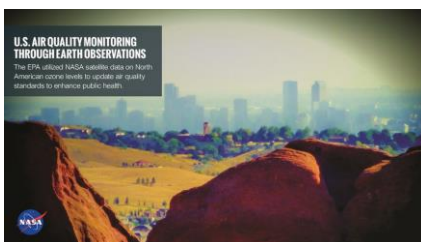


NASA HEALTH AND AIR QUALITY TEAM SUPPORTS NATIONAL PUBLIC HEALTH WEEK 2018

For NPHW 2018, the NASA HAQ (HQ) and Communications Teams (HQ/JPL) shared five projects on the [NASA Applied Sciences Program website](#) and [social media](#) that promoted the use of Earth observations in public health applications. Through **NASA Earth** Facebook and Twitter portals, these five public health stories were widely disseminated to over 1.2 million users.



BRIDGING HEALTH AND AIR QUALITY TO PUBLIC HEALTH APPLICATIONS

In February 2018, **John Haynes** presented the seminar, *Earth Observations Applied to a Changing World: NASA Health and Air Quality Applications*, to graduate students and faculty at the George Washington University Milken Institute School of Public Health in Washington, DC. This presentation highlighted that health and air quality decision makers and end-users require Earth observations to study and understand the geographic, environmental, and meteorological differences in disease risk and air quality issues.



Presentation by J. Haynes. Photo credit: GWU

HEALTH AND AIR QUALITY APPLICATIONS APPLIED SCIENCES PROGRAM

haQ

JOHN HAYNES
PROGRAM MANAGER
HEADQUARTERS

SUE ESTES
ASSOCIATE
U. of ALABAMA-
HUNTSVILLE

ALI OMAR
ASSOCIATE
LANGLEY RESEARCH
CENTER

HELENA CHAPMAN
AAAS S&T POLICY FELLOW
HEADQUARTERS



ATS 2018 FEATURES TALKS ON AIR QUALITY AND PUBLIC HEALTH APPLICATIONS FROM INVESTIGATORS

At ATS 2018, held in San Diego, CA, the NASA HAQ Team coordinated the scientific session, *Using NASA's Satellite Remote Sensors for the Study of the Environment and Respiratory Related Diseases*, moderated by **Sue Estes**, to an audience of approximately 80 attendees. **John Haynes** introduced the session with his presentation, *NASA's Public Health and Studying Respiratory Diseases*. Four principal investigators presented milestones achieved and future plans for their research projects: *Linking Satellite Data with Respiratory Health: The NASA Health and Air Quality Applied Sciences Team (HAQAST)* (**Tracey Holloway**); *High Resolution Particulate Matter Data for Improved Satellite-Based Assessments of Community Health* (**Patrick Kinney**); *Association of Wildlife Smoke with Pharmaceutical, Inpatient, and Outpatient Claims for Cardiopulmonary Disease: Oregon 2012* (**Sheryl Magzamen**); and *Retrospective Daily Fine Particulate Matter Time-Series Generation at Fine-Scale Using Near-Real Time Satellite and Dispersion Modeling Techniques* (**Frank Freedman**).



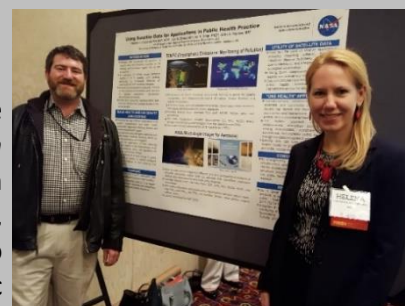
Presentation by T. Holloway.
Photo credit: H. Chapman



F. Freedman, S. Estes, T. Holloway, J. Haynes, S. Magzamen, J. Kinney (Left to Right). Photo credit: H. Chapman

NASA HEALTH AND AIR QUALITY TEAM PRESENTS AT ASPPH 2018

In March 2018, **John Haynes** and **Helena Chapman** presented the scientific poster, *Using Satellite Data for Applications in Public Health Practice*, at the Association for Schools and Programs of Public Health (ASPPH) Annual Meeting 2018 in Arlington, VA. Following ASPPH 2018, the NASA HAQ Team and ASPPH Board Members held a first telecon to discuss potential collaborations, including preparing a scientific symposium at ASPPH 2019 and providing Earth observation data capacity-building activities.



Poster presentation by HAQ Team.
Photo credit: H. Chapman

NASA PRINCIPAL INVESTIGATORS IN THE NEWS

Antarpreet Jutla (West Virginia U.): [Satellites and Cell Phones Form a Cholera Early-Warning System](#)

Using GPM, MODIS, and GRACE satellite data with ground observations, **A. Jutla** and team examined and predicted risk of cholera outbreaks in Bangladesh's vulnerable populations. Findings can be used to map and alert communities about unsafe water sources.

Jason West (U. North Carolina): [Well Said: Climate Change and Air Pollution](#)

In the U. North Carolina at Chapel Hill's weekly podcast, **J. West** discussed the effects of climate change on air pollution.

GLOBAL PRECIPITATION MEASUREMENT MISSION

2018 VECTOR-BORNE AND WATER-RELATED DISEASES WORKSHOP

In May 2018, NASA and the Wilson Center sponsored the [GPM 2018 Vector-borne and Water-based Diseases Workshop](#), held at the Wilson Center. This workshop showcased the use of Earth observation data to inform and predict vector-borne and water-related diseases. It also served as an educational and professional networking event, connecting Earth scientists and other practitioners and expanding the end-user community. More than 100 attendees participated in-person and virtually in this workshop. In the [agenda](#), an introduction to NASA applications and GPM data products were presented by **Lawrence Friedl** (NASA) and **Dalia Kirschbaum** (NASA), respectively. Keynote speakers included Congressman **Bill Foster**, **Rita Colwell** (U. Maryland), and **Madeleine Thomson** (WHO). Expert panelists, representing diverse specialties, formed three panels to present topics regarding “New and Emerging Research”, “Health, Data, and Complexity”, and “Citizen Science”. The final discussion marked future steps for workshop participants to maintain connected networks and attend future capacity-training opportunities.



Presentation by L. Friedl.
Photo credit: H. Chapman



J. Haynes moderated the *New and Emerging Research* panel with HAQ researchers A. Jutla, M. Wimberly, and B. Zaitchik (Left to Right). Photo credit: H. Chapman



Presentation by R. Colwell. Photo credit: H. Chapman



Presentation by H. Chapman. Photo credit: S. Gupta

GLOBE MIDWEST STUDENT RESEARCH SYMPOSIUM

In May 2018, **John Haynes** presented the keynote seminar, *Earth Observations Applied to a Changing World: NASA Health and Air Quality Applications*, at the [Global Learning and Observations to Benefit the Environment \(GLOBE\)](#)

Midwest Student Research Symposium 2018, held at Wayne State University School of Medicine, in Detroit, MI. More than 100 middle and high school students were in attendance, and later shared their research projects using GLOBE protocols or data.



Presentation by J. Haynes.
Photo credit: GLOBE

GRACE-FO LAUNCH: MAY 22, 2018



Photo credit: NASA/Bill Ingalls

As a partnership between NASA and the German Research Centre for Geosciences (GFZ), [Gravity Recovery and Climate Experiment Follow-on \(GRACE-FO\)](#) follows the original GRACE mission (2002-2017). The mission objective is to track Earth's water movement and monitor changes in underground water storage, water amount in large lakes and rivers, soil moisture, ice sheets and glaciers, and sea level caused by the addition of water to the ocean.

ICESAT-2 FRIENDS & FAMILY DAY AT GSFC



Photo credit: NASA

In February 2018, NASA GSFC sponsored Friends & Family Day to educate the public about the spaceborne sensor, Advanced Topographic Laser Altimeter System (ATLAS). [Ice, Cloud, and Land Elevation Satellite-2 \(ICESat-2\)](#), which follows the original ICESat mission (2003-2010), aims to deploy ATLAS and collect altimetry data of the Earth's surface to monitor changes in ice sheet elevation, sea ice thickness, and global vegetation biomass.

UPCOMING

Funding Opportunities:

ROSES-2018

Letters of Intent due

March 2018 – January 2019

Full Applications due

May 2018 – April 2019

In-Person Trainings:

ARSET Advanced Webinar

Satellite Remote Sensing of Dust, Fires,
Smoke, and Air Quality

July 10-12, 2018

Pullman, WA

Meetings:

Air and Waste Management Association's
Annual Conference & Exhibition

June 25-28, 2018

Hartford, CT

HAQAST 4 Team Meeting

July 17-18, 2018

Madison, WI

International Society of Exposure Science
and International Society for
Environmental Epidemiology

(ISES-ISEE) Joint Meeting

Ottawa, Canada

August 26-30, 2018

SMITHSONIAN MUSEUM OF NATURAL HISTORY: OUTBREAK EXHIBIT

The Smithsonian Museum of Natural History opened the exhibit, [“Outbreak: Epidemics in a Connected World”](#), on May 18, 2018. This exhibit highlights how pathogens have evolved over time, describing the anthropogenic origins, zoonotic spread from animals to humans, dynamics of disease transmission, and future approaches to disease prevention and control. Former and current AAAS S&T Policy Fellows, **Shobhana Gupta** and **Helena Chapman**, respectively, are SMNH volunteers and are uniquely prepared to educate the public about how Earth observations provide essential data about our local and global environments. They plan to showcase this “One Health” toolkit as a complementary approach to better predict, analyze, and interpret the dynamics of infectious disease transmission in our ecosystem.

ONE HEALTH IN THE NEWS

In May 2018, **Helena Chapman** presented, *Using Earth Observation Data in One Health Applications for Societal Benefits*, for the [One Health Academy](#) monthly seminar series, held at the American Society of Microbiology. She described the integration of Earth observation data in the “One Health” toolkit for applications that influence societal benefits. The discussion period addressed questions about data access and availability, especially in relation to other environmental data that the “One Health” community uses.

GEO HEALTH COMMUNITY OF PRACTICE



In March 2018, the GEO Health Community of Practice held the [quarterly telecon](#) to provide updates on scientific initiatives and continued elaboration of the Work Plan in working groups. Two GEO Earth Observations for Health (EO4HEALTH) projects, *Multi-sensor Data for Myanmar Malaria Early Warning System* (**Tatiana Loboda**, U. Maryland), and *Earth Observations for Cholera Prediction in Africa* (**Antarpreet Jutla**, West Virginia U.), were highlighted among project updates. A total of 29 participants, representing different agencies in public and private sectors, participated on the telecon. The next quarterly telecon is planned for summer 2018.

PUBLICATIONS

[Associations between Total and Speciated Pollen Counts and Several Morbidity Measures in the Contiguous United States from 2008 to 2015](#)

Journal of Allergy and Clinical Immunology (J. Hess et al.)

[Speciated Pollen Season Parameters, Trends, and Associations with Temperature in the Contiguous United States](#)

Journal of Allergy and Clinical Immunology (J. Hess et al.)

[Tropospheric Ozone Assessment Report: Assessment of Global-scale Model Performance for Global and Regional Ozone Distributions, Variability, and Trends](#)

Elementa: Science of the Anthropocene (P.J. Young et al.)

[Using Earth Observation Data in One Health Applications for Societal Benefits – Conference Proceedings](#)

One Health Newsletter (H. Chapman)

PAST

Funding Opportunities:

ROSES-2017 Peer Review Panel
May 30-June 1, 2018

Webinars:

ARSET Advanced Webinar
Data Analysis Tools for High Resolution
Air Quality Satellite Datasets
January 17-22, 2018

In-Person Trainings:

NASA Remote Sensing for Air Quality
Applications
March 20-23, 2018
Jakarta, Indonesia

Workshops:

GPM Vector-borne and Water-related
Diseases Workshop
May 18, 2018
Washington, D.C.

Meetings:

American Association for the
Advancement of Science Annual Meeting
February 15-18, 2018
Austin, TX

Western US TEMPO Early Adopters
Workshop
April 10-11, 2018
Ft. Collins, CO

Association of Schools and Programs of
Public Health Annual Meeting
March 7-9, 2018
Arlington, VA

SPARTAN 3rd Annual Meeting
April 19, 2018
Baltimore, MD

GLOBE Midwest Student Research
Symposium
May 18, 2018
Detroit, MI

American Thoracic Society International
Conference
May 18-23, 2018
San Diego, CA