

**Opportunity Title:** Estimating and Studying the Global Ocean Ecology and Carbon Cycle Using Observations and Numerical Models

**Opportunity Reference Code:** 0150-NPP-NOV23-JPL-EarthSci

**Organization** National Aeronautics and Space Administration (NASA)

**Reference Code** 0150-NPP-NOV23-JPL-EarthSci

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

**Description** The ocean is estimated to have absorbed ~50% of anthropogenic CO<sub>2</sub> emissions since the beginning of the industrial period. At steady state, based on preindustrial reservoir-size ratio and assuming a linear response, the ocean is expected to absorb ~95% of anthropogenic CO<sub>2</sub>. As humanity continues to burn fossil fuels and change land cover, the rate and manner (i.e., deviations from a linear response) in which the ocean and land respond to the atmospheric perturbation will determine atmospheric CO<sub>2</sub> concentration and hence the amount of CO<sub>2</sub> greenhouse climate forcing. For the above reasons, quantification and mechanistic understanding of the oceanic carbon cycle is the subject of active research.

We seek a postdoctoral scholar who will work with a state-of-the-art, data-assimilating ocean biogeochemistry model called ECCO-Darwin to explore (i) physical and biogeochemical interactions in the land-sea continuum, (ii) ocean acidification, or (iii) other carbon cycle aspects in general (e.g., air-sea CO<sub>2</sub> exchange, oceanic sources/sinks). Such activities entail model development and evaluation, and working closely with the ECCO-Darwin team.

Candidates should have a recent PhD in Geosciences, Oceanography, Environmental Sciences, Computer Science, or a related field. Previous experience with ocean carbon cycle models, ideally with the MITgcm, would be highly desirable. Programming skills (FORTRAN, MATLAB and/or Python) and expertise in model output analysis are essential. Excellent oral and written communication skills in English and the ability to work efficiently in a team as well as independently are required.

**Location:**

Jet Propulsion Laboratory  
Pasadena, California

**Field of Science:**Earth Science

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**Applications with citizens from Designated Countries will not be**



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

**Eligibility Requirements**

- **Degree:** Doctoral Degree.