

# NASA Applied Remote Sensing Training (ARSET) Program Overview

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# NASA Applied Remote Sensing Training (ARSET)

<https://appliedsciences.nasa.gov/arset>

The ARSET Program delivers cost-free training on the use of Earth Observations for decision making

- Our trainings are:
  - Online and in-person
  - Live, instructor-led, or self-guided
  - Provided at no cost, with materials and recordings available from our website
  - Often multi-lingual
  - Range in level from **introductory** to **advanced**

## ARSET Training Themes

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[Disasters](#)



[Agriculture](#)



[Land](#)



[Water Resources](#)



[Climate](#)



[Health & Air Quality](#)



EARTH SCIENCE  
APPLIED SCIENCES



CAPACITY  
BUILDING



# 2022



18 trainings



21,000+ participants



159 countries



6,500+ organizations

# 2009 – 2022



179 trainings



95,000+ participants

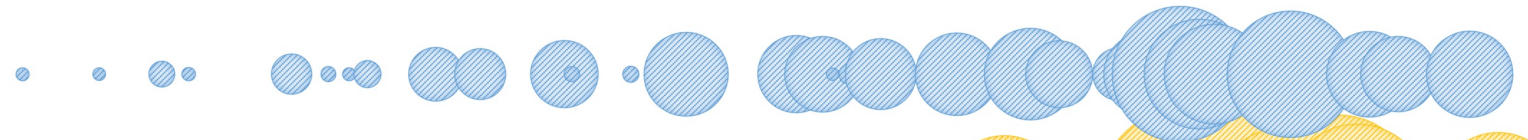


182 countries



17,000+ organizations

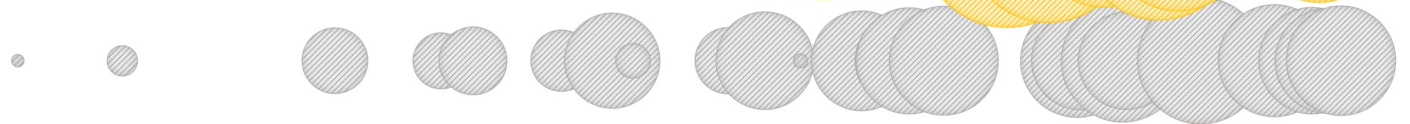
Water Resources & Agriculture



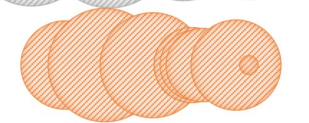
Ecological Conservation



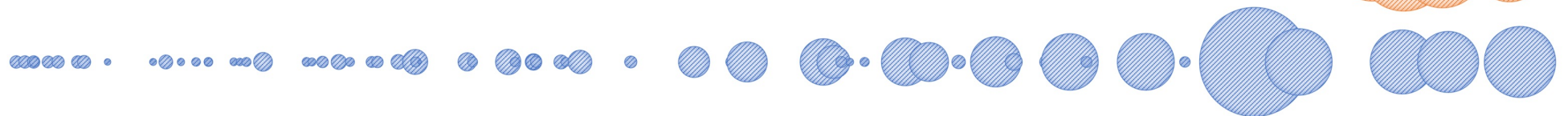
Disasters



Climate



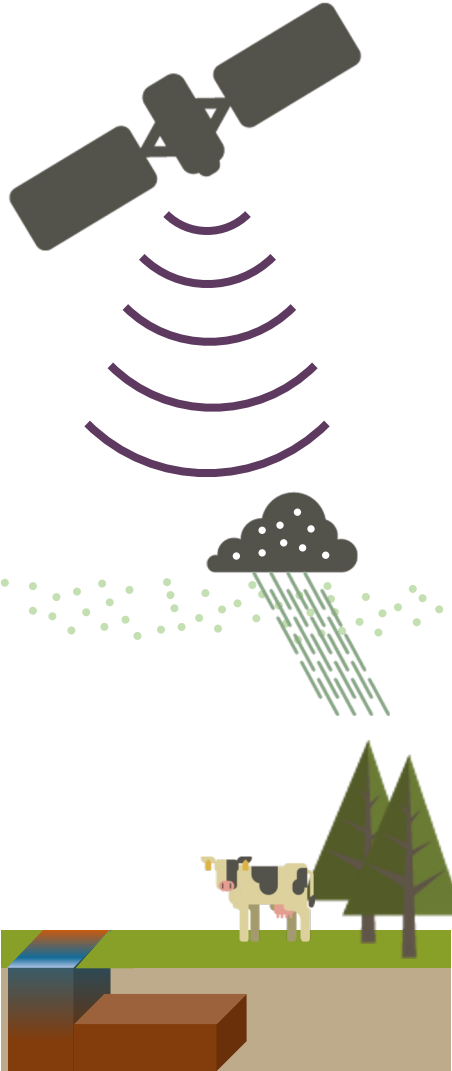
AQ & Health



2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022



# ARSET Trainings Are Designed to Meet Audience Knowledge Levels



## **Advanced**

Requires introductory or intermediate training or equivalent knowledge  
In-depth and highly focused topics  
*Advanced Webinar: SAR Image and Data Processing*

## **Intermediate**

Requires introductory training or equivalent knowledge  
Covers specific applications  
*Remote Sensing for Disasters Scenarios*

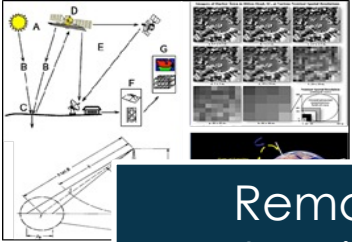
## **Introductory**

Requires fundamentals training or equivalent knowledge  
Covers specific applications  
*Introduction to Synthetic Aperture Radar*

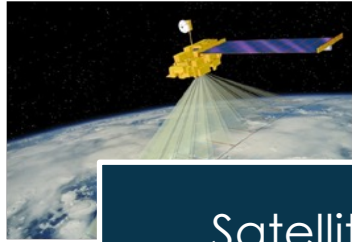
## **Fundamentals**

Assumes no prior knowledge of remote sensing  
*Fundamentals of Remote Sensing*

# ARSET Air Quality Trainings



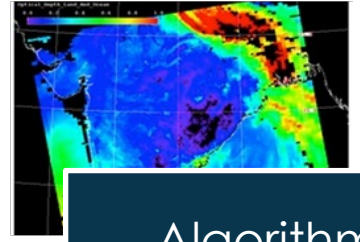
Remote Sensing



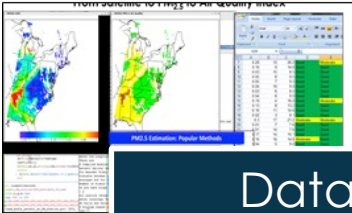
Satellites



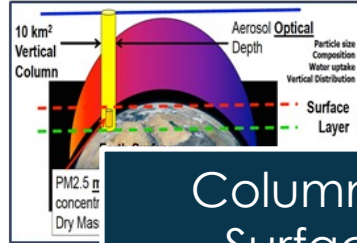
Imagery



Algorithms



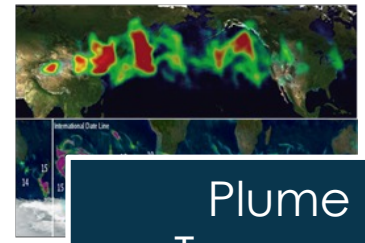
Data & Tools



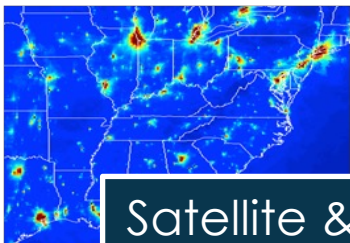
Column to Surface



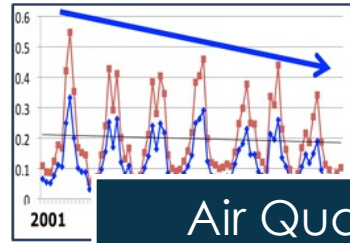
Dust & Smoke



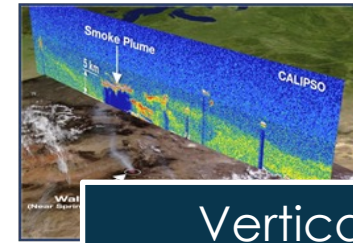
Plume Transport



Satellite & Model Comparison



Air Quality Trends

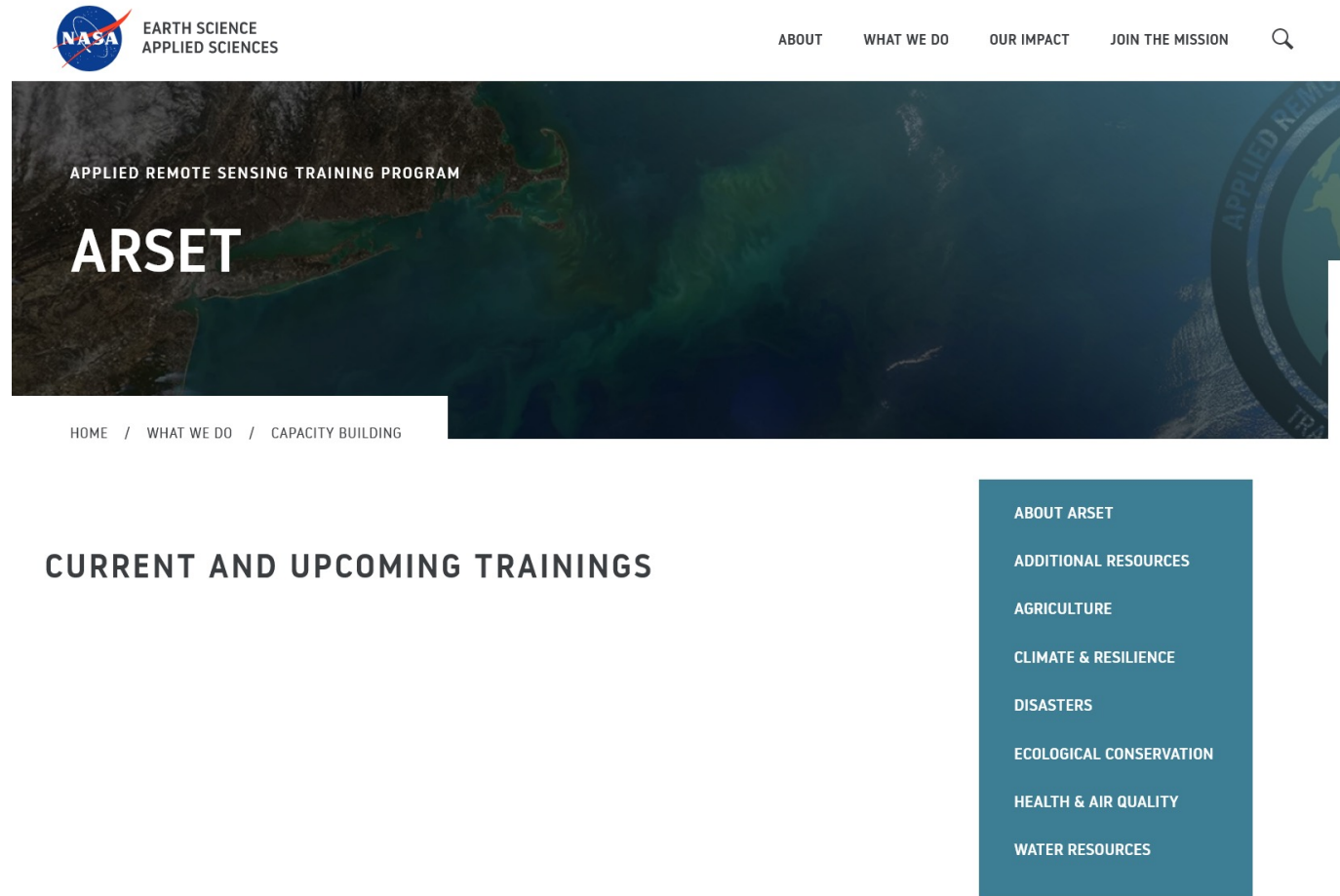


Vertical Profiles



# Learn More About ARSET

<https://appliedsciences.nasa.gov/arset>



Access past training materials

Find and register for a training

Receive updates on upcoming trainings



# Training Outline

- **Day 1**

- Introduction
- Remote Sensing
- Image Access & Interpretation
- Data Formats
- Fire and Smoke
- Trace Gases
- Data Access and Visualization

- **Day 2**

- Aerosol Products
- Reading and Mapping Aerosol data
- PM<sub>2.5</sub> Estimations
- PM<sub>2.5</sub> Data Sets
- PM<sub>2.5</sub> Applications
- Geostationary
- Trace gas emissions and Surface Concentrations

- **Day 3**

- Air Quality Forecast
- Reanalysis
- Capstone Notebook
- Case Study Analysis

