The Atmospheric Chemistry Observations and Modeling Laboratory. ACOM’s mission is to advance understanding of and predictive capability for atmospheric composition and related processes, and to provide intellectual leadership and facility support to the wider community. Research is organized around two major themes: Air Quality Prediction and Weather-Chemistry-Climate. The synthesis of observations with atmospheric chemistry models is central to progress, with a focus on understanding and modeling fundamental processes.

OPPORTUNITIES

Partnerships with the wider science community are at the heart of the NCAR mission, and are an important component of all research conducted within ACOM. Strong collaborations with university groups in particular are paramount to the NCAR and ACOM mission.

ACOM VISITOR PROGRAM: ACOM supports a very active visitor program, which serves to enhance scientific and educational partnerships between ACOM and members of the atmospheric chemistry community. Scientists wishing to visit ACOM to conduct collaborative research should contact a member of the ACOM staff who would serve as host for the visit. Opportunities are available for visits of varying duration, with funding support available for some visits. Postdoctoral positions specific to ACOM are advertised on the NCAR website (ucarcareers.silkroad.com), when available. The specific qualifications are listed on the job application.

ACOM's Visitor Program serves to augment other NCAR and UCAR visitor, education, and exchange programs, such as those sponsored by the NCAR Advanced Studies Program (www.asp.ucar.edu), UCAR's UVISIT program (president.ucar.edu/university-relations/uvisit), and the UCAR Center for Science Education (scied.ucar.edu).
COMMUNITY RESOURCES

COMMUNITY MODELS: ACOM develops and maintains a number of global, regional, and process-level atmospheric chemistry models that are made available to the community.

- **CAM-Chem** (Community Atmosphere Model with Chemistry): An integral part of the Community Earth System Model (CESM), used for simulations of tropospheric and stratospheric composition.
- **WACCM** (Whole Atmosphere Community Climate Model): Also a component of CESM, a comprehensive numerical model, spanning the range of altitude from the Earth’s surface to the thermosphere.
- **WRF-CHEM** (Weather and Research Forecasting model with Chemistry): Used for investigation of regional-scale air quality, field program analysis, and cloud-scale interactions between clouds and chemistry.
- **TUV** (Tropospheric Ultraviolet and Visible radiation model): Calculates spectral irradiance, spectral actinic flux, photodissociation coefficients, and biologically-effective irradiance.
- **NCARMM** (NCAR Master Mechanism): An explicit and detailed gas phase chemical mechanism combined with a box model solver.
- **FINN** (Fire INventory from NCAR): A daily fire emissions product for atmospheric chemistry models, based on MODIS Rapid Response Active Fire Data.

Visit: [www2.acom.ucar.edu/sections/chemistry-modeling](http://www2.acom.ucar.edu/sections/chemistry-modeling)

COMMUNITY-REQUESTABLE INSTRUMENTATION: In collaboration with NCAR’s Earth Observing Lab, ACOM scientists make available to the community a group of instruments including:

- **HARP** (HIAPER Airborne Radiation Package): Provides measurements of spectrally resolved actinic flux and irradiance.
- **TOGA** (Trace Organic Gas Analyzer): Determines concentrations for multiple organic compounds at part-per-trillion levels.
- **Aerolaser CO**: Provides quantitative measurements of carbon monoxide.
- **Picarro WS-CRDS** (Wavelength-scanned cavity ring-down spectrometer): Provides quantitative measurements of carbon dioxide and methane.
- **Chemiluminescence Instrumentation**: Provides quantitative measurements of NO, NO₂, O₃ and NOₓ species.
- **SMPS** (Scanning Mobility Particle Sizer): Measures particle number, size distributions. Additional instrumentation and laboratory facilities are available for collaborative research.

Visit: [www2.acom.ucar.edu/observations](http://www2.acom.ucar.edu/observations)

FIELD CAMPAIGN DATA: ACOM scientists participate in numerous community field campaigns each year, in a support and/or leadership role. A brief description of recent and future campaigns, as well as archived data for past campaigns, can be found on the web.

Visit: [www2.acom.ucar.edu/campaigns](http://www2.acom.ucar.edu/campaigns)

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