

Opportunity Title: Ocean and Sea-ice Studies Using Satellite Data and Models

Opportunity Reference Code: 0005-NPP-NOV23-JPL-EarthSci

Organization National Aeronautics and Space Administration (NASA)

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Application Deadline 11/1/2023 6:00:59 PM Eastern Time Zone

Description Research opportunities exist within a project called ECCO2 (<http://ecco2.org/>) that aims to produce increasingly accurate syntheses of the available global-ocean and sea-ice data at resolutions that start to resolve ocean eddies and other narrow current systems. ECCO2 data syntheses are being obtained via the least-squares fit of global-ocean and sea-ice configurations of the Massachusetts Institute of Technology general circulation model to the available satellite and in-situ data. These data syntheses aim to increase understanding and predictive capability for the ocean's role in future climate change scenarios, for example, to better quantify the role of the oceans in the global carbon cycle, to understand the recent evolution of the polar oceans, and to monitor the time-evolving term balances within and between different components of the Earth system. Research opportunities exist both in the development and in the utilization of these global-ocean and sea-ice data syntheses.

D. Menemenlis, I. Fukumori, and T. Lee, 2005. Using Green's functions to calibrate an ocean general circulation model. *Mon. Weather Rev.*, vol. 133, pages 1224-1240.

D. Menemenlis et al., 2005. NASA supercomputer improves prospects for ocean climate research. *Eos*, vol. 86, pages 89, 95-96.

Location:

Jet Propulsion Laboratory
Pasadena, California

Field of Science: Earth Science

Advisors:

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Applications with citizens from Designated Countries will not be accepted at this time, unless they are Legal Permanent Residents of the United States. A complete list of Designated Countries can be found at: <https://www.nasa.gov/oiir/export-control>.

Eligibility is currently open to:

- U.S. Citizens;
- U.S. Lawful Permanent Residents (LPR);
- Foreign Nationals eligible for an Exchange Visitor J-1 visa status; and,
- Applicants for LPR, asylees, or refugees in the U.S. at the time of



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application with 1) a valid EAD card and 2) I-485 or I-589 forms in pending status

Eligibility Requirements

- **Degree:** Doctoral Degree.