

Opportunity Title: Climate studies through analyzing satellite observations and climate model simulations

Opportunity Reference Code: 0173-NPP-NOV23-JPL-EarthSci

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0173-NPP-NOV23-JPL-EarthSci

Application Deadline 11/1/2023 6:00:59 PM Eastern Time Zone

Description The NPP scholar will perform climate studies through analyzing observations from the state-of-the-art satellite and reanalysis datasets (e.g., AIRS, CERES, GPM, ERA5, and MERRA-2) as well as climate model simulations from the latest phases of the Coupled Model Intercomparison Project (e.g., CMIP6). The scholar can pursue a wide range of research topics depending on his/her research interests. However, several possible research topics are listed below. How well do CMIP6 models simulate the historical climate in comparison to observations? Has the double-ITCZ bias been reduced in CMIP6 models in comparison to CMIP3 or CMIP5 models? Why does the double-ITCZ bias persist in CMIP models and how to reduce or remove it from the models? Why is there a spread of model climate sensitivity in CMIP6 models and how to constrain the model climate sensitivity using observations? How does the double-ITCZ bias influence model cloud feedback and climate sensitivity?

References:

Tian, B. (2015), Spread of model climate sensitivity linked to double-Intertropical Convergence Zone bias, *Geophysical Research Letters*, 42(10), 4133-4141, doi:10.1002/2015gl064119

Tian, B., & Dong, X. (2020), The double-ITCZ bias in CMIP3, CMIP5, and CMIP6 models based on annual mean precipitation, *Geophys. Res. Lett.*, 47(8), 11, doi:10.1029/2020gl087232

Location:

Jet Propulsion Laboratory
Pasadena, California

Field of Science:Earth Science

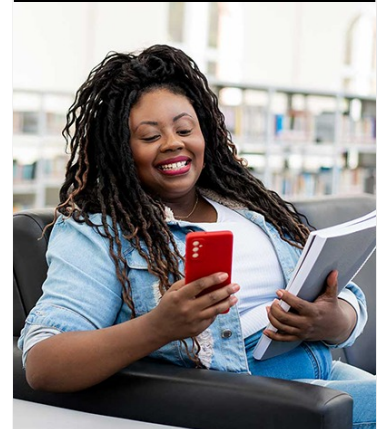
Advisors:

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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/oiiir/export-control>.

Eligibility is currently open to:

- U.S. Citizens;
- U.S. Lawful Permanent Residents (LPR);



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- 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.