



March 12, 2026

Postdoctoral Associate: Submesoscale dynamics of the ocean bottom boundary layer and topographic wakes

Position Summary: The University of Maryland Department of Atmospheric and Oceanic Science is seeking a postdoctoral researcher to study submesoscale processes in the ocean bottom boundary layer and separated topographic wakes. This will include work on interactions of internal waves with submesoscale flows in deep boundary currents, cross-scale energy transfers, and high-resolution process-study modeling to inform analysis of Lagrangian observations of submesoscale topographic wakes. A background in physical oceanography is required, with preference given to candidates with strong experience in ocean dynamics and numerical modeling. The position will be located in-person at the University of Maryland, College Park working with Jacob Wenegrat. There will also be opportunities for close collaboration with Leif Thomas (Stanford), and others through the ONR *Researching Interior Ocean Trajectories* (RIOT) Departmental Research Initiative.

Minimum qualifications:

- PhD in physical oceanography, applied mathematics, or other related subject by start date
- Experience with geophysical fluid dynamics and numerical modeling of fluids
- Excellent written and oral communication skills as demonstrated through a strong track record of publications and presentations
- Ability to pursue research both independently and as part of a collaborative team

Preferred qualifications:

- Experience with high resolution process-study modeling (including e.g. LES)
- Proficiency with high performance computing and the analysis of large datasets
- Prior research experience on submesoscale dynamics, internal waves, or flow topography interaction

Duties and Responsibilities:

- Configure, run, and analyze high-resolution process studies of the ocean submesoscale
- Contribute to the analysis of novel Lagrangian observations of submesoscale topographic wake dynamics
- Publish in peer-reviewed journals and present work at national and international meetings and conferences.

Timeline and application: This is a 3 year postdoctoral position (with initial appointment for 1 year pending good progress and continued availability of funds). The position can begin immediately, although candidates with preferred start dates as late as Fall 2026 will be considered.

To apply please submit a cover letter (explaining interest and relevant qualifications), CV (including list of publications), 1-2 representative publications, and contact information for 3 references directly by email to Jacob Wenegrat (wenegrat@umd.edu). References will only be contacted for shortlisted candidates. **Review of applications will begin immediately**, and the position will remain open until filled.

More information on the UMD Ocean Dynamics group, including a group expectations document, is available online: <http://wenegrat.github.io/>. Questions may be directed to Jacob Wenegrat (wenegrat@umd.edu).