ARSET

EARTH SCIENCE
APPLIED SCIENCES

Pecora - Oct. 24, 2022

Climate Change Monitoring and Impacts Assessment Using NASA Earth Observations

Session 1: Introduction to Climate Change (1:30 - 2:30)

Part 1

- Welcome, Introductions, About ARSET
- Overview of Climate Change

Part 2

- Monitoring Climate Change Drivers using NASA Data

Introduction to NASA Resources for Climate Change Applications

Measuring Atmospheric Carbon Dioxide from Space in Support of Climate Related Studies

Session 2: Earth Observations for Climate Change Impacts (Land & Atmosphere) (2:30 - 3:50)

Part 1

- Overview
- Phenology
- Flooding

Part 2

- Drought (Climate Engine Exercise)
- Urban Heat Island (UHI) and Extreme Heat (Google Earth Engine Exercise)
- Wildfire, Smoke (Worldview, FIRMS Exercise)

Understanding Phenology with Remote Sensing

SAR for Disasters and Hydrological Applications

Satellite Remote Sensing for Measuring Urban Heat Islands and Constructing Heat Vulnerability Indices

Satellite Observations and Tools for Fire Risk, Detection, and Analysis

Notes

3:50 - 4:00 - Break

Session 3: Earth Observations for Climate Change Assessment (Ocean & Ice) (4:00 - 4:40)

Part 1

- Overview
- Sea Level Rise
- Exercise

Satellite Observations for Analyzing Natural Hazards on Small Island Nations

Session 4: Climate Models, Policy, & Decision Making (4:40 - 5:30)

Part 1

- Climate Models and Adaptations
- NASA's Earth System Observatory (ESO)
- Q&A and Survey

Selecting Climate Change Projection Sets for Mitigation, Adaptation, and Risk Management Applications

Notes