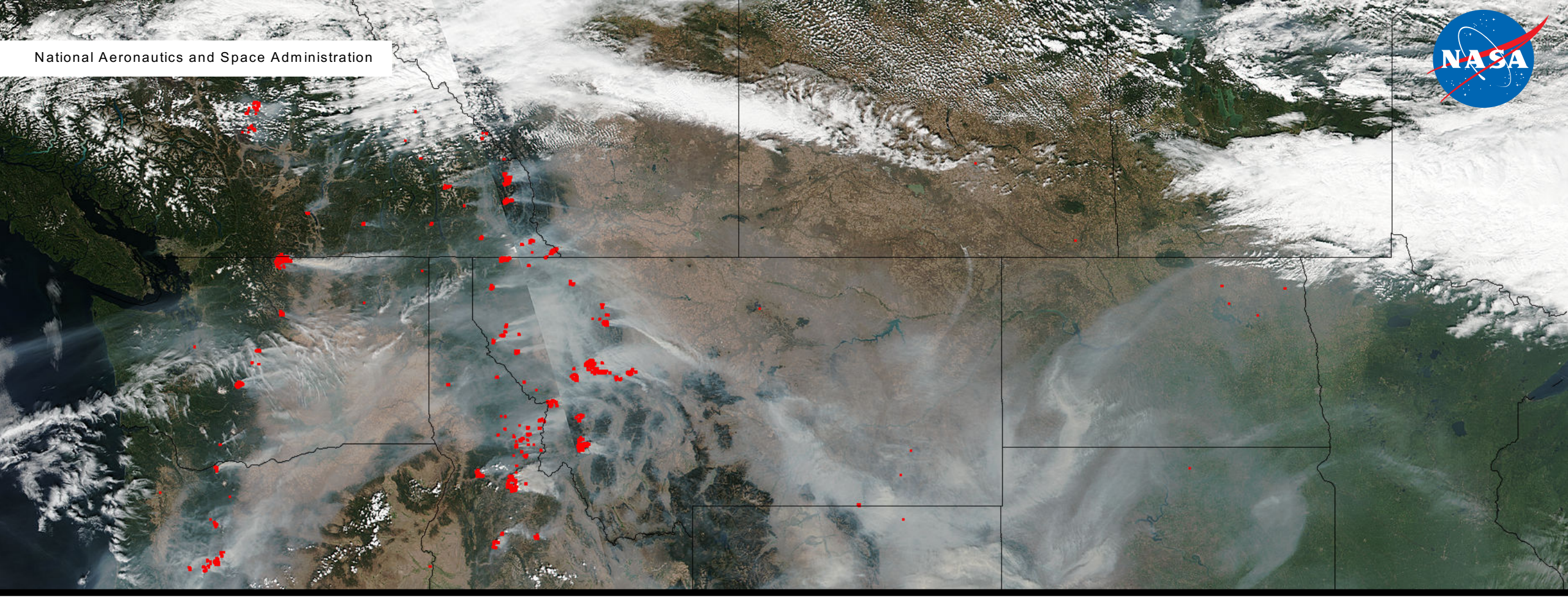
National Aeronautics and Space Administration



Fire Detection: Data Access & Analysis

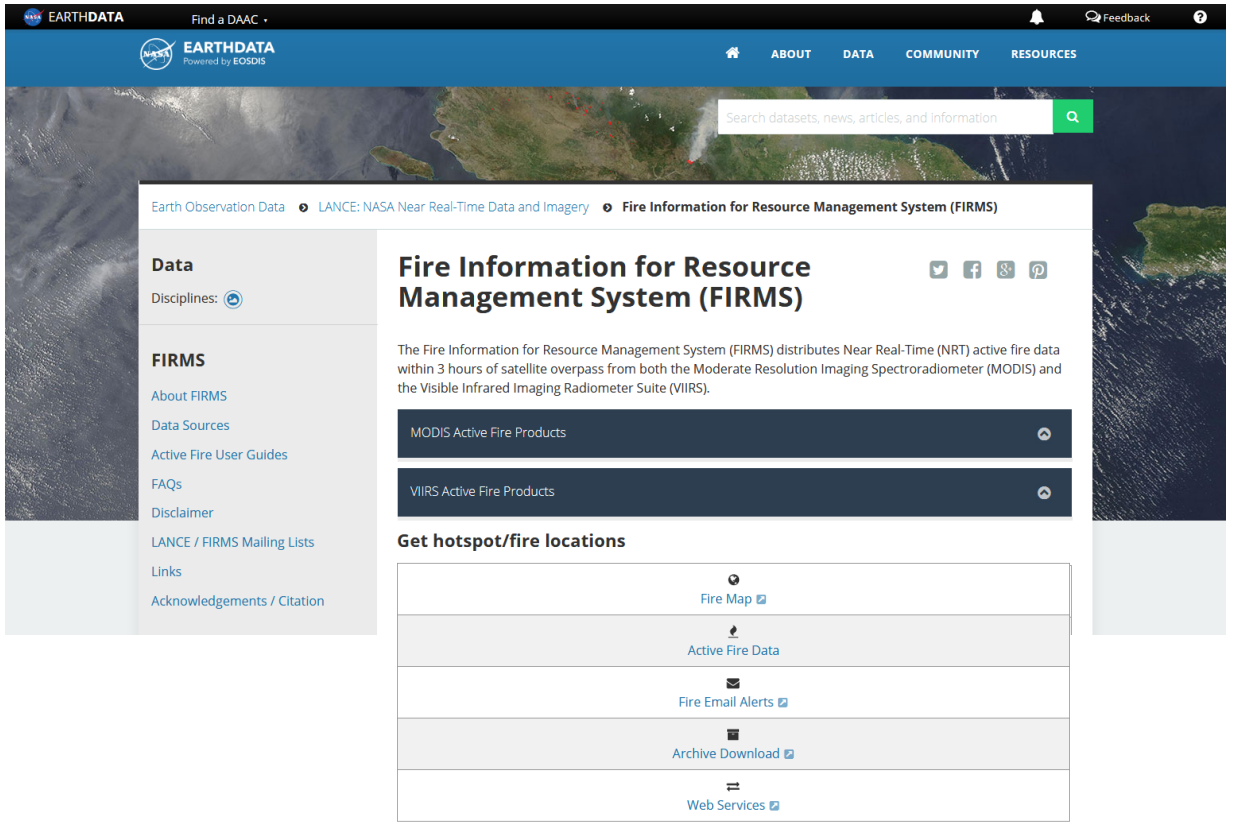
Melanie Follette-Cook and Pawan Gupta

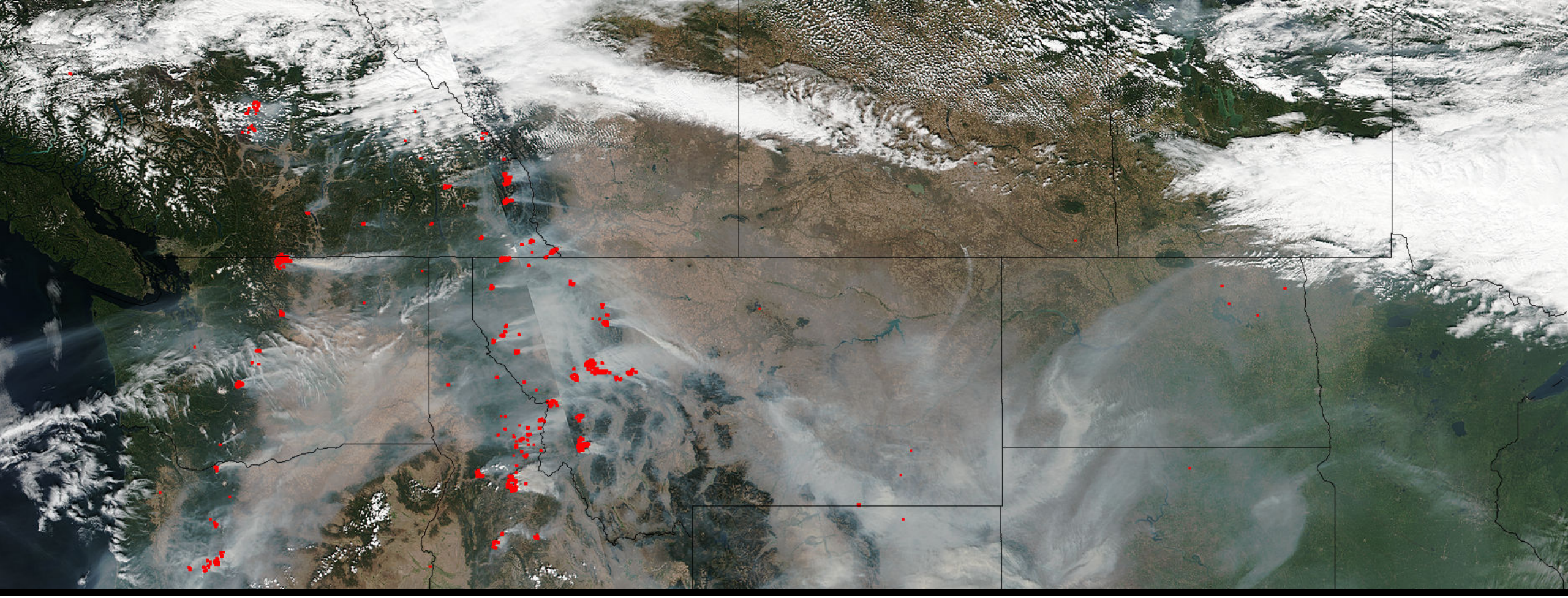
Satellite Remote Sensing of Dust, Fires, Smoke, and Air Quality, July 10-12, 2018

Fire Information for Resource Management System (FIRMS)

https://earthdata.nasa.gov/earth-observation-data/near-real-time/firms

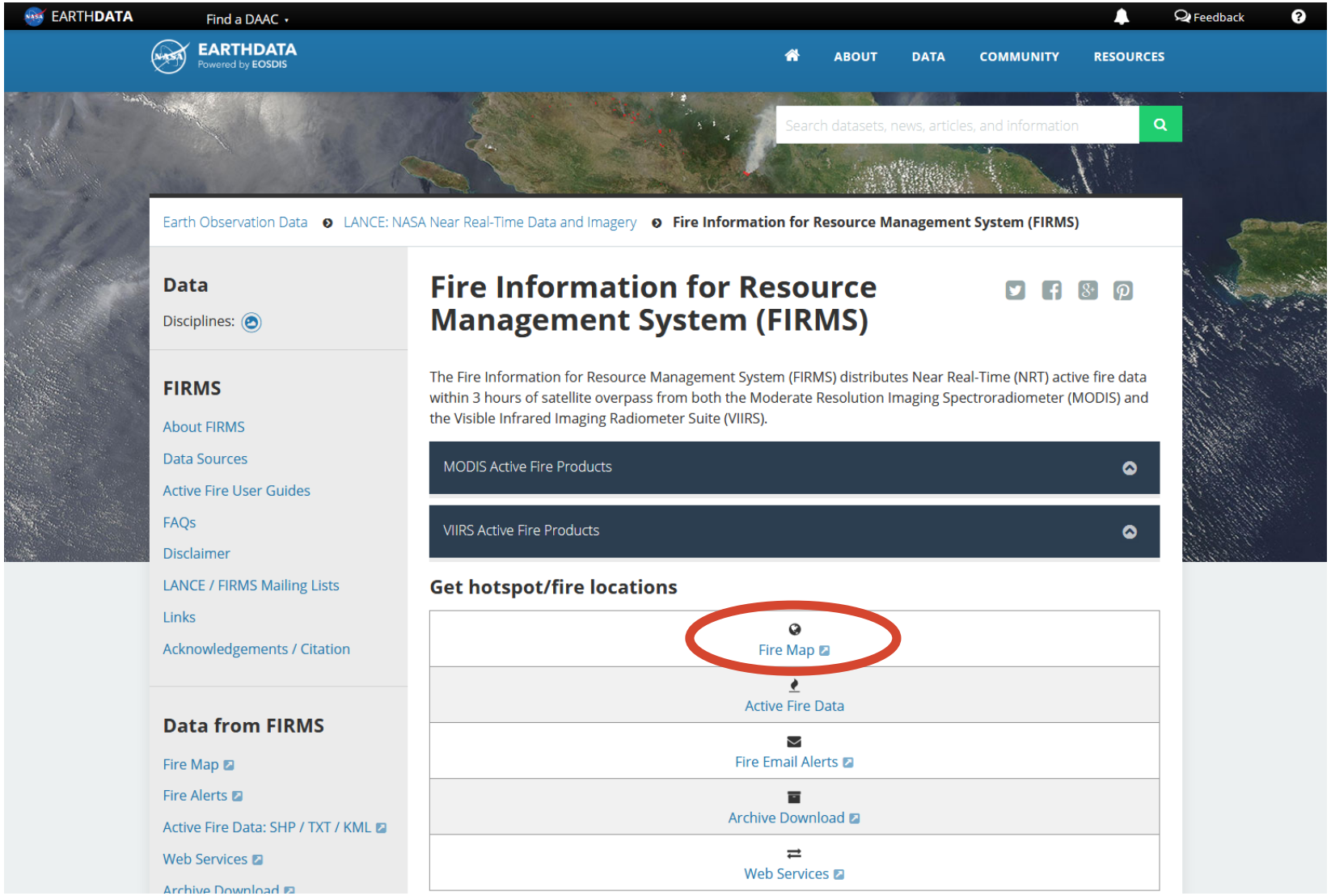
- Near real-time (NRT) active fire data within 3 hrs of satellite overpass
- Global MODIS and VIIRS fire locations
- Historical data available
- Available in:
  - Email alerts
  - GIS-friendly file format
  - Visualization in Web Fire Mapper or Worldview





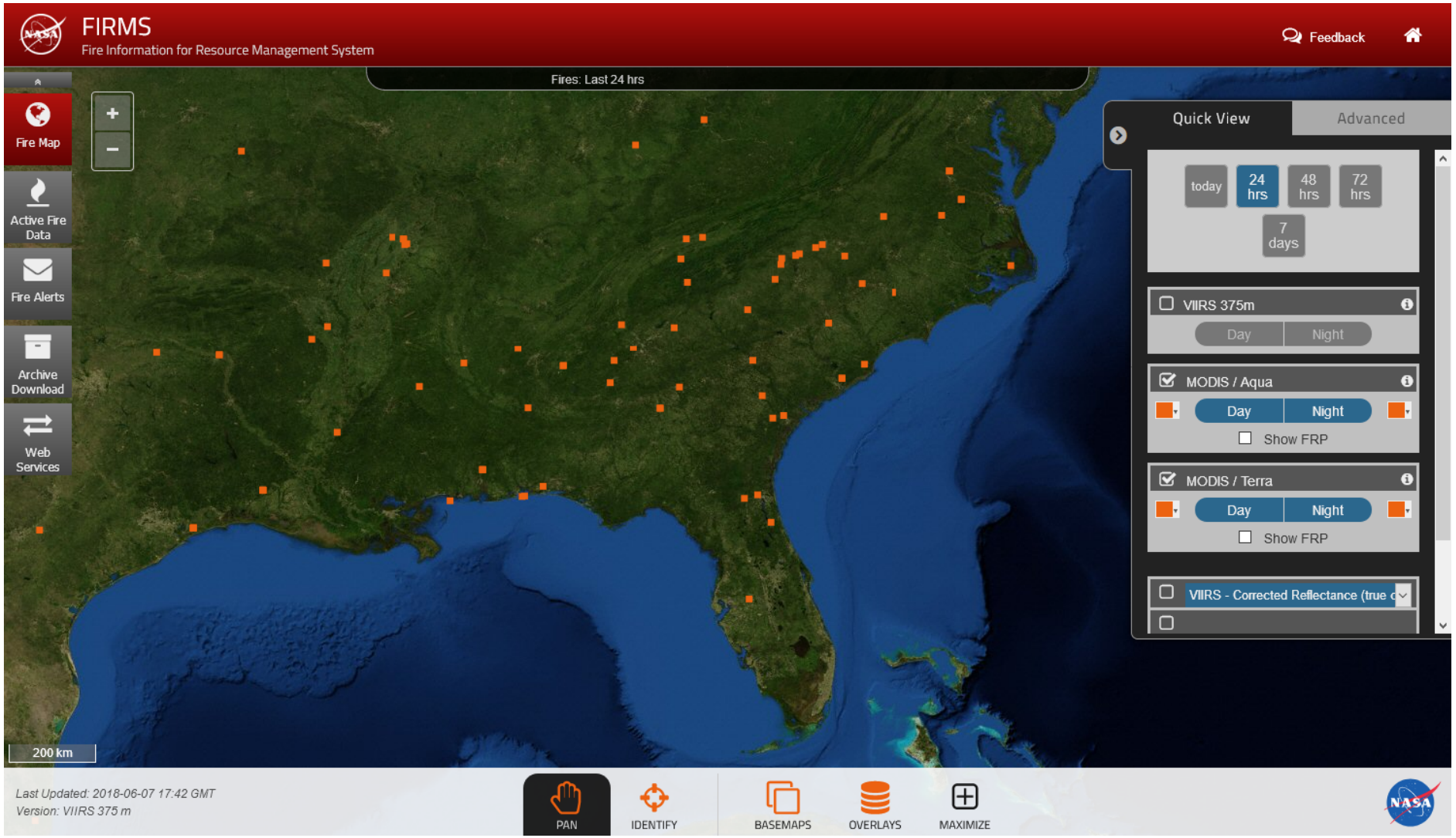
Web Fire Mapper

Step 1: Click Fire Map



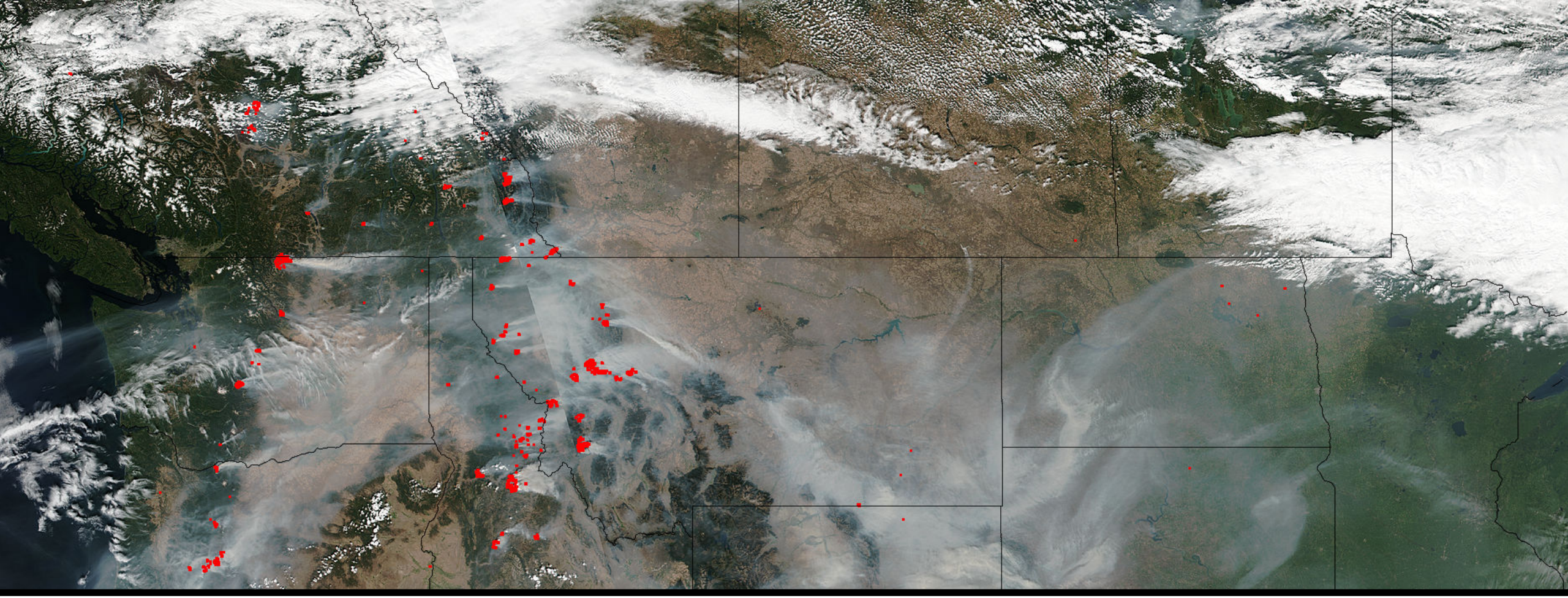
Step 2: Display Fires Detected by MODIS for the Past 24 hours

Step 3: Zoom Over Region of Interest and Identify Area of Maximum Fire Density



Exercise & Questions

- Repeat Step 3 using VIIRS datasets
- What are the differences in fire counts between MODIS and VIIRS?

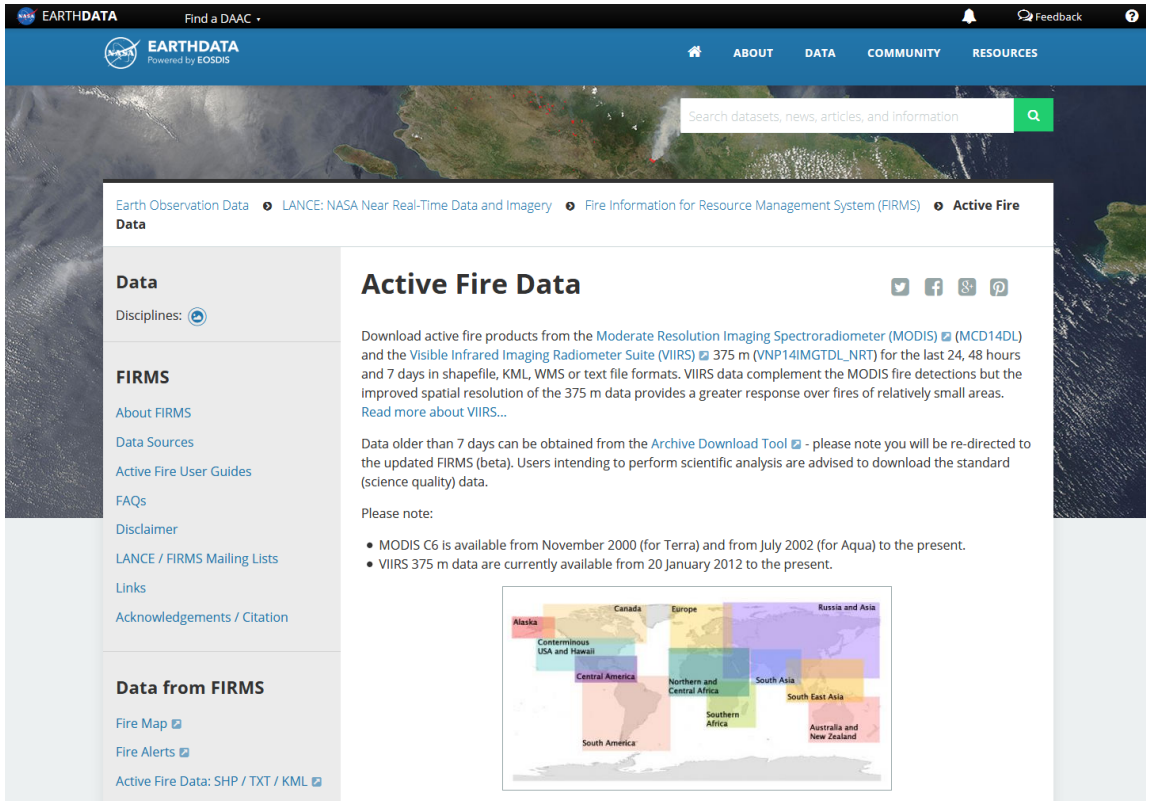


Active Fire Data

Active Fire Data

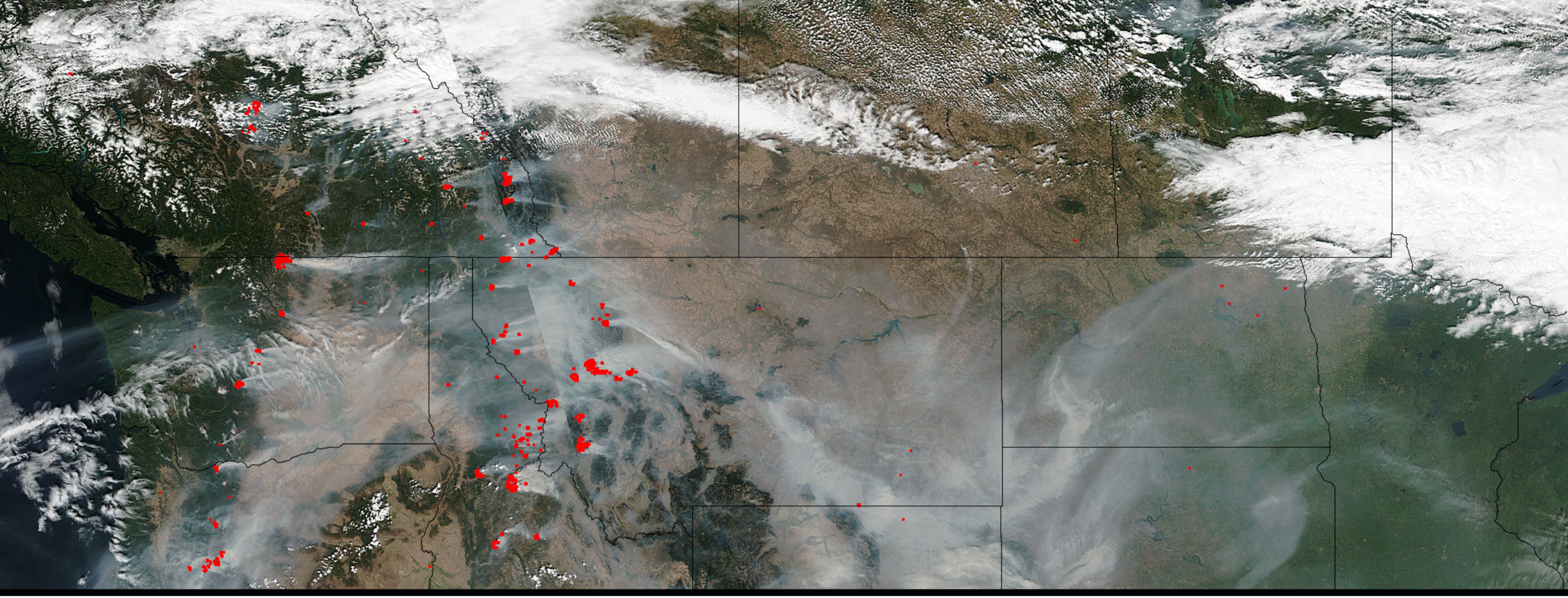
http://earthdata.nasa.gov/earth-observation-data/near-real-time/firms/active-fire-data

- Download active fire products
  - MODIS (C6 2000/2002 – Present)
  - VIIRS (12 Jan 2012 – Present)
- Past 24 hrs, 48 hrs, 7 days
- KML, WMS, text file formats
- Data older than 7 days can be obtained through the archive
  - https://firms.modaps.eosdis.nasa.gov/download/



Exercise

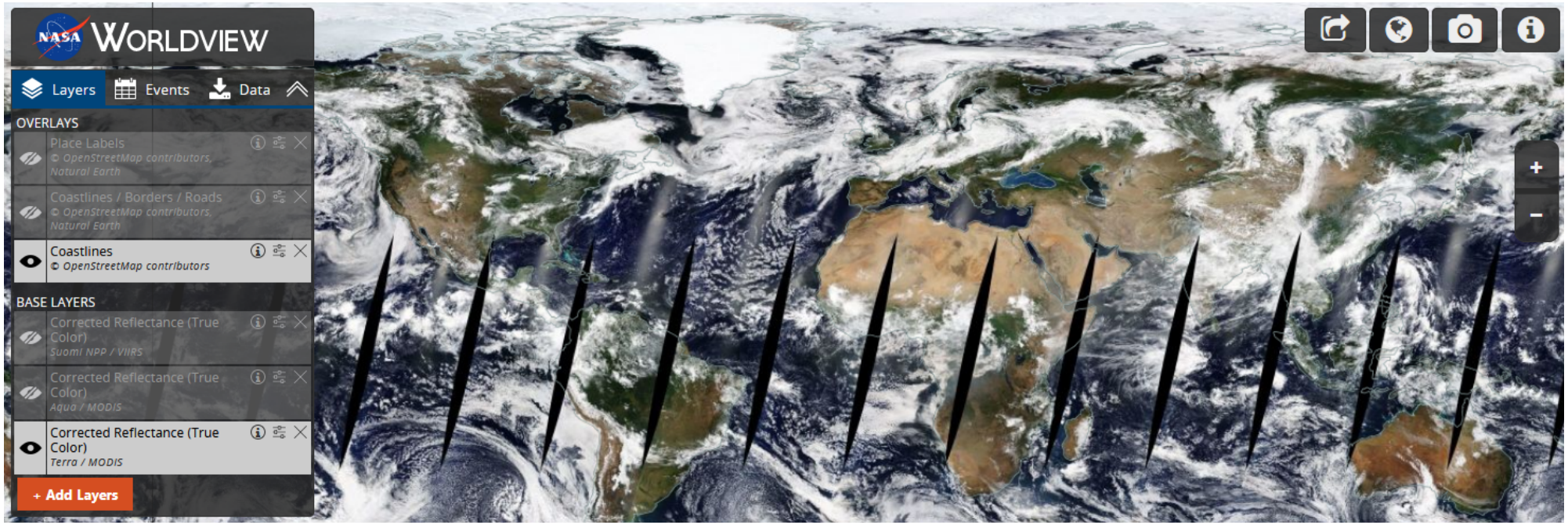
- Explore the various data formats for which active fire data is available
- Download data for USA and Hawaii over the past 24 hours in KML format
- Open the file in Google Earth



Worldview

NASA Worldview

https://worldview.earthdata.nasa.gov/



- Application that allows the user to:
  - interactively browse, save, or share satellite imagery layers
  - download the data
- Some imagery available in near real time (NRT) or within three hours of observation

Exercise

- Display VIIRS fire detection without any base layer from August 27- September 7, 2017
- Zoom in and animate over the NW US / British Columbia.