Opportunity Title: Pre-Fire Burnable Material Assessment and Post-Fire Damage Assessment from Multi-Sensor Remote Sensing
Opportunity Reference Code: 0329-NPP-MAR26-JPL-EarthSci

Organization	National Aeronautics and Space Administration (NASA)
Reference Code	0329-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:

Wildfires pose increasing risks to ecosystems, infrastructure, and communities. To better anticipate impacts and support recovery, there is a pressing need to (1) characterize burnable material and landscape conditions before fires and (2) quantify vegetation and biomass changes after fires. Satellite and airborne observations—spanning optical, thermal, radar, and lidar modalities—offer comprehensive, repeatable coverage of fire-prone regions. When combined with modern statistical and machine-learning approaches, these data enable robust mapping of fuels, assessment of burn severity, estimation of biomass and structural loss, and tracking of post-fire recovery trajectories. This work aligns with broader efforts to safeguard people and natural resources through improved hazard understanding, planning, and resource management.

The postdoctoral researcher will join a multi-phase wildfire research effort focused on developing decision-ready products for pre-fire burnable material assessment and post-fire damage and recovery assessment. The effort integrates multi-sensor remote sensing, environmental covariates, and scalable data science workflows.

Primary responsibilities are

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1. Pre-Fire Burnable Material Assessment
   - Develop and refine mapping of fuel type, load, structure, and continuity using multi-sensor time series and terrain/climate covariates.
   - Derive indicators of antecedent vegetation condition and potential burnability.
   - Calibrate, validate, and generalize methods across diverse ecoregions; quantify and report uncertainty.
2. Post-Fire Damage and Recovery Assessment
   - Delineate burned areas and map burn severity; estimate changes in above-ground biomass and vegetation structure.
   - Build time-series analytics to characterize combustion completeness, heterogeneity of impacts, and recovery trajectories.
   - Integrate independent references for rigorous validation.
3. Methods & Data Engineering
   - Design generalizable, well-documented pipelines for data fusion and modeling using established geospatial and scientific-computing tools.
   - Apply robust statistical and machine-learning techniques (supervised/unsupervised learning) with an emphasis on interpretability and uncertainty quantification.
   - Produce open, reproducible code and clearly documented data products suitable for stakeholders.
4. Communication & Transition
   - Prepare publications, technical reports, and presentations; collaborate with agency and community partners to ensure products are actionable.

Field of Science: Earth Science

Advisors:

Hugo Lee

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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

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valid EAD card and 2) I-485 or I-589 forms in pending status

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

Qualifications

- Ph.D. in Earth/Environmental Science, Geography, Remote Sensing, Forestry/Ecology, Computer/Data Science, Electrical/Systems Engineering, Applied Math/Statistics, or a related field.
- Demonstrated experience analyzing satellite or airborne remote sensing data
- Proficiency in scientific computing and geospatial data processing
- Hands-on experience applying statistical and/or machine-learning methods to real geospatial problems, including model validation.
- Strong quantitative skills, clear scientific writing, and ability to collaborate in an interdisciplinary team.
- Record of peer-reviewed publications

Point of Contact Mikeala

Eligibility Requirements

- **Degree:** Doctoral Degree.