

# Ocean Modeling Project Scientist I/II

## Tracking Code

17021

## Job Description

### Ocean Modeling Project Scientist I/II

**PLEASE NOTE:** This is a full-time position. Initial consideration will be given to applications received prior to December 23<sup>rd</sup> 2016. Thereafter, applications will be reviewed on an as-needed basis.

NCAR - Climate and Global Dynamics (CGD) – Oceanography (OS)

Relocation costs paid per UCAR's relocation policy.

UCAR/NCAR will sponsor a work visa to fill this position.

### Where You Will Work

Located in Boulder, Colorado, the National Center for Atmospheric Research (NCAR) is one of the world's premier scientific institutions, with an internationally recognized staff and research program dedicated to advancing knowledge, providing community-based resources, and building human capacity in the atmospheric and related sciences.

### What You Will Do

This position supports the Community Earth System Model (CESM) Ocean Model Working Group (OMWG) activities. It combines scientific research with the day-to-day coordination and support of the OMWG. The primary responsibility is to serve as the CESM OMWG science liaison with the other CESM working groups and the broad university community interested in the CESM and, in particular, its ocean component. The position fully participates and contributes to the development of the CESM ocean component, design and execution of experiments, analysis of results, maintenance and further development of post-processing tools, assessment of resource requirements, and publication of papers. The incumbent is expected to contribute to scientific research directed towards improving various aspects of the CESM ocean model both independently and in collaboration with others. These improvements include implementation of new parameterizations as well as new numerical techniques.

- Serves as the CESM OMWG science liaison, involving a broad range of activities specifically aimed at assisting the activities of scientists in the wider OMWG community both internal and external to NCAR. Fully participates in numerical experimentation into the nature of ocean processes influencing the global climate system, by assisting in the experimental design, overseeing and performing integrations, managing relevant input, output, and comparative data sets, and facilitating the dissemination of results. Maintains existing post-processing tools and develops new ones as needed. Documents experimental and diagnostics procedures. Organizes and maintains a comprehensive database of simulation output and analysis.
- Under general guidance, conducts independent and collaborative research, engaging the university community, to improve CESM ocean model parameterizations and numerical methods.

- Interacts with the greater CESM and university communities, by promoting and facilitating access to the CESM model codes, diagnostics tools, and results, contributing to coordination of working group experimental strategy and resource requirements assessments.
- Leads and participates in writing of scientific journal articles and formal reports. Presents results at relevant meetings.

### **What You Need - Minimum Job Requirements**

- For PSI level: Ph.D. or equivalent in oceanic, atmospheric, or related earth sciences.
- For PSII level: Ph.D. or equivalent in oceanic, atmospheric, or related earth sciences, and at least three years of related experience (or equivalent) with acknowledged evidence of professional progress.
- OTHER REQUIREMENTS: Ability and willingness to work non-standard hours/days when needed to maintain constant production throughput rates.
- Ability to work on a team of NCAR and non-NCAR scientists and software engineers.
- Demonstrated understanding, through published or academic work, of modeling complex, geophysical processes.
- Demonstrated knowledge of the physical and mathematical basis of oceanic general circulation models.
- Demonstrated experience with running coupled climate models, particularly CESM.
- Demonstrated experience in designing and implementing reliable Fortran modules for complex geophysical systems, particularly the ocean model.
- Familiarity with the CESM ocean component or comparable global ocean general circulation models, e.g., Parallel Ocean Program (POP), Modular Ocean Model (MOM), Hybrid Coordinate Ocean Model (HYCOM), MITgcm, etc.
- Demonstrated knowledge of the UNIX operating system and its variants, including skill in writing shell scripts.
- Knowledge of graphical analysis tools, e.g., Matlab, IDL, NCL.
- Knowledge of data analysis methodologies for global climate models.
- Effective oral and written communication skills.
- Ability to assess priorities, plan development work, and meet deliverable deadlines.
- Knowledge of web based communication.
- PSII level: Experience and ability to manage complex projects and a diverse staff.

### **Decision Making & Problem Solving:**

- Priorities will be determined in consultation with the co-chairs of the CESM OMWG.
- Assists in supervising software engineers performing duties for the CESM OMWG.
- Responsible for day-to-day coordination of the CESM OMWG activities, providing scientific and technical guidance as needed.
- Implements desired changes to the CESM ocean model codes.
- Makes independent decisions to design sensitivity experiments and to devise diagnostics techniques / tools to evaluate model simulations.

### **Notes to Applicants**

All applicants should submit:

- A Cover letter that includes a statement of research interests.
- Current CV.
- Names of two potential references.

The University Corporation for Atmospheric Research (UCAR) is an equal opportunity/equal access/affirmative action employer that strives to develop and maintain a diverse workforce. UCAR is committed to providing equal opportunity for all employees and applicants for employment and does not discriminate on the basis of race, age, creed, color, religion, national origin or ancestry, sex, gender, disability, veteran status, genetic information, sexual orientation, gender identity or expression, or pregnancy.

Whatever your intersection of identities, you are welcome at the University Corporation for Atmospheric Research (UCAR). We are committed to inclusivity and promoting an equitable environment that values and respects the uniqueness of all members of our organization.

**Job Location**

Boulder, Colorado, United States

**Position Type**

Full-Time/Regular

**Appointment Type**

Regular, Full-Time (R1)