

**Opportunity Title:** Advancing hyperspectral and forest structure science for global land-surface model applications

**Opportunity Reference Code:** 0196-NPP-NOV23-GSFC-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** Advances in land-surface modeling are increasingly reliant on novel remote sensing observations. For example, advances in hyperspectral, lidar, and radar remote sensing from airborne and spaceborne perspectives are providing detailed landscape, regional and global observations of ecosystem function and structure. Land-surface models are now in a unique position to utilize these observations by direct data assimilation, as part of benchmarking activities, and for applications related to calibration and validation of the observations themselves. This research position aims to combine global land-surface modeling approaches (i.e., LPJ, CLM, Catchment-CN) with existing and proposed hyperspectral (AVIRIS-NG, SBG) and forest structure (ICESAT-2, GEDI) remote sensing missions. The research will have three focus areas, the first on evaluating land-surface model structure and how this can be used to invert spectral information, the second to identify key plant functional traits that can be mapped from space, and the third to generate methods for model integration of dynamic plant traits. The candidate will work with scientists at the NASA Goddard Space Flight Center in the Biospheric Sciences Laboratory and the Global Modeling and Assimilation Office, and the Jet Propulsion Lab with colleagues in the Carbon Cycle and Ecosystems research group.

**Location:**

Goddard Space Flight Center  
Greenbelt, Maryland

**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;



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- 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.