Introduction to Remote Sensing for Wildfire Applications
NASA ARSET Webinar Series

Course Objectives: Provide overview of NASA Earth observation resources available for wildfire applications including:

- A basic understanding of remote sensing
- How to access and visualize relevant NASA Earth science data
- How to use NASA Earth science data for wildfire applications

Intended audience: This course is intended for land managers at the local, state, and federal levels, NGOs, international land management agencies, and private sector organizations.

Experience required: No experience in remote sensing required.

Duration: Webinars are offered for 1 hour, 1 day a week

Times: March 31 – April 28' every Tuesday at 11:30am-12:30pm Eastern Standard Time (US and Canada)

Week 1 – Overview of remote sensing
- Applied Science Program and ARSET
- Course structure/objectives/outline
- Overview of global wildfire issues
- How RS is used for wildfire (examples)
- Advantages and disadvantages of remote sensing
- Fundamentals of remote sensing (spatial, temporal, spectral resolution)

Week 2 – Satellite sensors and data products for wildfire applications
- Satellite data processing levels
- Satellites and sensors for wildfire applications (Landsat, MODIS, MERRA, SMAP)
- Satellite data products and tools for data access for national and global wildfire applications (LANDFIRE, FIRMS: web fire mapper, global fire maps, Worldview)
- *Demo of FIRMS MODIS active fires*

Week 3 – Remote sensing products for pre- and post-fire wildfire planning and assessment
- Remote sensing indices (NDVI, NBR)
- Post fire planning (BAER)
- *Demo of RECOVER Decision Support System*
    - Guest Speaker: Keith Weber, Idaho State University

Week 4 – New techniques and technologies
- UAS and aircraft systems
    - Guest Speaker: Dale Hamilton, Northwest Nazarene University
- SMAP

Week 5 – Terrain data applications
- Data access, tools, and recent terrain data releases
    - Guest Speakers: Lindsey Harriman and Kelly Lemig, Land Processes Distributive Active Archive Center (LP DAAC)