Satellite Fire Detection and Smoke Capabilities for Alaska Users
### Updated: 11 April 2024

Introduction: The purpose of this document is to assist in the operational use of new satellite capabilities for IMETs and Predictive Service Meteorologists in Alaska. Sources for both AWIPS and non-AWIPS users are provided. Because of Alaska's northern latitude, polar satellites pass frequently over the region, and with Direct Broadcast reception, data is typically available within 30 minutes of the end of the satellite overpass. Your feedback is greatly appreciated. (Contact: jorel.torres@noaa.gov)

AWIPS/FxCave Users

Product / RGB Updates and Operational Status
- GINA Direct Broadcast Products (low-latency)
  - VIIRS/MODIS Fire RGBs (DayLandCloudFire RGB / FireTemperature RGB)
  - VIIRS i04 (3.74 µm) band
  - VIIRS/MODIS TrueColor RGB (smoke)
  - VIIRS Day/Night (0.70 µm) band
  - NUCAPS / Gridded NUCAPS
- SBN single-band and NUCAPS products (longer latency)
  - Access via the AWIPS Satellite menu under "S-NPP and NOAA-20"

GINA: Alaska Region Satellite Imagery and Data Access in AWIPS
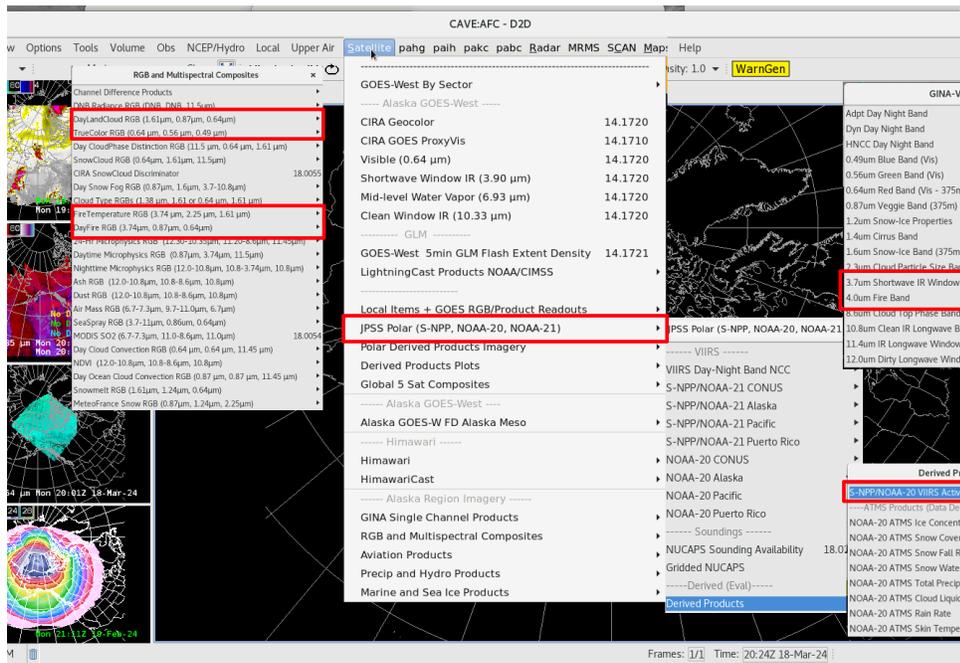
Publicly Available Resources

- Smoke Model Forecasts
  - NOAA HRRR-Alaska Smoke Products
  - UAF Smoke Model
  - Canada's Wildfire Smoke Prediction System (FireWork)
- Alaska Fire Map Services
  - Alaska Wildland Fire Maps (VIIRS Active Fires; on the main Wildland Fire tab go to 'Fire and Lightning' -> Fire Heat Points and VIIRS Imagery Collection)
  - Alaska Interagency Coordination Center Wildland Fire Dashboard
- CIRA
  - Advected Layered Precipitable Water (ALPW) - Alaska Sector
  - CIRA SLIDER - JPSS Northern Hemisphere Sector
    - VIIRS Day Fire RGB, Fire Temperature RGB and GeoColor
    - ALPW: Sfc-850mb, 850-700mb, 700-500mb, and 500-300mb
    - Blended TPW, GOES-18 Day Fire RGB.
- RealEarth
  - VIIRS Day Fire RGB and VIIRS Fire Temperature RGB
  - VIIRS i04 (3.74 μm) band and VIIRS Active Fires (375-m)
- GINA Portals
  - GINA Feeder VIIRS and MODIS RGBs, Day/Night Band (geoTIFFs)
  - VIIRS REST Services with RGBs. VIIRS REST Services with VIIRS Active Fires.
- NOAA JSTAR Mapper (global imagery)
  - VIIRS RGB, M/I-band active fires, aerosol optical depth, smoke/dust mask
  - NUCAPS CO, CO2, CH4, temperature, water vapor
  - TROPOMI CO, NO2, UV aerosol index
- NASA-SPoRT
  - Gridded NUCAPS: Alaska sectors
- NESDIS: Blended TPW, Percent of Normal TPW and Rain Rate - (North Pacific Sectors)
- SSEC: MIMIC TPW - Alaska sector

Satellite Training Links for Users

- JPSS and GOES Quick Guides
  - Near-Constant Contrast (NCC) and VIIRS Active Fire
  - VIIRS Fire Temperature RGB and VIIRS Day Fire RGB
  - JPSS DayLandCloud RGB - Alaska and VIIRS Day/Night Band - Alaska
  - NUCAPS Soundings and Gridded NUCAPS
  - GOES Aerosol Optical Depth (AOD) and Aerosol Detection (Smoke/Dust mask)
  - VIIRS True Color RGB, VIIRS i04 (3.74μm), and RAP-Smoke & HRRR-Smoke
- VIIRS Active Fire Training Video
- COMET MetEd GOES-R/JPSS Case Exercises
  - Detecting and Monitoring US Wildfires & Monitoring the Rhea, OK Grassland Fire
- NASA SPoRT: NUCAPS for Assessing the Fire Weather Environment
- CIRA: GOES/JPSS - VISIT Satellite Teletraining Opportunities for NWS Users