

Opportunity Title: Multi-decadal changes in ice sheet and ice shelf mass balance as determined from satellite and airborne altimetry for assimilation into ice sheet models

Opportunity Reference Code: 0147-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: There is now broad scientific agreement that, over the coming centuries, ice sheets will accelerate rates of global sea level rise as they respond to a warming atmosphere and ocean. Despite this agreement there remains large uncertainties in the rate at which ice sheets will contribute mass to the world's oceans. These uncertainties are in large due to a limited understanding of ice sheet response to changes in ocean condition, leading to a large spread in projected ice sheet response. Improving our understanding of these processes is partially dependent on the creation and interpretation of multi-decadal observational records of glacier change that can help to isolate the physical mechanisms responsible for the observed response. We seek a postdoctoral scholar who will work to develop a long, spatially dense, homogenous record of elevation change from all available satellite and airborne altimetry collected over the Antarctic Ice Sheet. The candidate will also help characterize uncertainties in the conversion of elevation changes to mass changes (firm modeling). The candidate will work closely with the NASA's Ice Sheet System Modeling (ISSM) group to improve assimilation of altimetry into numerical models of ice flow.

The candidate should have a strong interest and publication record in both signal processing and glaciology. Candidates should have a recent PhD in processing of radar (ERS, Enviat, CryoSat-2) and laser (ICESat, ATM, LVIS) altimetry over glacier surfaces. Knowledge of glaciological principles is required. All candidates should have a strong background in scientific computing (Matlab, Python or equivalent) and remote sensing principles. The candidate is expected to work synergistically within the existing glacier remote sensing and ice sheet modeling groups at JPL. Postdoctoral Scholar positions are awarded for a minimum of one-year period and may be renewed up to a maximum of three years.

Location:

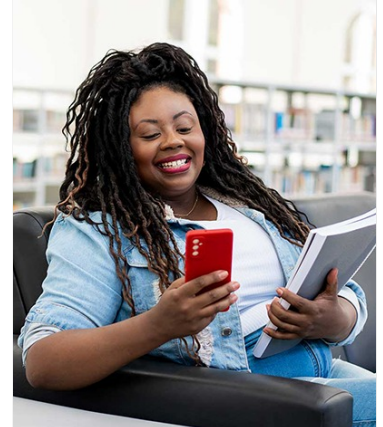
Jet Propulsion Laboratory
Pasadena, California

Field of Science: Earth Science

Advisors:

Alex Gardner
Alex.S.Gardner@jpl.nasa.gov
818-354-3477

Eric Larour
Eric.Larour@jpl.nasa.gov



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010-590-2400

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/oirr/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.