**NASA DEVELOP National Program**

****NASA Ames Research Center

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**Short Title: Navajo Nation Climate II**

**Updated Abstract**

The Navajo Nation, a 65,700 km2 Native American territory located in the southwestern United States, has been increasingly impacted by severe drought events and changes in climate. These events are coupled with a lack of domestic water infrastructure and economic resources, leaving approximately one-third of the population without access to potable water in their homes. Current methods of monitoring drought are dependent on state-based monthly Standardized Precipitation Index maps calculated by the Western Regional Climate Center (WRCC). However, these maps do not provide the spatial resolution needed to illustrate differences in drought severity across the vast Nation. To better understand and monitor drought events and drought regime changes in the Navajo Nation, this project created a geodatabase of historical climate information specific to the area, and a decision support tool used to calculate average Standardized Precipitation Index (SPI) values for user specified areas. The tool and geodatabase use Tropical Rainfall Monitoring Mission (TRMM) and Global Precipitation Monitor (GPM) observed precipitation data and Parameter-elevation Relationships on Independent Slopes Model (PRISM) modeled historical precipitation data, as well as NASA’s modeled Land Data Assimilation Systems deep soil moisture, evaporation, and transpiration data products. The geodatabase and decision support tool will allow resource managers in the Navajo Nation to utilize current and future NASA Earth observation data for increased decision-making capacity regarding future climate change impact on water resources.