2.2	135	17.5	7.0	457.4	1	457.4	1	.0
NWR	77	179	1845	020066	377.4	333.0	U	2.2	135	17.5	7.0	338.1	1	338.1	1	.0
NWR	77	194	1830	030067	327.6	294.8	8.0	8.9	270	11.5	3.7	298.3	1	298.3	0	8.0
NWR	77	194	1830	040067	318.5	287.8	2.9	8.9	270	11.5	3.7	291.3	2	291.3	2	2.9
NWR	77	200	1840	050068	334.5	300.1	10.2	0.0	CLM	16.0	4.2	303.8	1	303.8	1	10.2
NWR	77	200	1840	060068	327.8	294.9	9.1	0.0	CLM	16.0	4.2	298.6	1	298.6	0	9.1
NWR	77	208	2125	010069	342.9	306.5	U	11.2	90	16.2	1.8	309.7	1	309.7	1	.0
NWR	77	208	2125	020069	334.4	300.0	4.1	11.2	90	16.2	1.8	303.2	1	303.2	1	4.1
NWR	77	214	2030	030070	331.6	297.9	11.1	6.7	270	19.0	-4.2	299.9	1	299.9	0	11.1
NWR	77	214	2030	040070	328.1	295.2	11.1	6.7	270	19.0	-4.2	297.2	1	297.2	1	11.1
NWR	77	222	1800	050071	332.8	298.8	2.6	2.2	270	15.0	.5	301.6	0	302.7	0	3.1
NWR	77	222	1800	060071	335.5	300.8	3.6	2.2	270	15.0	.5	303.7	0	-1.0	0	-1.0
NWR	77	229	1700	010072	328.0	295.1	3.2	1.3	180	12.0	7.1	299.6	2	299.6	0	3.2
NWR	77	237	1830	030073	328.4	295.4	10.6	4.5	293	11.0	6.0	299.6	1	299.6	0	10.6
NWR	77	237	1830	040073	325.2	292.9	10.0	4.5	293	11.0	6.0	297.1	1	297.1	1	10.0
NWR	77	244	2120	050074	328.5	295.5	1.6	0.0	CLM	14.5	-4.5	297.4	2	297.4	2	1.6
NWR	77	258	2000	040075	328.1	295.2	7.0	2.2	270	-4.0	-8.5	296.6	1	296.6	1	7.0
NWR	77	258	2000	030075	332.1	298.2	1.4	2.2	270	-4.0	-8.5	299.7	2	299.7	0	1.4
NWR	77	265	2245	010076	333.2	299.1	6.3	1.3	270	13.5	-14.8	300.0	1	300.0	0	6.3
NWR	77	265	2245	020076	341.4	305.4	8.5	1.3	270	13.5	-14.8	306.3	1	306.3	1	8.5
NWR	77	272	2020	030077	330.3	296.9	8.4	2.2	270	MSG	MSG	299.2	1	299.2	0	8.4
NWR	77	272	2020	040077	328.5	295.5	5.0	2.2	270	MSG	MSG	297.8	1	297.8	1	5.0
NWR	77	281	2300	010078	336.5	301.6	10.3	6.7	270	-2.0	-9.8	303.0	1	303.0	0	10.3
NWR	77	281	2300	020078	330.2	296.8	1.1	6.7	270	-2.0	-9.8	298.1	2	298.1	2	1.1
NWR	77	286	2140	030079	331.2	297.5	4.7	4.5	270	6.0	-10.5	298.8	1	298.8	0	4.7
NWR	77	286	2140	040079	330.1	296.7	.9	4.5	270	6.0	-10.5	298.0	2	298.0	2	.9
NWR	77	296	2215	010080	330.5	297.0	2.1	2.2	270	2.5	-5.8	298.8	2	300.0	0	2.1
NWR	77	236	2215	020080	333.7	299.5	5.1	2.2	270	2.5	-5.8	301.3	1	-1.0	0	-1.0
NWR	77	300	2110	030081	367.0	325.0	3.2	2.2	180	6.5	-8.5	326.6	2	326.6	2	3.2
NWR	77	300	2110	040081	355.5	316.2	6.8	2.2	180	6.5	-8.5	317.7	1	317.7	1	6.8
NWR	77	307	2315	010082	333.9	299.6	1.1	2.2	225	3.5	-12.2	300.7	0	299.9	0	2.8
NWR	77	307	2315	020082	331.7	297.9	3.8	2.2	225	3.5	-12.2	299.0	0	-1.0	0	-1.0
NWR	77	315	2020	030083	331.1	297.5	11.1	4.5	270	3.0	-16.2	298.3	1	298.3	0	11.1
NWR	77	315	2020	040083	329.8	296.5	8.6	4.5	270	3.0	-16.2	297.3	1	297.3	1	8.6
NWR	77	325	2200	010084	333.9	299.6	23.5	4.5	270	-7.0	MSG	302.0	1	301.0	0	23.5
NWR	77	325	2200	020084	331.3	297.6	2.2	4.5	270	-7.0	MSG	300.0	2	-1.0	0	-1.0
NWR	77	333	2100	030085	329.5	296.2	9.1	4.5	270	-9.4	MSG	296.6	1	299.9	0	9.1
NWR	77	333	2100	040085	332.8	298.8	1.1	4.5	270	-9.4	MSG	301.2	2	-1.0	0	-1.0
NWR	77	341	2030	010086	345.0	308.1	10.9	2.2	270	-6.5	-8.8	309.6	1	309.6	1	10.9
NWR	77	341	2030	020086	343.6	307.1	10.5	2.2	270	-6.5	-8.8	308.5	1	308.5	1	10.5
NWR	77	351	0000	030087	339.6	304.0	5.9	11.2	270	-13.0	-99.9	306.4	1	306.4	1	5.9
NWR	77	351	0000	050087	345.6	308.6	3.2	11.2	270	-13.0	-99.9	311.1	2	311.1	2	3.2
NWR	77	365	0040	060088	340.2	304.5	5.4	11.2	270	-5.0	MSG	306.9	1	306.9	1	5.4
NWR	78	7	2130	010089	328.1	295.2	1.7	8.9	270	MSG	MSG	297.5	0	300.2	0	1.5
NWR	78	7	2130	020089	335.1	300.5	1.2	8.9	270	MSG	MSG	302.9	0	-1.0	0	-1.0
NWR	78	11	2150	030090	329.2	296.0	11.6	8.9	270	-8.6	-9.5	297.4	1	297.4	1	11.6
NWR	78	11	2150	040090	319.8	288.8	8.4	8.9	270	-8.6	-9.5	290.1	1	290.1	1	8.4

N20 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPBV	2 PPBV	S.D.	WIND		TEMP DEG C		3 PPBV	F3	4 PPBV	F4	S.D.
								M/S	DEG	AIR	DEW PT					
NWR	78	17	2020	050091	341.5	305.4	2.2	4.5	270	-8.5	-10.8	306.7	2	306.7	2	2.2
NWR	78	17	2020	060091	336.5	301.6	6.8	4.5	270	-8.5	-10.8	302.9	1	302.9	0	6.8
NWR	78	28	2200	010092	339.2	303.7	2.4	17.9	270	-7.0	-13.1	304.7	2	304.7	2	2.4
NWR	78	28	2200	020092	329.3	296.1	13.1	17.9	270	-7.0	-13.1	297.1	1	297.1	1	13.1
NWR	78	35	0030	030093	333.9	299.6	2.5	17.9	270	-7.2	-8.3	301.1	0	300.8	0	2.5
NWR	78	35	0030	040093	333.1	299.0	2.4	17.9	270	-7.2	-8.3	300.5	0	-1.0	0	-1.0
NWR	78	50	0000	010094	331.3	297.6	3.1	6.7	270	MSG	MSG	300.0	0	301.3	0	2.8
NWR	78	50	0000	020094	334.6	300.2	2.4	6.7	270	MSG	MSG	302.6	0	-1.0	0	-1.0
NWR	78	54	2109	030095	335.7	301.0	1.4	15.5	270	-6.5	-15.0	301.9	0	301.6	0	1.9
NWR	78	54	2109	040095	335.0	300.5	2.3	15.5	270	-6.5	-15.0	301.4	0	-1.0	0	-1.0
NWR	78	63	2045	050096	331.2	297.5	6.1	17.9	270	-5.0	-7.0	299.2	1	299.1	0	6.1
NWR	78	63	2045	060096	330.9	297.3	3.5	17.9	270	-5.0	-7.0	298.9	2	-1.0	0	-1.0
NWR	78	67	2150	010097	335.6	300.9	2.7	7.9	270	-4.0	-11.2	302.1	2	300.3	0	2.7
NWR	78	67	2150	020097	330.9	297.3	7.4	7.9	270	-4.0	-11.2	298.5	1	-1.0	0	-1.0
NWR	78	86	1930	030098	335.2	300.6	1.0	0.0	CLM	2.0	-11.2	301.8	4	301.6	0	.9
NWR	78	86	1930	040098	334.7	300.2	.9	0.0	CLM	2.0	-11.2	301.4	4	-1.0	0	-1.0
NWR	78	103	2330	020099	334.1	299.8	2.1	1.1	180	-2.5	-6.1	301.5	4	301.8	0	2.4
NWR	78	103	2330	060099	334.7	300.2	2.6	1.1	180	-2.5	-6.1	302.0	4	-1.0	0	-1.0
NWR	78	123	1650	010100	336.3	301.5	2.2	17.5	270	2.0	-2.2	303.8	0	303.9	0	2.3
NWR	78	123	1650	030100	336.5	301.6	2.4	17.5	270	2.0	-2.2	304.0	0	-1.0	0	-1.0
NWR	78	130	1810	040101	325.7	293.3	2.5	17.5	270	1.5	-9.9	294.6	5	294.0	5	2.0
NWR	78	130	1810	050101	324.2	292.2	1.4	17.5	270	1.5	-9.9	293.5	5	-1.0	5	-1.0
NWR	78	138	2150	010102	332.4	298.5	2.0	7.5	270	0.0	-3.3	300.6	0	300.7	0	1.6
NWR	78	138	2150	020102	332.5	298.5	.9	7.5	270	0.0	-3.3	300.7	0	-1.0	0	-1.0
NWR	78	152	2030	030103	330.9	297.3	1.8	2.2	180	1.5	-1.6	299.8	0	300.5	0	1.7
NWR	78	152	2030	060103	332.8	298.8	1.6	2.2	180	1.5	-1.6	301.2	0	-1.0	0	-1.0
NWR	78	158	2235	010104	331.1	297.5	1.1	11.3	270	2.0	-2.2	299.8	0	301.3	0	2.5
NWR	78	158	2235	020104	334.9	300.4	3.4	11.3	270	2.0	-2.2	302.7	0	-1.0	0	-1.0
NWR	78	165	1840	030105	331.7	297.9	1.1	1.1	270	15.5	-2.7	300.2	4	297.5	0	2.3
NWR	78	165	1840	040105	324.8	292.6	3.0	1.1	270	15.5	-2.7	294.9	4	-1.0	4	-1.0
NWR	78	173	2205	050106	331.6	297.9	2.7	1.1	220	17.5	.6	300.7	4	301.3	0	2.5
NWR	78	173	2205	060106	333.1	299.0	2.2	1.1	220	17.5	.6	301.9	4	-1.0	0	-1.0
NWR	78	179	2000	010107	340.8	304.9	1.9	1.1	135	8.5	6.6	309.4	3	309.4	3	1.9
NWR	78	179	2000	020107	355.4	316.1	1.5	1.1	135	8.5	6.6	320.8	3	320.8	3	1.5
NWR	78	188	2130	030108	331.0	297.4	.1	1.1	180	15.8	-4.7	299.3	4	298.8	0	1.6
NWR	78	188	2130	040108	329.5	296.2	2.3	1.1	180	15.8	-4.7	298.2	4	-1.0	4	-1.0
NWR	78	193	0325	050109	330.6	297.1	.7	.8	270	11.3	1.2	300.1	4	300.6	0	1.4
NWR	78	193	0325	060109	332.0	298.2	1.8	.9	270	11.3	1.2	301.2	4	-1.0	0	-1.0
NWR	78	200	2300	010110	328.0	295.1	1.5	3.0	180	15.5	-.4	297.7	0	298.9	0	2.1
NWR	78	200	2300	020110	331.0	297.4	2.6	3.0	180	15.5	-.4	300.1	0	-1.0	0	-1.0
NWR	78	209	2130	030111	332.0	298.2	1.9	2.0	270	17.0	5.6	302.3	0	302.2	0	.8
NWR	78	209	2130	040111	331.9	298.1	.6	2.0	270	17.0	5.6	302.2	0	-1.0	0	-1.0
NWR	78	215	2040	060112	330.1	296.7	2.4	2.0	90	11.0	4.1	300.4	4	300.7	0	2.2
NWR	78	215	2040	050112	330.8	297.2	2.0	2.0	90	11.0	4.1	300.9	4	-1.0	0	-1.0
NWR	78	222	1915	020113	326.7	294.1	1.2	2.0	270	13.5	5.2	298.0	0	298.4	0	1.0
NWR	78	222	1915	010113	327.6	294.8	.8	2.0	270	13.5	5.2	298.7	0	-1.0	0	-1.0
NWR	78	230	0000	030114	331.2	297.5	1.1	11.0	270	1.0	-6.0	299.3	0	299.0	0	1.0
NWR	78	230	0000	040114	330.4	296.9	.9	11.0	270	1.0	-6.0	298.7	0	-1.0	0	-1.0
NWR	78	235	1830	060115	332.6	298.6	1.0	5.0	270	14.5	-.7	301.2	0	301.3	0	1.1
NWR	78	235	1830	050115	332.7	298.7	1.1	5.0	270	14.5	-.7	301.3	0	-1.0	0	-1.0
NWR	78	246	1900	010116	332.5	298.5	1.3	2.0	120	14.5	-.2	301.3	4	301.2	0	1.0

## N2O DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPBV	2 PPBV	S.O.	WIND M/S	DEG	TEMP AIR	DEG C DEW PT	3 PPBV	F3	4 PPBV	F4	S.O.
NWR	78	246	1900	020116	332.4	298.5	.5	2.0	120	14.5	-2	301.2	4	-1.0	0	-1.0
NWR	78	254	2230	030117	331.9	298.1	1.0	3.5	270	.5	-4.5	300.1	0	300.1	0	1.0
NWR	78	254	2230	040117	332.1	298.2	1.0	3.5	270	.5	-4.5	300.2	0	-1.0	0	-1.0
NWR	78	268	2040	050116	331.4	297.7	1.0	2.0	60	9.0	-3.2	299.9	4	300.0	0	1.3
NWR	78	268	2040	060118	331.8	298.0	1.6	2.0	60	9.0	-3.2	300.2	4	-1.0	0	-1.0
NWR	78	276	2130	040119	334.2	299.8	1.5	2.9	270	9.0	-99.9	302.2	0	301.2	0	1.1
NWR	78	276	2130	030119	331.4	297.7	.3	2.9	270	9.0	-99.9	300.1	0	-1.0	0	-1.0
NWR	78	283	2300	050120	333.8	299.5	1.7	2.0	0	2.0	-22.2	300.0	0	299.9	0	1.4
NWR	78	283	2300	060120	333.3	299.2	1.0	2.0	0	2.0	-22.2	299.7	0	-1.0	0	-1.0
NWR	78	289	2110	010121	332.6	298.6	.2	5.6	270	10.0	-99.9	301.0	0	300.5	0	.7
NWR	78	289	2110	020121	331.2	297.5	1.0	5.6	270	10.0	-99.9	299.9	0	-1.0	0	-1.0
NWR	78	301	1735	040122	332.5	298.5	.9	8.8	270	5.0	-5.6	300.4	0	300.3	0	.7
NWR	78	301	1735	030122	332.2	298.3	.4	8.8	270	5.0	-5.6	300.1	0	-1.0	0	-1.0
NWR	78	315	1930	010123	333.3	299.2	1.4	3.3	270	5.0	-6.4	300.9	0	301.6	0	1.3
NWR	78	315	1930	020123	335.2	300.6	1.1	3.3	270	5.0	-6.4	302.3	0	-1.0	0	-1.0
NWR	78	320	1930	030124	332.4	298.5	.8	8.8	270	-9.5	-11.1	299.7	0	300.3	0	.7
NWR	78	320	1930	040124	334.0	299.7	.6	8.8	270	-9.5	-11.1	300.9	0	-1.0	0	-1.0
NWR	78	326	2045	060125	333.7	299.5	1.0	3.5	190	-6.8	-15.0	300.4	0	300.7	0	.7
NWR	78	326	2045	050125	334.7	300.2	.3	3.5	190	-6.8	-15.0	301.1	0	-1.0	0	-1.0
NWR	78	334	2040	010126	335.8	301.1	3.2	18.0	270	-7.8	-7.8	302.6	0	302.2	0	2.8
NWR	78	334	2040	020126	334.6	300.2	2.3	18.0	270	-7.8	-7.8	301.7	0	-1.0	0	-1.0
NWR	78	344	2000	050128	334.7	300.2	1.1	10.0	270	MSG	MSG	302.6	0	302.8	0	.8
NWR	78	344	2000	060128	335.2	300.6	.1	10.0	270	MSG	MSG	303.0	0	-1.0	0	-1.0
NWR	78	355	2320	010129	333.2	299.1	1.2	18.0	270	-13.0	-99.9	301.5	0	301.6	0	.9
NWR	78	355	2320	020129	333.5	299.3	.3	18.0	270	-13.0	-99.9	301.7	0	-1.0	0	-1.0
NWR	79	4	1545	030130	331.7	297.9	2.6	7.7	270	-6.0	-6.0	299.7	0	301.0	0	2.0
NWR	79	4	1545	040130	335.2	300.6	1.2	7.7	270	-6.0	-6.0	302.4	0	-1.0	0	-1.0
NWR	79	11	2300	010131	331.9	298.1	2.1	5.0	270	-2.0	MSG	300.5	0	301.6	0	1.7
NWR	79	11	2300	020131	334.8	300.3	1.2	5.0	270	-2.0	MSG	302.7	0	-1.0	0	-1.0
NWR	79	18	2310	030132	334.2	299.8	2.0	5.0	270	-9.0	MSG	302.2	0	302.7	0	1.4
NWR	79	18	2310	040132	335.4	300.8	.4	5.0	270	-9.0	MSG	303.2	0	-1.0	0	-1.0
NWR	79	26	2200	030133	336.9	301.9	.8	0.0	CLM	-19.0	-99.9	304.3	4	303.3	4	1.0
NWR	79	26	2200	040133	334.1	299.8	1.2	0.0	CLM	-19.0	-99.9	302.2	4	-1.0	0	-1.0
NWR	79	32	1750	050134	332.9	298.9	2.5	9.0	270	-8.3	-14.0	299.8	3	299.8	0	2.5
NWR	79	32	1750	060134	346.8	309.5	1.6	9.0	270	-8.3	-14.0	310.5	3	310.5	3	1.6
NWR	79	38	2330	010135	329.6	296.3	U	20.0	270	-7.8	-8.5	297.8	1	297.8	1	.0
NWR	79	38	2330	020135	325.3	293.0	3.1	20.0	270	-7.8	-8.5	294.5	2	294.5	2	3.1
NWR	79	45	2045	030136	332.1	298.2	1.2	4.5	270	2.2	-8.5	299.7	0	299.5	0	1.6
NWR	79	45	2045	040136	331.6	297.9	1.9	4.5	270	2.2	-8.5	299.3	0	-1.0	0	-1.0
NWR	79	59	2045	040137	333.5	299.3	1.3	8.8	270	-8.0	MSG	301.7	0	301.9	0	1.2
NWR	79	59	2045	030137	333.9	299.6	1.1	8.8	270	-8.0	MSG	302.0	0	-1.0	0	-1.0
NWR	79	67	2200	040138	335.0	300.5	1.2	1.7	180	-9.0	MSG	302.9	0	303.3	0	1.2
NWR	79	67	2200	030138	336.2	301.4	1.2	1.7	180	-9.0	MSG	303.8	0	-1.0	0	-1.0
NWR	79	80	2330	050139	337.4	302.3	2.8	0.0	CLM	-7.2	-7.2	303.9	4	305.2	0	2.7
NWR	79	80	2330	060139	340.7	304.8	2.5	0.0	CLM	-7.2	-7.2	306.5	4	-1.0	4	-1.0
NWR	79	90	2120	030140	333.2	299.1	2.1	1.0	130	0.0	-3.6	301.2	4	301.1	0	1.8
NWR	79	90	2120	040140	333.0	298.9	1.4	1.0	130	0.0	-3.6	301.0	4	-1.0	0	-1.0
NWR	79	97	0100	050141	334.3	299.9	.5	10.0	270	-4.7	-7.4	301.5	0	302.2	0	.8
NWR	79	97	0100	060141	336.1	301.3	1.0	10.0	270	-4.7	-7.4	302.9	0	-1.0	0	-1.0
NWR	79	104	1930	030142	336.8	301.8	.9	20.0	270	-5.6	-8.3	303.3	0	301.6	0	.7
NWR	79	104	1930	040142	332.2	298.3	.5	20.0	270	-5.6	-8.3	299.8	0	-1.0	0	-1.0

## N2O DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1			WIND		TEMP		3	F3	4	F4	S.D.
					PPBV	2	S.O.	M/S	DEG	AIR	DEW PT					
NWR	79	111	0145	060143	334.8	300.3	1.1	8.0	270	-4.2	-11.9	301.4	0	301.0	0	1.6
NWR	79	111	0145	050143	333.7	299.5	2.0	8.0	270	-4.2	-11.9	300.6	0	-1.0	0	-1.0
NWR	79	116	2200	030144	334.3	299.9	1.4	10.0	270	-6.4	-10.2	301.2	0	301.8	0	1.2
NWR	79	116	2200	040144	335.7	301.0	1.0	10.0	270	-6.4	-10.2	302.3	0	-1.0	0	-1.0
NWR	79	122	2030	050145	333.1	299.0	2.5	1.5	270	.6	-3.0	301.2	0	302.1	0	2.5
NWR	79	122	2030	060145	335.4	300.8	2.5	1.5	270	.6	-3.0	303.0	0	-1.0	0	-1.0
NWR	79	131	1800	040146	336.1	301.3	1.1	6.5	270	-5.6	-10.1	302.6	0	302.0	0	1.1
NWR	79	131	1800	030146	334.6	300.2	1.0	6.5	270	-5.6	-10.1	301.5	0	-1.0	0	-1.0
NWR	79	138	1530	060147	333.1	299.0	1.3	13.2	270	6.1	-.3	301.7	0	301.7	0	1.6
NWR	79	138	1530	050147	333.2	299.1	1.8	13.2	270	6.1	-.3	301.8	0	-1.0	0	-1.0
NWR	79	145	1100	030148	334.7	300.2	1.2	2.0	45	1.7	-4.5	302.2	0	302.3	0	1.1
NWR	79	145	1100	040148	334.8	300.3	1.0	2.0	45	1.7	-4.5	302.3	0	-1.0	0	-1.0
NWR	79	150	1830	050149	334.3	299.9	.9	2.0	180	-1.7	-2.0	302.3	0	302.3	0	.8
NWR	79	150	1830	060149	334.2	299.8	.6	2.0	180	-1.7	-2.0	302.2	0	-1.0	0	-1.0
NWR	79	159	2115	030150	330.0	296.6	6.6	2.0	270	-2.2	-99.9	299.0	1	299.0	1	6.6
NWR	79	159	2115	040150	333.2	299.1	2.2	2.0	270	-2.2	-99.9	301.5	2	301.5	0	2.2
NWR	79	163	1500	060151	335.5	300.8	1.2	4.0	315	15.3	4.0	304.6	0	303.5	0	1.4
NWR	79	163	1500	050151	332.8	298.8	1.5	4.0	315	15.3	4.0	302.5	0	-1.0	0	-1.0
NWR	79	173	1600	030152	334.1	299.8	3.3	2.0	180	11.7	-7.8	301.3	0	301.5	0	2.6
NWR	79	173	1600	040152	334.5	300.2	1.7	2.0	180	11.7	-7.8	301.7	0	-1.0	0	-1.0
NWR	79	179	1300	050153	331.8	298.0	2.5	2.0	270	12.8	-.7	300.6	0	301.4	0	2.0
NWR	79	179	1300	060153	333.8	299.5	1.4	2.0	270	12.8	-.7	302.2	0	-1.0	0	-1.0
NWR	79	184	1700	040154	335.4	300.8	1.0	2.0	315	17.8	-.2	303.5	0	302.7	0	.9
NWR	79	184	1700	030154	333.4	299.2	.8	2.0	315	17.8	-.2	302.0	0	-1.0	0	-1.0
NWR	79	192	1630	060155	334.2	299.8	2.0	1.0	90	19.0	-7.7	301.4	4	301.0	0	1.4
NWR	79	192	1630	050155	333.1	299.0	.3	1.0	90	19.0	-7.7	300.6	4	-1.0	0	-1.0
NWR	79	200	1700	030156	332.5	298.5	1.5	1.0	45	14.4	4.1	302.2	4	301.9	0	1.4
NWR	79	200	1700	040156	331.5	297.8	1.3	1.0	45	14.4	4.1	301.5	4	-1.0	0	-1.0
NWR	79	206	1530	050157	331.4	297.7	4.0	2.0	315	18.3	-.6	300.3	1	301.0	0	4.0
NWR	79	206	1530	060157	333.0	298.9	1.3	2.0	315	18.3	-.6	301.6	2	-1.0	0	-1.0
NWR	79	214	2130	030158	330.6	297.1	1.3	5.0	170	14.2	.6	300.0	4	301.0	0	1.3
NWR	79	214	2130	040158	333.4	299.2	1.3	5.0	170	14.2	.6	302.1	4	-1.0	0	-1.0
NWR	79	220	2213	060159	332.7	298.7	.3	5.0	270	13.3	6.0	302.9	0	302.9	0	2.2
NWR	79	220	2213	050159	332.7	298.7	3.1	5.0	270	13.3	6.0	302.9	0	-1.0	0	-1.0
NWR	79	228	1830	040160	332.5	298.5	.6	5.0	260	12.5	5.0	302.5	0	302.4	0	.5
NWR	79	228	1830	030160	332.2	298.3	.3	5.0	260	12.5	5.0	302.3	0	-1.0	0	-1.0
NWR	79	234	1910	050161	331.8	298.0	2.0	1.0	270	10.5	-.9	300.6	4	301.5	0	1.4
NWR	79	234	1910	060161	334.1	299.8	.3	1.0	270	10.5	-.9	302.4	4	-1.0	0	-1.0
NWR	79	250	1730	050163	327.9	295.0	1.0	5.0	270	19.5	-3.0	297.2	0	299.3	0	2.4
NWR	79	250	1730	060163	333.3	299.2	3.3	5.0	270	19.5	-3.0	301.4	0	-1.0	0	-1.0
NWR	79	257	1340	030164	331.2	297.5	6.1	0.0	CLM	4.5	-22.0	298.1	1	298.1	1	6.1
NWR	79	257	1340	040164	330.3	296.9	1.6	0.0	CLM	4.5	-22.0	297.4	2	297.4	2	1.6
NWR	79	263	1827	050165	347.4	310.0	3.8	3.0	90	4.0	-2.0	312.4	2	312.4	2	3.8
NWR	79	263	1827	060165	326.2	293.7	3.9	3.0	90	4.0	-2.0	296.1	1	296.1	1	3.9
NWR	79	270	1630	040166	331.6	297.9	1.2	7.5	270	7.0	-4.0	299.9	0	300.8	0	1.1
NWR	79	270	1630	030166	333.9	299.6	.9	7.5	270	7.0	-4.0	301.7	0	-1.0	0	-1.0
NWR	79	276	1700	060167	332.9	298.9	2.4	15.5	270	-23.6	-27.5	299.2	2	299.2	2	2.4
NWR	79	276	1700	050167	331.5	297.8	4.1	15.5	270	-23.6	-27.5	298.1	1	298.1	1	4.1
NWR	79	283	1930	030168	334.3	299.9	1.2	17.9	270	9.0	-13.8	300.9	0	300.3	0	1.5
NWR	79	283	1930	040168	332.7	298.7	1.7	17.9	270	9.0	-13.8	299.7	0	-1.0	0	-1.0
NWR	79	290	0100	050169	335.4	300.8	2.0	12.5	270	3.0	-9.5	302.1	0	301.9	0	2.3

N2O DATA BASE				SAMP. NO.	1 PPBV	2 PPBV	S.D.	WIND		TEMP		3 PPBV	F3	4 PPBV	F4	S.D.
STN	YR	JCD	GMT					M/S	DEG	AIR	DEW PT					
NWR	79	290	0100	060169	334.7	300.2	2.5	12.5	270	3.0	-9.5	301.6	0	-1.0	0	-1.0
NWR	79	297	1740	040170	332.3	298.4	2.6	0.0	CLM	2.0	-11.0	299.6	2	299.6	0	2.6
NWR	79	297	1740	030170	332.4	298.5	5.1	0.0	CLM	2.0	-11.0	299.7	1	-1.0	0	-1.0
NWR	79	306	2301	050171	335.9	301.2	.1	5.0	270	-8.2	MSG	303.6	0	303.8	0	.6
NWR	79	306	2301	060171	336.5	301.6	.9	5.0	270	-8.2	MSG	304.0	0	-1.0	0	-1.0
NWR	79	311	1930	030172	355.9	316.5	4.3	10.0	270	MSG	MSG	319.0	1	319.0	1	4.3
NWR	79	311	1930	040172	334.2	299.8	1.2	10.0	270	MSG	MSG	302.2	2	302.2	0	1.2
NWR	79	333	1530	040173	371.2	328.2	1.6	0.0	CLM	-13.0	-99.9	330.9	3	330.9	3	1.6
NWR	79	333	1530	050173	342.3	306.1	1.5	0.0	CLM	-13.0	-99.9	308.5	3	308.5	3	1.5
NWR	79	341	1400	050174	336.1	301.3	1.6	15.0	270	-4.7	-12.5	302.4	0	301.5	0	1.4
NWR	79	341	1400	060174	333.7	299.5	1.2	15.0	270	-4.7	-12.5	300.5	0	-1.0	0	-1.0
NWR	79	341	1400	740174	337.1	302.1	.8	15.0	270	-4.7	-12.5	303.2	0	302.9	0	.8
NWR	79	341	1400	750174	336.3	301.5	.8	15.0	270	-4.7	-12.5	302.5	0	-1.0	0	-1.0
NWR	79	352	2305	030175	333.9	299.6	.5	2.0	270	-8	-20.0	300.2	0	299.6	0	2.1
NWR	79	352	2305	040175	332.2	298.3	2.9	2.0	270	-8	-20.0	298.9	0	-1.0	0	-1.0
NWR	79	352	2305	710175	336.7	301.8	.5	2.0	270	-8	-20.0	302.4	0	301.8	0	.5
NWR	79	352	2305	720175	335.2	300.6	.4	2.0	270	-8	-20.0	301.2	0	-1.0	0	-1.0
NWR	79	363	0120	050176	345.3	308.4	2.1	3.5	270	-14.4	-16.9	309.2	3	309.2	3	2.1
NWR	79	363	0120	060176	334.8	300.3	1.8	3.5	270	-14.4	-16.9	301.1	3	301.1	0	1.8
NWR	79	363	0120	740176	337.7	302.5	1.2	3.5	270	-14.4	-16.9	303.3	0	303.7	0	1.1
NWR	79	363	0120	750176	338.8	303.4	1.0	3.5	270	-14.4	-16.9	304.2	0	-1.0	0	-1.0

## N2O DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPBV	2 PPBV	S.D.	4IND M/S DEG	TEMP AIR	DEG C DEW PT	3 PPBV	F3	4 PPBV	F4	S.D.
MLO	77	173	2029	030160	342.4	295.4	7.6	10.5 100	10.6	-8.9	296.8	1	296.8	0	7.6
MLO	77	181	2040	050161	368.4	314.7	2.9	4.5 320	8.9	4.8	318.7	2	318.7	2	2.9
MLO	77	187	2125	060162	348.7	300.1	8.4	12.0 120	14.4	0.0	302.8	1	302.8	1	8.4
MLO	77	194	1959	030163	360.7	309.0	7.5	4.1 300	12.2	-7.8	310.5	1	310.5	1	7.5
MLO	77	200	2240	050164	347.1	298.9	6.6	5.1 190	14.4	4.4	302.6	1	302.6	1	6.6
MLO	77	208	2300	060165	358.0	307.0	2.1	6.2 120	13.3	-1.1	309.5	2	309.5	2	2.1
MLO	77	215	2312	030166	352.8	303.1	1.9	4.1 300	12.2	2.2	306.3	2	306.3	2	1.9
MLO	77	223	2104	050167	338.4	292.5	16.2	3.1 360	13.3	-9.4	293.8	1	293.8	1	16.2
MLO	77	242	2027	060169	365.7	312.7	5.5	7.0 180	14.4	3.4	316.3	1	316.3	1	5.5
MLO	77	249	2008	030170	344.1	296.7	2.2	4.1 270	11.1	3.6	300.2	2	300.2	0	2.2
MLO	77	258	2326	050171	362.5	310.3	10.7	3.6 147	13.1	8.8	315.5	1	315.5	1	10.7
MLO	77	263	2258	060172	422.1	354.4	18.3	1.8 360	9.3	2.0	358.1	1	358.1	1	18.3
MLO	77	271	2045	030173	337.4	291.7	3.0	9.6 212	12.9	-19.3	292.3	2	292.3	2	3.0
MLO	77	279	2336	050174	346.0	298.1	6.2	5.0 340	15.1	-11.3	299.2	1	299.2	0	6.2
MLO	77	286	2329	060175	381.8	324.6	6.6	5.0 60	7.9	5.5	328.9	1	328.9	1	6.6
MLO	77	292	2328	030176	317.9	277.3	15.6	2.1 60	10.7	-11.2	278.4	1	278.4	1	15.6
MLO	77	308	0549	050177	359.2	307.9	3.1	3.5 185	14.0	4.0	311.6	2	311.6	2	3.1
MLO	77	314	0444	060178	352.1	302.6	4.3	4.1 185	4.0	-8.0	304.1	1	304.1	1	4.3
MLO	77	321	0733	030179	338.0	292.2	3.2	4.5 170	11.0	-4.0	294.1	2	294.1	2	3.2
MLO	77	328	0540	050180	335.7	290.5	5.6	4.3 250	7.4	-6.1	292.1	1	292.1	1	5.6
MLO	77	237	2145	460168	350.9	312.7	11.9	6.6 90	14.5	-2.2	315.1	1	315.1	1	11.9
MLO	77	337	2145	470168	353.6	314.7	6.2	6.5 90	14.5	-2.2	317.2	1	317.2	1	6.2
MLO	77	258	2334	440171	333.1	299.0	2.9	3.5 147	13.1	8.8	304.0	2	304.0	2	2.9
MLO	77	258	2334	450171	334.9	300.4	4.0	3.6 147	13.1	8.8	305.4	1	305.4	1	4.0
MLO	77	263	2304	420172	332.6	298.6	8.4	1.8 360	9.3	2.0	301.7	1	301.7	0	8.4
MLO	77	263	2304	430172	340.6	304.8	11.2	1.8 360	9.3	2.0	307.9	1	307.9	1	11.2
MLO	77	271	2049	460173	332.9	298.9	.8	9.6 212	12.9	-19.3	299.5	0	298.8	0	1.9
MLO	77	271	2049	470173	331.1	297.5	2.5	9.5 212	12.9	-19.3	298.1	0	-1.0	0	-1.0
MLO	77	279	2342	440174	328.5	295.5	4.0	5.0 340	15.1	-11.3	296.6	1	296.3	0	4.0
MLO	77	279	2342	450174	327.7	294.9	5.7	5.0 340	15.1	-11.3	296.0	1	-1.0	0	-1.0
MLO	77	286	2334	420175	331.3	297.6	1.5	5.0 60	7.9	5.5	301.6	0	302.7	0	2.8
MLO	77	286	2334	430175	334.0	299.7	3.6	5.0 60	7.9	5.5	303.7	0	-1.0	0	-1.0
MLO	77	292	2333	460176	326.9	294.2	6.0	2.1 60	10.7	-11.2	295.4	1	295.4	1	6.0
MLO	77	292	2333	470176	327.7	294.9	3.7	2.1 60	10.7	-11.2	296.0	2	296.0	0	3.7
MLO	77	308	0555	420177	333.9	299.6	10.7	3.5 185	14.0	4.0	303.2	1	303.2	1	10.7
MLO	77	308	0555	430177	339.7	304.1	11.9	3.5 185	14.0	4.0	307.7	1	307.7	1	11.9
MLO	77	314	0451	440178	335.6	300.9	3.3	4.1 185	4.0	-8.0	302.4	2	302.4	0	3.3
MLO	77	314	0451	450178	322.3	290.7	6.7	4.1 185	4.0	-8.0	292.2	1	292.2	1	6.7
MLO	77	321	0740	460179	327.5	294.7	2.0	4.5 170	11.0	-4.0	296.7	0	298.0	0	1.7
MLO	77	321	0740	470179	331.0	297.4	1.4	4.5 170	11.0	-4.0	299.4	0	-1.0	0	-1.0
MLO	77	328	0543	420180	331.0	297.4	3.4	4.3 250	7.4	-6.1	299.1	2	299.1	0	3.4
MLO	77	328	0543	430180	326.6	294.0	8.8	4.3 250	7.4	-6.1	295.7	1	295.7	1	8.8
MLO	77	342	0650	420181	331.4	297.7	5.0	5.2 180	5.2	1.7	300.7	1	300.7	0	5.0
MLO	77	342	0650	430181	324.1	292.1	13.5	5.2 180	5.2	1.7	295.1	1	295.1	1	13.5
MLO	77	349	0620	440182	329.7	296.4	5.2	5.1 140	8.0	-2.3	298.7	1	299.4	0	5.2
MLO	77	349	0620	450182	331.7	297.9	3.6	5.1 140	8.0	-2.3	300.2	2	-1.0	0	-1.0
MLO	77	356	0421	460183	335.2	300.6	2.3	3.6 281	3.7	-22.2	301.1	0	301.4	0	2.2
MLO	77	356	0421	470183	335.9	301.2	2.1	3.5 281	3.7	-22.2	301.7	0	-1.0	0	-1.0
MLO	77	363	0555	420184	333.5	299.3	7.3	2.6 298	3.6	1.7	302.4	1	302.4	0	7.3
MLO	77	363	0555	430184	334.3	299.9	4.9	2.5 298	3.6	1.7	303.0	1	303.0	1	4.9
MLO	78	5	0700	440185	329.7	296.4	4.5	4.7 180	5.0	-16.0	297.2	1	298.8	0	4.5

N20 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1			WIND		TEMP		3	F3	4	F4	S.D.
					PPBV	2	S.C.	M/S	DEG	AIR	DEG C					
MLO	78	5	0700	450185	333.9	299.6	3.5	4.7	180	5.0	-16.0	300.4	2	-1.0	0	-1.0
MLO	78	12	0543	460186	335.6	300.9	1.4	6.2	260	4.0	-16.0	301.7	0	301.3	0	1.3
MLO	78	12	0543	470186	334.5	300.1	1.1	6.2	260	4.0	-16.0	300.9	0	-1.0	0	-1.0
MLO	78	19	0510	420187	326.5	293.9	7.0	10.1	210	7.0	-14.4	294.8	1	294.8	1	7.0
MLO	78	19	0510	430187	329.7	296.4	2.2	10.1	210	7.0	-14.4	297.3	2	297.3	0	2.2
MLO	78	26	0423	440188	331.5	297.8	5.9	6.3	290	8.0	0.0	300.5	1	300.5	0	5.9
MLO	78	26	0423	450188	335.2	300.6	3.7	6.3	290	8.0	0.0	303.3	2	303.3	2	3.7
MLO	78	33	0641	460189	332.4	298.5	1.6	3.2	190	5.0	-10.0	299.7	2	298.7	0	1.6
MLO	78	33	0641	470189	329.8	296.5	4.8	3.2	190	5.0	-10.0	297.7	1	-1.0	0	-1.0
MLO	78	40	0410	420190	327.1	294.4	1.8	2.5	270	12.0	-25.0	294.8	3	294.8	3	1.8
MLO	78	40	0410	430190	349.5	311.6	3.7	2.6	270	12.0	-25.0	312.0	3	312.0	3	3.7
MLO	78	47	0555	440191	332.3	298.4	7.1	4.8	120	8.0	-4.0	300.4	1	300.9	0	7.1
MLO	78	47	0555	450191	333.5	299.3	2.4	4.8	120	8.0	-4.0	301.3	2	-1.0	0	-1.0
MLO	78	54	0410	460192	330.4	296.9	2.0	5.1	280	4.0	-1.1	299.4	0	299.7	0	1.4
MLO	78	54	0410	470192	331.2	297.5	.4	5.1	280	4.0	-1.1	300.0	0	-1.0	0	-1.0
MLO	78	62	0450	420193	335.6	300.9	3.6	9.8	24	4.7	-24.0	301.4	0	301.1	0	2.9
MLO	78	62	0450	430193	335.0	300.5	2.0	9.8	24	4.7	-24.0	300.9	0	-1.0	0	-1.0
MLO	78	69	0440	440194	335.5	300.8	2.6	4.1	140	8.0	-22.0	301.4	0	302.2	0	3.0
MLO	78	69	0440	450194	337.7	302.5	3.3	4.1	140	8.0	-22.0	303.0	0	-1.0	0	-1.0
MLO	78	76	0440	460195	335.7	301.0	2.5	2.1	160	3.0	-3.0	303.2	0	304.9	0	2.0
MLO	78	76	0440	470195	340.2	304.5	1.2	2.1	160	3.0	-3.0	306.7	0	-1.0	0	-1.0
MLO	78	83	0440	420196	333.5	299.3	1.3	6.2	270	7.0	-17.8	300.0	0	300.5	0	1.0
MLO	78	83	0440	430196	334.7	300.2	.5	6.2	270	7.0	-17.8	300.9	0	-1.0	0	-1.0
MLO	78	97	0330	420197	332.5	298.5	1.1	5.1	110	8.0	-9.4	299.9	0	300.4	0	1.1
MLO	78	97	0330	430197	333.9	299.6	1.1	5.1	110	8.0	-9.4	301.0	0	-1.0	0	-1.0
MLO	78	103	2351	440198	331.8	298.0	2.0	4.6	341	7.8	-21.8	298.5	0	298.6	0	1.8
MLO	78	103	2351	450198	332.0	298.2	1.5	4.6	341	7.8	-21.8	298.7	0	-1.0	0	-1.0
MLO	78	111	0010	460199	332.5	298.5	4.9	7.5	270	12.0	-2.2	300.8	1	300.0	0	4.9
MLO	78	111	0010	470199	330.2	296.8	3.2	7.5	270	12.0	-2.2	299.1	2	-1.0	0	-1.0
MLO	78	117	2144	420200	330.1	296.7	2.3	3.3	344	9.0	-5.8	298.5	0	299.8	0	2.0
MLO	78	117	2144	430200	333.7	299.5	1.7	3.3	344	9.0	-5.8	301.2	0	-1.0	0	-1.0
MLO	78	124	2118	440201	327.3	294.6	1.1	3.3	33	10.0	-17.0	295.3	0	297.1	0	1.2
MLO	78	124	2118	450201	332.1	298.2	1.2	3.3	33	10.0	-17.0	299.0	0	-1.0	0	-1.0
MLO	78	131	2148	460202	332.7	298.7	.8	3.5	294	12.7	-15.6	299.5	0	299.9	0	1.0
MLO	78	131	2148	470202	333.8	299.5	1.2	3.5	294	12.7	-15.6	300.4	0	-1.0	0	-1.0
MLO	78	138	2142	420203	332.8	298.8	.9	9.8	260	9.2	-17.9	299.5	0	298.7	0	1.0
MLO	78	138	2142	430203	330.9	297.3	1.1	9.8	260	9.2	-17.9	298.0	0	-1.0	0	-1.0
MLO	78	145	2134	440204	329.4	296.2	1.5	3.8	351	9.2	-17.9	296.9	0	297.3	0	1.9
MLO	78	145	2134	450204	330.5	297.0	2.3	3.8	351	9.2	-17.9	297.7	0	-1.0	0	-1.0
MLO	78	152	2228	460205	333.4	299.2	3.3	4.1	20	9.9	-17.9	299.9	0	299.2	0	2.4
MLO	78	152	2228	470205	331.5	297.8	.9	4.1	20	9.9	-17.9	298.5	0	-1.0	0	-1.0
MLO	78	166	2324	420206	329.9	296.5	1.9	4.0	30	14.7	-13.6	297.5	0	298.1	0	1.5
MLO	78	166	2324	430206	331.5	297.8	1.0	4.0	30	14.7	-13.6	298.7	0	-1.0	0	-1.0
MLO	78	172	0234	440207	331.6	297.9	1.3	4.0	30	7.0	5.0	301.7	0	301.6	0	2.0
MLO	78	172	0234	450207	331.4	297.7	2.5	4.0	30	7.0	5.0	301.6	0	-1.0	0	-1.0
MLO	78	180	2137	460208	331.5	297.8	.5	5.0	300	11.7	8.0	302.5	0	302.1	0	.7
MLO	78	180	2137	470208	330.3	296.9	.8	5.0	300	11.7	8.0	301.6	0	-1.0	0	-1.0
MLO	78	187	2132	420209	329.3	296.1	1.4	5.7	138	8.6	-19.0	296.7	0	297.1	0	1.4
MLO	78	187	2132	430209	330.3	296.9	1.4	5.7	138	8.6	-19.0	297.5	0	-1.0	0	-1.0
MLO	78	194	2139	440210	330.7	297.2	.7	4.2	20	10.8	-16.8	297.9	0	298.3	0	1.8
MLO	78	194	2139	450210	331.7	297.9	2.5	4.2	20	10.8	-16.8	298.7	0	-1.0	0	-1.0

## N20 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPBV	2 PPBV	S.D.	WIND		TEMP		3	F3	4	F4	S.D.
								M/S	DEG	AIR	DEW PT	PPBV		PPBV		
MLO	78	208	2245	420212	332.8	298.8	.8	5.3	64	14.0	-6.4	300.5	0	301.2	0	.8
MLO	78	208	2245	430212	334.8	300.3	.7	5.3	64	14.0	-6.4	302.0	0	-1.0	0	-1.0
MLO	78	215	2145	440213	332.9	298.9	1.9	3.2	354	10.7	-2.4	301.1	0	301.2	0	1.5
MLO	78	215	2145	450213	333.1	299.0	1.0	3.2	354	10.7	-2.4	301.3	0	-1.0	0	-1.0
MLO	78	229	2337	470214	327.8	294.9	.8	4.1	20	10.3	-18.3	295.6	0	295.8	0	.6
MLO	78	229	2337	460214	328.2	295.2	.2	4.1	20	10.3	-18.3	295.9	0	-1.0	0	-1.0
MLO	78	236	2233	430215	332.1	298.2	.8	4.1	36	11.9	-16.6	299.0	0	298.7	0	.9
MLO	78	236	2233	430215	331.2	297.5	.9	4.1	36	11.9	-16.6	298.3	0	-1.0	0	-1.0
MLO	78	243	2323	440216	331.1	297.5	1.0	7.0	131	10.8	-17.4	298.2	0	298.8	0	.7
MLO	78	243	2323	450216	332.6	298.8	.3	7.0	131	10.8	-17.4	299.5	0	-1.0	0	-1.0
MLO	78	250	2240	460217	331.8	298.0	.8	7.1	50	13.0	-5.9	299.7	0	300.1	0	.9
MLO	78	250	2240	470217	332.8	298.8	.9	7.1	50	13.0	-5.9	300.5	0	-1.0	0	-1.0
MLO	78	257	2137	420218	330.9	297.3	1.6	3.0	337	9.6	-17.1	298.0	0	298.6	0	1.3
MLO	78	257	2137	430218	332.3	298.4	.8	3.0	337	9.6	-17.1	299.1	0	-1.0	0	-1.0
MLO	78	264	2134	440219	331.9	298.1	1.2	3.6	350	9.8	-17.0	298.8	0	298.9	0	1.3
MLO	78	264	2134	450219	332.2	298.3	1.4	3.6	350	9.8	-17.0	299.1	0	-1.0	0	-1.0
MLO	78	271	2124	460220	332.1	298.2	.9	4.5	70	14.5	-11.0	299.4	0	299.0	0	.9
MLO	78	271	2124	470220	330.9	297.3	.9	4.5	70	14.5	-11.0	298.5	0	-1.0	0	-1.0
MLO	78	276	2303	420221	331.8	298.0	.1	2.5	40	12.4	-15.1	298.9	0	298.5	0	.6
MLO	78	276	2303	430221	330.9	297.3	.8	2.5	40	12.4	-15.1	298.2	0	-1.0	0	-1.0
MLO	78	284	2314	440222	331.8	298.0	1.3	4.1	350	10.5	-17.7	298.7	0	298.6	0	1.0
MLO	78	284	2314	450222	331.6	297.9	.7	4.1	350	10.5	-17.7	298.6	0	-1.0	0	-1.0
MLO	78	292	2334	460223	331.7	297.9	1.6	3.8	40	8.1	-19.9	298.5	0	298.8	0	1.4
MLO	78	292	2334	470223	332.3	298.4	1.1	3.8	40	8.1	-19.9	299.0	0	-1.0	0	-1.0
MLO	78	299	2336	430224	332.2	298.3	.9	3.6	20	9.9	-17.6	299.0	2	299.0	0	.9
MLO	78	310	2016	440225	331.6	297.9	1.1	8.0	180	6.2	-20.4	298.4	0	299.9	0	1.2
MLO	78	310	2016	450225	335.5	300.8	1.2	8.0	180	6.2	-20.4	301.4	0	-1.0	0	-1.0
MLO	78	313	2140	460226	330.4	296.9	.4	2.0	350	10.6	-5.8	298.7	0	299.6	0	.9
MLO	78	313	2140	470226	332.8	298.8	1.2	2.0	350	10.6	-5.8	300.5	0	-1.0	0	-1.0
MLO	78	320	2335	420227	332.1	298.2	1.8	1.9	360	7.5	-19.7	298.8	2	298.8	0	1.8
MLO	78	334	2230	440228	331.8	298.0	1.2	1.8	30	9.5	-17.1	298.7	0	298.6	0	.9
MLO	78	334	2230	450228	331.5	297.8	.6	1.8	30	9.5	-17.1	298.5	0	-1.0	0	-1.0
MLO	78	341	1319	470229	333.3	299.2	.9	5.7	145	7.6	-19.3	299.8	0	298.9	0	.9
MLO	78	341	1319	460229	330.9	297.3	.9	5.7	145	7.6	-19.3	297.9	0	-1.0	0	-1.0
MLO	78	344	2334	420230	333.2	299.1	.7	5.5	102	10.3	-17.1	299.8	0	299.8	0	.9
MLO	78	344	2334	430230	333.1	299.0	1.0	5.5	102	10.3	-17.1	299.7	0	-1.0	0	-1.0
MLO	78	355	2114	440231	332.8	298.8	2.5	6.1	330	4.8	-23.2	299.2	0	298.5	0	1.8
MLO	78	355	2114	450231	330.9	297.3	.6	6.1	330	4.8	-23.2	297.8	0	-1.0	0	-1.0
MLO	78	362	2130	460232	332.9	298.9	.7	5.4	81	10.7	-18.5	299.5	0	299.9	0	1.0
MLO	78	362	2130	470232	334.0	299.7	1.2	5.4	81	10.7	-18.5	300.4	0	-1.0	0	-1.0
MLO	79	4	2128	420233	332.8	298.8	.7	3.0	350	10.0	-19.2	299.4	0	300.0	0	.6
MLO	79	4	2128	430233	334.4	300.0	.5	3.0	350	10.0	-19.2	300.6	0	-1.0	0	-1.0
MLO	79	18	2327	440234	334.3	299.9	1.7	6.6	140	6.0	-16.5	300.7	0	299.9	0	1.8
MLO	79	18	2327	450234	332.1	298.2	1.8	6.5	140	6.0	-16.5	299.0	0	-1.0	0	-1.0
MLO	79	25	2214	460235	334.7	300.2	2.6	1.5	20	8.0	-19.0	300.9	0	300.0	0	1.9
MLO	79	25	2214	470235	332.5	298.5	.6	1.5	20	8.0	-19.0	299.2	0	-1.0	0	-1.0
MLO	79	32	2219	420236	324.4	292.3	3.4	4.0	330	5.0	-24.0	292.8	0	295.6	0	2.6
MLO	79	32	2219	430236	331.8	298.0	1.3	4.0	330	5.0	-24.0	298.4	0	-1.0	0	-1.0
MLO	79	39	2033	440237	333.6	299.4	.8	4.1	320	7.0	-5.7	301.2	0	301.2	0	.8
MLO	79	39	2033	450237	333.8	299.5	.8	4.1	320	7.0	-5.7	301.3	0	-1.0	0	-1.0
MLO	79	46	2132	460238	333.1	299.0	.8	5.1	260	7.0	-1.7	301.4	0	301.4	0	1.6



## N2O DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPBV	2 PPBV	S.D.	WIND		TEMP		3	F3	4	F4	S.D.
								M/S	DEG	AIR	DEG C	PPBV		PPBV		
											OEK PT					
MLO	79	46	2132	470238	333.1	299.0	2.1	5.1	260	7.0	-1.7	301.4	0	-1.0	0	-1.0
MLO	79	53	2337	420239	331.9	298.1	.5	6.1	310	8.3	2.5	301.3	0	300.7	0	1.8
MLO	79	53	2337	430239	330.2	296.8	2.5	6.1	310	8.3	2.5	300.0	0	-1.0	0	-1.0
MLO	79	60	0020	450240	333.8	299.5	3.1	3.5	330	4.0	1.1	302.5	0	303.4	0	2.4
MLO	79	60	0020	440240	336.3	301.5	1.5	3.5	330	4.0	1.1	304.4	0	-1.0	0	-1.0
MLO	79	67	2121	430241	333.8	299.5	1.0	2.8	34	10.5	-12.8	300.6	0	300.7	0	1.5
MLO	79	67	2121	420241	334.1	299.8	1.8	2.8	34	10.5	-12.8	300.8	0	-1.0	0	-1.0
MLO	79	74	2100	460242	332.6	298.6	1.8	7.1	140	11.5	-14.7	299.5	0	300.3	0	1.8
MLO	79	74	2100	470242	334.7	300.2	1.8	7.1	140	11.5	-14.7	301.1	0	-1.0	0	-1.0
MLO	79	81	2147	440243	333.5	299.3	2.6	3.5	30	7.5	-16.7	300.1	0	299.7	0	2.0
MLO	79	81	2147	450243	332.6	298.6	1.0	3.5	30	7.5	-16.7	299.4	0	-1.0	0	-1.0
MLO	79	89	2136	460244	334.6	300.2	.6	10.3	246	8.5	-17.9	300.8	0	300.7	0	1.2
MLO	79	89	2136	470244	334.3	299.9	1.6	10.3	246	8.5	-17.9	300.6	0	-1.0	0	-1.0
MLO	79	96	2026	430245	331.6	297.9	1.9	4.1	330	8.0	7.6	302.5	0	303.6	0	1.5
MLO	79	96	2026	420245	334.6	300.2	.8	4.1	330	8.0	7.6	304.8	0	-1.0	0	-1.0
MLO	79	103	2331	440246	333.3	299.2	2.3	12.3	239	13.0	-3.3	301.3	0	301.6	0	1.7
MLO	79	103	2331	450246	334.2	299.8	.8	12.3	239	13.0	-3.3	302.0	0	-1.0	0	-1.0
MLO	79	110	2338	470247	330.0	296.6	3.1	5.1	290	6.0	-2.1	298.9	0	300.1	0	2.9
MLO	79	110	2338	460247	333.0	298.9	2.6	5.1	290	6.0	-2.1	301.2	0	-1.0	0	-1.0
MLO	79	117	2206	430248	330.5	297.0	4.1	10.2	270	10.5	-26.5	297.4	1	299.0	0	4.1
MLO	79	117	2216	420248	334.7	300.2	2.1	10.2	270	10.5	-26.5	300.6	2	-1.0	0	-1.0
MLO	79	123	2126	440249	333.4	299.2	3.2	5.1	10	12.5	-7.4	300.8	0	300.6	0	2.6
MLO	79	123	2126	450249	332.8	298.8	1.8	5.1	10	12.5	-7.4	300.3	0	-1.0	0	-1.0
MLO	79	130	2039	460250	332.7	298.7	3.0	2.0	360	12.5	-1.4	301.1	0	301.9	0	2.4
MLO	79	130	2039	470250	334.8	300.3	1.7	2.0	360	12.5	-1.4	302.8	0	-1.0	0	-1.0
MLO	79	137	2117	430251	333.6	299.4	3.8	5.1	315	9.0	3.8	302.9	0	302.1	0	3.3
MLO	79	137	2117	420251	331.5	297.8	2.7	5.1	315	9.0	3.8	301.3	0	-1.0	0	-1.0
MLO	79	144	2204	440252	331.9	298.1	2.0	4.9	296	15.0	-4.9	300.0	0	301.1	0	1.6
MLO	79	144	2204	450252	334.9	300.4	1.1	4.9	296	15.0	-4.9	302.3	0	-1.0	0	-1.0
MLO	79	151	2053	460253	333.9	299.6	2.0	6.5	20	9.0	MSG	300.8	0	300.7	0	1.6
MLO	79	151	2053	470253	333.6	299.4	.9	6.5	20	9.0	MSG	300.6	0	-1.0	0	-1.0
MLO	79	165	2327	430254	333.4	299.2	1.3	5.1	270	15.0	MSG	300.4	0	300.0	0	1.6
MLO	79	165	2327	420254	332.3	298.4	1.9	5.1	270	15.0	MSG	299.6	0	-1.0	0	-1.0
MLO	79	172	2245	450255	334.7	300.2	.5	4.1	77	11.5	-9.0	301.6	0	301.3	0	.5
MLO	79	172	2245	440255	333.9	299.6	.4	4.1	77	11.5	-9.0	301.0	0	-1.0	0	-1.0
MLO	79	186	2142	430257	333.9	299.6	1.2	4.1	318	13.5	-6.2	301.3	0	300.9	0	.9
MLO	79	186	2142	420257	332.9	298.9	.6	4.1	318	13.5	-6.2	300.6	0	-1.0	0	-1.0
MLO	79	193	2300	450258	334.1	299.8	.1	4.1	350	11.5	6.0	303.9	0	303.3	0	1.2
MLO	79	193	2300	440258	332.5	298.5	1.7	4.1	350	11.5	6.0	302.7	0	-1.0	0	-1.0
MLO	79	200	2339	470259	333.8	299.5	.9	9.3	10	12.0	-14.7	300.4	0	300.0	0	1.0
MLO	79	200	2339	460259	332.8	298.8	1.1	9.3	10	12.0	-14.7	299.7	0	-1.0	0	-1.0
MLO	79	207	2300	420260	328.9	295.8	1.7	3.1	330	12.0	-6.0	297.5	0	299.0	0	1.4
MLO	79	207	2300	430260	332.8	298.8	.9	3.1	330	12.0	-6.0	300.5	0	-1.0	0	-1.0
MLO	79	212	2010	450261	335.6	300.9	.4	3.1	345	11.5	-8.4	302.4	0	301.6	0	.6
MLO	79	212	2010	440261	333.5	299.3	.7	3.1	345	11.5	-8.4	300.8	0	-1.0	0	-1.0
MLO	79	218	2235	460262	333.1	299.0	.9	6.1	331	13.2	-4.6	300.9	2	300.9	0	.9
MLO	79	242	2120	470265	330.8	297.2	1.2	15.3	120	11.0	-6.8	298.9	2	298.9	0	1.2
MLO	79	249	2057	420266	333.4	299.2	1.1	5.1	60	12.0	-13.1	300.2	0	300.6	0	.9
MLO	79	249	2057	430266	334.4	300.0	.5	5.1	60	12.0	-13.1	301.0	0	-1.0	0	-1.0
MLO	79	256	2144	450267	341.3	305.3	6.4	5.1	50	12.0	-10.3	306.6	1	306.6	1	6.4
MLO	79	264	2132	470268	333.6	299.4	1.4	3.5	360	11.5	-4.3	301.4	0	300.6	0	2.5

## N2O DATA BASE

STN	YR	JCO	GMT	SAMP. NO.	1 PPBV	2 PPBV	S.O.	WIND		TEMP DEG C		3 PP3V	F3	4 PPB4V	F4	S.O.
								M/S	DEG	AIR	DEW PT					
MLO	79	264	2132	460268	331.6	297.9	3.3	3.5	360	11.5	-4.3	299.8	0	-1.0	0	-1.0
MLO	79	270	2130	430269	331.1	297.5	1.6	3.1	225	12.0	-6.0	299.2	0	299.3	0	1.6
MLO	79	270	2130	440269	331.3	297.6	1.6	3.1	225	12.0	-6.0	299.4	0	-1.0	0	-1.0
MLO	79	277	2059	440270	332.5	298.5	4.3	3.5	320	11.0	3.5	302.0	1	301.9	0	4.3
MLO	79	277	2059	450270	332.1	298.2	1.8	3.5	320	11.0	3.5	301.7	2	-1.0	0	-1.0
MLO	79	284	2100	470271	341.3	305.3	2.5	3.5	20	10.5	3.5	308.8	5	309.5	5	2.3
MLO	79	284	2100	460271	343.0	306.6	2.0	3.5	20	10.5	3.5	310.2	5	-1.0	5	-1.0
MLO	79	288	2118	430272	339.4	303.8	2.7	6.5	70	11.0	.9	306.8	0	305.3	0	2.3
MLO	79	288	2118	420272	335.7	301.0	1.7	6.5	70	11.0	.9	303.9	0	-1.0	0	-1.0
MLO	79	298	2134	430273	333.7	299.5	.8	2.5	340	12.5	-4.7	301.4	0	301.8	0	1.5
MLO	79	298	2134	420273	334.7	300.2	1.9	2.5	340	12.5	-4.7	302.2	0	-1.0	0	-1.0
MLO	79	310	2135	450274	334.5	300.1	1.8	7.7	115	11.0	-15.5	300.9	0	299.7	0	1.5
MLO	79	310	2135	440274	331.3	297.6	1.2	7.7	115	11.0	-15.5	298.5	0	-1.0	0	-1.0
MLO	79	319	2030	470275	335.4	300.8	2.1	5.1	290	7.5	2.4	304.0	0	303.4	0	1.6
MLO	79	319	2030	460275	333.8	299.5	.7	5.1	290	7.5	2.4	302.8	0	-1.0	0	-1.0
MLO	79	333	2039	430276	333.0	298.9	3.6	1.0	45	12.0	-14.9	299.8	0	301.5	0	2.9
MLO	79	333	2039	420276	337.3	302.2	1.9	1.0	45	12.0	-14.9	303.1	0	-1.0	0	-1.0
MLO	79	340	2108	440277	335.2	300.6	.8	4.5	345	9.5	-3.2	302.8	0	302.4	0	.7
MLO	79	340	2108	450277	334.2	299.8	.6	4.5	345	9.5	-3.2	302.0	0	-1.0	0	-1.0
MLO	79	347	2132	470278	333.4	299.2	3.4	2.0	300	12.0	-9.1	300.6	0	302.7	0	2.8
MLO	79	347	2132	460278	338.8	303.4	1.9	2.0	300	12.0	-9.1	304.8	0	-1.0	0	-1.0
MLO	79	354	2127	430279	334.3	299.9	.8	10.7	130	15.5	-11.3	301.1	0	301.0	0	1.3
MLO	79	354	2127	420279	334.0	299.7	1.6	10.7	130	15.5	-11.3	300.9	0	-1.0	0	-1.0
MLO	79	361	2149	460280	335.0	300.5	.4	3.0	50	8.5	-16.3	301.3	0	301.5	0	.7
MLO	79	361	2149	470280	335.7	301.0	.9	3.0	50	8.5	-16.3	301.8	0	-1.0	0	-1.0

## N2O DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPBV	2 PPBV	S.D.	WIND M/S	DEG	TEMP AIR	CEG C JEW PT	3 PPBV	F3	4 PPBV	F4	S.D.
SMO	77	169	0200	010129	366.4	313.2	U	8.0	140	26.6	21.8	320.1	1	320.1	1	.0
SMO	77	174	2025	040130	366.6	313.3	14.0	7.7	158	26.7	23.3	320.2	1	320.2	1	14.0
SMO	77	180	2330	050131	371.1	316.7	2.4	9.0	120	27.0*	24.5*	323.6	2	323.6	2	2.4
SMO	77	195	0205	010132	364.6	311.9	10.7	8.5	50	26.8	24.7	318.7	1	318.7	1	10.7
SMO	77	208	0300	040133	338.3	292.4	3.4	8.0	170	27.0*	24.5*	298.8	2	298.8	0	3.4
SMO	77	216	0255	050134	349.6	300.8	11.5	6.5	100	26.1	20.7	307.4	1	307.4	1	11.5
SMO	77	224	0030	040135	350.0	301.1	7.8	10.0	130	26.4	21.0	307.7	1	307.7	1	7.8
SMO	77	231	0010	010136	364.4	311.7	5.4	8.0	160	25.2	12.6	318.6	1	318.6	1	5.4
SMO	77	237	0150	050137	350.0	301.1	16.6	6.0	150	25.8	19.7	307.7	1	307.7	1	16.6
SMO	77	243	2025	040138	342.2	295.3	.8	4.0	170	24.6	19.9	301.8	2	301.8	2	.8
SMO	77	257	2345	010139	342.8	295.7	7.5	6.0	160	27.0*	24.5*	302.2	1	302.2	1	7.5
SMO	77	264	2025	050140	350.1	301.1	4.3	5.0	150	26.4	19.8	307.7	1	307.7	1	4.3
SMO	77	271	2030	040141	343.6	296.3	4.6	8.0	140	27.0*	24.5*	302.8	1	302.8	1	4.6
SMO	77	280	0230	010142	336.0	290.7	3.7	10.0	130	27.0	19.8	297.1	2	297.1	0	3.7
SMO	77	289	0135	050143	346.5	298.5	2.1	8.0	150	25.8	20.6	305.0	2	305.0	2	2.1
SMO	77	293	0055	040144	351.1	301.9	2.0	4.0	120	28.0	20.2	308.5	2	308.5	2	2.0
SMO	77	302	2335	010145	333.6	288.9	2.6	10.0	130	25.5	20.6	295.3	2	295.3	2	2.6
SMO	77	307	2045	050146	346.5	298.5	2.3	3.5	150	26.5	21.2	305.0	2	305.0	2	2.3
SMO	77	314	0220	040147	354.4	304.3	13.8	4.5	150	27.3	19.8	311.0	1	311.0	1	13.8
SMO	77	321	0215	010148	375.6	320.0	5.8	9.0	150	27.6	23.3	327.0	1	327.0	1	5.8
SMO	77	328	2100	050149	353.5	303.6	6.5	7.5	135	26.0	24.4	310.3	1	310.3	1	6.5
SMO	77	224	0020	510135	323.9	291.9	15.5	10.0	130	26.4	21.0	298.4	1	298.4	0	15.5
SMO	77	224	0020	520135	324.1	292.1	7.6	10.0	130	26.4	21.0	298.5	1	-1.0	0	-1.0
SMO	77	231	0010	530136	346.9	309.6	11.6	8.0	160	25.2	12.6	316.4	1	316.4	1	11.6
SMO	77	231	0010	540136	343.5	307.0	15.7	8.0	160	25.2	12.6	313.7	1	313.7	1	15.7
SMO	77	237	0150	550137	376.8	332.5	10.2	6.0	160	25.8	19.7	339.8	1	339.8	1	10.2
SMO	77	237	0150	560137	383.9	338.0	39.3	6.0	160	25.8	19.7	345.4	1	345.4	1	39.3
SMO	77	243	2025	510138	322.7	291.0	4.8	4.0	170	24.6	19.9	297.4	1	297.4	0	4.8
SMO	77	243	2025	520138	330.2	296.8	2.6	4.0	170	24.6	19.9	303.3	2	303.3	2	2.6
SMO	77	257	2345	530139	348.0	310.4	4.1	6.0	160	27.0*	24.5*	317.3	1	317.3	1	4.1
SMO	77	257	2345	540139	338.4	303.1	11.1	6.0	160	27.0*	24.5*	309.7	1	309.7	1	11.1
SMO	77	264	2025	510140	324.2	292.2	13.4	5.0	150	26.4	19.8	298.6	1	298.6	0	13.4
SMO	77	264	2025	520140	334.0	299.7	6.4	5.0	150	26.4	19.8	306.3	1	306.3	1	6.4
SMO	77	271	2030	550141	329.8	296.5	3.4	8.0	140	27.0*	24.5*	303.0	2	303.0	2	3.4
SMO	77	271	2030	560141	338.4	303.1	5.2	8.0	140	27.0*	24.5*	309.7	1	309.7	1	5.2
SMO	77	280	0215	530142	335.8	304.1	5.0	10.0	130	27.0	19.8	310.8	1	310.8	1	5.0
SMO	77	280	0215	540142	333.4	299.2	7.9	10.0	130	27.0	19.8	305.8	1	305.8	1	7.9
SMO	77	289	0135	510143	327.1	294.4	1.3	8.0	150	25.8	20.6	300.9	2	300.3	0	1.3
SMO	77	289	0135	520143	325.7	293.3	9.4	8.0	150	25.8	20.6	299.8	1	-1.0	0	-1.0
SMO	77	293	0045	550144	325.9	293.5	2.0	4.0	115	28.0	20.2	299.9	3	299.9	0	2.0
SMO	77	293	0045	560144	336.4	301.5	3.2	4.0	115	28.0	20.2	308.2	3	308.2	3	3.2
SMO	77	302	2335	530145	308.4	280.1	1.1	10.0	130	25.5	20.6	286.2	2	286.2	2	1.1
SMO	77	302	2335	540145	319.2	288.3	9.1	10.0	130	25.5	20.6	294.7	1	294.7	1	9.1
SMO	77	307	2045	510146	329.9	296.5	5.3	3.5	150	26.5	21.2	303.1	1	303.1	1	5.3
SMO	77	307	2045	520146	326.3	293.8	7.7	3.5	150	26.5	21.2	300.2	1	300.2	0	7.7
SMO	77	314	0220	550147	329.7	296.4	2.7	4.5	150	27.3	19.8	302.9	2	302.9	2	2.7
SMO	77	314	0220	560147	329.9	296.5	12.4	4.5	150	27.3	19.8	303.1	1	303.1	1	12.4
SMO	77	321	0210	530148	325.8	293.4	3.3	9.0	150	27.6	23.3	299.9	0	300.2	0	2.5
SMO	77	321	0210	540148	326.8	294.2	1.3	9.0	150	27.6	23.3	300.6	0	-1.0	0	-1.0
SMO	77	328	2100	510149	324.5	292.4	6.9	7.5	135	26.0	24.4	298.8	1	298.5	0	6.9
SMO	77	328	2100	520149	323.6	291.7	3.6	7.5	135	26.0	24.4	298.1	2	-1.0	0	-1.0

## N20 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPBV	2 PPBV	S.D.	WIND		TEMP AIR	DEG C DEW PT	3 PPBV	F3	4 PPBV	F4	S.O.
								M/S	DEG							
SNO	77	337	2045	550150	324.2	292.2	8.3	4.0	150	29.8	25.8	298.6	1	298.6	0	8.3
SNO	77	337	2045	560150	330.6	297.1	3.9	4.0	150	29.8	25.8	303.6	1	303.6	1	3.9
SNO	77	341	2355	530151	322.3	290.7	3.8	7.5	140	29.2	24.9	297.1	3	297.1	0	3.8
SNO	77	341	2355	540151	344.2	307.5	.9	7.5	140	29.2	24.9	314.3	3	314.3	3	.9
SNO	77	349	0250	510152	319.7	288.7	15.2	8.5	140	28.4	25.4	295.1	1	295.1	1	15.2
SNO	77	349	0250	520152	327.0	294.3	9.1	8.5	140	28.4	25.4	300.8	1	300.8	0	9.1
SNO	77	364	2035	550153	319.2	288.3	6.3	5.1	52	29.0	27.7	294.7	1	294.7	1	6.3
SNO	77	364	2035	560153	328.3	295.3	6.9	5.1	52	29.0	27.7	301.8	1	301.8	0	6.9
SNO	78	5	0245	530154	326.7	294.1	1.8	4.5	60	27.5	26.2	300.6	0	299.5	0	2.8
SNO	78	5	0245	540154	323.9	291.9	3.6	4.5	60	27.5	26.2	298.4	0	-1.0	0	-1.0
SNO	78	15	0230	510155	331.2	297.5	6.2	6.0	130	27.7	24.7	304.1	1	304.1	1	6.2
SNO	78	15	0230	520155	328.8	295.7	5.0	6.0	130	27.7	24.7	302.2	1	302.2	0	5.0
SNO	78	21	0250	550156	319.1	288.3	.6	5.0	100	28.0	23.9	294.6	0	296.2	0	2.0
SNO	78	21	0250	560156	323.1	291.3	2.7	5.0	100	28.0	23.9	297.7	0	-1.0	0	-1.0
SNO	78	33	2230	510157	326.8	294.2	5.0	3.0	40	27.0*	24.5*	300.6	1	300.9	0	5.0
SNO	78	33	2230	520157	327.5	294.7	2.7	3.0	40	27.0*	24.5*	301.2	2	-1.0	0	-1.0
SNO	78	42	2305	530158	323.9	291.9	3.1	2.8	130	27.5	26.2	298.4	0	299.1	0	3.1
SNO	78	42	2305	540158	325.8	293.4	3.0	2.8	130	27.5	26.2	299.9	0	-1.0	0	-1.0
SNO	78	61	2145	550159	322.0	290.5	.4	5.0	120	28.0	23.9	296.9	0	299.2	0	2.5
SNO	78	61	2145	560159	327.9	295.0	3.5	5.0	120	28.0	23.9	301.5	0	-1.0	0	-1.0
SNO	78	68	0305	510160	320.4	289.3	2.4	9.0	140	28.5	25.1	295.6	2	295.6	2	2.4
SNO	78	68	0305	520160	323.8	291.9	4.5	9.0	140	28.5	25.1	298.3	1	298.3	0	4.5
SNO	78	81	0100	530161	354.5	315.4	U	9.0	20	28.0	26.0	322.4	1	322.4	1	.0
SNO	78	81	0100	540161	337.9	302.7	10.1	9.0	20	28.0	26.0	309.3	1	309.3	1	10.1
SNO	78	87	2025	550162	330.1	296.7	3.6	7.5	340	26.7	24.7	303.2	0	304.5	0	2.8
SNO	78	87	2025	560162	333.4	299.2	1.7	7.5	340	26.7	24.7	305.8	0	-1.0	0	-1.0
SNO	78	99	0100	510163	330.4	296.9	4.3	6.0	130	27.8	26.5	303.5	1	303.5	1	4.3
SNO	78	99	0100	520163	329.1	295.9	2.0	6.0	130	27.8	26.5	302.4	2	302.4	0	2.0
SNO	78	108	0440	530164	326.6	294.0	4.2	3.0	315	28.0	25.3	300.5	1	299.6	0	4.2
SNO	78	108	0440	540164	324.3	292.3	1.6	3.0	315	28.0	25.3	298.7	2	-1.0	0	-1.0
SNO	78	121	0255	560165	327.8	294.9	2.6	4.5	150	26.8	23.5	301.4	0	300.8	0	2.9
SNO	78	121	0255	550165	326.3	293.8	3.1	4.5	150	26.8	23.5	300.2	0	-1.0	0	-1.0
SNO	78	126	2355	520166	327.1	294.4	1.2	6.0	160	28.1	26.0	300.9	0	301.1	0	1.9
SNO	78	126	2355	510166	327.8	294.9	2.4	6.0	160	28.1	26.0	301.4	0	-1.0	0	-1.0
SNO	78	133	2250	540167	327.1	294.4	1.3	9.0	330	26.2	24.4	300.9	2	300.9	0	1.3
SNO	78	137	2100	550168	325.6	293.3	1.6	7.5	120	27.4	24.4	299.7	0	300.8	0	1.5
SNO	78	137	2100	560168	328.5	295.5	1.4	7.5	120	27.4	24.4	302.0	0	-1.0	0	-1.0
SNO	78	148	0355	510169	328.5	295.5	2.0	6.0	80	26.3	23.1	302.0	0	301.4	0	1.9
SNO	78	148	0355	520169	327.0	294.3	1.8	6.0	80	26.3	23.1	300.8	0	-1.0	0	-1.0
SNO	78	159	2025	530170	325.9	293.5	1.5	5.0	130	27.3	24.4	299.9	0	299.7	0	1.7
SNO	78	159	2025	540170	325.2	292.9	1.9	5.0	130	27.3	24.4	299.4	0	-1.0	0	-1.0
SNO	78	168	0025	520171	329.1	295.9	5.0	8.0	140	26.1	21.7	302.4	1	302.6	0	5.0
SNO	78	168	0025	510171	329.5	296.2	2.9	8.0	140	26.1	21.7	302.8	2	-1.0	0	-1.0
SNO	78	176	0240	560172	326.3	293.8	2.2	7.0	30	27.6	24.6	300.2	0	300.0	0	2.1
SNO	78	176	0240	550172	325.6	293.3	2.0	7.0	30	27.6	24.6	299.7	0	-1.0	0	-1.0
SNO	78	189	0055	510173	326.0	293.6	1.6	2.5	30	28.0	23.0	300.0	0	300.1	0	1.8
SNO	78	189	0055	520173	326.1	293.6	2.0	2.5	30	28.0	23.0	300.1	0	-1.0	0	-1.0
SNO	78	196	2230	530174	324.3	292.3	.3	6.7	160	27.0	22.1	298.7	0	299.1	0	.4
SNO	78	196	2230	540174	325.5	293.2	.4	6.7	160	27.0	22.1	299.6	0	-1.0	0	-1.0
SNO	78	202	0340	550175	327.9	295.0	.7	8.0	150	26.4	23.3	301.5	0	301.2	0	.7
SNO	78	202	0340	560175	327.2	294.5	.6	8.0	150	26.4	23.3	301.0	0	-1.0	0	-1.0

N2O DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPBV	2 PPBV	S.D.	WIND		TEMP		3 PPBV	F3	4 PPBV	F4	S.D.
								M/S	DEG	AIR	DEW PT					
SMO	78	208	2005	510176	324.7	292.6	.5	7.0	140	27.0	24.3	299.0	0	299.2	0	.5
SMO	78	208	2005	520176	325.3	293.0	.4	7.0	140	27.0	24.3	299.5	0	-1.0	0	-1.0
SMO	78	217	0310	530177	328.4	295.4	.1	8.5	150	27.0	21.3	301.9	0	302.2	0	.8
SMO	78	217	0310	540177	329.1	295.9	1.1	8.5	150	27.0	21.3	302.4	0	-1.0	0	-1.0
SMO	78	225	0145	560178	323.3	291.5	.9	3.0	30	26.0	23.2	297.9	0	297.6	0	.7
SMO	78	225	0145	550178	322.5	290.9	.5	3.0	30	26.0	23.2	297.3	0	-1.0	0	-1.0
SMO	78	229	0100	520179	328.9	295.8	.8	8.0	150	27.6	24.9	302.3	0	302.2	0	.9
SMO	78	229	0100	510179	328.6	295.6	.9	8.0	150	27.6	24.9	302.1	0	-1.0	0	-1.0
SMO	78	238	0000	530180	326.7	294.1	.5	7.0	90	28.5	24.8	300.6	0	301.1	0	1.3
SMO	78	238	0000	540180	328.2	295.2	1.8	7.0	90	28.5	24.8	301.7	0	-1.0	0	-1.0
SMO	78	244	2320	560181	327.0	294.3	.7	7.5	150	25.2	24.3	300.8	0	301.9	0	.8
SMO	78	244	2320	550181	329.7	296.4	.8	7.5	150	25.2	24.3	302.9	0	-1.0	0	-1.0
SMO	78	253	0400	530182	323.3	291.5	1.4	7.0	160	24.4	19.4	297.9	0	298.8	0	2.0
SMO	78	253	0400	540182	325.7	293.3	2.4	7.0	160	24.4	19.4	299.8	0	-1.0	0	-1.0
SMO	78	260	0405	510183	332.0	298.2	1.7	2.5	150	26.0	22.9	304.7	0	303.2	0	2.1
SMO	78	260	0405	520183	328.2	295.2	2.5	2.5	160	26.0	22.9	301.7	0	-1.0	0	-1.0
SMO	78	266	0025	550184	328.9	295.8	1.0	9.0	130	28.3	24.5	302.3	0	304.6	0	1.0
SMO	78	266	0025	560184	334.7	300.2	.9	9.0	130	28.3	24.5	306.8	0	-1.0	0	-1.0
SMO	78	272	0245	530185	330.7	297.2	1.5	6.0	160	26.3	22.4	303.7	0	303.9	0	1.7
SMO	78	272	0245	540185	331.1	297.5	1.8	6.0	160	26.3	22.4	304.0	0	-1.0	0	-1.0
SMO	78	280	0355	550186	328.8	295.7	.7	3.0	100	26.8	24.6	302.2	0	302.2	0	.5
SMO	78	280	0355	560186	328.8	295.7	.2	3.0	100	26.8	24.6	302.2	0	-1.0	0	-1.0
SMO	78	294	0545	510187	329.5	296.2	1.4	8.0	150	26.5	23.7	302.8	0	301.9	0	2.7
SMO	78	294	0545	520187	327.3	294.6	3.5	8.0	150	26.5	23.7	301.0	0	-1.0	0	-1.0
SMO	78	311	2245	530188	327.2	294.5	2.5	8.0	150	29.0	24.8	301.0	0	302.5	0	2.5
SMO	78	311	2245	540188	331.1	297.5	2.4	8.0	150	29.0	24.8	304.0	0	-1.0	0	-1.0
SMO	78	322	0320	520189	332.8	298.8	2.1	8.0	120	25.5	24.1	305.3	0	304.1	0	1.6
SMO	78	322	0320	510189	329.7	296.4	1.0	8.0	120	25.5	24.1	302.9	0	-1.0	0	-1.0
SMO	78	328	2355	560190	328.3	295.3	1.2	5.0	60	29.0	25.0	301.8	0	302.6	0	1.5
SMO	78	328	2355	550190	330.2	296.8	1.7	5.0	60	29.0	25.0	303.3	0	-1.0	0	-1.0
SMO	78	337	2355	530191	325.1	292.9	2.5	5.0	360	29.0	28.0	299.3	0	301.6	0	2.0
SMO	78	337	0138	540191	331.0	297.4	1.4	5.0	360	29.0	28.0	303.9	0	-1.0	0	-1.0
SMO	78	343	0430	510192	329.9	296.5	.5	7.0	160	25.9	24.7	303.1	0	303.4	0	1.6
SMO	78	343	0430	520192	330.7	297.2	2.2	7.0	160	25.9	24.7	303.7	0	-1.0	0	-1.0
SMO	78	350	0355	550193	328.2	295.2	.9	5.0	160	27.0	23.7	301.7	0	302.0	0	1.6
SMO	78	350	0355	560193	328.9	295.8	2.1	5.0	160	27.0	23.7	302.3	0	-1.0	0	-1.0
SMO	78	360	2315	530194	328.3	295.3	2.0	9.0	80	27.0*	24.5*	301.8	0	302.4	0	1.6
SMO	78	360	2315	540194	329.9	296.5	1.2	9.0	80	27.0*	24.5*	303.1	0	-1.0	0	-1.0
SMO	78	364	0030	510195	330.3	296.9	2.0	6.0	330	30.0	26.7	303.4	0	303.1	0	1.5
SMC	78	364	0030	520195	329.5	296.2	.7	6.0	330	30.0	26.7	302.8	0	-1.0	0	-1.0
SMO	79	4	0225	550196	329.6	296.3	2.3	7.0	340	27.3	24.4	302.5	0	303.9	0	2.3
SMC	79	4	0255	560196	333.2	299.1	2.3	7.0	340	27.3	24.4	305.3	0	-1.0	0	-1.0
SMO	79	13	0350	530197	328.2	295.2	2.8	10.0	290	26.8	24.3	301.2	0	302.5	0	2.0
SMO	79	13	0350	540197	331.3	297.6	.6	10.0	290	26.8	24.3	303.7	0	-1.0	0	-1.0
SMO	79	21	0340	510198	330.6	297.1	3.3	3.0	150	28.0	23.9	302.6	0	302.7	0	3.1
SMO	79	21	0340	520198	330.9	297.3	2.9	3.0	150	28.0	23.9	302.8	0	-1.0	0	-1.0
SMO	79	27	0307	550199	330.8	297.2	2.4	6.8	110	27.7	24.5	302.9	0	305.2	0	2.9
SMO	79	27	0307	560199	336.5	301.6	3.3	6.8	110	27.7	24.5	307.4	0	-1.0	0	-1.0
SMO	79	35	0355	530200	330.1	296.7	.7	4.0	120	27.3	24.4	302.7	0	302.7	0	.6
SMO	79	35	0355	540200	330.2	296.8	.5	4.0	120	27.3	24.4	302.8	0	-1.0	0	-1.0
SMO	79	44	2345	510201	330.6	297.1	1.7	2.7	130	29.0	24.5	302.6	0	302.7	0	1.3

N20 DATA BASE

STN	YR	JCD	GHT	SAMP. NO.	1 PPBV	2 PPBV	S.O.	WIND		TEMP		3	F3	4	F4	S.O.
								M/S	DEG	AIR	DEW PT	PPBV		PPBV		
SMO	79	44	2345	520201	331.0	297.4	.5	2.7	130	29.0	24.5	302.9	0	-1.0	0	-1.0
SMO	79	51	0203	550202	329.4	296.2	2.0	7.2	340	29.0	24.8	302.3	0	302.2	0	2.9
SMO	79	51	0203	560202	329.0	295.9	3.6	7.2	340	29.0	24.8	302.0	0	-1.0	0	-1.0
SMO	79	59	2239	510203	329.9	296.5	2.1	3.2	150	28.9	24.6	302.5	0	303.2	0	1.6
SMO	79	59	2239	520203	331.8	298.0	.8	3.2	150	28.9	24.6	304.0	0	-1.0	0	-1.0
SMO	79	66	2104	530204	320.7	289.5	1.8	3.5	75	30.2	24.6	295.0	3	295.0	3	1.8
SMO	79	66	2104	540204	329.4	296.2	3.0	3.5	75	30.2	24.6	301.8	3	301.8	0	3.0
SMO	79	72	2300	550205	327.4	294.8	1.4	4.5	120	28.2	24.3	300.4	0	300.8	0	1.4
SMO	79	72	2300	560205	328.5	295.5	1.3	4.5	120	28.2	24.3	301.2	0	-1.0	0	-1.0
SMO	79	83	2339	520206	329.9	296.5	1.7	6.2	325	29.3	24.8	303.2	0	303.2	0	2.2
SMO	79	83	2339	510206	330.0	296.6	2.6	6.2	325	29.3	24.8	303.3	0	-1.0	0	-1.0
SMO	79	92	0305	530207	326.7	294.1	3.1	5.0	140	28.5	25.8	300.1	0	301.2	0	2.9
SMO	79	92	0305	540207	329.4	296.2	2.7	5.0	140	28.5	25.8	302.3	0	-1.0	0	-1.0
SMO	79	98	0405	550208	328.1	295.2	1.0	4.0	150	27.4	24.1	301.6	0	302.8	0	1.4
SMO	79	98	0405	560208	331.2	297.5	1.7	4.0	150	27.4	24.1	304.0	0	-1.0	0	-1.0
SMO	79	109	0050	510209	329.6	296.3	1.7	6.0	330	30.3	25.9	302.4	2	303.9	0	1.7
SMO	79	109	0050	520209	333.6	299.4	4.3	6.5	330	30.3	25.9	305.5	1	-1.0	0	-1.0
SMO	79	114	2350	540210	331.6	297.9	.3	2.0	160	27.8	24.0	304.1	0	303.4	0	1.4
SMO	79	114	2350	530210	329.9	296.5	2.0	2.0	160	27.8	24.0	302.8	0	-1.0	0	-1.0
SMO	79	122	0245	550211	324.2	292.2	4.7	10.0	160	26.5	23.5	298.0	1	298.0	1	4.7
SMO	79	122	0245	560211	330.2	296.8	2.1	10.0	160	26.5	23.5	302.7	2	302.7	0	2.1
SMO	79	129	0235	520212	330.0	296.6	2.3	8.0	130	27.5	25.2	303.0	0	303.0	0	2.3
SMO	79	129	0235	510212	330.0	296.6	2.2	8.0	130	27.5	25.2	303.0	0	-1.0	0	-1.0
SMO	79	135	2250	540213	328.4	295.4	2.5	8.0	140	27.0	24.4	302.6	0	304.8	0	1.9
SMO	79	135	2250	530213	333.9	299.6	1.0	8.0	140	27.0	24.4	306.9	0	-1.0	0	-1.0
SMO	79	143	0410	550214	331.2	297.5	1.4	2.0	60	27.7	24.0	305.8	0	305.3	0	1.9
SMO	79	143	0410	560214	329.8	296.5	2.3	2.0	60	27.7	24.0	304.7	0	-1.0	0	-1.0
SMO	79	150	0245	530215	329.7	296.4	3.0	4.4	146	30.0	21.1	304.7	0	304.2	0	3.0
SMO	79	150	0245	540215	328.4	295.4	3.0	4.4	146	30.0	21.1	303.7	0	-1.0	0	-1.0
SMO	79	157	0248	510216	329.8	296.5	2.3	1.5	81	29.7	23.3	303.7	0	303.8	0	2.2
SMO	79	157	0248	520216	330.1	296.7	2.1	1.5	81	29.7	23.3	303.9	0	-1.0	0	-1.0
SMO	79	163	0142	550217	329.8	296.5	1.8	5.0	150	25.3	22.6	303.6	2	303.6	0	1.8
SMO	79	163	0142	560217	339.2	303.7	11.2	5.0	150	25.3	22.6	311.0	1	311.0	1	11.2
SMO	79	171	0057	540218	329.7	296.4	.9	2.7	330	30.8	25.0	303.5	0	303.0	0	.7
SMO	79	171	0057	530218	328.3	295.3	.4	2.7	330	30.8	25.0	302.4	0	-1.0	0	-1.0
SMO	79	178	0338	520219	330.4	296.9	1.3	8.0	100	29.0	23.5	304.3	0	304.2	0	1.4
SMO	79	178	0338	510219	330.2	296.8	1.5	8.0	100	29.0	23.5	304.1	0	-1.0	0	-1.0
SMO	79	185	0045	550220	336.4	301.5	3.4	2.7	170	26.0	24.5	309.2	0	306.6	0	2.6
SMO	79	185	0045	560220	329.9	296.5	1.3	2.7	170	26.0	24.5	304.1	0	-1.0	0	-1.0
SMO	79	192	0118	540221	328.8	295.7	1.6	5.0	150	21.6	21.6	303.0	0	301.5	0	2.5
SMO	79	192	0118	530221	325.0	292.8	3.2	5.0	150	21.6	21.6	300.0	0	-1.0	0	-1.0
SMO	79	199	0045	520222	330.2	296.8	1.5	7.5	30	28.3	25.2	304.3	0	304.0	0	1.5
SMO	79	199	0045	510222	329.5	296.2	1.5	7.5	30	28.3	25.2	303.7	0	-1.0	0	-1.0
SMO	79	209	2100	550223	332.4	298.5	1.3	10.4	145	25.5	16.5	306.4	0	305.5	0	1.7
SMO	79	209	2100	560223	330.2	296.8	2.1	10.4	145	25.5	16.5	304.6	0	-1.0	0	-1.0
SMO	79	213	0200	540224	331.0	297.4	2.1	10.4	140	26.4	16.2	304.8	0	305.1	0	1.8
SMO	79	213	0200	530224	331.8	298.0	1.5	10.4	140	26.4	16.2	305.4	0	-1.0	0	-1.0
SMO	79	221	2130	520225	333.1	299.0	.9	3.6	340	29.0	26.4	306.1	0	305.4	0	1.3
SMO	79	221	2130	510225	331.5	297.8	1.6	3.6	340	29.0	26.4	304.8	0	-1.0	0	-1.0
SMO	79	227	0300	560226	329.8	296.5	.7	2.7	110	27.0	19.8	303.1	0	303.1	0	1.8
SMO	79	227	0300	550226	329.7	296.4	2.5	2.7	110	27.0	19.8	303.0	0	-1.0	0	-1.0

N2O DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPBV	2 PPBV	S.D.	WIND		TEMP DEG C		3 PPBV	F3	4 PPBV	F4	S.D.
								M/S	DEG	AIR	DEW PT					
SMO	79	234	2120	510227	331.1	297.5	1.3	3.2	140	28.0	25.3	304.0	2	304.0	0	1.3
SMO	79	242	0107	540228	330.7	297.2	4.2	6.3	135	27.0	24.3	304.0	1	304.0	0	4.2
SMO	79	242	0107	530228	336.0	301.2	3.7	6.3	135	27.0	24.3	308.1	2	308.1	2	3.7
SMO	79	248	0301	550229	332.2	298.3	U	3.6	130	26.8	25.1	304.5	1	305.0	0	.0
SMO	79	248	0301	560229	333.4	299.2	.9	3.6	130	26.8	25.1	305.4	2	-1.0	0	-1.0
SMO	79	255	0000	520230	336.3	301.5	.3	2.7	170	24.0	24.0	308.3	0	308.2	0	1.4
SMO	79	255	0000	510230	336.2	301.4	2.0	2.7	170	24.0	24.0	308.2	0	-1.0	0	-1.0
SMO	79	261	0054	540231	332.5	298.5	1.7	4.1	130	28.0	25.0	305.7	0	303.2	0	2.1
SMO	79	261	0054	530231	326.2	293.7	2.5	4.1	130	28.0	25.0	300.8	0	-1.0	0	-1.0
SMO	79	269	0146	550232	334.0	299.7	.7	5.0	50	28.2	26.3	306.6	0	305.9	0	2.3
SMO	79	269	0146	560232	332.3	298.4	3.2	5.0	50	28.2	26.3	305.2	0	-1.0	0	-1.0
SMO	79	279	0200	510233	347.9	310.4	13.0	5.4	140	28.0	27.0	318.1	1	318.1	1	13.0
SMO	79	279	0200	520233	332.7	298.7	9.3	5.4	140	28.0	27.0	306.1	1	306.1	0	9.3
SMO	79	283	0259	540234	334.8	300.3	3.4	5.4	140	27.0	22.8	308.5	0	308.0	0	3.4
SMO	79	283	0259	530234	333.5	299.3	3.4	5.4	140	27.0	22.8	307.4	0	-1.0	0	-1.0
SMO	79	290	1322	560235	331.4	297.7	1.9	8.1	140	27.0	21.6	303.8	0	304.4	0	1.4
SMO	79	290	1322	550235	333.0	298.9	.5	8.1	140	27.0	21.6	305.0	0	-1.0	0	-1.0
SMO	79	297	0252	520236	332.6	298.6	2.5	2.3	340	29.2	26.3	305.1	0	306.6	0	1.8
SMO	79	297	0252	510236	336.4	301.5	.2	2.3	340	29.2	26.3	308.1	0	-1.0	0	-1.0
SMO	79	304	0319	540237	339.9	304.2	2.7	3.6	0	25.8	25.3	310.5	0	307.6	0	2.0
SMO	79	304	0319	530237	332.7	298.7	.7	3.6	0	25.8	25.3	304.8	0	-1.0	0	-1.0
SMO	79	311	0214	560238	331.1	297.5	4.0	1.8	150	28.0	26.7	303.5	1	304.7	0	4.0
SMO	79	311	0214	550238	334.3	299.9	.5	1.8	150	28.0	26.7	306.0	2	-1.0	0	-1.0
SMO	79	319	0212	520239	331.5	297.8	1.6	7.2	160	27.0	21.7	303.6	2	303.6	0	1.6
SMO	79	319	0212	510239	338.1	302.8	4.6	7.2	160	27.0	21.7	308.7	1	308.7	1	4.6
SMO	79	325	0243	540240	330.1	296.7	3.0	2.3	70	29.0	22.6	303.0	0	303.7	0	3.0
SMO	79	325	0243	530240	331.7	297.9	2.9	2.3	70	29.0	22.6	304.3	0	-1.0	0	-1.0
SMO	79	339	0221	550241	331.2	297.5	1.5	6.3	150	27.0	25.0	303.6	0	304.7	0	2.4
SMO	79	339	0221	560241	334.0	299.7	3.1	6.3	150	27.0	25.0	305.8	0	-1.0	0	-1.0
SMO	79	346	0048	510242	331.3	297.6	2.1	10.4	300	26.0	24.5	303.7	0	305.5	0	2.6
SMO	79	346	0048	520242	335.9	301.2	3.1	10.4	300	26.0	24.5	307.3	0	-1.0	0	-1.0
SMO	79	353	0250	530243	329.6	296.3	2.3	14.0	155	27.2	23.6	301.9	0	303.2	0	3.1
SMO	79	353	0250	540243	333.0	298.9	3.7	14.0	155	27.2	23.6	304.6	0	-1.0	0	-1.0
SMO	79	361	2102	550244	333.3	299.2	.8	4.5	155	27.8	25.7	305.0	0	303.6	0	1.4
SMO	79	361	2102	560244	329.9	296.5	1.8	4.5	155	27.8	25.7	302.3	0	-1.0	0	-1.0

N20 DATA BASE

STN	YR	JCD	GMT	SAMP. NO.	1 PPBV	2 PPBV	S.O.	WIND M/S	DEG	TEMP AIR	DEG C	3 PPBV	F3	4 PPBV	F4	S.O.
SPO	77	35	0230	040014	346.0	308.9	U	5.5	65	-37.3	-99.9	308.9	1	308.9	1	.0
SPO	77	38	0445	050015	342.6	306.3	U	3.2	90	-34.0	-99.9	306.3	1	306.3	1	.0
SPO	77	38	0445	060015	344.4	307.7	U	3.2	90	-34.0	-99.9	307.7	1	307.7	1	.0
SPO	77	41	0300	070016	334.0	299.7	U	4.0	120	-41.6	-99.9	299.7	1	299.7	1	.0
SPO	77	41	0300	080016	349.3	311.4	U	4.0	120	-41.6	-99.9	311.4	1	311.4	1	.0
SPO	77	72	2230	090017	326.2	293.7	U	3.5	30	-46.0	-99.9	293.7	1	293.7	1	.0
SPO	77	72	2230	100017	343.8	307.2	U	3.5	30	-46.0	-99.9	307.2	1	307.2	1	.0
SPO	77	105	0355	110018	350.3	312.2	U	3.4	40	-59.0	-99.9	312.2	1	312.2	1	.0
SPO	77	105	0355	120018	336.1	301.3	U	3.4	40	-59.0	-99.9	301.3	1	301.3	1	.0
SPO	77	134	0230	130019	337.1	302.1	U	8.0	25	-52.2	-99.9	302.1	1	302.1	1	.0
SPO	77	134	0230	140019	332.8	298.8	U	8.0	25	-52.2	-99.9	298.8	1	298.8	1	.0
SPO	77	165	2340	150020	315.9	285.8	U	3.4	20	-64.3	-99.9	285.8	1	285.8	1	.0
SPO	77	165	2340	160020	319.2	288.3	U	3.4	20	-64.3	-99.9	288.3	1	288.3	1	.0
SPO	77	195	0410	170021	335.5	300.8	U	9.0	345	-45.1	-99.9	300.8	1	300.8	1	.0
SPO	77	195	0410	270021	376.1	332.0	U	9.0	345	-45.1	-99.9	332.0	1	332.0	1	.0
SPO	77	229	2150	280022	347.1	309.7	U	4.0	10	-59.1	-99.9	309.7	1	309.7	1	.0
SPO	77	229	2150	290022	336.4	301.5	U	4.0	10	-59.1	-99.9	301.5	1	301.5	1	.0
SPO	77	257	1140	300023	331.5	297.8	U	3.5	25	-60.1	-99.9	297.8	1	297.8	0	.0
SPO	77	257	1140	310023	335.4	300.8	U	3.5	25	-60.1	-99.9	300.8	1	300.8	1	.0
SPO	77	287	2350	320024	364.1	322.8	U	6.2	360	-53.8	-99.9	322.8	1	322.8	1	.0
SPO	77	287	2350	330024	326.0	293.6	U	6.2	360	-53.8	-99.9	293.6	1	293.6	1	.0
SPO	77	316	1155	340025	318.8	288.0	U	2.7	325	-33.2	-99.9	288.0	1	288.0	1	.0
SPO	77	316	1155	350025	345.3	308.4	U	2.7	325	-33.2	-99.9	308.4	1	308.4	1	.0
SPO	77	336	0750	010026	336.9	301.9	.6	3.8	4	-31.8	-99.9	301.9	2	301.9	2	.6
SPO	77	336	0750	020026	328.1	295.2	6.9	3.8	4	-31.8	-99.9	295.2	1	295.2	1	6.9
SPO	77	353	0345	030027	328.3	295.3	4.2	2.7	99	-29.3	-99.9	295.3	1	295.3	1	4.2
SPO	77	353	0345	040027	332.2	298.3	3.3	2.7	99	-29.3	-99.9	298.3	2	298.3	0	3.3
SPO	78	1	0425	050028	331.3	297.6	2.1	4.4	320	-21.5	-99.9	297.6	2	296.7	0	2.1
SPO	78	1	0425	060028	328.9	295.8	6.6	4.4	320	-21.5	-99.9	295.8	1	-1.0	0	-1.0
SPO	78	15	0855	070029	326.7	294.1	1.0	1.2	75	-27.6	-99.9	294.1	0	296.6	0	1.6
SPO	78	15	0855	080029	333.2	299.1	2.1	1.2	75	-27.6	-99.9	299.1	0	-1.0	0	-1.0
SPO	78	31	0200	240030	325.8	293.4	2.5	3.2	102	-36.0	-99.9	293.4	2	293.4	2	2.5
SPO	78	31	0200	250030	332.3	298.4	6.7	3.2	102	-36.0	-99.9	298.4	1	298.4	0	6.7
SPO	78	45	2355	370031	334.2	299.8	U	4.3	70	-36.7	-99.9	299.8	1	299.8	0	.0
SPO	78	60	0212	270032	344.1	307.4	U	2.5	78	-57.8	-99.9	307.4	1	307.4	1	.0
SPO	78	60	0212	280032	334.4	300.0	1.2	2.5	78	-57.8	-99.9	300.0	2	300.0	0	1.2
SPO	78	91	0230	290033	334.8	300.3	.3	8.1	16	-47.1	-99.9	300.3	0	300.2	0	.7
SPO	78	91	0230	300033	334.4	300.0	.9	8.1	16	-47.1	-99.9	300.0	0	-1.0	0	-1.0
SPO	78	121	0105	310034	332.6	298.6	1.5	4.7	88	-63.6	-99.9	298.6	0	296.9	0	1.6
SPO	78	121	0105	320034	328.1	295.2	1.7	4.7	88	-63.6	-99.9	295.2	0	-1.0	0	-1.0
SPO	78	152	0918	330035	333.9	299.6	.4	7.8	14	-39.2	-99.9	299.6	0	299.3	0	.3
SPO	78	152	0918	340035	333.1	299.0	.1	7.8	14	-39.2	-99.9	299.0	0	-1.0	0	-1.0
SPO	78	182	1012	350036	333.6	299.4	.8	3.5	84	-61.4	-99.9	299.4	0	299.7	0	1.0
SPO	78	182	1012	090036	334.5	300.1	1.2	3.6	84	-61.4	-99.9	300.1	0	-1.0	0	-1.0
SPO	78	213	0140	100037	334.1	299.8	1.0	3.4	57	-61.7	-99.9	299.8	2	299.2	0	1.0
SPO	78	213	0140	110037	332.6	298.6	16.9	3.4	57	-61.7	-99.9	298.6	1	-1.0	0	-1.0
SPO	78	244	0910	120038	332.7	298.7	1.5	7.1	11	-49.8	-99.9	298.7	0	298.0	0	1.9
SPO	78	244	0910	130038	330.9	297.3	2.3	7.1	11	-49.8	-99.9	297.3	0	-1.0	0	-1.0
SPO	78	274	0450	150039	328.1	295.2	1.0	5.9	13	-58.0	-99.9	295.2	3	295.2	3	1.0
SPO	78	274	0450	140039	340.4	304.6	3.4	5.3	13	-58.0	-99.9	304.6	3	304.6	3	3.4
SPO	78	305	0834	160040	331.0	297.4	1.1	3.7	101	-44.8	-99.9	297.4	0	298.6	0	1.1



N2O DATA BASE																		
STN	YR	JCD	GMT	SAMP. NO.	1 PPBV	2 PPBV	S.D.	WIND		TEMP		DEG C	3	F3	4	F4	S.O.	
								M/S	DEG	AIR	DEK PT							
SPO	78	305	0834	170040	334.1	299.8	1.0	3.7	101	-44.8	-99.9	299.8	0	-1.0	0	-1.0		
SPO	78	320	0400	680041	332.8	298.8	.6	3.1	69	-35.2	-99.9	298.8	0	299.1	0	.5		
SPO	78	320	0400	690041	333.6	299.4	.4	3.1	69	-35.2	-99.9	299.4	0	-1.0	0	-1.0		
SPO	78	336	2234	250042	333.0	298.9	.6	3.3	14	-29.9	-99.9	298.9	0	299.4	0	.6		
SPO	78	336	2234	240042	334.2	299.8	.6	3.9	14	-29.9	-99.9	299.8	0	-1.0	0	-1.0		
SPO	78	343	0140	010043	332.5	298.5	.5	3.8	49	-26.8	-99.9	298.5	0	299.2	0	1.3		
SPO	78	343	0140	020043	334.1	299.8	1.7	3.8	49	-26.8	-99.9	299.8	0	-1.0	0	-1.0		
SPO	78	351	0210	060044	332.9	298.9	1.2	2.2	83	-26.5	-99.9	298.9	0	298.9	0	1.0		
SPO	78	351	0210	070044	333.0	298.9	.7	2.2	83	-26.5	-99.9	298.9	0	-1.0	0	-1.0		
SPO	78	357	0045	030045	335.3	300.7	.5	2.3	15	-28.6	-99.9	300.7	0	299.3	0	.7		
SPO	78	357	0045	040045	331.8	298.0	.8	2.3	15	-28.6	-99.9	298.0	0	-1.0	0	-1.0		
SPO	78	363	0110	080046	333.1	299.0	1.5	6.3	6	-16.6	-99.9	299.0	0	298.9	0	1.4		
SPO	78	363	0110	050046	332.7	298.7	1.2	6.3	6	-16.6	-99.9	298.7	0	-1.0	0	-1.0		
SPO	79	2	2240	340047	334.2	299.8	.1	6.0	67	-20.9	-99.9	299.8	0	300.2	0	.4		
SPO	79	2	2240	350047	335.2	300.6	.6	6.0	67	-20.9	-99.9	300.6	0	-1.0	0	-1.0		
SPO	79	8	2300	330048	330.9	297.3	1.2	7.2	15	-22.2	-99.9	297.3	0	299.0	0	1.2		
SPO	79	8	2300	370048	335.2	300.6	1.1	7.2	15	-22.2	-99.9	300.6	0	-1.0	0	-1.0		
SPO	79	13	0145	290049	334.0	299.7	.5	4.0	74	-26.0	-99.9	299.7	0	299.9	0	.6		
SPO	79	13	0145	300049	334.6	300.2	.7	4.0	74	-26.0	-99.9	300.2	0	-1.0	0	-1.0		
SPO	79	18	0155	260050	333.3	299.2	.2	3.4	109	-29.8	-99.9	299.2	2	299.2	0	.2		
SPO	79	23	0125	270051	331.8	298.0	.2	4.0	8	-26.7	-99.9	298.0	0	297.4	0	.3		
SPO	79	23	0125	280051	330.1	296.7	.3	4.0	8	-26.7	-99.9	296.7	0	-1.0	0	-1.0		
SPO	79	27	0030	090052	332.9	298.9	.6	4.2	85	-30.3	-99.9	298.9	0	298.7	0	1.8		
SPO	79	27	0030	100052	332.5	298.5	2.5	4.2	85	-30.3	-99.9	298.5	0	-1.0	0	-1.0		
SPO	79	34	0025	110053	338.0	302.8	1.6	5.8	40	-33.3	-99.9	302.8	0	301.1	0	1.9		
SPO	79	34	0025	120053	333.7	299.5	2.1	5.8	40	-33.3	-99.9	299.5	0	-1.0	0	-1.0		
SPO	79	37	2325	130054	331.0	297.4	.5	4.2	51	-39.1	-99.9	297.4	0	297.4	0	1.1		
SPO	79	37	2325	140054	330.9	297.3	1.5	4.2	51	-39.1	-99.9	297.3	0	-1.0	0	-1.0		
SPO	79	284	0040	020055	337.2	302.1	1.5	6.7	11	-53.0	-99.9	302.1	0	301.8	0	1.4		
SPO	79	284	0040	010055	336.3	301.5	1.3	6.7	11	-53.0	-99.9	301.5	0	-1.0	0	-1.0		
SPO	79	291	0430	060056	330.1	296.7	.9	5.2	64	-54.2	-99.9	296.7	2	296.7	2	.9		
SPO	79	291	0430	070056	338.1	302.8	U	5.2	64	-54.2	-99.9	302.8	1	302.8	1	.0		
SPO	79	297	2320	250057	337.0	302.0	1.9	4.7	55	-47.8	-99.9	302.0	0	300.2	0	2.7		
SPO	79	297	2320	240057	332.4	298.5	3.3	4.7	55	-47.8	-99.9	298.5	0	-1.0	0	-1.0		
SPO	79	305	0330	690058	327.5	294.7	.1	7.1	342	-43.2	-99.9	294.7	0	297.5	0	1.8		
SPO	79	305	0330	680058	334.9	300.4	2.5	7.1	342	-43.2	-99.9	300.4	0	-1.0	0	-1.0		
SPO	79	312	0457	040059	334.7	300.2	.1	4.4	330	-41.3	-99.9	300.2	0	301.4	0	.5		
SPO	79	312	0457	050059	337.7	302.5	.7	4.4	330	-41.3	-99.9	302.5	0	-1.0	0	-1.0		
SPO	79	319	2340	330060	167.8	172.2	.1	7.1	30	-40.8	-99.9	172.2	2	172.2	2	.1		
SPO	79	319	2340	340061	328.0	295.1	1.0	7.1	30	-40.8	-99.9	295.1	3	295.1	3	1.0		
SPO	79	319	2340	380061	336.1	301.3	3.3	7.1	30	-40.8	-99.9	301.3	3	301.3	0	3.3		
SPO	79	325	2300	370062	334.9	300.4	.9	5.3	67	-30.9	-99.9	300.4	0	300.7	0	.9		
SPO	79	325	2300	130062	335.6	300.9	.9	5.3	67	-30.9	-99.9	300.9	0	-1.0	0	-1.0		
SPO	79	333	2310	620063	332.0	298.2	2.2	3.8	117	27.0	-99.9	298.2	0	299.5	0	1.7		
SPO	79	333	2310	400063	335.6	300.9	.9	3.8	117	27.0	-99.9	300.9	0	-1.0	0	-1.0		
SPO	79	340	2320	350064	331.7	297.9	2.3	3.8	30	-31.1	-99.9	297.9	2	297.9	2	2.3		
SPO	79	346	2300	110065	335.9	301.2	2.1	4.2	90	-27.0	-99.9	301.2	0	300.1	0	1.6		
SPO	79	346	2300	140065	333.2	299.1	1.0	4.2	90	-27.0	-99.9	299.1	0	-1.0	0	-1.0		
SPO	79	354	2255	120066	337.6	302.5	1.6	2.5	67	-24.0	-99.9	302.5	0	300.5	0	2.5		
SPO	79	354	2255	290066	332.4	298.5	3.2	2.5	67	-24.0	-99.9	298.5	0	-1.0	0	-1.0		
SPO	79	360	2305	080067	335.5	300.8	2.3	4.9	5	-26.0	-99.9	300.8	0	300.8	0	1.7		
SPO	79	360	2305	280067	335.4	300.8	.8	4.9	5	-26.0	-99.9	300.8	0	-1.0	0	-1.0		