HEI Virtual Workshop on Health Applications for Satellite-Derived Air Quality: Opportunities and Potential Pitfalls

Agenda

April and May 2022

As datasets of air quality derived from satellite remote sensing have become more widespread, the range of their applications in health including epidemiology and burden assessment has grown. Additionally, new satellite instruments are being launched to monitor air quality at higher spatial and temporal resolution and for wider ranges of pollutants than have been previously available. The goals of this workshop are to identify opportunities for health application research using new and expected satellite remote sensing data, and to identify potential pitfalls to avoid. The workshop will run over four webinar sessions open to the general public.

Co-chairs: Jeff Brook and Heather Holmes, HEI Research Committee

Planning Committee: Allison Patton, Pallavi Pant, Martha Ondras, Eleanne van Vliet

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Schedule at a Glance

Session 1 - Setting the stage for trusted, high-quality satellite remote sensing data of air quality in health applications
Wednesday April 20, 2022, 10:00 AM to 12:00 PM EDT

Session 2 - Global applications of satellite-derived air quality data
Friday April 29, 2022, 9:00 AM to 11:00 AM EDT

Session 3 - Pushing the methodological limits on satellite use in health applications
Thursday May 5, 2022, 1:00 PM to 3:00 PM EDT

Session 4 - Roundtable discussion on the future of satellite remote sensing of air quality in health applications
Wednesday May 18, 2022, 10:00 AM to 12:00 PM EDT

Session recordings and slides are available at https://tinyurl.com/HEISatelliteWorkshop.

Sessions

Session 1: Setting the stage for trusted, high-quality satellite remote sensing data of air quality in health applications

Wednesday April 20, 2022, 10:00 AM EDT

Chairs: Jeff Brook, University of Toronto, Canada and HEI Research Committee, and Tracey Holloway, University of Wisconsin—Madison and lead of NASA HAQAST

10:00 AM	Opening remarks
10:10 AM	Satellite remote sensing for air quality and health Yang Liu, Emory University
10:35 AM	Application of satellite-derived air quality estimates for epidemiology studies in data-rich areas Qian Di, Tsinghua University
11:00 AM	Capacity Development opportunities to improve the utilization of satellite remote sensing for health applications and communications Ana Prados, Battelle
11:25 AM	Q&A
12:00 PM	Adjourn

Session 2: Global applications of satellite-derived air quality data

Friday April 29, 2022, 9:00 AM EDT

Chairs: Eloise Marais, University College London, UK and HEI Global Health Oversight Committee, and Kalpana Balakrishnan, Sri Ramachandra Institute of Higher Education and Research*, India and HEI Global Health Oversight Committee*

9:00 AM	Opening remarks
9:10 AM	Representativeness and usefulness of satellite and ground-based data for monitoring of air quality Aaron van Donkelaar, Washington University in St. Louis
9:35 AM	Satellite data for air quality exposure assessment and epidemiology Yuming Guo, Monash University
10:00 AM	Examples of satellite data applications to air quality and health research from around the world Sagnik Dey, Indian Institute of Technology Delhi, India Laura Andrea Rodríguez Villamizar, Universidad Industrial de Santander, Colombia Rebecca Garland, University of Pretoria, South Africa
10:25 AM	Q&A
11:00 AM	Adjourn

Session 3: Pushing the methodological limits on satellite use in health applications

Thursday May 5, 2022, 1:00 PM EDT

Chairs: Heather Holmes, University of Utah and HEI Research Committee, and Yang Liu, Emory University

1:00 PM	Introductory remarks
1:10 PM	Quantifying and communicating uncertainty in air quality estimates Dan Goldberg, The Milken Institute School of Public Health at the George Washington University
1:35 PM	Interpretation and improvement of air quality data from Geostationary Environment Monitoring Spectrometer (GEMS) Heesung Chong, Center for Astrophysics | Harvard & Smithsonian, and Jhoon Kim, Yonsei University, Korea
2:00 PM	Observing nitrogen dioxide air pollution inequality in U.S. cities from space Sally Pusede, University of Virginia
2:25 PM	Q&A
3:00 PM	Adjourn

Session 4: The future of satellite remote sensing of air quality in health applications

Wednesday May 18, 2022, 10:00 AM EDT

Chairs: Heather Holmes, University of Utah and HEI Research Committee, and Jeff Brook, University of Toronto, Canada and HEI Research Committee

10:00 AM	Opening remarks and recap of earlier sessions
10:15 AM	Roundtable discussion Eloise Marais, University College London, UK and HEI Global Health Oversight Committee Colette Heald, Massachusetts Institute of Technology Tracey Holloway, University of Wisconsin—Madison Laura Judd, National Aeronautics and Space Administration Yang Liu, Emory University
11:20 AM	Closing statements and next steps from HEI
11:30 AM	Adjourn