

**Opportunity Title:** A Next Generation Quick Fire Emissions Dataset (QFED)

**Opportunity Reference Code:** 0310-NPP-MAR26-GSFC-EarthSci

**Organization** National Aeronautics and Space Administration (NASA)

**Reference Code** 0310-NPP-MAR26-GSFC-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 \(oraу.org\)](#).

A complete application to the NASA Postdoctoral Program includes:

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

**Application Deadline** 4/2/2026 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.

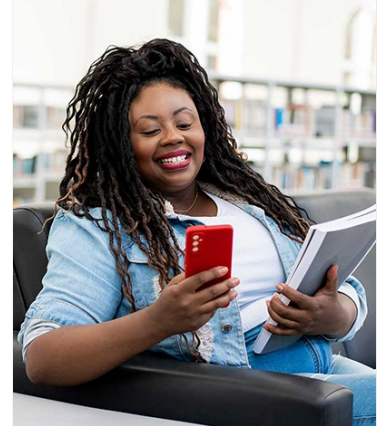
**Description:**

This opportunity is closed to applicants who are Senior Fellows (5-years or more past PhD).

Biomass burning is an important source of aerosols and trace gases to the atmosphere and is a major element of the terrestrial carbon cycle. NASA's Goddard Earth Observing System Model (GEOS) utilizes the Quick Fire Emissions Dataset (QFED) to represent emissions from vegetation fires in order to model direct and indirect effects of biomass burning aerosols, homogeneous and heterogeneous chemistry in the atmosphere, and to perform credible Earth system analysis, and climate and air pollution studies. The QFED emissions are based on the fire radiative power (top-down) approach with the location and fire radiative power obtained from the Moderate Resolution Imaging Spectroradiometer (MODIS) fire products.

Recent updates to QFED include integration of fire products from new sensors (VIIRS), and a new multispectral approach for retrieving fire radiative power (FRP) for two phases of burning: flaming and smoldering. This project will focus on utilizing these fire products in a global atmospheric data assimilation framework.

Activities that would be involved in this project include (but are not limited



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to):

- Develop machine learning algorithms that utilize fire products from geostationary satellites to better represent fire evolution and variability
- Develop machine learning emulators to represent forward operators for fire observations for atmospheric data assimilation
- Implement ensemble methods in the fire emissions estimation and estimate uncertainties
- Utilize bi-phasic FRP retrievals for dynamic calculation of fire emissions composition, and representation of plume rise

**Field of Science:** Earth Science

**Advisors:**

Patricia Castellanos  
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(301) 614-6574

**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@oraui.org](mailto:npp@oraui.org)

**Point of Contact** [Mikeala](#)

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