

## Introduction

For the past 3 years, *in situ* measurements of carbonyl sulfide (COS) and methyl chloride ( $\text{CH}_3\text{Cl}$ ) have been made at the NOAA baseline observatories. Four gas chromatographs equipped with electron capture detectors make air measurements once an hour at Alaska, Hawaii, American Samoa, and the South Pole. Each air measurement is referenced to a pair of calibrated gas standards to calculate the atmospheric mixing ratio. Both COS and  $\text{CH}_3\text{Cl}$  have common sources such as oceans and biomass burning. However, both of their budgets are poorly balanced. Current source estimates for  $\text{CH}_3\text{Cl}$  are 20% lower than sink estimates. *In situ* measurements can reveal information about the sources and sinks of these compounds.

In addition to COS and  $\text{CH}_3\text{Cl}$ , the NOAA gas chromatographs measure nitrous oxide, sulfur hexafluoride, and several chlorinated and brominated trace compounds. Data for Halon-1211 ( $\text{CBrClF}_2$ ) and carbon tetrachloride ( $\text{CCl}_4$ ) are included in the poster. *In situ* methane data from NOAA's Carbon Cycle Greenhouse Gases group, trajectories from the Ozone & Water Vapor group, and meteorological data from the Observatory Operations group are also presented.

## Global Trends

