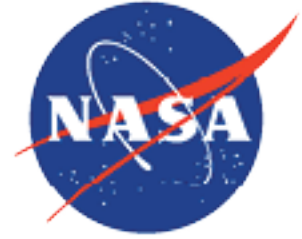




**HAQAST6**  
**July 10 - 12, 2019**  
Wednesday, July 10, 9:00–5:00  
Thursday, July 11, 9:00–5:00  
Friday, July 12, 9:00–12:00



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## **Day 1 – July 10, 2019**

### **California Room**

#### **Meeting Kick-Off**

8:30 – 9:00 Pick up nametags outside conference room at hotel

9:00 10 minutes: Duane Waliser, JPL Chief Scientist, *Welcome Remarks*

9:10 15 minutes: John Haynes, NASA Health and Air Quality Program Manager, *Update from NASA HQ*

9:25 10 minutes: Tracey Holloway, UW-Madison, *HAQAST Team Update and Meeting Goals*

9:35 10 minutes: Meeting Overview + Q&A

#### **I. Linking NASA Data and User Applications**

Chair: Minghui Diao

9:45 15 minutes: Dan Goldberg, Argonne National Laboratory & George Washington University, *Policy-relevant applications of satellite data: Estimating air pollution emissions, exposures, and public health impacts in cities worldwide*

10:00 5 minutes: Reed Van Beveren, GAO *U.S. Government Accountability Office Interest in Satellites and Air Quality.*

10:05 5 minutes: Kyunghwa Lee, National Institute of Environmental Research, Republic of Korea, *Overview and Status of Geostationary Environment Monitoring Spectrometer (GEMS)*

10:10 5 minutes: Meenakshi Rao, Oregon Department of Environmental Quality, *Data to decisions: Opportunities & challenges in incorporating satellite data at OR DEQ*

10:15 15 minutes: Q&A with speakers

### **10:30-11:00 Coffee Break & Networking**

## **II. Satellite Data for Air Quality Management**

Chair: Bryan Duncan

11:00 15 minutes: Joseph L. Wilkins, US EPA, *Exploring the Vertical Distribution of Wildland Fire Smoke in CMAQ*

11:15 5 minutes: Aaron Naeger, University of Alabama in Huntsville, *Development of TEMPO Data at NASA SPoRT for Air Quality and Public Health Applications*

11:20 5 minutes: Michael Geigert, CT DEEP, *Exceptional events analysis at the state management level*

11:25 5 minutes: Tsengel Nergui, LADCO, *Exceptional Event Analysis and WRF Modeling for Regulatory Applications in the Midwest*

11:30 15 minutes: Q&A with speakers

### **11:45-1:30 Break for Lunch and Informal Discussion (on your own)**

## **III. Background Ozone for the Western US**

Chair: Arlene Fiore

1:30 15 minutes: Jessica Neu, JPL, *Updates on Background Ozone in the Western US*

1:45 5 minutes: Ted Russell, Georgia Tech, *Estimating Background Ozone Using Model-Observation Blending*

1:50 5 minutes: Tom Moore, WESTAR-WRAP, *Natural and anthropogenic emissions inputs for GEOS-Chem sensitivity simulations of boundary conditions for U.S. regional modeling studies*

- 1:55 5 minutes: Sang-Mi Lee, SCAQMD, *Background Ozone Issues for Southern California*
- 2:00 15 minutes: Q&A with speakers

## **IV. Impact of California Wildfires**

Chair: Daven Henze

- 2:15 15 minutes: Susan O'Neill, USDA Forest Service, *Health Impacts from the 2017 Northern California Wildfires: Tiger Team Update*
- 2:30 5 minutes: Minghui Diao, San Jose State University, *Applications of satellite-derived PM<sub>2.5</sub> in health studies for California wildfires*
- 2:35 5 minutes: Sean Raffuse, UC Davis, *Improving Smoke Modeling for Exposure Assessment Using New Satellite Products*
- 2:40 5 minutes: Keita Ebisu, Office of Environmental Health Hazard Assessment, *Associations Between Wildfire Events and Health*
- 2:45 15 minute Q&A with speakers

**3:00-3:30 Coffee Break & Networking**

## **V. Satellite Data as a Global Air Quality Indicator**

Chair: Ceclia Bitz

- 3:30 15 minutes: Kevin Cromar and Bryan Duncan, New York University/NASA, *Enabling global cities to benefit from air pollution forecasting and risk communication*
- 3:45 5 minutes: Ashlinn Quinn, NIH/Fogarty International Center, *Contribution of household biomass burning to ambient air pollution in low- and middle-income countries: knowns and unknowns*
- 3:50 5 minutes: Yuqiang Zhang, Duke University, *Recent China Air Clean Actions on Global air quality and health*
- 3:55 5 minutes: Emma Knowland, USRA/GESTAR NASA/GMAO, *Air Pollution Forecasts using the NASA GEOS Model: A Unified Tool from Local to Global Scales*
- 4:00 15 minute Q&A with speakers

## **VI. Accessing Satellite Data for Health Management**

Chair: Yang Liu

4:15 5 minutes: Mike He, Columbia University, *Fine particulate matter and respiratory admissions: an assessment of short-term exposure model choice sensitivity for health studies*

4:20 5 minutes: David Diner, Jet Propulsion Laboratory, *MAIA status update*

4:25 5 minutes: Abbey Nastan, Jet Propulsion Laboratory, *The MAIA Early Adopters Program*

4:30 5 minutes: Amy Wickham, UNICEF, *Better Data for Clean Air*

4:35 5 minutes: Yufei Zou, University of Washington, *Machine Learning-Based Integration of High-Resolution Wildfire Smoke Simulations and Observations for Regional Health Impact Assessment*

15 minute Q&A with speakers

**5:00 – 7:00 Poster Session, Reception & Networking**

**Poster Session**  
**July 10, 5:00 – 7:00PM, California Room**

*Poster dimensions are 40 inches x 30 inches, either landscape or portrait.*

Arash Mohegh, *Long term trends of global burden of NO<sub>2</sub> on pediatric asthma incidents*

Christopher Beale, *Satellite observations of ammonia over India for improved emission source estimates*

Cynthia Hall, *Where in the world is the data? Exploring data pathfinders in Earthdata*

Ira Leifer, *Fusion of In situ and remote sensing trace gas observations to estimate potential exposure*

Javier Martinez, *Diurnal Cycle of NO<sub>2</sub> in the United States*

Kristy Weber and Bart Curbich, *Ozone Issues In Urban And Rural Areas Of Utah*

Marissa DeLang & Jacob Becker, *Mapping Global Surface Ozone Concentrations through the Statistical Fusion of Observations and Models using Bayesian Maximum Entropy*

Piyush Dahal, *Does trans-border pollution impacts air quality in Nepal?- learning from high resolution remote sensing data.*

Priyanka deSouza, *Integration of data from low-cost air quality monitors with MAIAC and MISR satellite data: A case study in Nairobi*

Rui Wang, *Satellite ammonia observations to bridge the gap of the ammonia monitoring network*

Ryan Stauffer, *Trace Gas Measurements during the May 2019 SCOAPE Gulf of Mexico Cruise*

Sean Raffuse, *Modeling Wildfire Emissions at High Time Resolution Using GOES-16*

Soledad Represa, *Application of satellite images for the long-term study of air quality in the metropolitan area of the city of Buenos Aires, Argentina.*

Stephanie Cleland, *Mapping the Air Quality & Health Impacts of the 2017 California Wildfires*

Sunni Ivey, *Satellite-Enhanced Personal Exposure Assessment in the Inland Empire*

Susan Meabh Kelly, *Global Challenge, Global Collaboration: International Secondary Students Collaboratively Explore Air Quality Issues in Historical Context*

Xiaomeng Jin, *Long-term changes of ground-level ozone chemistry over the U.S. urban areas: the view from space*

Yufei Zou, *Fire Smoke Exposure and Health Impact Assessment of the 2018 Large Wildfires in California*

Helena Chapman, *Using Satellite Data for Applications in Public Health Practice*

Amy Wickham, *Better Data for Clean Air*

Patrick Kinney, *Field testing a passive sampler for low-cost, long-term PM<sub>2.5</sub> monitoring*

**Day 2 – July 11, 2019**  
**California Room**

**VII. Building Capacity for Satellite Data in Air Quality and Health**

Chair: Jessica Neu

- 9:00 15 minutes: Jason West, University of North Carolina, *Connecting air quality with health and management: Progress from the UNC HAQAST Team*
- 9:15 5 minutes: Jeff Wagner, California Department of Public Health, *Community scale monitoring for varying PM size distributions and sources*
- 9:20 5 minutes: Gary Kleiman, Orbis Air, *Perspectives and Opportunities to Improve Remote Sensing Services for Global Air Quality*
- 9:25 5 minutes: Emán Williams, Louisiana Department of Health, *Asthma, Air Quality and Environmental Public Health Tracking*
- 9:30 15 minute Q&A with speakers

**VIII. Addressing State Air Management Needs**

Chair: Tom Moore

- 9:45 15 minutes: Dan Welsh, Colorado Department of Public Health and Environment, *Use of Satellite Data/Imagery for Air Quality Forecasting in Colorado*
- 10:00 15 minutes: Arlene Fiore, Lamont-Doherty, *Updates on Regional Haze Tiger Team*
- 10:15 15 minute Q&A with speakers
- 10:30 – 11:00 Coffee Break & Networking**

**IX. Connecting Satellite Data with Ground Monitors**

Chair: Susan O'Neill

- 11:00 15 minutes: Talat Odman, Georgia Tech, *Application of Low-cost PM Sensors to Prescribed Fire, Air Quality and Health Management*

- 11:15 5 minutes: Priyanka deSouza, Massachusetts Institute of Technology, *Integration of data from low-cost air quality monitors with MAIAC and MISR satellite data: A case study in Nairobi*
- 11:20 5 minutes: Ira Leifer, Bubbleology Research Intl, *Fusion of in-situ and remote sensing trace gas observations to estimate potential exposure*
- 11:25 15 minute Q&A with speakers

**11:40 – 1:30 Break for Lunch and Informal Discussion (on your own)**

## **X. Monitors and Satellites**

Chair: Ted Russell

- 1:30 15 minutes: Frank Freedman, San Jose State University, *Downscaling Satellite-Derived PM<sub>2.5</sub> Fields for Fine Scale Exposure Assessment*
- 1:45 5 minutes: Patrick Kinney, Boston University, *Field testing a passive sampler for low-cost, long-term PM<sub>2.5</sub> monitoring*
- 1:50 5 minutes: Karin Ardon-Dryer, Texas Tech University, *Spatial and temporal distribution of the low-cost sensor PurpleAir for particulate matter.*
- 1:55 5 minutes: Vlad Isakov, U.S. EPA, *Using Big Data to Characterize Urban-scale Air Quality*
- 2:00 15 minute Q&A with speakers

## **XI. Reaching New Communities with NASA Data**

Chair: Jason West

- 2:15 15 minutes: Daven Henze, University of Colorado-Boulder, *Satellite-based constraints on NO<sub>2</sub>, SO<sub>2</sub>, and NH<sub>3</sub> emissions*
- 2:30 5 minutes: Cherise Udell, Utah Moms for Clean Air, *How Scientific Data Has Our Backs on Grassroots Frontlines: A Case Study from Utah*
- 2:35 5 minutes: Cynthia Hall, Earth Science Data Systems Comm/SSAI, *Where in the world is the data? Exploring data pathfinders in Earthdata*



2:40 5 minutes: Seung-Yeon Kim, National Institute of Environmental Research, Republic of Korea, *Spatio-Temporal distribution and long-term trend of ozone sensitivity over South Korea inferred from OMI data*

2:45 15 minute Q&A with speakers

### **3:00-3:15 Coffee Break & Networking**

## **XII. Biogenic Sources and Impacts**

Chair: Dan Goldberg

3:15 15 minutes: Mark Zondlo, Princeton, *Updates on Satellites for Air Quality Management*

3:30 5 minutes: Cecilia Bitz, University of Washington, *Weather, climate, pollen, and health: Updated findings, new directions, and next steps*

3:35 5 minutes: Yaoxian Huang, Wayne State University, *Impacts of Global Solid Fuel Cookstove Emissions on Air Quality and Human Health*

3:40 5 minutes: Jennifer Stowell, Emory University, *High Performance PM<sub>2.5</sub> Exposure Models in Southern California*

3:45 15 minutes Q&A with speakers

## **XIII. Next Phase Opportunities for Air Quality, Health & NASA**

Chair: Mark Zondlo

4:00 15 minutes: Yang Liu, Emory University, *Contribution of Low-Cost Sensor Measurements to the Prediction of PM<sub>2.5</sub> Levels*

4:15 5 minutes: Seth Contreras, World Resources Institute, *Building science-society bridges in data-scarce regions.*

4:20 5 minutes: Laura Harmacek, National Jewish Health, *Ambient air pollution exposures are correlated with DNA modifications in exacerbation prone pediatric asthma*

4:25 5 minutes: Tracey Holloway, Univ. of Wisconsin—Madison, *Engaging the Community to Identify Next-Phase Opportunities*

4:30 15 minute Q&A with speakers



## **Day 3 – July 12, 2019 Workshops**

### **Session 1: 9:00 – 10:30**

#### **Workshop 1.1: Monterey Room**

##### **Satellite Data for Air Management: State, Local, and Tribal Air Quality Needs.**

Mary Uhl, executive director of the Western States Air Resources Council (WESTAR), will convene a town-hall to discuss the needs of the local, state, regional, and tribal communities, and develop recommendations for next phase initiatives. This is your chance to think big about the role of EPA, NASA, and other organizations in supporting broader utilization of satellite data.

#### **Workshop 1.2: San Marino Room**

##### **Visualizing Satellite Data: How to Use NASA's Giovanni Data Visualizer.**

Bring your laptop and come learn how to make your own plots with HAQAST researcher Xiaomeng Jin (Columbia University's Lamont-Doherty Laboratory). The workshop will focus on NASA Giovanni, a flexible and powerful way to plot and analyze data from multiple platforms.

#### **Workshop 1.3: San Diego Room**

##### **Communicating your Science for Maximum Impact.**

In this hands-on workshop, Aries Keck (NASA Office of Communications) will discuss how best to tailor your visuals and overall narrative for maximum effect for a variety of audiences. Come with a project or examples!

### **Session 2: 10:30 – 12:00**

#### **Workshop 2.1: Monterey Room**

##### **How to Use NASA Data for Exceptional Event Analysis**

Join Michael Geigert, Connecticut Department of Energy and Environmental Protection, (CTDEEP) for a discussion of and demonstration how a variety of NASA data products can be used in exceptional event analysis. Air quality users will learn about upcoming satellite instruments that further support air management from Mike Newchurch (UAH/NASA ASP), Bryan Duncan (NASA-Goddard), and Ali Omar (NASA).

## **Workshop 2.2: San Marino Room**

### **Satellites and Health Assessments: Best Practices and Future Opportunities**

Join HAQAST PI Jason West (UNC Chapel Hill) to learn how to incorporate satellite data into health assessments. Health applications will take a major leap forward with the upcoming launch of MAIA, as discussed by Abbey Nاستان (NASA JPL).

## **Workshop 2.3: San Diego Room**

### **Looking Back to Move Ahead: A Roundtable Discussion on HAQAST and Ideas for the Future**

Join HAQAST Team Lead Tracey Holloway (University of Wisconsin—Madison) for a discussion on the last three years of HAQAST and where applied research initiatives could make an impact in the future.

**Meeting Adjourns at Noon**

**[HAQAST Member Meeting Immediately Follows, 12:00 – 2:00PM]**