Assessing Extreme Weather Statistics using NASA Earth eXchange Global Daily Downscaled Projections (NEX-GDDP-CMIP6)

Sept. 10 & 17, 2025

11:00-13:00 or 15:00-17:00 EDT (UTC-4)

The typical spatial resolution of current Global Climate Models (GCMs) from various international institutions is larger than 1x1 degree latitude-longitude. For regional applications, higher spatial resolution GCM data is required. NASA Earth eXchange Global Daily Downscaled Projections (NEX-GDDP-CMIP6) provide global, high resolution, bias-corrected projections of daily minimum and maximum temperatures, precipitation, humidity, windspeed, and surface radiation from the Coupled Model Intercomparison Project Phase 6 (CMIP6) GCMs at 0.25x0.25 degree resolution.

This two-part training, offered by NASA's Applied Remote Sensing Training Program (ARSET), focuses on evaluating projected statistics of extreme heat and cold wave events, and extreme precipitation excess and deficit events, from NEX-GDDP-CMIP6 at regional scale during the 21st century to assess regional risk.

Part 1: NEX-GDDP-CMIP6 Overview, Data Access and Application using Google Earth Engine

Instructors: Amita Mehta, Bridget Thrasher (Climate Analytics Group)

- Training Overview
- Overview of NEX-GDDP-CMIP6 Data
- Online Access and Analysis using Google Earth Engine
- Hands-on Exercise
- Q&A session

Part 2: Extreme Event Statistics during 21st Century using NEX-GDDP Data

Instructors: Amita Mehta, Sean McCartney, Kyo Lee (NASA's Jet Propulsion Laboratory (JPL))

- Training Overview
- GDDP Data Access for a Region of Interest using Python/Jupyter Notebook Code
- Calculations of Extreme Events Statistics
- Hands-on Exercise
- Q&A session

ARSET empowers the global community through remote sensing training.

appliedsciences.nasa.gov/arset