

Wildland Fire

Introduction to NASA Earth Observations and Tools for Wildfire Monitoring and Management



FIRMS is a web-based application with a dynamic mapping interface to visualize current and historical satellite imagery, active fire detections/hot spots and related science data products to identify the location, extent, and intensity of wildland fire activity and its effects. This three-part training familiarizes participants with the various modules available in FIRMS, explores the range of data and information available as well as the characteristics of satellite-based active fire detection, and provides hands-on experience that can be applied in GIS applications.

Introductory
Bilingual (Spanish)
2025

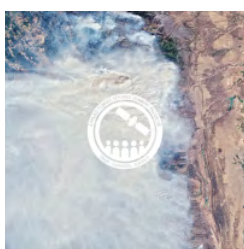
Advanced NASA Earth Observations and Tools for Active Fire, Smoke, and Post-Fire Monitoring



Monitoring post-fire impacts to vegetation is essential for evaluating burn severity, which informs post-fire debris flow risk; understanding patterns in ecosystem recovery; and identifying areas that require restoration intervention. Multiple sources of satellite imagery and derived data products relevant to smoke, post-fire conditions, and STA identification are available within NASA's Fire Information for Resource Management System (FIRMS). This training introduces participants to several capabilities within FIRMS not covered in the previous training.

Intermediate
Bilingual (Spanish)
2025

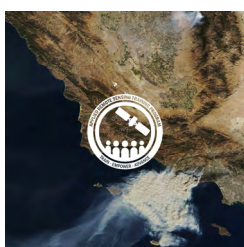
Satellite Observations and Tools for Fire Risk, Detection, and Analysis



Remote sensing can be used to monitor pre-, during-, and post-fire conditions; including weather and climate conditions, fuel characterization, fire risk, smoke detection, monitoring, and forecasting, fire behavior, and the post-fire landscape. This 6-part, intermediate training provides lectures and case studies focused on the use of Earth observations for operational fire monitoring: pre-, during-, and post-event.

Intermediate
Bilingual (Spanish)
2021

Assessing the Impacts of Fires on Watershed Health



This advanced-level training focuses on using remote sensing observations for monitoring post-fire impacts on watershed health, building off the ARSET training offered in 2021: Satellite Observations and Tools for Fire Risk, Detection, and Analysis. Specifically, this training highlights uses of NASA Earth observations (EO) for pre-fire land cover mapping, watershed delineation and stream mapping, post-fire burn severity mapping, and pre- and post-fire riverine and freshwater water quality.

Advanced
2023



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Using Earth Observations for Pre- and Post-Fire Monitoring



During the first session, this training reviews pre-fire risk assessment by investigating land surface variables (e.g., vegetation type and height, fuel regimes, fuel moisture, and topography) and climate variables (e.g., temperature and precipitation). In the second session, this training teaches you to conduct post-fire mapping of burned area and burn severity using vegetation indices such as the Normalized Burn Ratio (NBR).

Advanced
2022

