

Opportunity Title: Prithvi-EO Foundation Model for Forest Structure, Biomass, and Fire-Relevant Metrics

Opportunity Reference Code: 0333-NPP-NOV26-JPL-EarthSci

Organization National Aeronautics and Space Administration (NASA)

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How to Apply All applications must be submitted in [Zintellect](#)

Please visit the NASA Postdoctoral Program website for application instructions and requirements: [How to Apply | NASA Postdoctoral Program \(orau.org\)](#).

A complete application to the NASA Postdoctoral Program includes:

1. Research proposal
2. Three letters of recommendation
3. Official doctoral transcript documents

Application Deadline 11/1/2026 6:00:59 PM Eastern Time Zone

Description About the [NASA Postdoctoral Program](#)

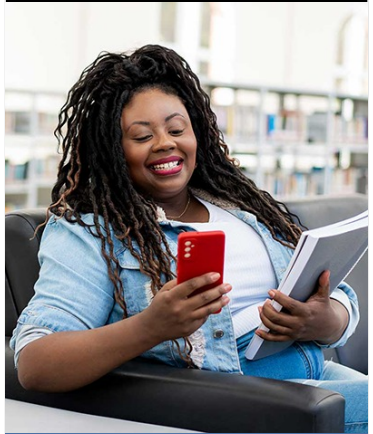
The [NASA Postdoctoral Program \(NPP\)](#) offers unique research opportunities to highly-talented scientists to engage in ongoing NASA research projects at a NASA Center, NASA Headquarters, or at a NASA-affiliated research institute. These one- to three-year fellowships are competitive and are designed to advance NASA's missions in space science, Earth science, aeronautics, space operations, exploration systems, and astrobiology.

Description:

We are recruiting a Postdoctoral Fellow to support a NASA-aligned research effort developing continual, improved, high-resolution maps of forest structure and derived metrics relevant to fire and carbon-cycle modeling. The project will build a unified modeling framework that uses GEDI LiDAR and Landsat/HLS data to train deep learning models capable of predicting forest structure variables such as above-ground biomass, with a design that can readily incorporate new inputs (for example SAR) and new outputs (for example fuel categorization). The work explicitly leverages NASA's Foundation Model, Prithvi-EO, to make the system extensible.

The successful candidate will contribute to one or more core research thrusts. One thrust focuses on developing a self-supervised masked autoencoder for GEDI LiDAR data to learn transferable structural embeddings, creating a foundational model for forest structure representation learning. A second thrust centers on multi-modal fusion, designing and training shallow fusion networks that combine the GEDI structural embeddings with spectral-temporal features from an HLS/Landsat foundation model to produce robust, scalable predictors. A third thrust involves metric-specific modeling, either via multi-headed architectures or per-metric models, to estimate a suite of forest structure and fuel-relevant variables. Ground-truth supervision and evaluation will draw on sources such as NSF NEON, Forest Observation System data, and FIA inventory datasets.

A distinctive component of the role is advancing natural-language interaction with geospatial forest products. The candidate may help develop a projection layer that connects predicted geospatial features and metrics to an open-source large language model (LLM),



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enabling natural-language queries over forest conditions and related fire risk or carbon-relevant attributes. This includes generating text annotations and question-answer style supervision derived from predicted metrics and domain heuristics, and training the projection layer so the system can describe and answer questions about pixel-level conditions using the fusion outputs.

Field of Science: Earth Science

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

Questions about this opportunity? Please email npp@orau.org

Qualifications Applicants should have strong experience in deep learning, comfort working with NASA's satellite observations, and the ability to design experiments and evaluate models rigorously. Experience with remote sensing modalities such as LiDAR and optical imagery is important, and familiarity with GEDI, Landsat/HLS, biomass estimation, forest fuels, or foundation model/self-supervised methods is especially valuable. The position offers the opportunity to lead peer-reviewed publications aligned with the project's research components.

Point of Contact [Mikeala](#)

Eligibility Requirements • **Degree:** Doctoral Degree.