



College of Oceanic & Atmospheric Sciences

Oregon State University

104 COAS Admin Bldg • Corvallis, Oregon 97331-5503

Tel: (541) 737-3504 • Fax: (541) 737-2064 • www.coas.oregonstate.edu

Position Announcement - 0006143 College of Oceanic and Atmospheric Sciences Research Associate (Postdoctoral)

Position: The College of Oceanic and Atmospheric Sciences (COAS) at Oregon State University announces the availability of a full-time position for a Research Associate (Postdoctoral) to investigate the nearly ubiquitous observed atmospheric response to sea surface temperature (SST) gradients. To date, most research has focused on the surface wind response to SST, but recent work indicates that the atmospheric response to SST extends into the troposphere above the marine boundary layer. In particular, a deep atmospheric response has been found anchored to the warm western boundary currents of the Gulf Stream and Kuroshio Current. More subtle, but still well-defined, responses are found over the California Current System. We seek a research colleague who will join a team of researchers using mesoscale atmospheric models to study the response of the three-dimensional tropospheric circulation to SST features of different spatial scales.

Background Information: COAS is one of the world's leading oceanographic and atmospheric sciences graduate research institutions, with more than 200 faculty and staff members, more than 90 graduate students, and a wide variety of assets including an excellent computing infrastructure, state-of-the-art analytical facilities, and two research vessels.

Appointment: Full-time (1.0 FTE), 12-month fixed-term appointment. Annual salary range is \$47,000-\$49,000. Reappointment is at the discretion of the principal investigators.

Responsibilities and Duties: The successful candidate will use the Weather and Research Forecasting (WRF) numerical model to simulate three-dimensional circulations in response to observed SST patterns and large-scale wind regimes found over SST anomalies in ocean currents (e.g. the Gulf Stream, the Kuroshio, the Agulhas, and the California Current). Observations and the WRF simulations will be used to quantify the temporal and spatial scale dependence of the atmosphere response to SST gradients. The candidate will work with team members producing cutting-edge high-resolution SST products. Activities will include the following:

Atmospheric simulation of the atmospheric circulation response to real and idealized SST cases using the WRF model, and physical diagnosis of the results. Use of WRF will require adapting, debugging, compiling, and running Fortran 90 codes in a linux environment. Diagnosing results will require use of a higher-level computing language such as NCL or Matlab.

Preparation of new high-resolution SST data sets using satellite and in situ data, where available, as boundary conditions for WRF. The candidate will format these new data sets so they can be ingested by the WRF model.

Verification of simulated surface and elevated wind and cloud response to SST with satellite remote sensing data sets, e.g. QuikSCAT, AMSU, and CERES. Spatial structures of case studies will be verified. The candidate will employ statistical and spectral methods to the model and observational data, and synthesize results to emphasize physical reasons for the response.

Presentation of results at national and international scientific meetings. Collaboration with

scientists within COAS and at other institutions. Preparation and publication of articles in scientific journals.

Qualifications: PhD. in Atmospheric Sciences, Oceanography or closely related field. Experience with running WRF and/or equivalent NWP model in a parallel computing environment, including familiarity with Fortran and a Unix/Linux environment. Experience with scientific programming using high-level programming languages such as MATLAB, NCL, IDL, or Python. Ability to write and communicate scientific results with peers.

Prefer: Experience with spatial and temporal statistical techniques for characterizing geophysical flows. A demonstrable commitment to promoting and enhancing diversity.

To Apply:

To review posting and to apply electronically, go to <http://oregonstate.edu/jobs>. See posting number 0006143. To review position announcement go to <http://www.coas.oregonstate.edu/>.

Questions about the position may be directed to Simon de Szoeke, phone (541-737-8391), email sdeszoek@coas.oregonstate.edu; or Dudley Chelton, phone (541-737- 4017), email chelton@coas.oregonstate.edu; fax 541-737-2064.

Deadline: For full consideration, applications must be received by November 28, 2010

Position Closing date: December 31, 2010.

University and Community: OSU is one of only two American universities to hold the Land-, Sea-, Sun- and Space-Grant designations and is the only Oregon institution recognized for its "very high research activity" (RU/VH) by the Carnegie Foundation for the Advancement of Teaching. The university is comprised of 11 academic colleges with strengths in natural resources, Earth dynamics and sustainability, life sciences, entrepreneurship, and the arts and sciences. OSU has facilities and/or programs in every county in the state, including 12 regional experiment stations, 41 county extension offices, a branch campus in Bend, a major marine science center in Newport, and a range of programs and facilities in Portland. It is Oregon's largest public research university, conducting more than 60 percent of the research funded throughout the state's university system.

OSU is located in Corvallis, a community of 53,000 people situated in the Willamette Valley between Portland and Eugene. Ocean beaches, lakes, rivers, forests, high desert, the rugged Cascade and Coast Ranges, and the urban amenities of the Portland metropolitan area are all within a 100-mile drive of Corvallis. Approximately 15,700 undergraduate and 3,400 graduate students are enrolled at OSU, including 2,600 U.S. students of color and 950 international students.

The university has an institution-wide commitment to diversity, multiculturalism and community. We actively engage in recruiting and retaining a diverse workforce and student body that includes members of historically under-represented groups. We strive to build and sustain a welcoming and supportive campus environment. OSU provides outstanding leadership opportunities for people interested in promoting and enhancing diversity, nurturing creativity and building community.

Oregon State¹ University is an Affirmative Action/Equal Opportunity Employer
