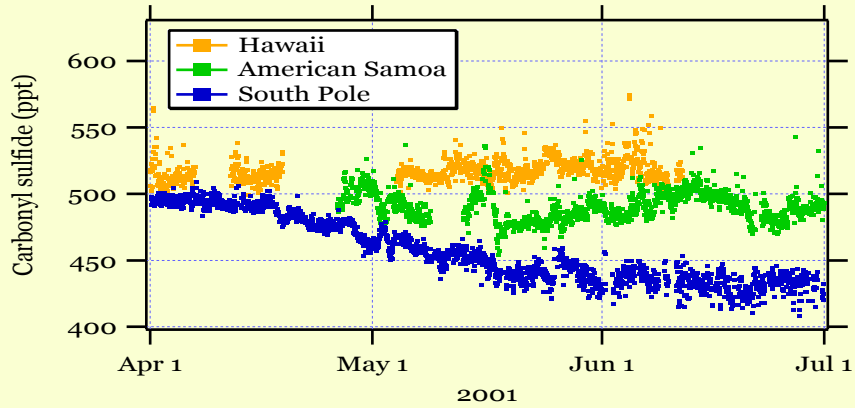


## American Samoa



At the coastal station on American Samoa (77 m, 14.2° S, 170.6° W), large rapid enhancements of  $\text{CH}_3\text{Cl}$  of up to 200 parts-per-trillion (ppt) over background levels of about 550 ppt have been observed. Virtually all high mixing ratios of  $\text{CH}_3\text{Cl}$  occur during light or no wind, indicating a local source. However, COS is not enhanced during these episodes. Gradual changes of COS over weeks of nearly 40 ppt above ambient levels of 500 ppt (~7% enhancements) are measured. Regional transportation and a seasonal cycle in carbonyl sulfide predominately effect the changes observed at American Samoa.

Plotted above are *in situ* measurements of COS at three of the NOAA observatories. As the Southern oceanic seasonal source of COS diminishes during the Austral autumn the mixing ratios measured at South Pole decrease. Air from both the central Pacific and as far south as the Indian Ocean drive American Samoa's COS concentrations. Plots and trajectories below illustrate a five-week period at American Samoa.

