Welcome to Techniques for Wildfire Detection and Monitoring

We will begin promptly at 10:00 EDT (UTC-4)

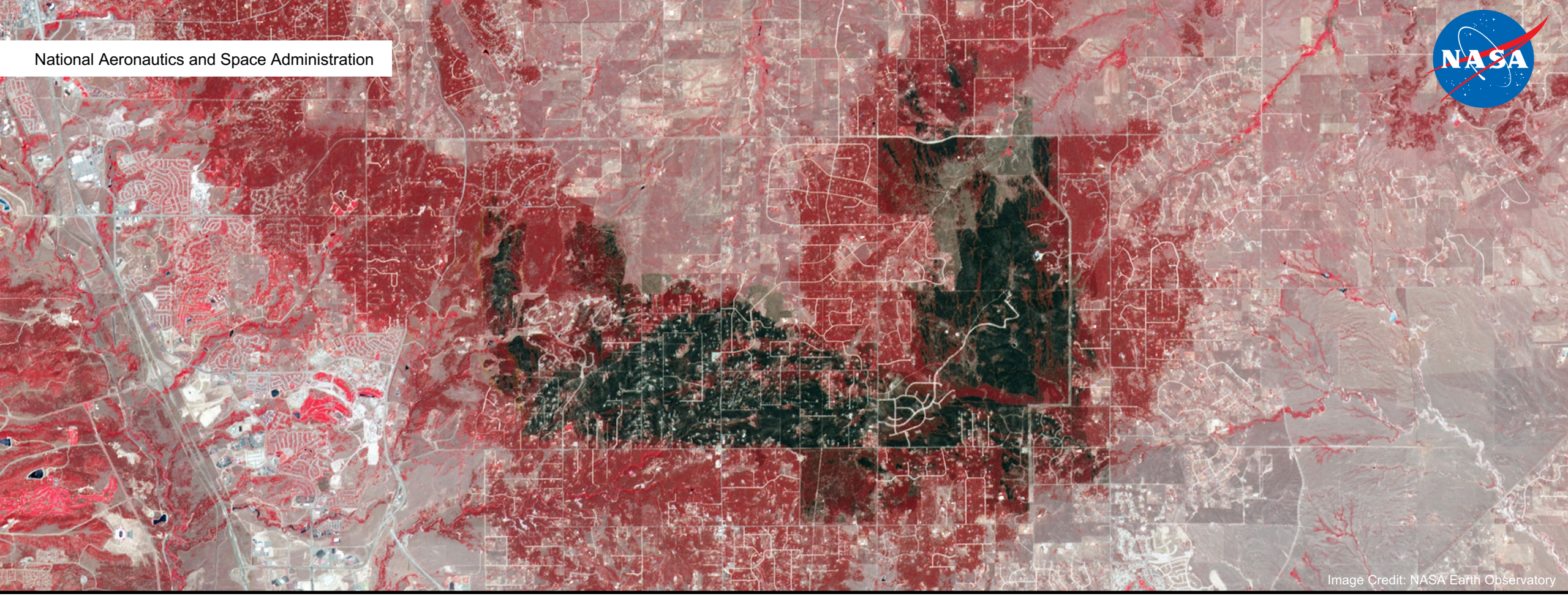
Course Format:

- Two, two hour sessions
- Sessions will be held on July 12 and 19, 2018
- All attendees will be muted automatically upon entry
- This session will be recorded and made available to you within two days

Please be sure you have completed the prerequisites on the training website:

https://arset.gsfc.nasa.gov/land/webinars/adv-wildfire-2018

National Aeronautics and Space Administration



Techniques for Wildfire Detection and Monitoring

Cindy Schmidt and Amber McCullum

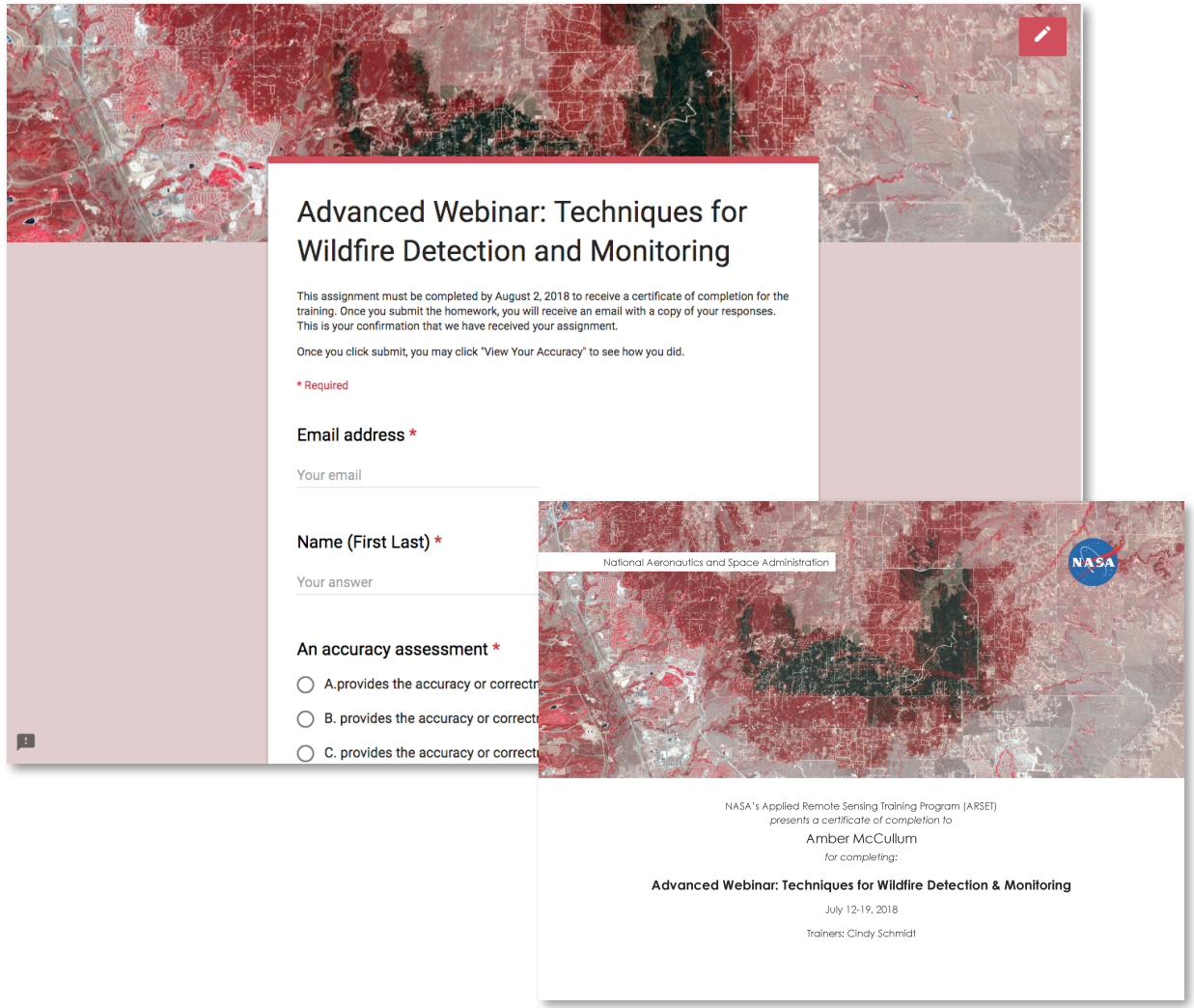
Week 2: 07/19/2018

Course Structure

- Two 2-hour sessions on July 12 and 19, 2018
  - Session A: 10:00-12:00 EDT (UTC-4)
  - Session B: 18:00-20:00 EDT (UTC-4)
  - Please only sign up for and attend one session
- Guest speaker, Josh Picotte with the USGS EROS/ASRC Federal InuTeq
- Webinar recordings, PowerPoint presentations, and the homework assignment can be found after each session at:
  - https://arset.gsfc.nasa.gov/land/webinars/adv-wildfire-2018
  - Q&A: Following each lecture and/or by email
    - cynthia.l.schmidt@nasa.gov, or
    - amberjean.mccullum@nasa.gov

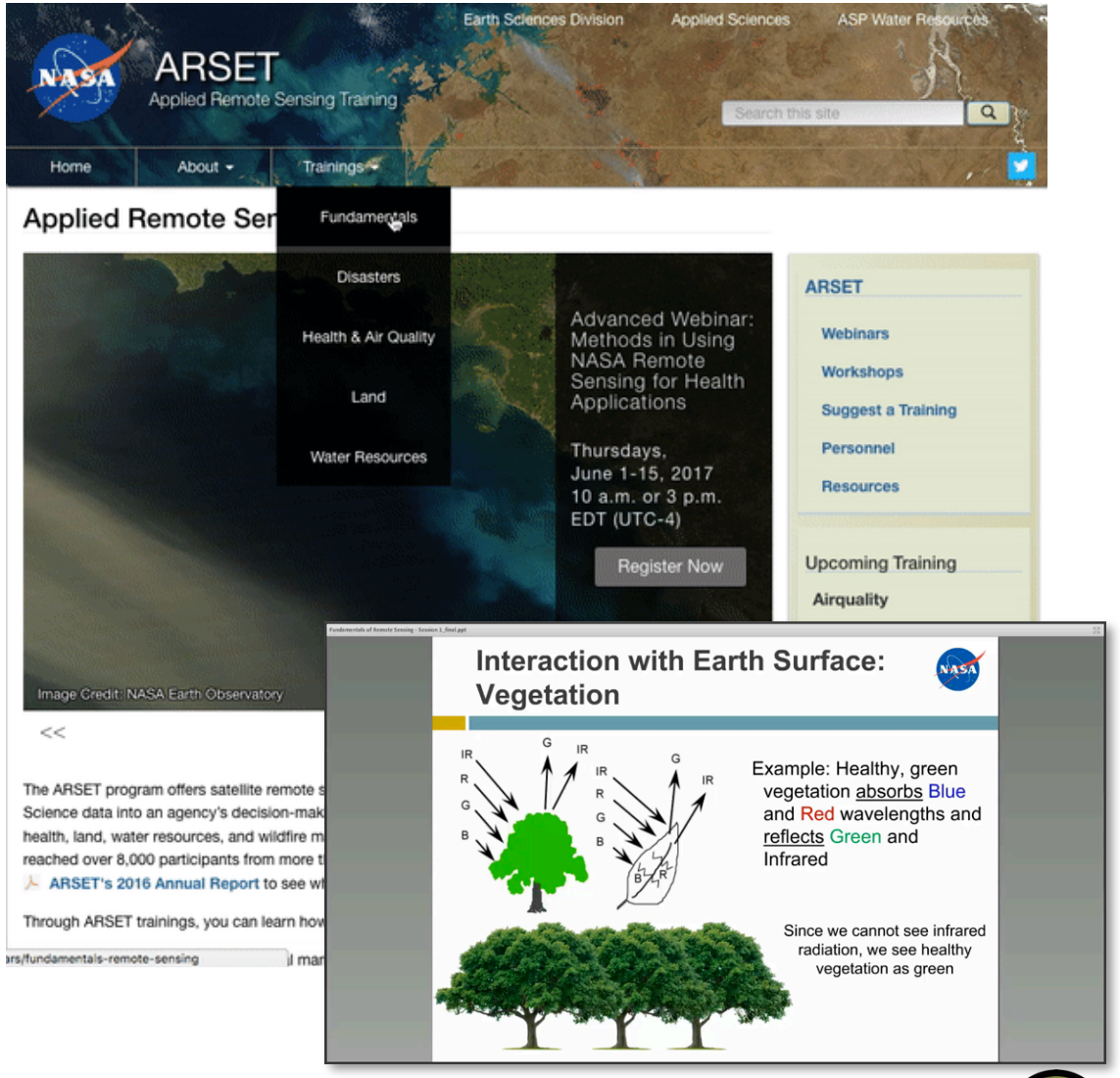
Homework and Certificates

- Homework
  - One homework assignments
  - Answers must be submitted via Google Forms
- Certificate of Completion:
  - Attend both live webinars
  - Complete the homework assignment by the deadline (access from ARSET website)
    - HW Deadline: August 2nd
  - You will receive certificates approx. two months after the completion of the course from: marines.martins@ssaihq.com



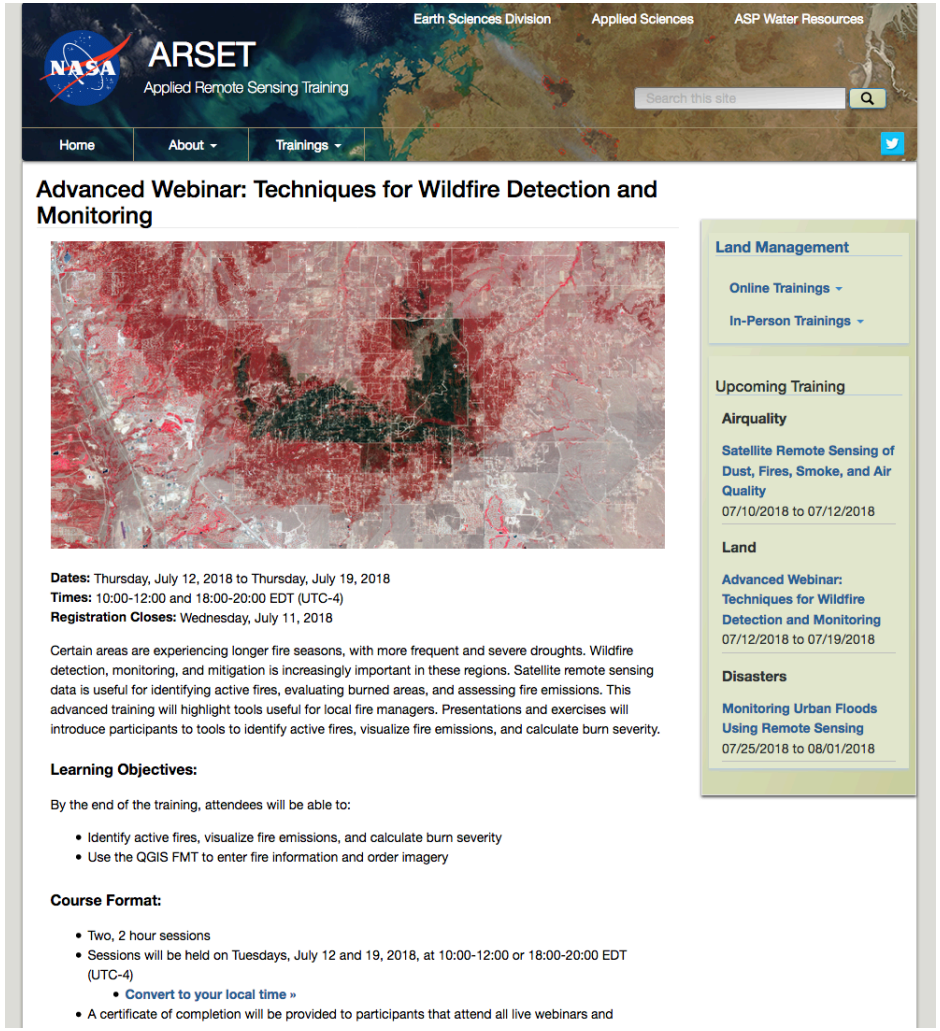
Prerequisites

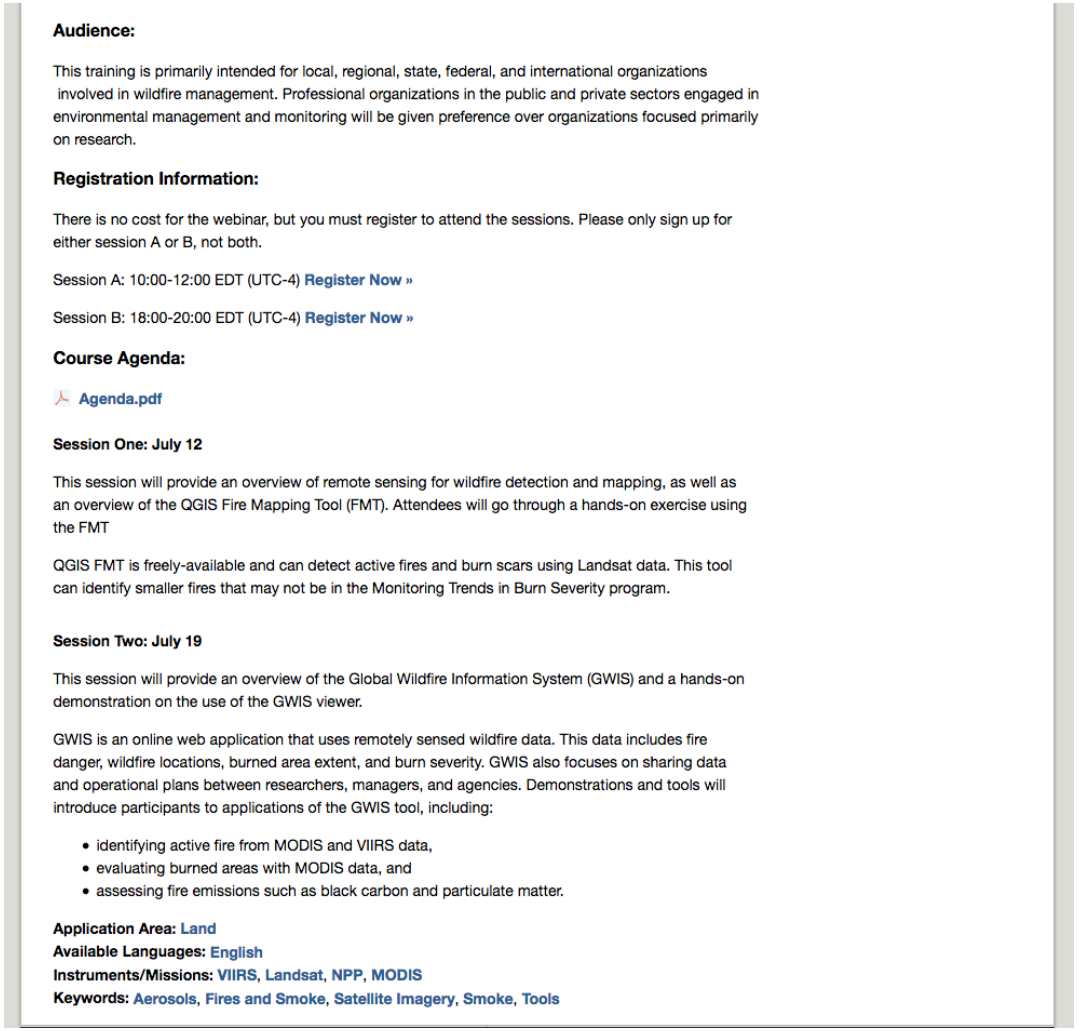
- Fundamentals of Remote Sensing
  - Sessions 1 and 2A (Land)
  - On demand webinar, available anytime
  - http://arset.gsfc.nasa.gov/webinars/fundamentals-remote-sensing
- Download and install QGIS and all accompanying software Use this exercise for help: Downloading and Installing QGIS
  - We strongly recommend you open QGIS and ensure the software is working prior to starting the webinar



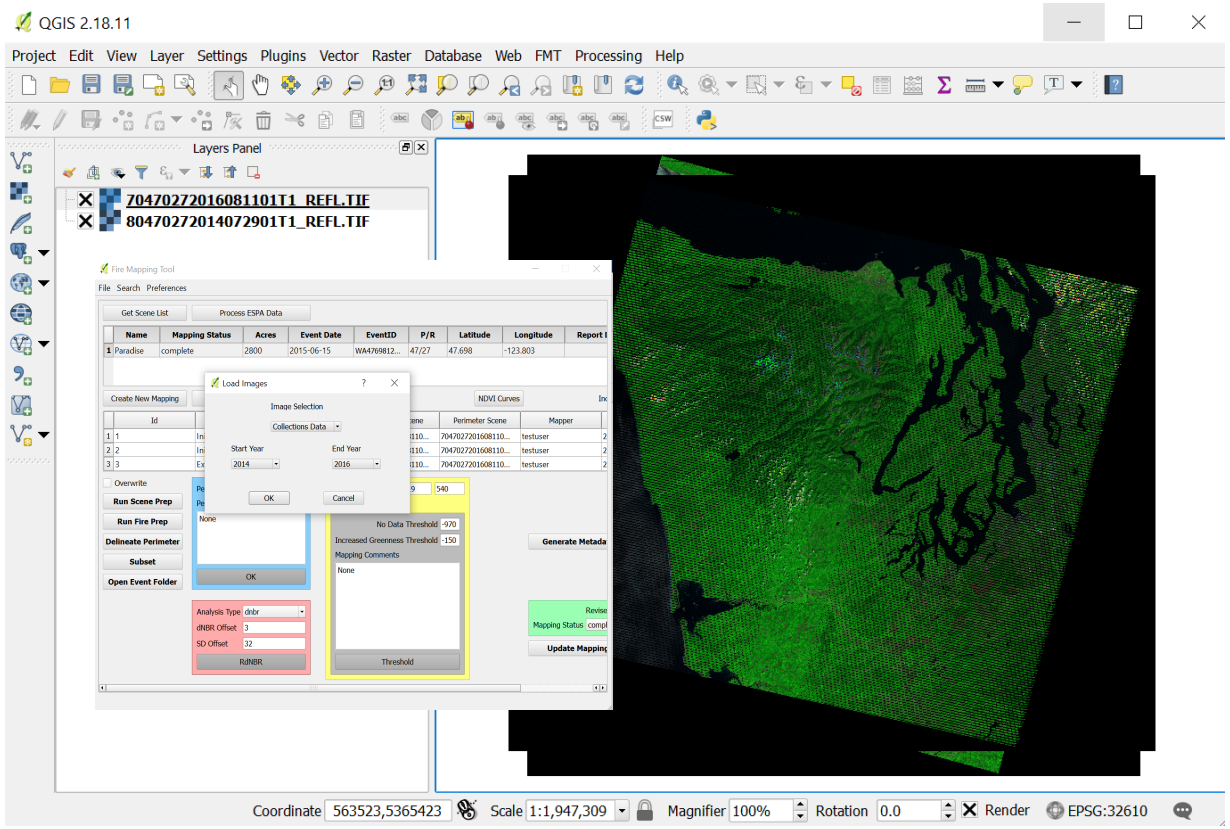
Accessing Course Materials

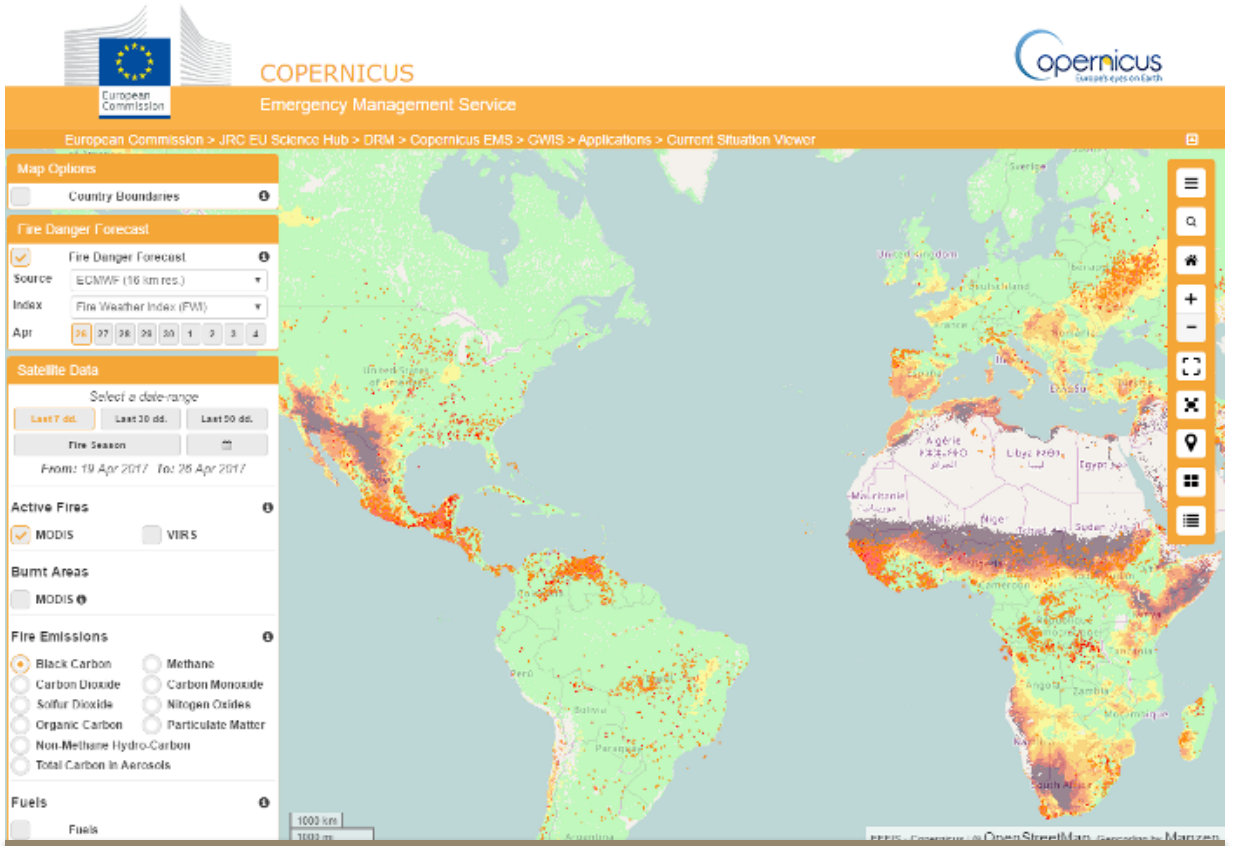
https://arset.gsfc.nasa.gov/land/webinars/adv-wildfire-2018





Course Outline



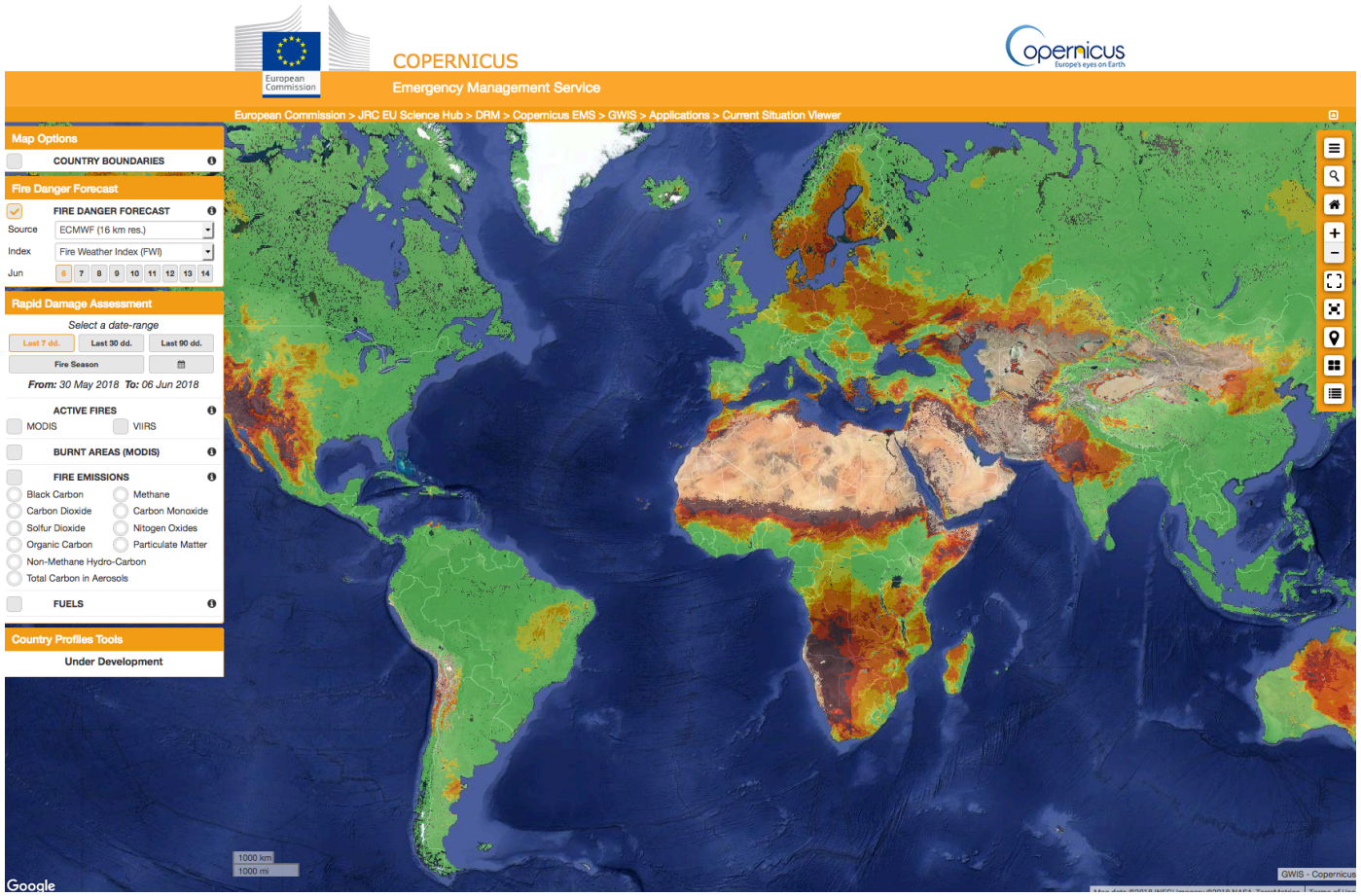


Session 1: Overview of the QGIS Fire Mapping Tool (FMT)

Session 2: Overview of the Global Wildfires Information System (GWIS)

Session 2 Agenda

- FMT Exercise: Part 3
- Overview of the Group on Earth Observations
- Overview of the GWIS
- GWIS features and case-study applications
- GWIS tutorial



Group on Earth Observations

- Intergovernmental organization working to improve the availability, access and use of Earth Observations for the benefit of society (https://earthobservations.org)
- There are 105 member countries and 115 participating organizations
- The GEO Work Programme assists GEO with selecting and prioritizing activities

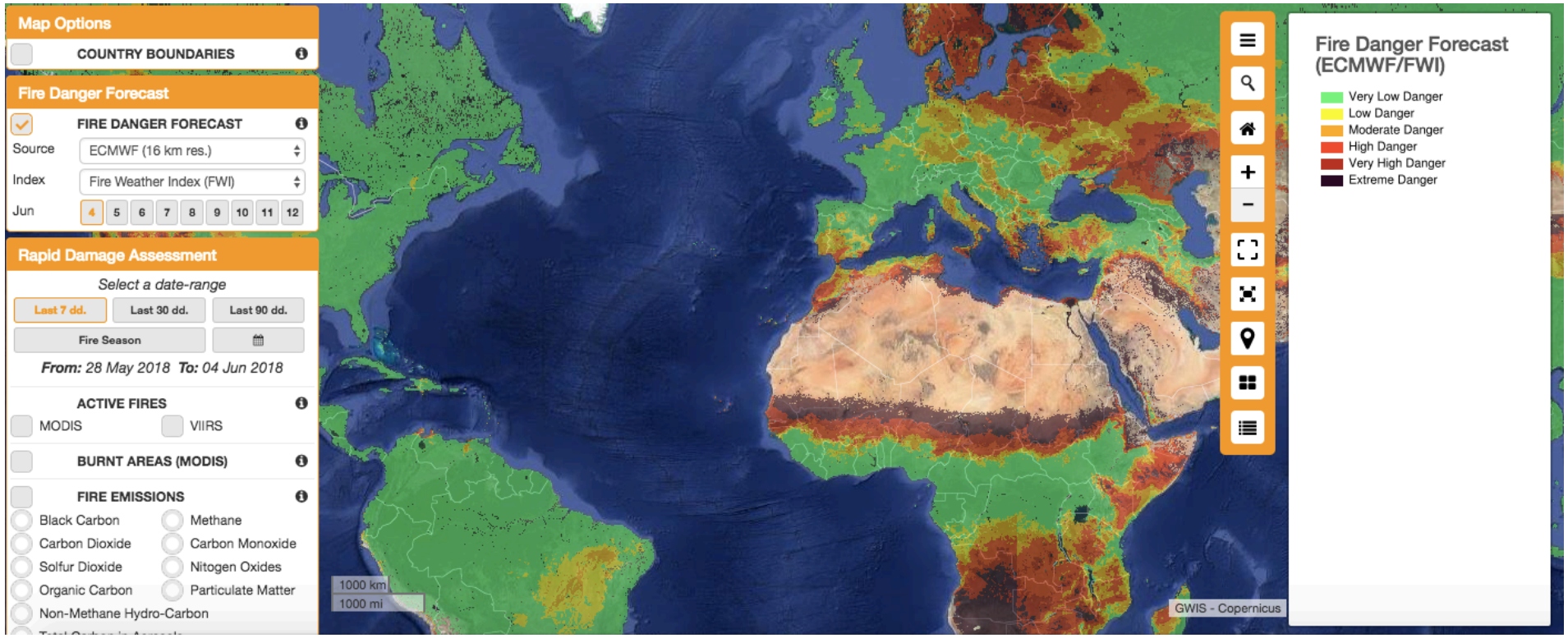
- Societal benefit areas:
  - Biodiversity and ecosystem sustainability
  - Disaster resilience
  - Energy and mineral resources management
  - Food security and sustainable agriculture
  - Public health surveillance
  - Sustainable urban development
  - Infrastructure and transportation management
  - Water resources management

Global Wildfire Information System (GWIS)

- Joint initiative of the GEO 2017-2019 Work Programme and Copernicus, the European service that delivers near real-time data on a global level to meet user needs.
- Goal: Provide a comprehensive view and evaluation of fire regimes and fire effects at the global level
- Builds on the ongoing activities of the European Forest Fire Information System, The Global Terrestrial Observing System, the Global Observation of Forest Cover – Global Observation of Land Dynamics (GOFC-GOLD) Fire Implementation team, and the associated Regional Networks
- NASA recently funded several projects to enhance the current GWIS
- GWIS viewer: http://gwis.jrc.ec.europa.eu/static/gwis_current_situation/public/index.html

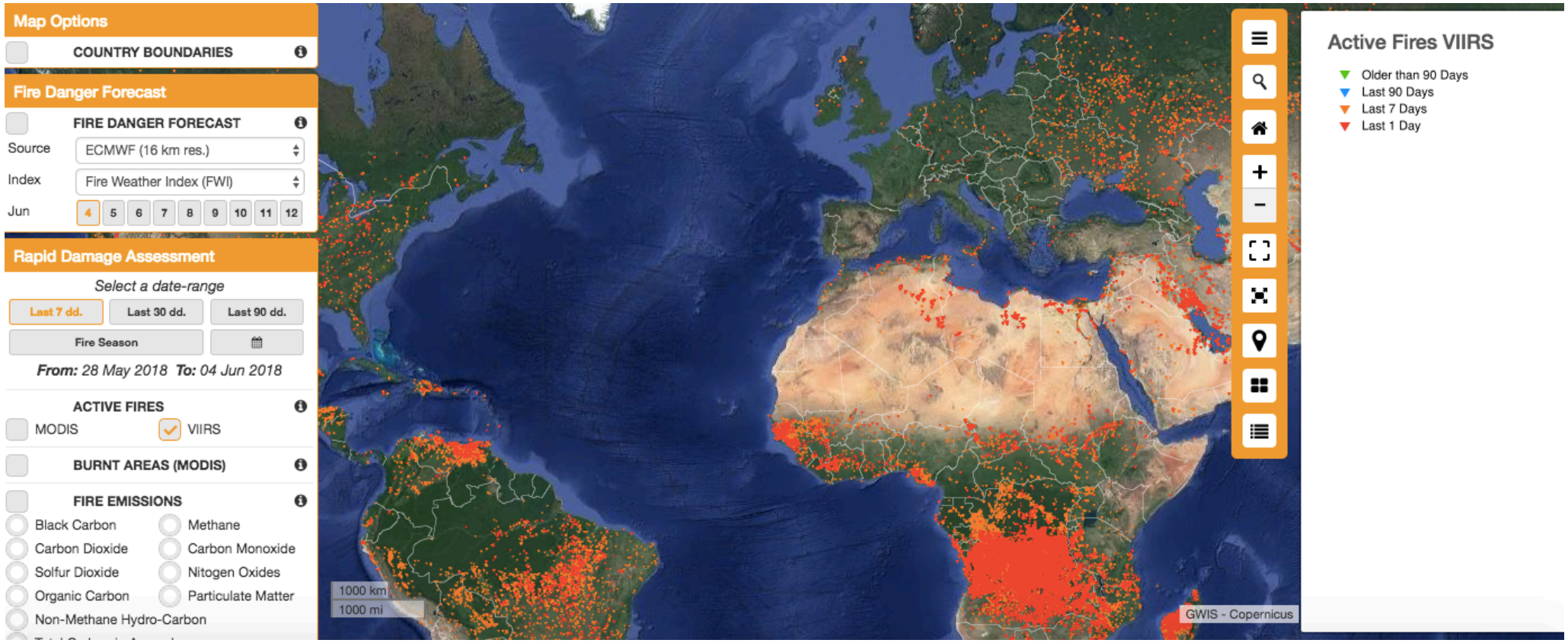
GWIS: Fire Danger Forecast

- Fire danger forecast: Provides daily maps of 1 to 10 days of forecasted fire danger level
- Mapped in 6 classes: very low, low, medium, high, very high
- Spatial resolution: 16km



GWIS: Rapid Damage Assessment

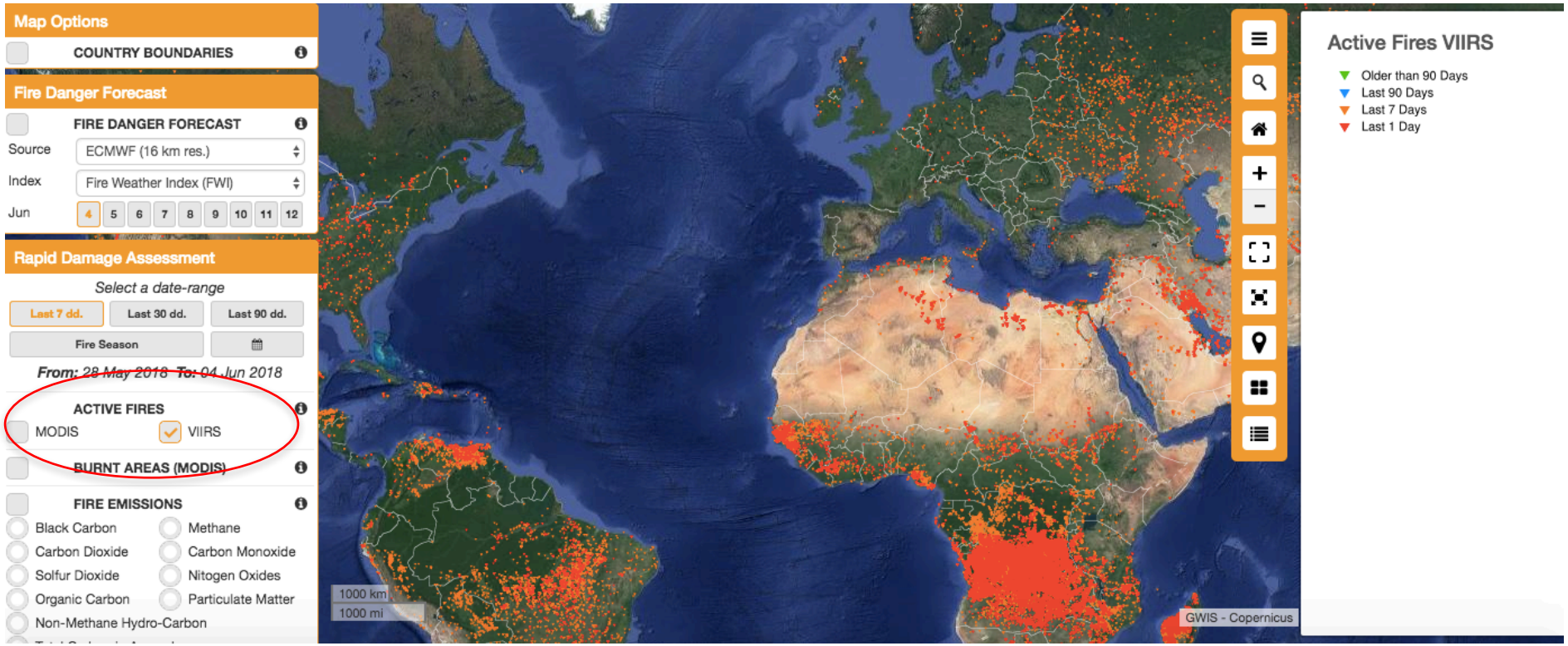
- Active fires (MODIS and VIIRS)
- Burnt areas (MODIS)
- Fire emissions
- Fuels



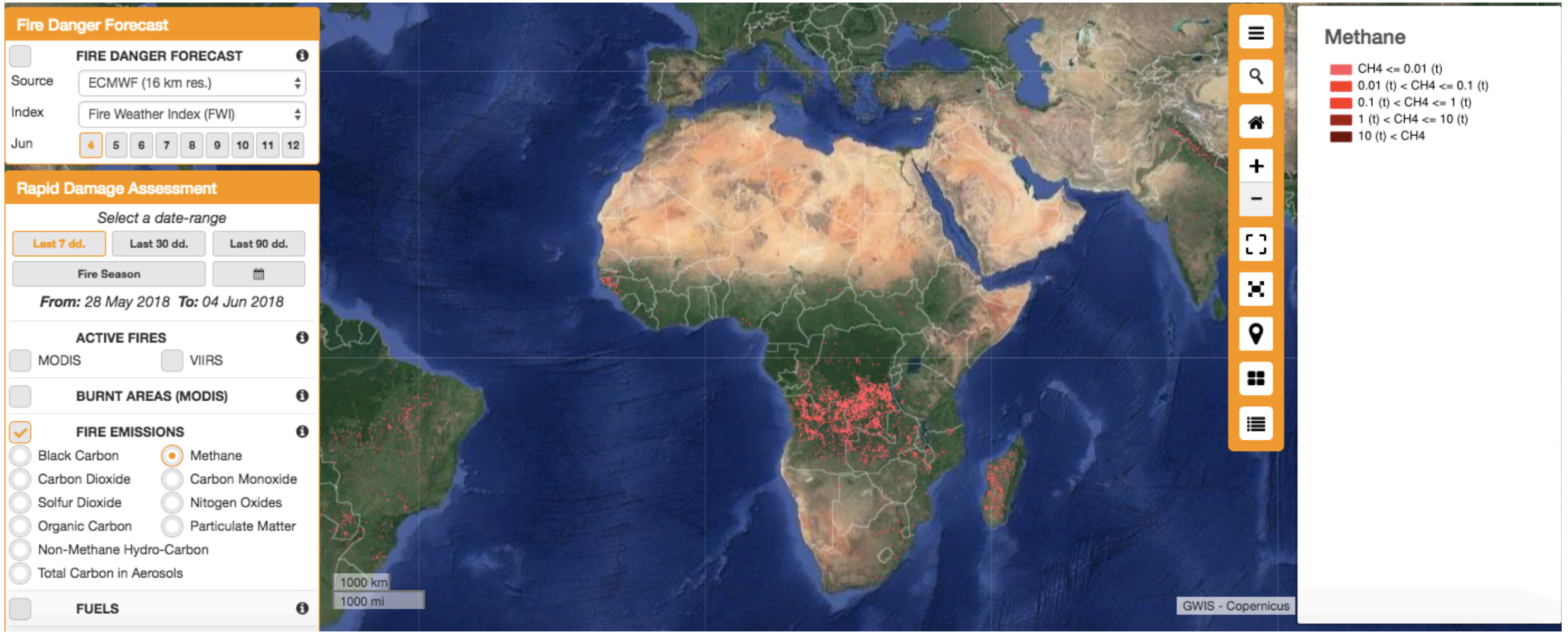
Active Fires

- MODIS
- Spatial resolution: 1km
- Available for 24hrs.,48 hrs. and 7 days after fire

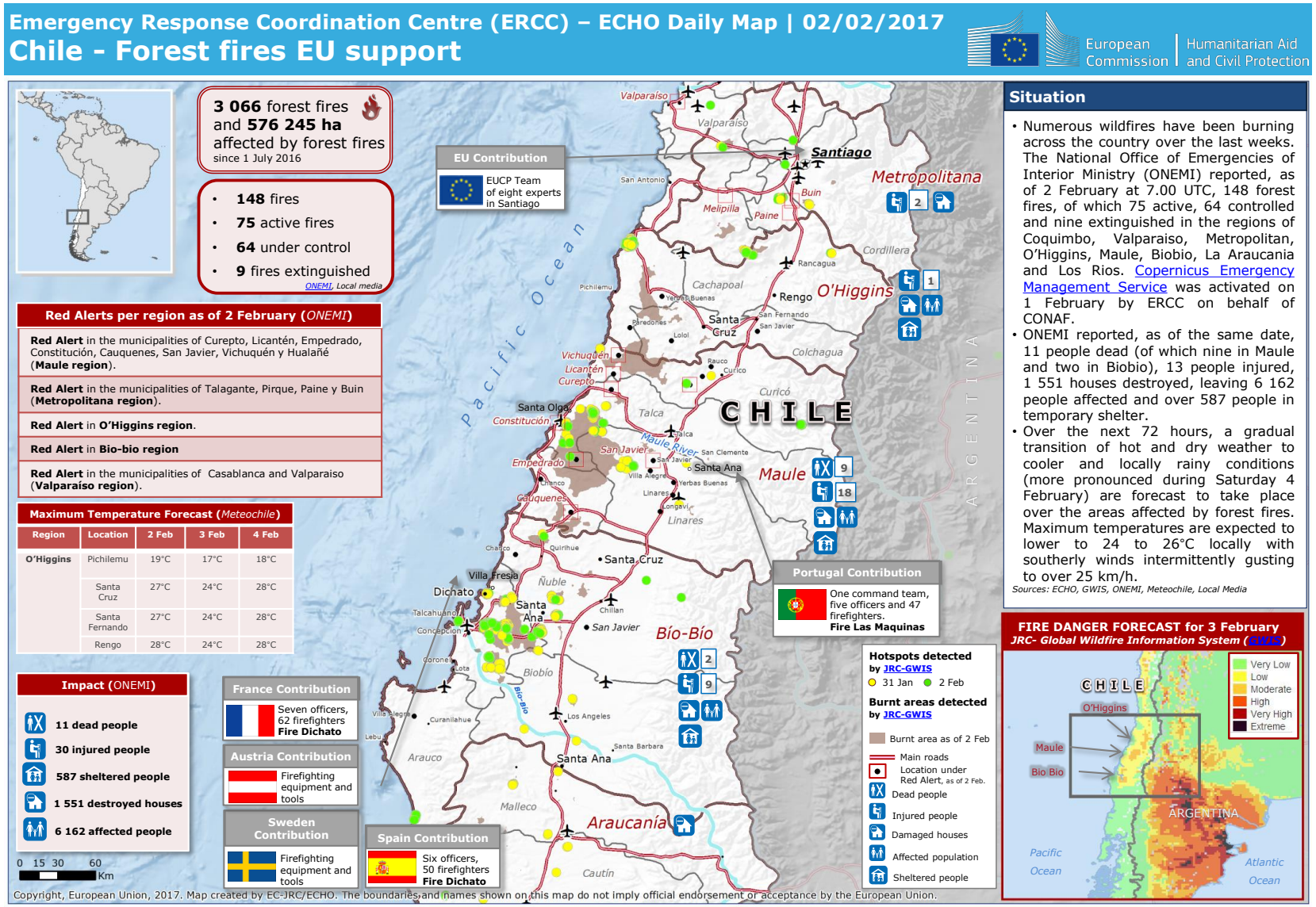
- VIIRS
- Spatial resolution: 375 m



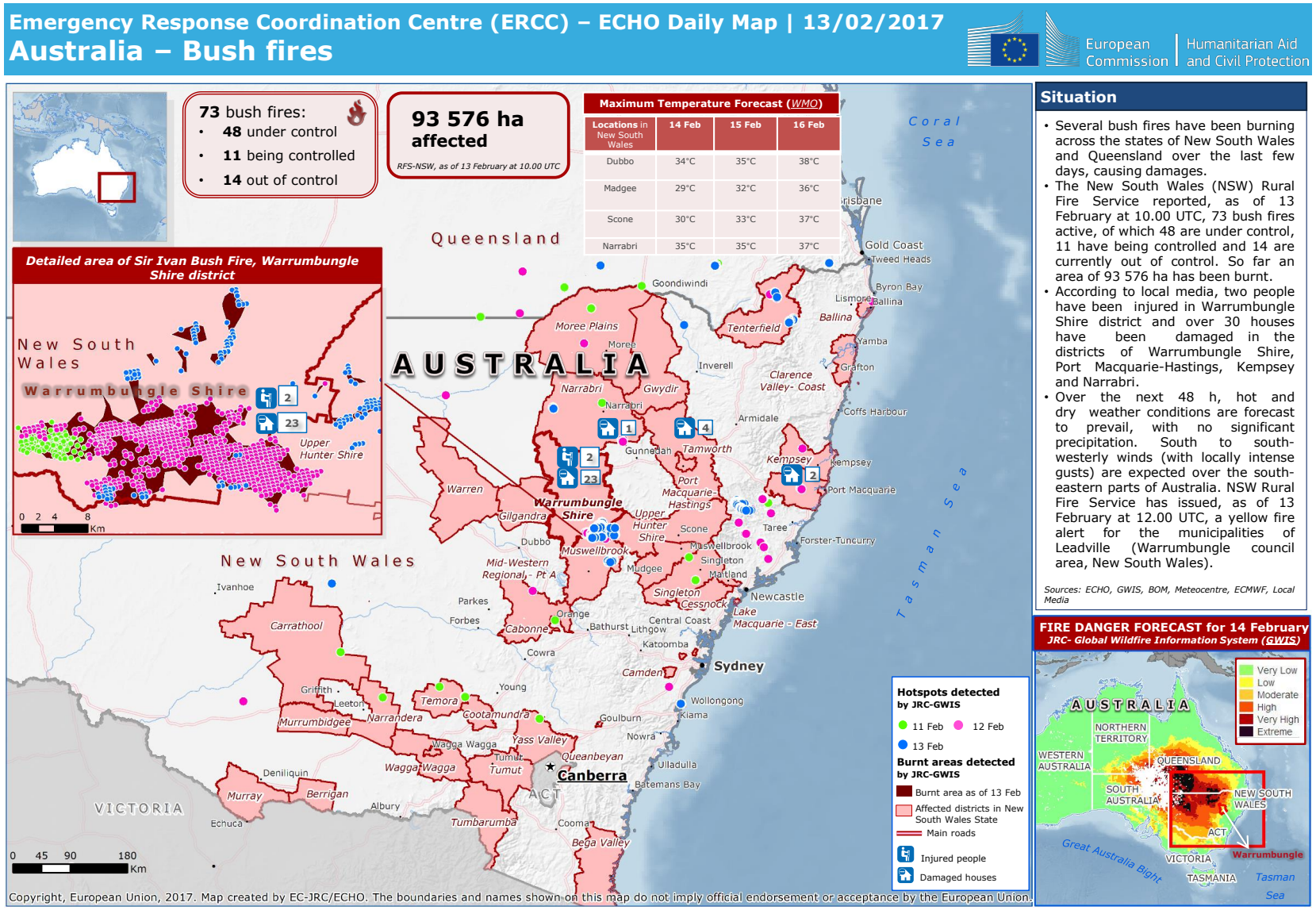
Fire Emissions and Fuels



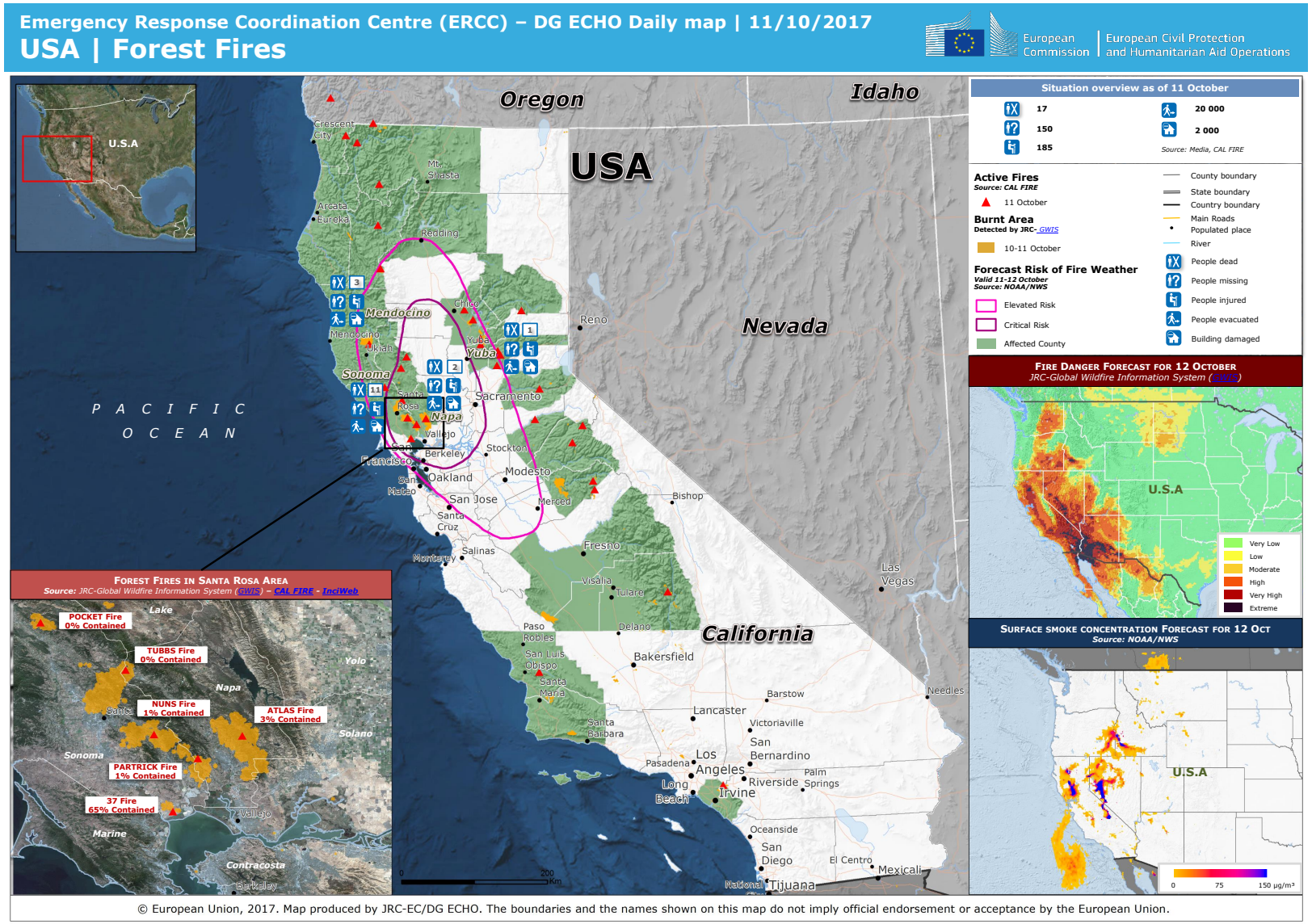
GWIS For Emergency Response: Chile

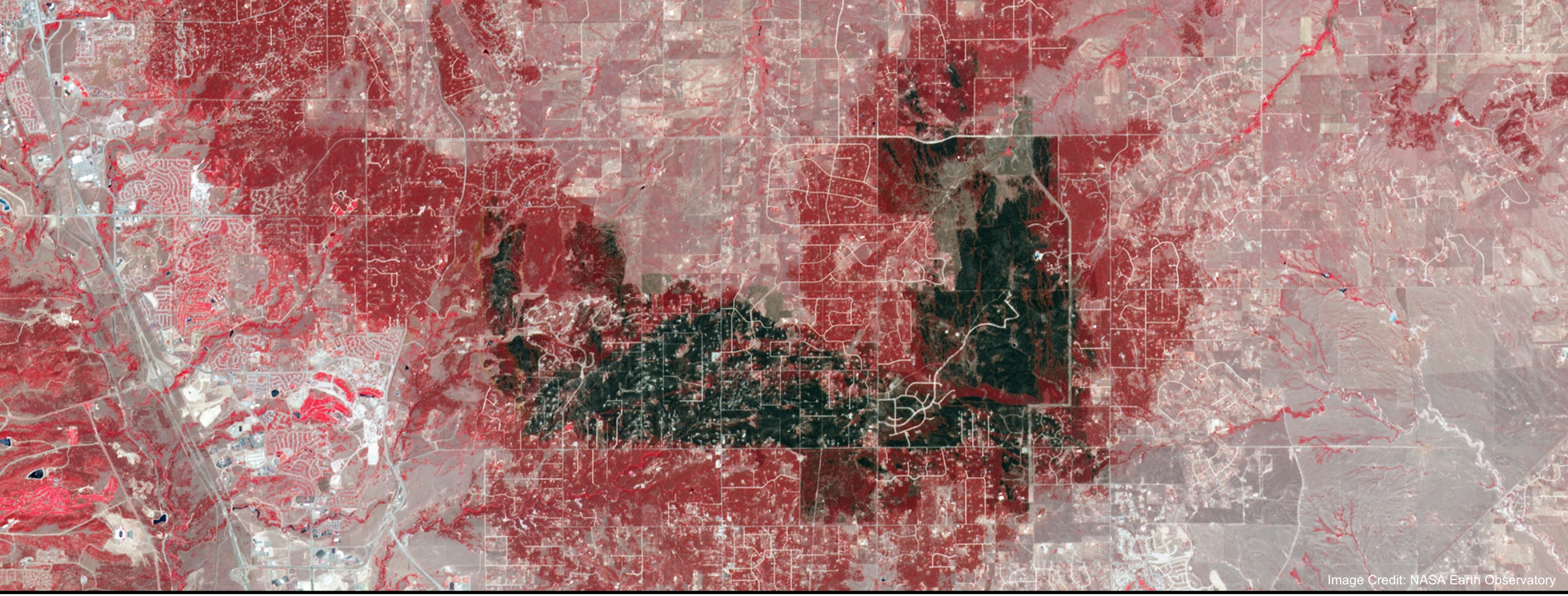


GWIS For Emergency Response: Australia



GWIS For Emergency Response: California





GWIS Exercise

Contacts

- ARSET Land Management & Wildfire Contacts
  - Cynthia Schmidt: Cynthia.L.Schmidt@nasa.gov
  - Amber McCullum: AmberJean.Mccullum@nasa.gov
- General ARSET Inquiries
  - Ana Prados: aprados@umbc.edu
- ARSET Website:
  - http://arset.gsfc.nasa.gov

National Aeronautics and Space Administration

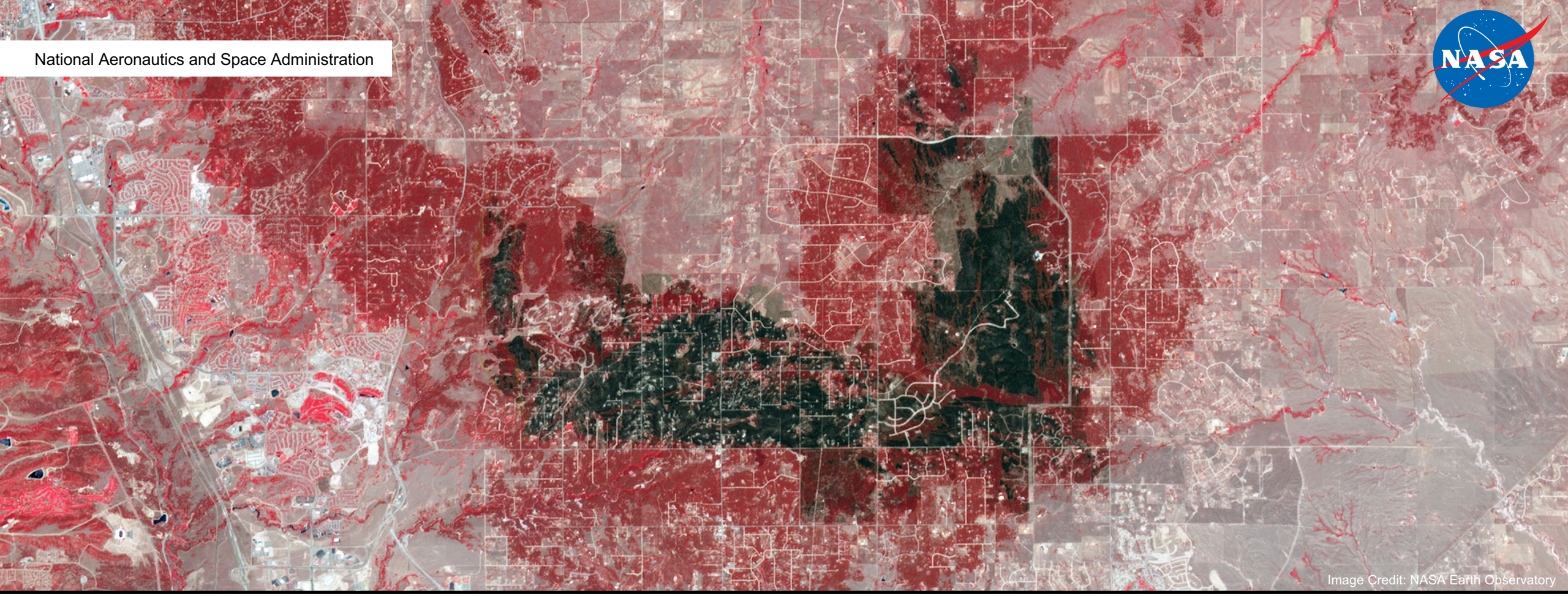


Image Credit: NASA Earth Observatory

Thank You

Reminder: Complete homework by August 2nd, 2018

Question and Answer Session

Please type your questions in the Question Box

Additionally, you can type your name, location, organization, and email address to connect with your fellow land remote sensing professionals.