

Opportunity Title: Next-generation wildfire risk assessment using deep learning

based high resolution fuel maps and stochastic fire spread modeling

Opportunity Reference Code: 0334-NPP-MAR26-JPL-EarthSci

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0334-NPP-MAR26-JPL-EarthSci

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 3/1/2026 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:

This project aims to develop a next-generation wildfire risk assessment platform that tightly integrates Earth Observation (EO) data, deep learning, and dynamic fire behavior modeling. The successful candidate will work on designing and training advanced deep learning models (e.g., U-Net, Vision Transformers) using multi-modal EO datasets (optical, radar, thermal, LiDAR) to generate high-resolution fuel maps, and apply explainable AI techniques to interpret model behavior. These fuel products will be coupled with stochastic fire spread simulators to quantify wildfire behavior (e.g., burn probability, fire intensity) under varying weather scenarios. The project will further explore how these simulation-derived metrics can enhance EO-based foundation models for wildfire risk assessment, culminating in a probabilistic, integrated wildfire risk metric delivered through an interactive, stakeholder-focused visualization platform.

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 a strong background in data science, machine learning, remote sensing, wildfire science, or a related field. Experience with deep learning frameworks, satellite observations (e.g., Sentinel, Landsat, NASA products), and/or geospatial analysis is highly desirable. Familiarity with fire behavior modeling, uncertainty quantification, or explainable AI methods is a plus. Candidates should demonstrate strong programming skills, quantitative reasoning, and the ability to work independently in a collaborative, interdisciplinary research environment.

Point of Contact [Mikeala](#)

Eligibility • **Degree:** Doctoral Degree.

Requirements