

## Introduction to the NOAA/EPA Brewer Spectrophotometer UV Monitoring Network

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The Surface Radiation Research Branch of NOAA's Global Monitoring Division and EPA's Office of Air Quality, Planning and Standards (OAQPS) are establishing a monitoring network for solar spectral UV irradiance using Brewer spectrophotometers. The network will consist of six sites located within the continental United States. The six sites are Ft. Peck, MT, Table Mtn, Boulder, CO, the University of Colorado's MARS lab at Niwot Ridge, CO, the University of Houston, Houston, TX, the Bondville Environmental and Atmospheric Research Site, Bondville, IL and the North Carolina State University's agriculture field site at Raleigh, NC. The sites were chosen with specific research goals in mind and represent a mixture of clean, mildly polluted and heavily polluted areas. Each monitoring location will be equipped with a Brewer Mark IV spectrophotometer in addition to ancillary instrumentation currently operating there. Three of the six sites are collocated with existing NOAA's Surface Radiation Budget (Surfrad) sites. A few of the research goals of the collaborative effort are to determine how tropospheric pollution (ozone and fine particles) affect surface UV levels, what effects clouds and other meteorological conditions have on surface UV levels, how are surface UV levels affected by stratospheric ozone concentrations and how do the surface UV levels compare to satellite measurements.



**Figure 1.** Brewer Spectrophotometer 93-101 operating at the Table Mountain Test Facility, Boulder, Colorado. The Brewer is collocated with the USDA's reference UV spectroradiometer and the State University of New York's UV-rotating shadowband spectroradiometer.