National Aeronautics and
Space Administration

Introduction and Access to Global Air Quality Forecasting Data and Tools

September 23, 28, & 30, 2021

10:00-11:30 EDT (UTC-4)

This first of its kind ARSET training focuses on NASA and European Center for Medium-Range Weather Forecasts (ECMWF) global air quality (AQ) forecasting capabilities. This training will discuss the basics of AQ forecasting and will teach users how to access and interpret global air quality forecasts. Anyone who is interested in learning about AQ forecasting will benefit from this training.

Part 1: Introduction to Air Quality Forecasting

- Science and basics of AQ forecasting
- Air quality forecasting using local, regional, and global models
- Model components such as emissions, boundary conditions, initialization, and data assimilation
- Hands-on exercise developing a simple forecasting model

Session 2: NASA's GEOS AQ System

- Introduction to NASA GEOS model and data assimilation system
- The use of satellite data in theGEOS model
- Air quality relevant outputs, validation, and data access
- Introduction to the GEOS global long-term reanalysis dataset, the Modern-Era Retrospective analysis for Research and Applications, Version 2 (MERRA-2)
- Hands-on exercise on the use of GEOS output to visualize an air quality event

Session 3: CAMS AQ System/Tools (Null Earth/Windy)

- Introduction to CAMS, model components and framework
- The use of satellite data in CAMS
- Air quality relevant outputs, validation, and data access
- Hands-on exercise on the use of CAMS output to visualize an air quality event

ARSET empowers the global community through remote sensing training.

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