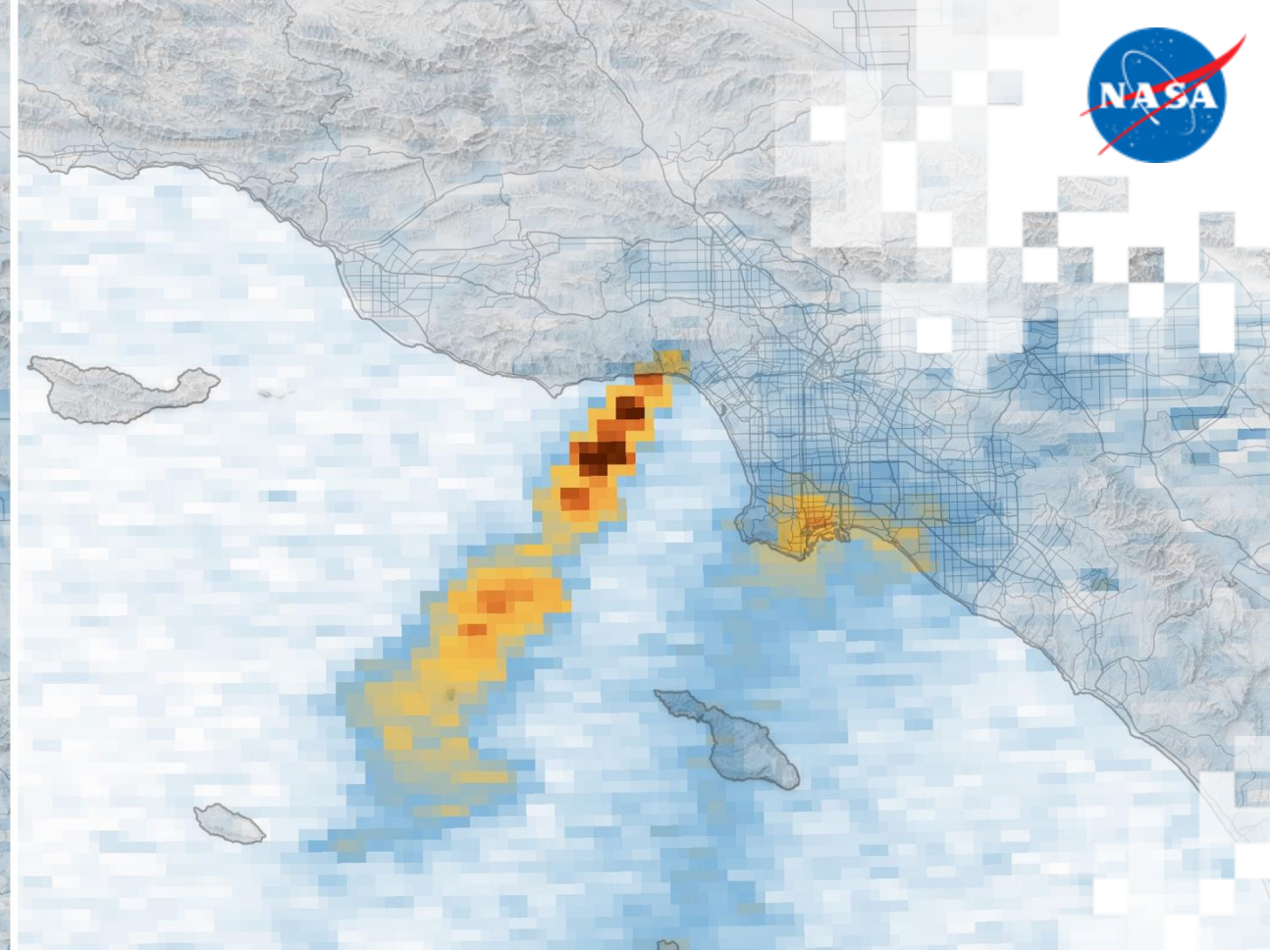
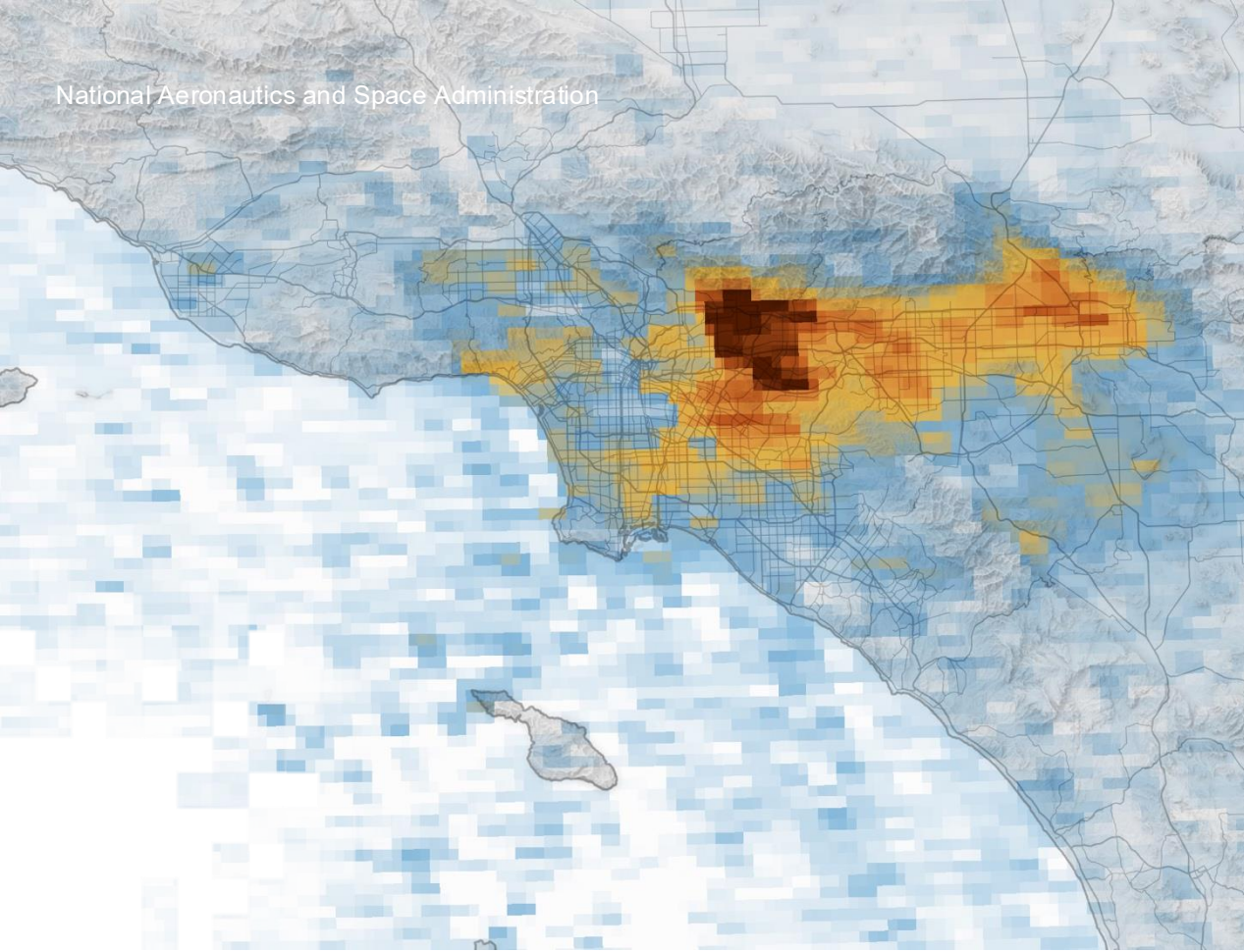


National Aeronautics and Space Administration



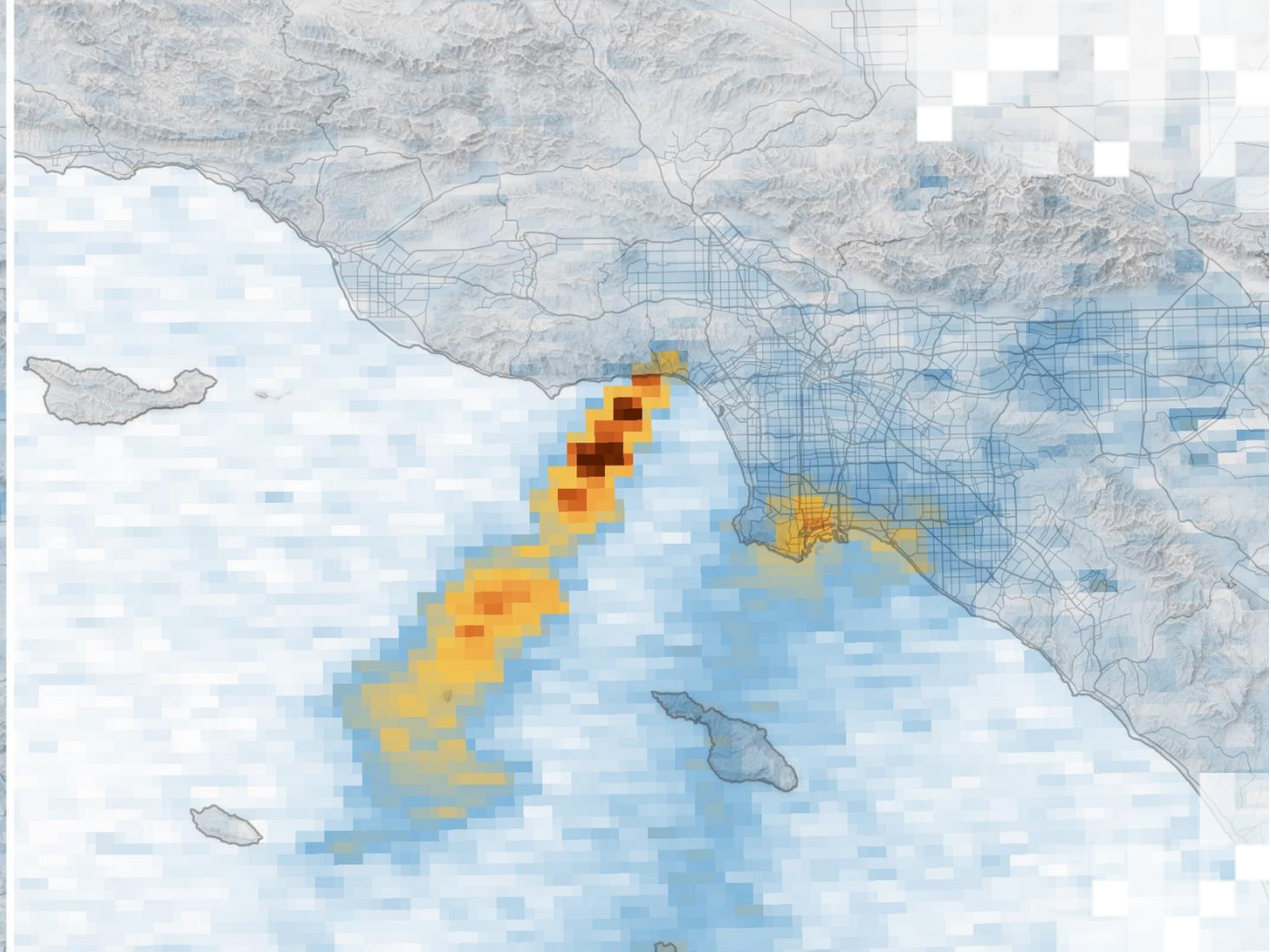
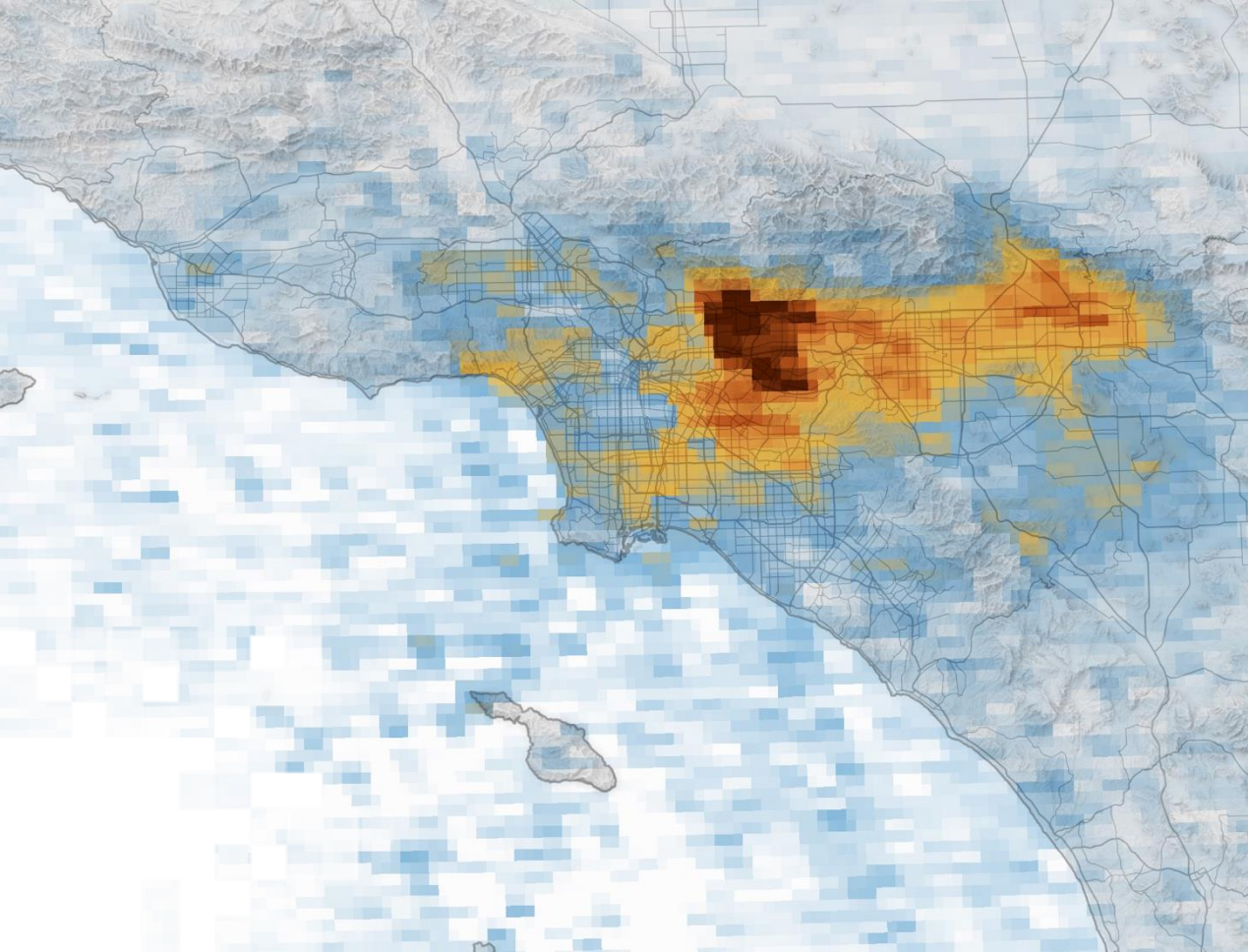
Introduction to Geostationary Observations for Air Quality Applications in the Western US

Day 1, Part 1: Welcome!

ARSET, WESTAR, CIRA, TEMPO Applications, and ASDC Teams

August 5, 2025



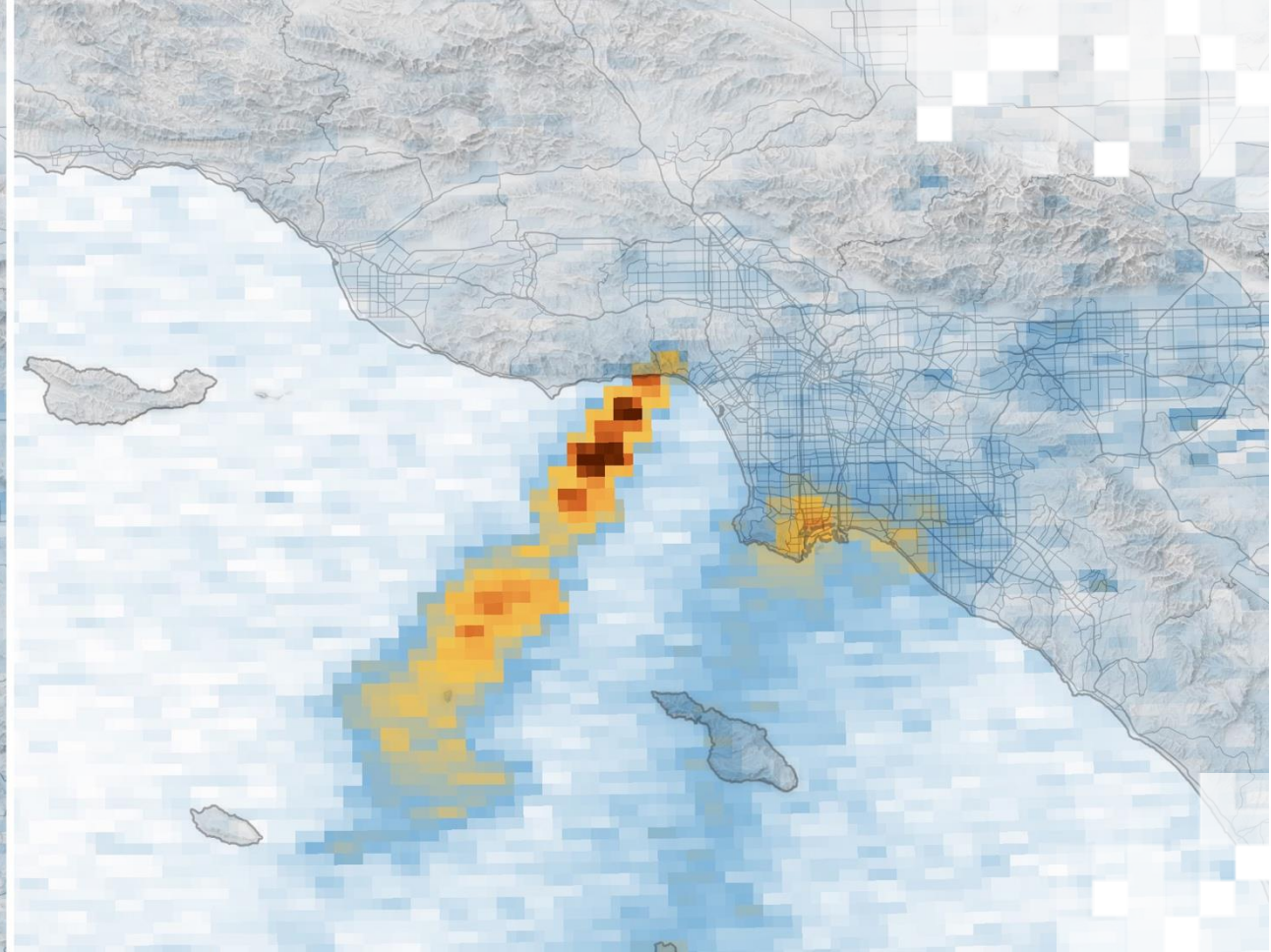
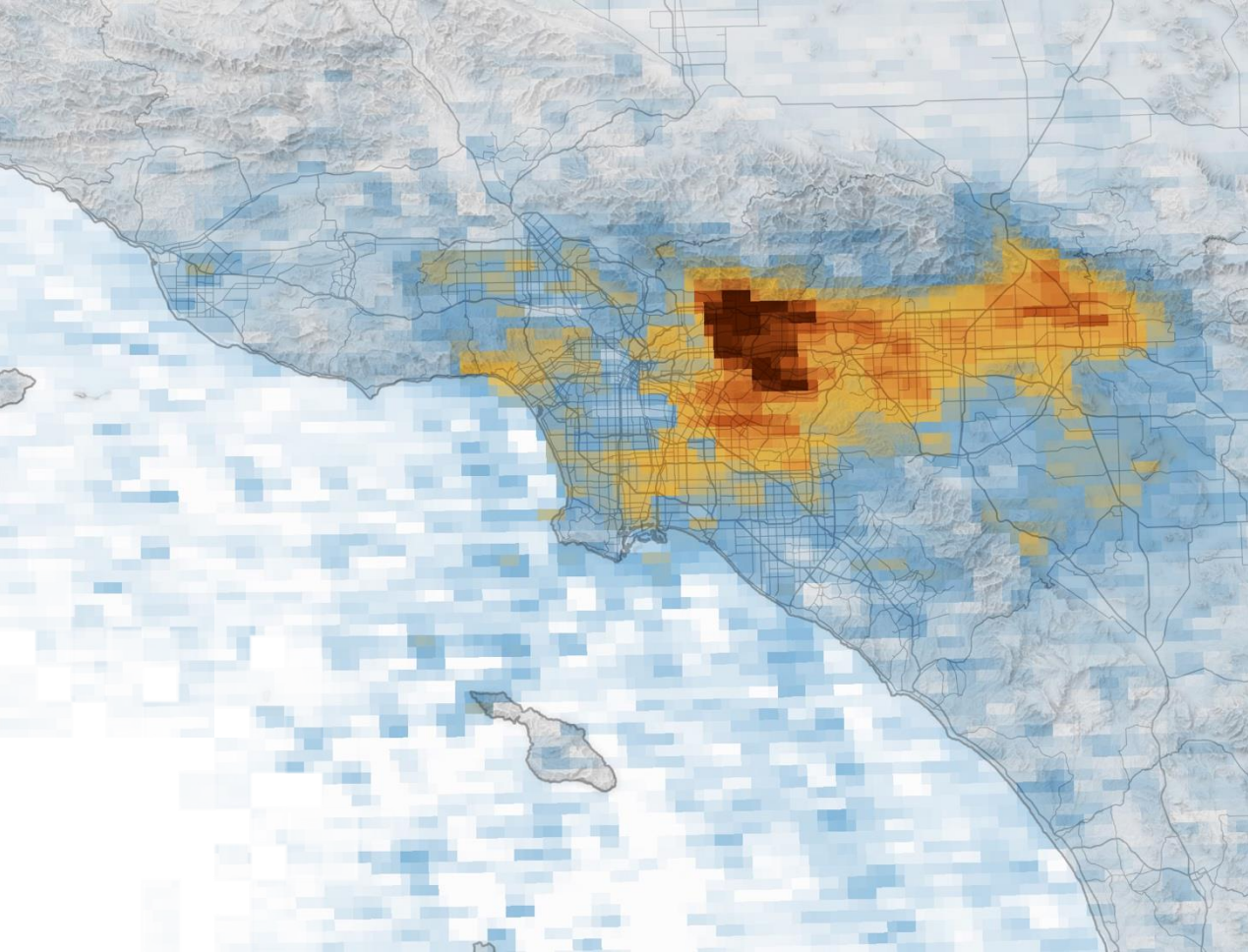


Welcome to CSU CIRA!

Welcome from WESTAR and CIRA!

- Welcome to Fort Collins and CSU/CIRA!
- CIRA facility landmarks-restrooms, water bottle refill stations
- Wi-Fi connectivity
- Drinks, lunch, and snacks
- Dinner plans
- Carpooling to CIRA from the hotel
- Heading back to the airport on Thursday/Friday
- Questions





About ARSET

About ARSET

- **ARSET provides accessible, relevant, and cost-free training on remote sensing satellites, sensors, methods, and tools.**
- Trainings include a variety of applications of satellite data and are tailored to audiences with a variety of experience levels.



AGRICULTURE



CLIMATE & RESILIENCE



DISASTERS



ECOLOGICAL CONSERVATION



HEALTH & AIR QUALITY



WATER RESOURCES

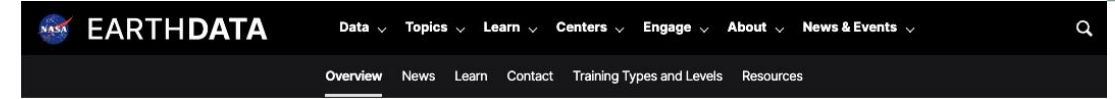
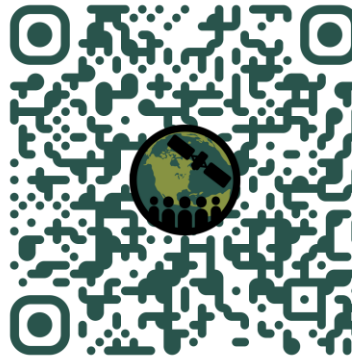


WILDLAND FIRES

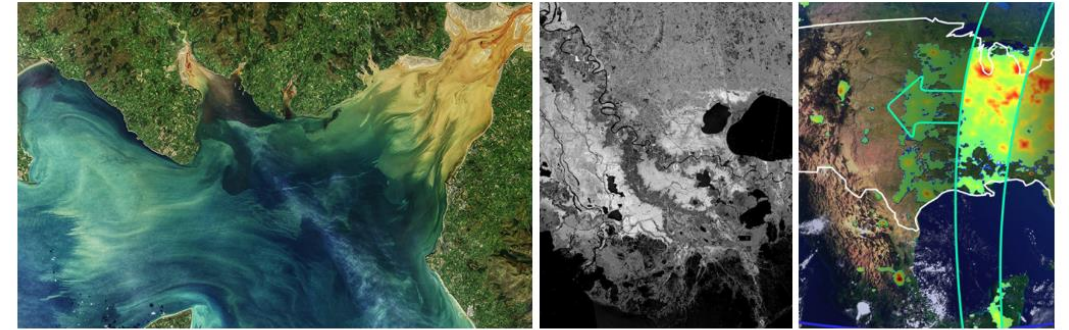


About ARSET Trainings

- Online or in-person
- Live and instructor-led or asynchronous self-paced
- Cost-free
- Bilingual and multilingual options
- Only use open-source software and data
- Accommodate differing levels of expertise
- Visit the [ARSET website](#) to learn more.



Home / Find Data / Projects / ARSET



ARSET

Applied Remote Sensing Training Program

Build skills to use remote sensing data for a range of applications related to air quality, public health, agriculture, disasters, ecological conservation, water resource management, climate resilience, and wildland fires. From 'How do satellites work?' to 'How can I use satellite data to make a flood map?' there are trainings available for all levels of experience.

Not sure where to start? Browse our [list of trainings](#). You can filter by theme, training level, and training type. Or, browse our [Online Resource Guide](#) to quickly see descriptions of all of our online trainings since 2015.

Learn more about our [types and levels of training](#).

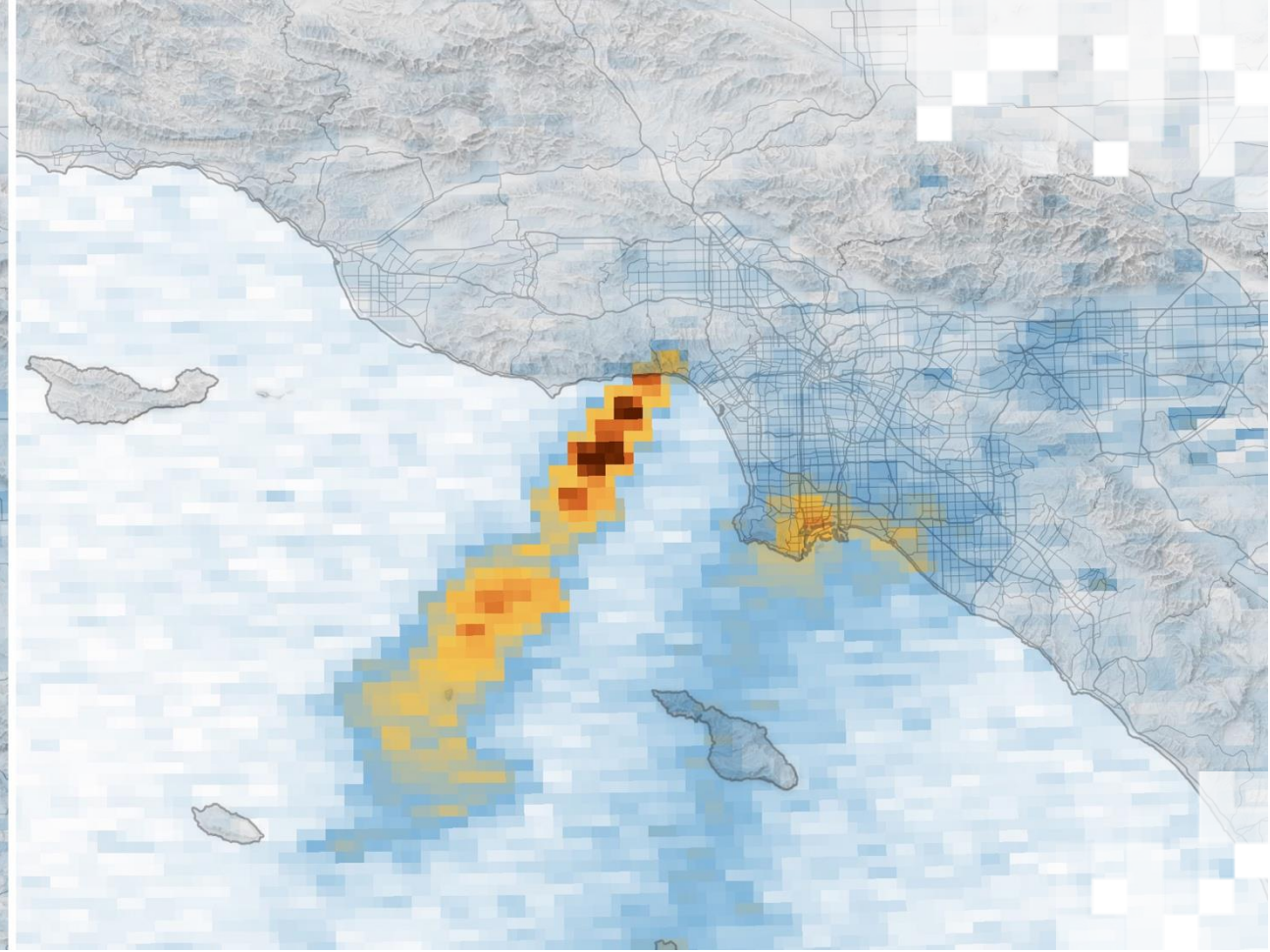
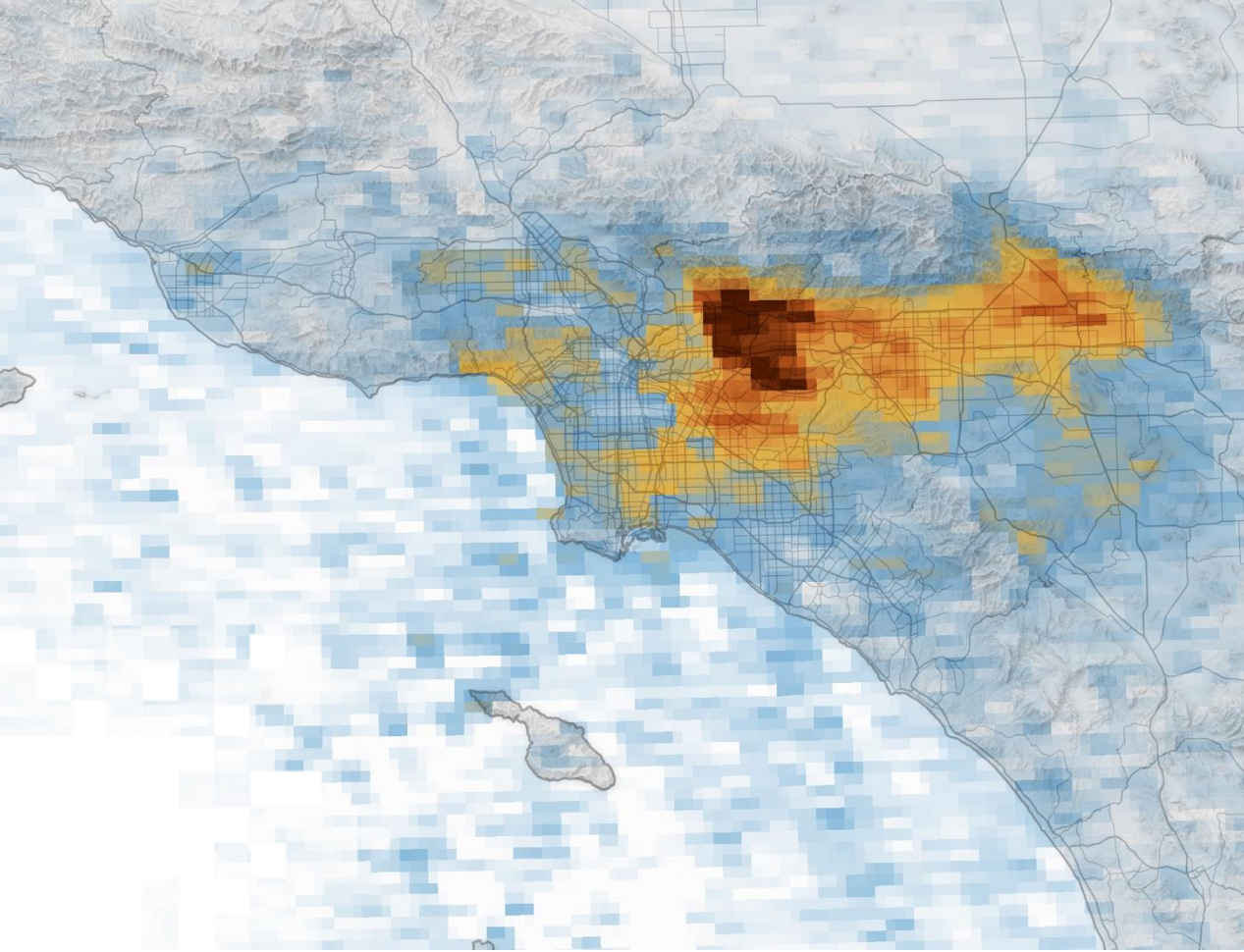
New to remote sensing and Earth observations? Check out our new interactive online, self-paced Fundamentals of Remote Sensing training on the ARSET learning management system to start learning.

Contact us or find answers to Frequently Asked Questions on our [Resources](#) page.

Don't miss a training! To join our mailing list and get updates on the latest trainings, send an email with no subject line to arset-join@lists.nasa.gov and follow the instructions sent in the reply.

FUNDING PROGRAMS
NASA Earth Action
Program



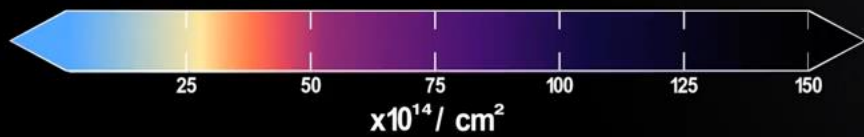


Introduction to Geostationary Observations for Air Quality Applications in the Western US Overview



02 Aug 2023 11:11 EDT

Nitrogen Dioxide Tropospheric Column Density



Source: NASA GSFC Scientific
Visualization Studio
<https://svs.gsfc.nasa.gov/5142/>

Training Learning Objectives

By the end of this training, participants will be able to:

- Identify TEMPO capabilities and available data products.
- Describe the strengths and limitations of TEMPO compared with existing AQ satellite or ground-based remote sensing resources and in situ observations.
- Recall TEMPO data distribution interfaces and be able to visualize data online as well as download files and perform basic analysis and plotting.
- Apply remote sensing data toward primary air quality challenges using visualization tools and codes.
 - Regional air pollutant patterns and trends
 - Smoke, dust, and ozone precursor tracking
 - Ambient monitoring and forecasting support
 - Source identification & emissions assessments
 - Public communication
 - Exceptional event demonstrations



Training Outline

Day 1

9:00 Welcome

9:30 Review of RS for AQ

10:30 NASA Worldview

10:45 Break

11:00 TEMPO Intro

12:00 Lunch

1:00 TEMPO Trace Gases

2:00 TEMPO Visualization

2:30 Break

2:45 TEMPO Aerosols

3:45 TEMPO PM_{2.5} Product

4:30 Wrap-Up

Day 2

9:00 Recap of Day 1

9:15 Getting TEMPO Data

9:45 Reading TEMPO Files

10:45 Break

11:00 TEMPO in EPA RSIG

12:00 TEMPO in Earthdata GIS

12:30 Lunch

1:30 Use Case: Surface AQ

2:45 Break

3:00 Use Case: Ozone

4:15 Wrap-Up

Day 3

9:00 Recap of Day 2

9:15 Use Case: Smoke, Dust

10:15 Break

10:30 Use Case: EE Demos

11:30 Prepare for Project

12:00 Lunch

1:00 Group Project

2:30 Break

2:45 Project Presentations

4:15 Wrap-Up

A certificate of completion will be awarded at the end of the workshop.



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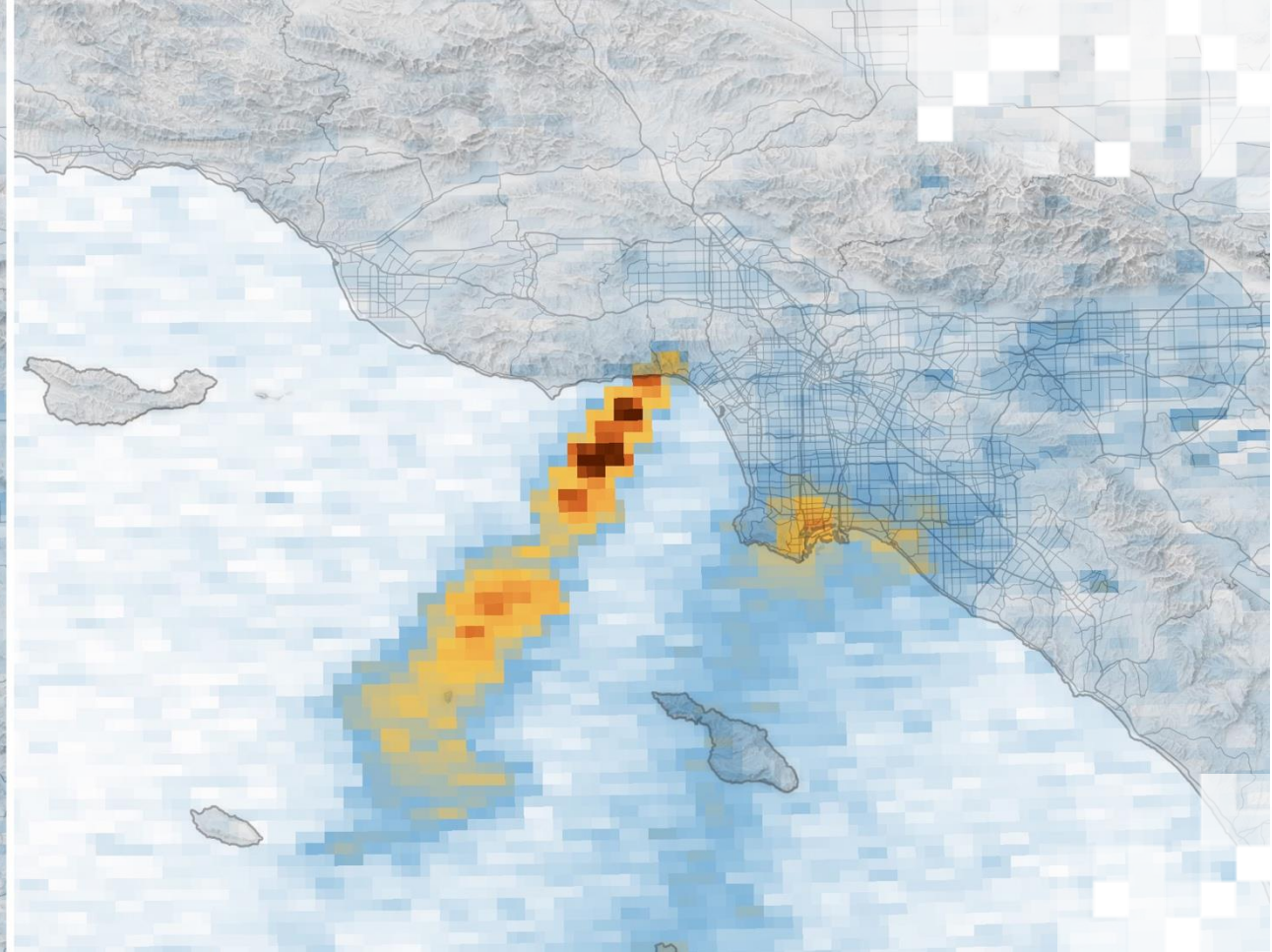
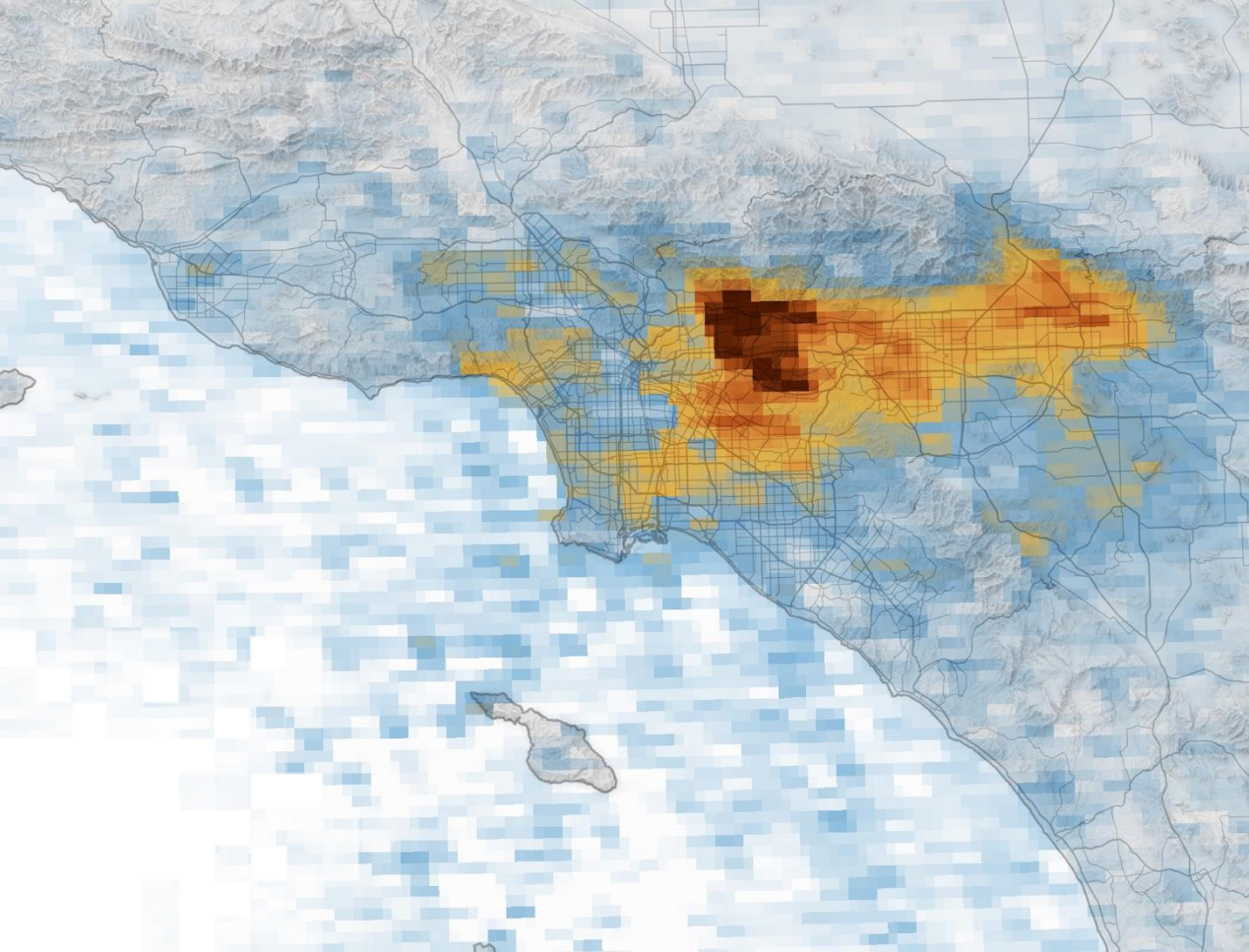
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Meet the Trainers

Trainers – Applied Remote Sensing Training (ARSET) Program

Carl Malings

Assistant Research Scientist
Morgan State University
& NASA GSFC



Kristina Pistone

Research Scientist
Bay Area Environmental
Research Institute & NASA ARC



Kevin Fuell

Research Scientist
University of Alabama Huntsville
& NASA MSFC



Trainers – TEMPO Mission Applications

Aaron Naeger

TEMPO Mission
Applications Lead

NASA MSFC



Trainers – Atmospheric Science Data Center (ASDC)

Georgina Hayes-Crepps

Science & Development
Coordinator

AMA & NASA LARC



Hazem Mahmoud

ASDC DAAC Scientist
RSES & NASA LARC



Daniel Kaufman

ASDC TEMPO Lead Data
Scientist

Booz Allen Hamilton, NASA LARC



Trainers - Guests



James Szykman

Senior Research Engineer
EPA



Barron Henderson

Physical Scientist
EPA



Matt Freeman

Senior Scientific Applications
Developer
Applied Research Associates



Trainers - Guests

Amy Huff

Senior Research Scientist
IMSG & NOAA/NESDIS/STAR



Emily Bian

Air Quality Specialist
SCAQMD



WESTAR & CIRA Hosts

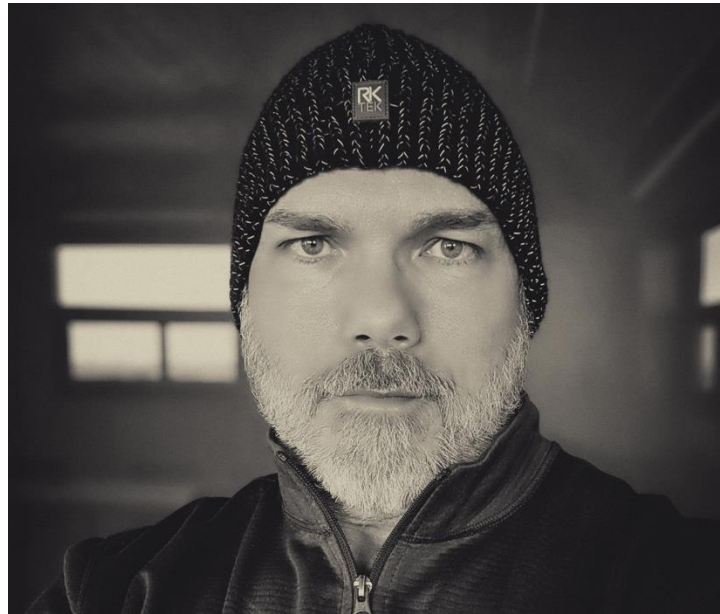
Mary Uhl

Executive Director
WESTAR



Shawn McClure

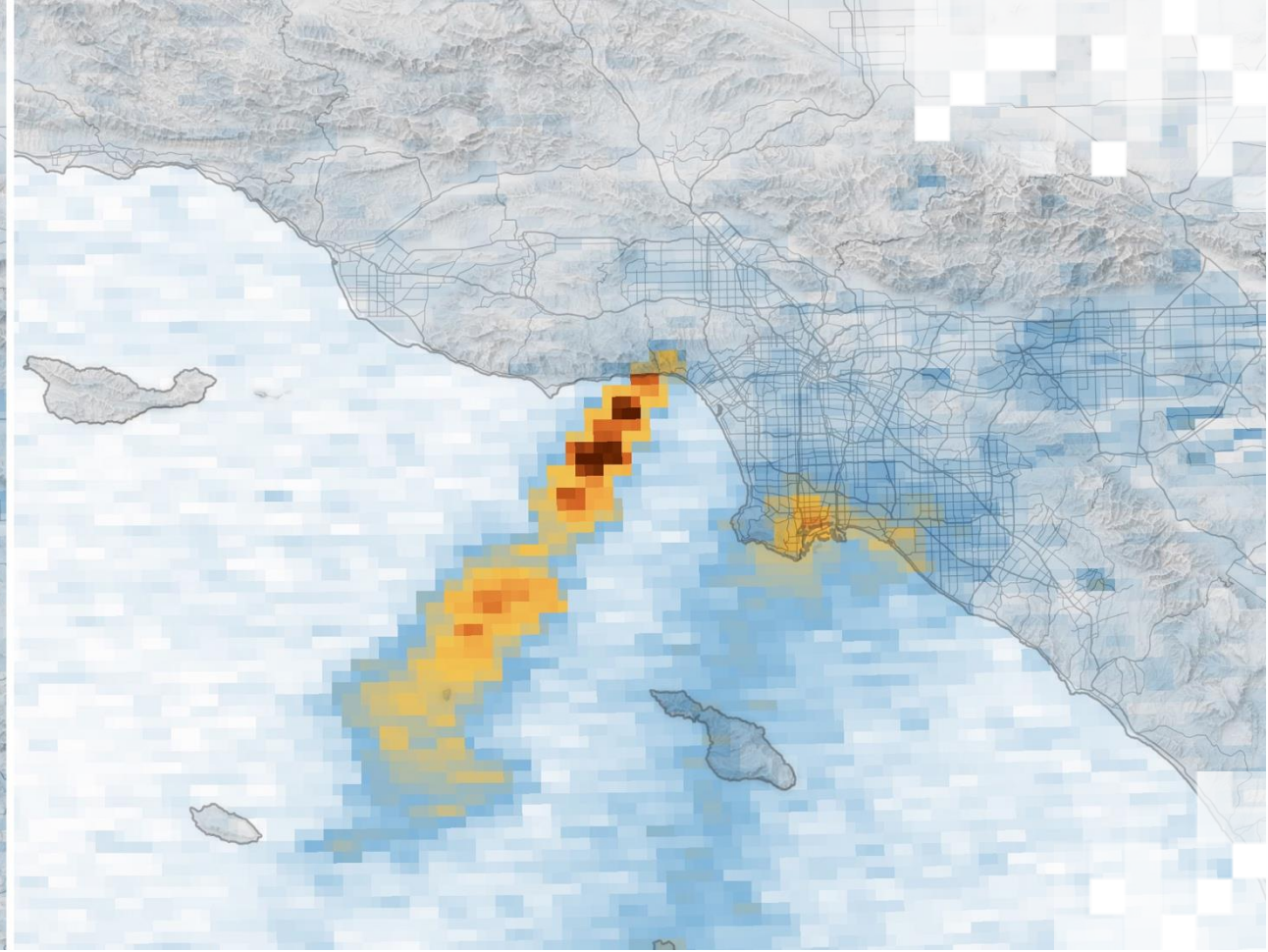
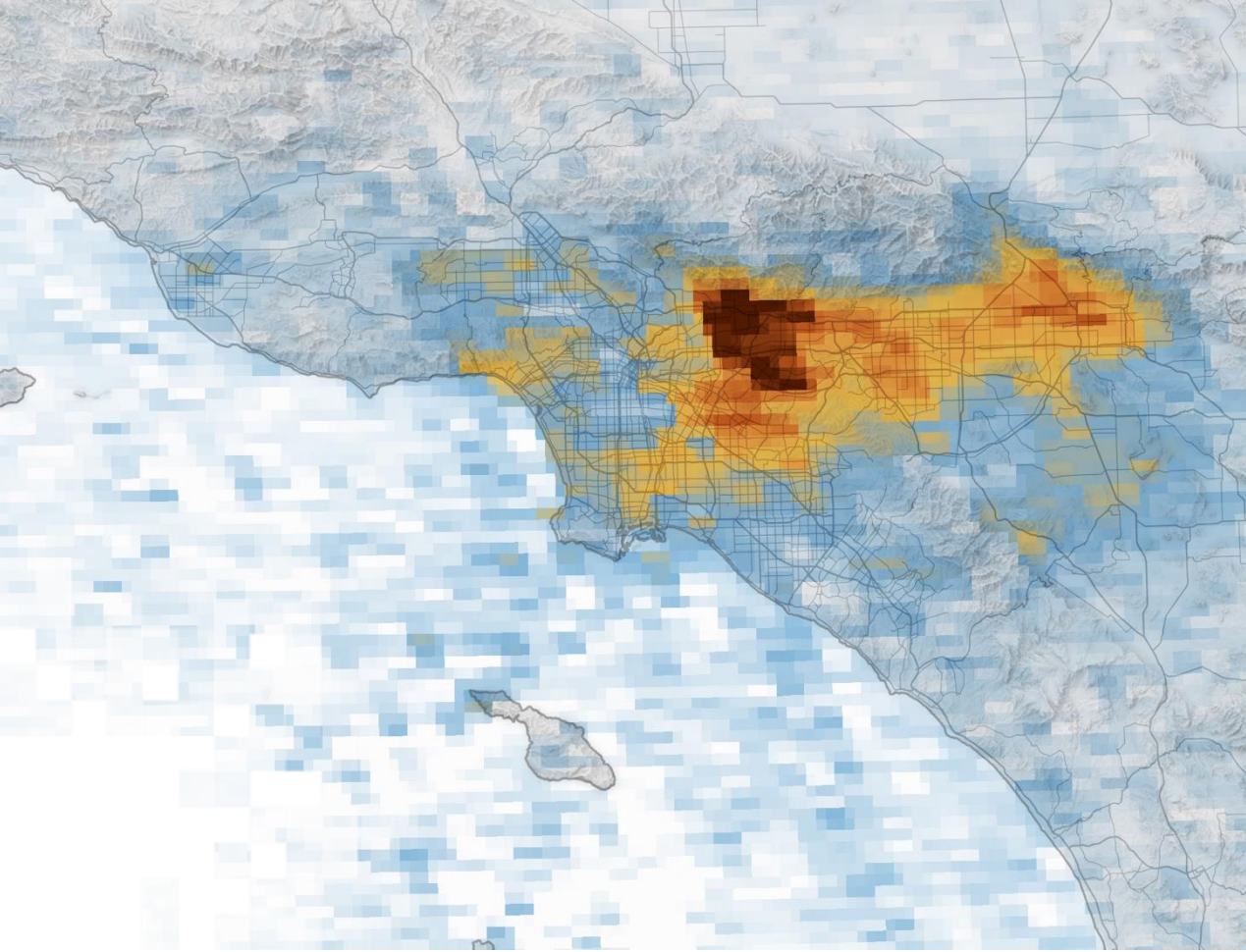
Research Associate IV
Colorado State University



Rhonda Payne

WRAP Program Manager
WESTAR



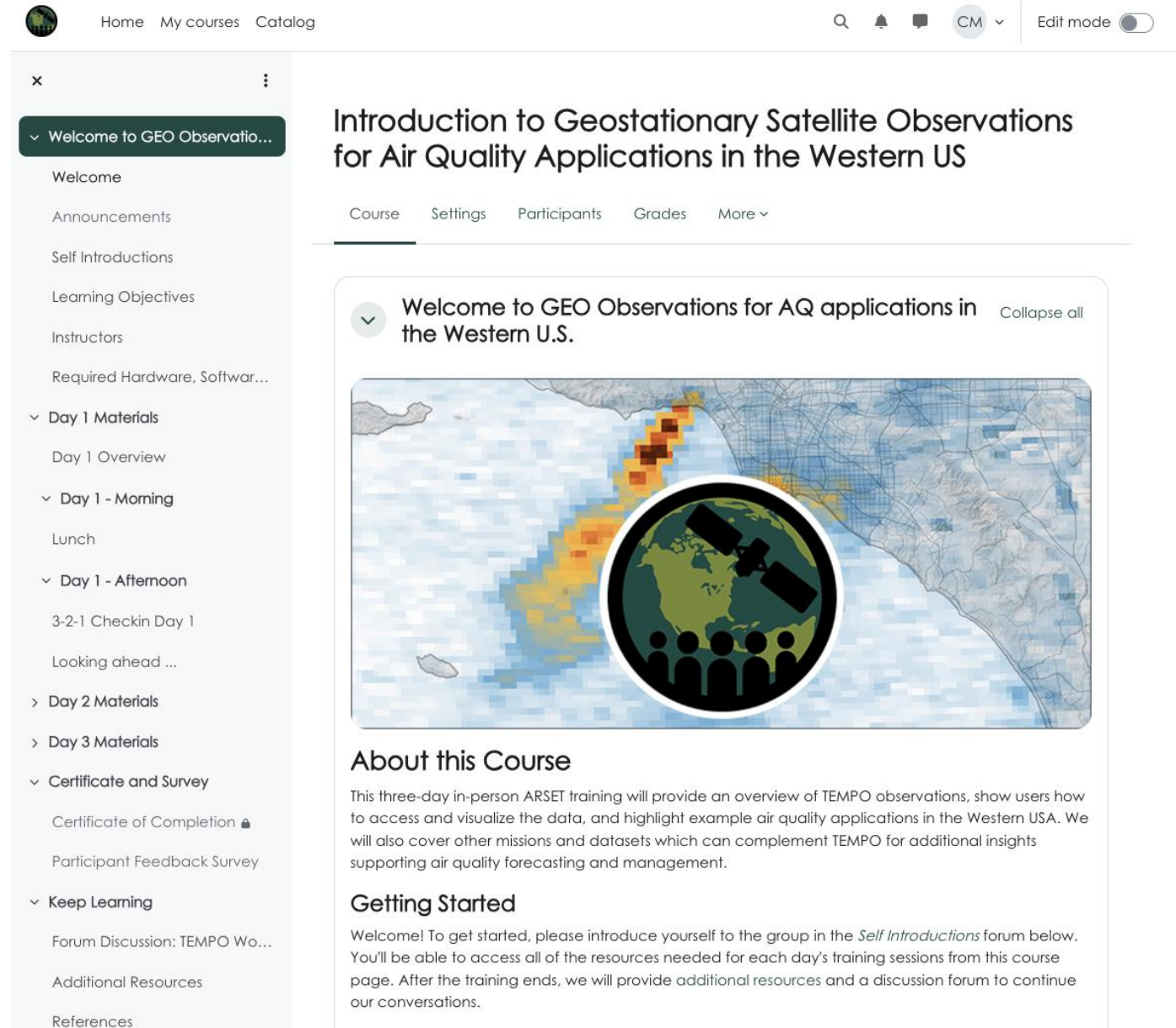


Moodle Page and Forum

Moodle

- Go to the course in Moodle.
- Navigate the days and parts.
- Look at the “Self Introductions”.
- Introduce yourself.

<https://arset.unhosting.site>



The screenshot shows the Moodle course interface. At the top, there's a navigation bar with 'Home', 'My courses', and 'Catalog'. On the right, there are search, notification, and user profile icons, along with an 'Edit mode' toggle. A left sidebar contains a course menu with sections like 'Welcome to GEO Observatio...', 'Day 1 Materials', 'Day 2 Materials', 'Day 3 Materials', 'Certificate and Survey', and 'Keep Learning'. The main content area displays the course title 'Introduction to Geostationary Satellite Observations for Air Quality Applications in the Western US' and a sub-section 'Welcome to GEO Observations for AQ applications in the Western U.S.' featuring a map of the Western US with a satellite icon and a group of people. Below this, there are sections for 'About this Course' and 'Getting Started'.

Home My courses Catalog

Q CM Edit mode

Introduction to Geostationary Satellite Observations for Air Quality Applications in the Western US

Course Settings Participants Grades More

Welcome to GEO Observations for AQ applications in the Western U.S. Collapse all

About this Course

This three-day in-person ARSET training will provide an overview of TEMPO observations, show users how to access and visualize the data, and highlight example air quality applications in the Western USA. We will also cover other missions and datasets which can complement TEMPO for additional insights supporting air quality forecasting and management.

Getting Started

Welcome! To get started, please introduce yourself to the group in the *Self Introductions* forum below. You'll be able to access all of the resources needed for each day's training sessions from this course page. After the training ends, we will provide additional resources and a discussion forum to continue our conversations.





Thank You!

