

Opportunity Title: Earth Science: Multi-Platform Remote Sensing of Cloud and Aerosol Variability

Opportunity Reference Code: 0119-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 The objective of this research opportunity is to take advantage of the full suite of modern passive and active remote sensing capabilities from both satellite and ground-based platforms to understand the temporal and spatial variations of clouds and aerosols and their conjoint variations. A particular area of focus is the development of techniques that isolate the effect of aerosols on clouds and detect the conditions under which clouds are more susceptible to changes in aerosol concentrations, with the ultimate goal of gaining a fundamental understanding of the processes involved in the hierarchy of indirect effects of aerosols on clouds. The opportunity also seeks to advance analysis methods that will provide better characterization of cloud types in terms of vertical overlap and horizontal variations of condensate, by exploiting collocated historical observations from the A-Train constellation of satellites. Efforts are also extended to quantify the contribution of different cloud and aerosol types on the radiation budget by employing conditional sampling, clustering, and machine learning approaches on the analysis of A-Train physical and optical cloud and aerosol products.

Location:

Goddard Space Flight Center
Greenbelt, Maryland

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



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the United States. A complete list of Designated Countries can be found at: <https://www.nasa.gov/oiiir/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

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