

The NCAR Climate and Global Dynamics Laboratory. *CGD's mission is to discover the key processes in each component of the Earth's climate system and to understand the interactions among them; to represent this knowledge in community models that effectively utilize computing advances; and to apply these models and observations to scientific problems of societal relevance.*



OPPORTUNITIES

CGD Scientific Visitor Program. The Climate and Global Dynamics Laboratory has a robust and long-standing program that brings scientific visitors to NCAR's Mesa Lab each year for collaborative research. Graduate students and postdocs sponsored by their universities are eligible to participate. Enhanced interaction with the university community allows us to play an important role in the education and training of the next generation of scientists.

More information: www2.cgd.ucar.edu/opportunities/cgd-scientific-visitor-program

CESM Tutorial. Every August, CGD hosts a week-long **Community Earth System Model Tutorial** for graduate students and early-career scientists. The selection process is carefully orchestrated to ensure the maximum impact: only one student per advisor; and a student body with expertise over a wide range of scientific disciplines. Lectures and exercises are made available via the web.

More information: www2.cesm.ucar.edu/events/tutorials

CESM Workshop. Every June CGD hosts a week-long **Community Earth System Model Workshop** for the scientific community. The workshop is a combination of plenary presentations, special interest presentations by the CESM working groups, and a poster session for participants to highlight their work. Working groups meet to discuss current and future priorities, model development, and model simulations. This is also a time to collaborate and communicate CESM science to users and researchers. Presentations are made available to the community via the web.

More information: www2.cesm.ucar.edu/events/workshops

NCL Tutorials. CGD partners with NCAR's Computational and Information Systems Lab to run tutorials training scientists in the use of the interpreted **NCAR Command Language**. Multiple tutorial workshops are given throughout the year in Boulder, at UCAR member universities, and at other research organizations around the world. NCL is one of the fastest growing interpreted languages in the geosciences. CGD's support of the NCL project helps prepare young scientists with the programming tools they need to easily and effectively analyze data sets based on modeling and observations in a variety of formats.

More information: www.ncl.ucar.edu

COMMUNITY RESOURCES

CESM | Community Earth System Model. CESM is a community-developed, fully-coupled global climate model that provides state-of-the-art computer simulations of Earth's past, present, and future climate states. Vital elements for CESM's development include modern parameterizations, software engineering, and observational data sets. CESM simulation support is targeted to provide the CESM community with a single code base that enables out-of-the-box capabilities for the entire modeling process. This single code base supports model parameterization development, and minimizes computational resources.

More information: www2.cesm.ucar.edu

CESM Component Models and Options. CGD also hosts the following CESM components and variants: CAM: Community Atmosphere Model; CICE: Los Alamos Sea Ice Model; CISM: Community Ice Sheet Model; CLM: Community Land Model; POP: Parallel Ocean Program; and SCCM: Single-column Community Climate Model.

More information: www2.cgd.ucar.edu/modeling

Community Data Sets. Community data sets encompass output from climate model experiments, post-processed model data, and value-added, observationally based data sets. They are extensively used by CGD scientists, university collaborators, and other research partners.

More information: www2.cgd.ucar.edu/modeling/cgd-data-and-data-sets-and-software

Climate Data Guide. The Climate Data Guide provides concise and reliable information on the strengths and limitations of the key observational data sets, tools, and methods used to evaluate Earth system models and to understand the climate system. Citable expert commentaries are authored by experienced data users and developers, enabling scientists to multiply the impact of their work, expand the diverse user community and increase access and understanding of the essential data.

More information: climatedataguide.ucar.edu

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