

# NASA Air Quality Remote Sensing Training

In partnership with EPA

September 29 - October 1, 2014

North Carolina

Training Agenda

Instructors: Pawan Gupta, Brock Blevins, Ana Prados, and James Szykman

**September 29, 2014 - Day 1 (AM)**

**Session I: Introduction, Overview and First Exposure to Satellite Air Quality Measurements**

Files	Time	Teaching Module	Format	Instructor
	08:00 – 08:15	Introduction and logistics	Informal	Heather
P1	08:15 – 09:15	Application of satellite observations in air quality monitoring – an overview	Talk/Discussion	Gupta
P2, D2	09:15 – 10:15	Satellite imagery, access and interpretation.	Talk/Hands On	Brock
	<b>10:15 – 10:30</b>	<b>BREAK</b>		
P3	10:30 – 11:00	Aerosol Observations from Satellites – Brief theory and existing products (MODIS, MISR, OMI, VIIRS, CALIPSO)	Talk	Gupta
D4	11:00 – 12:30	Exploring/ordering aerosol data sets – online tools (GIOVANNI & LAADS Web)	Talk/Hands on	Brock
	<b>12:30-01:30</b>	<b>LUNCH BREAK</b>		

**DAY 1 (PM)**

**Session II: Exploring MODIS Level 2 Aerosol Data Sets**

P5, D5	01:30 – 2:30	Evaluation of aerosol products using the Aerostat/MAPPS tool – learning more on MODIS 3km, 10km Level 2 data sets, limitations and uncertainties	Talk/ Hands On	Brock
P6, D6	02:30 – 5:00	Hands on MODIS 3km and 10km data sets using HDFLook. Looking inside level 2 aerosol data files.	Talk /Hands On	Gupta
P7	05:00-05:30	Future Satellite Capabilities for Air Quality Applications	Talk	Gupta

**September 29, 2014 – Day 2 (AM)**

**Session III: Estimation of Ground Level PM<sub>2.5</sub> Concentrations with Satellite Data.**

Files	Time	Teaching Module	Format	Instructor
P8	08:00 – 09:00	Application of satellite aerosol data for	Talk/Discussion	Gupta

		particulate matter air quality – theoretical background, advantages, limitations		
P9, D9	09:00 – 09:30	Online tool IDEA	Hands-on	Brock
P10, D10	09:30 – 10:30	Resolving the Vertical Resolution of Aerosols – LIDAR, CALIPSO (satellite, data, and applications)	Talk/Hands-on	Gupta
	<b>10:30- 10:45</b>	<b>Break</b>		
P11, D11	10:45 – 12:45	RSIG – tool to get MODIS aerosol data on model grid	Talk/Hands-on	Jim
	<b>12:45- 1:30</b>	<b>LUNCH BREAK</b>		

## Day 2 (PM)

### Session IV: Trace Gas Products and Inter-comparison with models

Files	Time	Teaching Module	Format	Instructor
P12	01:30 – 02:30	Satellite trace gas products, NO <sub>2</sub> , SO <sub>2</sub> , Ozone and others. Advantages, limitations and potential application	Talk/Discussion	Ana
P13, D13	02:30 – 04:00	Exploring trace gas data sets using online tools. (Ordering, details, GIOVANNI)	Hands On	Brock/Ana
	<b>03:00 – 03:15</b>	<b>Break</b>		
P14	04:00 – 05:00	WHIPS tool for gridding satellite data (OMI, MODIS) on model grids on various spatial and temporal scales.	Hands on	Brock/Gupta
D14, D15	05:00 – 05:30	Air Quality Case Study Orientation & Grouping	Discussion/Demo	Gupta

## October 1, 2014 - Day 3 (AM): Case Study

	Time	Teaching Module	Format	Instructor
	08:00 – 11:00	Groups Prepare Case Study Analysis with short break	Group Work	Participants
	11:00 – 12:00	Case Study presentation		Participants
	12:00 – 12:30	Summary/Concluding Discussion etc./Review/Feedback		
	12:30 -	Adjourn		