

## Aerosol Optical Variability as Measured at Cape Point (34°S, 18°E), South Africa

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A description of the first year of tropospheric aerosol optical data for the Cape Point GAW station is presented. A 3-wavelength nephelometer (TSI Model 3563) and 3-wavelength light absorption photometer (Radiance Research Model PSAP) are used to determine light scattering and absorption coefficients respectively. Specifically measured parameters include total light scattering, hemispheric backscattering, and light absorption, whilst calculated parameters comprise single-scattering albedo, backscatter fraction, and Ångström exponent.

In addition to exposure of clean maritime air from the southern Atlantic Ocean, the Cape Point measuring site at times also receives continental air from the northern sector. The collected data was thus segregated and classified i.t.o. their aerosol optical properties under “clean maritime,” “continental” as well as the occasional veld fire conditions. Statistical plots were evaluated for their seasonal variability and these compare well with prevailing air flow regimes.

The temporal and spatial relationship between aerosol optical parameters and a few selected trace gases such as CO and <sup>222</sup>Rn were also investigated and reported.



**Figure 1.** Left: 30m sampling mast in perspective to coastal cliff; Middle: aerosol sampling stack mounted onto mast; Right: sampling system showing PSAP and Nephelometer location inside laboratory.