Postdoctoral Research Associate in Satellite Earth Observation and Infectious Disease Forecasting

Review of Applications will begin on December 1, 2026

University of Oklahoma, Department of Geography and Environmental Sustainability, Norman, Oklahoma

The Ecological and Geospatial Research and Applications in Planetary Health (EcoGRAPH) research group at the University of Oklahoma (OU) invites applications for a Postdoctoral Research Associate to support a newly funded NASA project on operational forecasting of West Nile virus risk using public health surveillance data integrated with environmental intelligence derived from NASA Earth observations and advanced analytical methods. The position will be supervised by Dr. Michael C. Wimberly, Professor in the Department of Geography and Environmental Sustainability and Associate Director of the Data Institute for Societal Challenges (DISC).

Project Overview

The successful candidate will contribute to the development of a next-generation version of the Arbovirus Mapping and Prediction (ArboMAP) system, an operational forecasting platform currently used in collaboration with multiple state health departments. The project builds on an established program of successful research and implementation by addressing the following major objectives:

- Creating a enhanced interface with interactive dashboards, data visualization tools, and decision-support products for public health agencies
- Developing a new distributed forecasting architecture that can be deployed within state and local public health agencies
- Evaluating mechanistic models, machine learning algorithms, and ensemble forecasting methods for outbreak prediction
- Building a multi-state consortium of public health partners focused on operational arboviral disease forecasting

Responsibilities

The postdoctoral researcher will have a central role in the project and will work closely with the PI and public health collaborators. Responsibilities will include:

- Processing and managing large environmental and epidemiological datasets
- Designing and evaluating alternative approaches for infectious disease forecasting
- Building and maintaining software infrastructure for operational forecasting
- Developing web-based dashboards and interactive visualization tools
- Publishing results in peer-reviewed journals and presenting findings at scientific conferences
- Participating in collaborations with state health departments and public health partners

Required Qualifications

Candidates are expected to have the following minimum qualifications:

- Ph.D. completed by the appointment start date in Geography, Environmental Science, Data Science, Computer Science, Epidemiology, Ecology, or a closely related discipline
- Demonstrated experience with data analysis and programming
- Strong skills in Python and/or R
- Experience working with geospatial, environmental, or epidemiological data
- Evidence of scholarly productivity, including peer-reviewed publications

- Excellent written and oral communication skills

Preferred Qualifications

Preference will be given to candidates with experience in one or more of the following areas:

- Machine learning, deep learning, or AI applications
- Satellite remote sensing of environmental change
- Spatiotemporal modeling and forecasting
- Interactive dashboards and web application development
- Cloud computing, containerization, and reproducible workflows
- Infectious diseases, vector-borne diseases, or public health analytics

Research Environment

The postdoctoral researcher will join the EcoGRAPH research group within the Department of Geography and Environmental Sustainability, which is part of OU's College of Atmospheric and Geographic Sciences. This team conducts interdisciplinary research using satellite Earth observations and geospatial data science to study global environmental change and climate-sensitive diseases. Researchers will have access to extensive computing resources through the OU Supercomputing Center for Research and Education (OSCER).

Appointment

This is a full-time postdoctoral appointment with an anticipated initial term of two years and the possibility of extension contingent upon funding and performance. The position includes opportunities for travel to scientific conferences and networking with researchers and public health partners.

Application Materials

Applicants should **submit the following materials to Dr. Michael Wimberly** (mcwimberly@ou.edu) as PDF attachments:

- Cover letter describing research interests, relevant experience, and career goals (two pages maximum).
- Curriculum vitae.
- Contact information for three professional references.

We will begin reviewing applications on December 1, 2026, and applications received by that date will receive full consideration.

About the University of Oklahoma

The University of Oklahoma is a comprehensive research university with strong programs in environmental science, geography, public health, atmospheric science, and data science. Located in Norman, Oklahoma, the university provides a collaborative and interdisciplinary research environment with extensive opportunities for engagement across departments and research institutes.