GEO Health Community of Practice (CoP)  
Community Telecon on Air Quality  
June 11, 2024

**In Attendance:** 34 participants  
John Haynes (NASA HQ), Juli Trtanj (NOAA), Helena Chapman (NASA HQ/BAH), Alice Lau (NOAA), Aaron Naeger (NASA MSFC), Kim Locke (NASA GSFC Hydrology Lab), Wanshu Nie (NASA GSFC), Amber Jenkins (NASA Jet Propulsion Lab), Greg Osterman (NASA Jet Propulsion Lab), Carl Malings (NASA GSFC/Morgan State Univ.), Meryl Kruskopf (Univ. of Alabama in Huntsville/NASA SERVIR), Patti Bright (USGS), Shahul Ebrahim (CDC), Sut Soneja (MITRE), Steve Ambrose (SAIC), Claire Quiner (RTI International), Nathan Pavlovic (Sonoma Technology), Jared Milano (Oklahoma Department of Environmental Quality), Jenny Bratburd (Univ. of Wisconsin-Madison), Greg Yetman (CIESIN, Columbia Univ.), Moiz Usmani (Univ. of Florida), Tatiana Loboda (Univ. of Maryland), Siddhi Munde (Univ. of Nebraska Medical Center), Ian Coady (WorldPop, Univ. of Southampton), Jose Portillo (UNITEC, Honduras), Olayinka Osuolale (Elizade Univ.), Martyn Clark (GEO Secretariat), Didier Davignon (Meteorological Service of Canada), Amina El-Kasmi (Environment and Climate Change Canada), Sherry Williams (ECCC Health and Air Quality Forecast Services), Carlos Barboza (Ministry of Health, Uruguay), Andreas Skouloudis (iSteep.org), Josefina Urquiza, Martin.

**Summary Notes:**

*Prepared by Helena Chapman (NASA HQ/BAH)*

**John Haynes (NASA HQ)** opened the telecon by welcoming all participants.

**John Haynes (NASA HQ)** said that the hybrid **HAQAST Massachusetts** meeting was held in Cambridge, Massachusetts, from June 4-5, 2024, counting on over 200 attendees in-person (150 attendees online). Also, he mentioned that the NASA Health and Air Quality Applications team will be coordinating a scientific panel (“Integrating Satellite Observations into Air Quality Decision Making”) at the Air & Waste Management Association Society annual meeting, which will be held in Calgary, Alberta, Canada, from June 24-27, 2024. Then, he shared the schedule of upcoming GEO meetings: 1) **AfriGEO Symposium 2024** in Nairobi, Kenya from August 12-15, 2024; 2) **AmeriGEO Week 2024** in Quito, Ecuador from August 26-30, 2024; 3) **AOGEO Symposium 2024** in Tokyo, Japan from September 3-5, 2024; and 4) **GEO Symposium 2024** in Hangzhou, China from September 23-26, 2024. Finally, he shared two exciting updates about the release of TEMPO public products on May 20 (NASA Releases New High-Quality, Near Real-Time Air Quality Data) and the launch of the Department of State’s Air Quality App called ZephAir (Announcing the Release of Forecasting Functionality for the Department of State’s Air Quality App, ZephAir).

**Juli Trtanj (NOAA)** shared that two NOAA-funded **NIHHIS Centers for Excellence** were selected, where one focuses on community observations and monitoring (e.g. mapping and understanding local heat context.) and one examines policy and assessment (e.g. policy recommendations, governance issues). These centers have three-year limited funding from the Inflation Reduction Act and are designed to establish partnerships with other agencies (e.g. FEMA, HUD) that plan for future investments related to heat-health topics.
Helena Chapman (NASA HQ/BAH) mentioned that the AmeriGEO Week 2024 will be held virtually and in Quito, Ecuador, from August 26-30, 2024, and that the One Health session is planned for August 28 and that the Dengue and Air Quality Workshops are planned for August 29. Then, she shared that the #FacesEO4Health social media campaign, modeled from the #FacesOfGEO campaign in 2021, is planned for the week of June 17.

Helena Chapman (NASA HQ/BAH) introduced Martyn Clark (GEO Secretariat) who provided an overview of the GEO Post-2025 Strategy (Earth Intelligence for All) of the GEO Work Programme. He shared the current Work Programme structure of flagship, initiatives, pilot initiatives, regional GEOs, and foundation tasks, as well as the priority objectives of user-centric, equity, innovation, open data, and Earth intelligence.

Juli Trtanj (NOAA) asked about the transition of the “incubator” to “accelerator” terms. Didier Davignon (Meteorological Service of Canada) wondered about how GEO plans to transition to an organization delivering operational services (e.g. Global Heath Resilience Service), beyond testing prototypes, running demos or advancing capacity through initiatives. Martyn Clark (GEO Secretariat) mentioned that the team recently transitioned from the “incubator” to “accelerator” term to strengthen links across the Work Programme, highlighting the Global Heat Resilience Service and Global Ecosystem Atlas, as future flagsips within the Work Programme.

Helena Chapman (NASA HQ/BAH) introduced Aaron Naeger (NASA MSFC), Amber Jenkins (NASA Jet Propulsion Lab), and Jenny Bratburd (Univ. of Wisconsin-Madison) to present on three air quality topics.

Aaron Naeger (NASA MSFC) presented an overview of the Tropospheric Emissions: Monitoring of Pollution (TEMPO) mission, a joint project with NASA and Smithsonian Astrophysical Observatory, launched on April 7, 2023. He said that this instrument will be collecting air pollutant observations (NO2, SO2, O3, aerosols) every daylight hour at high spatial resolution across greater North America from Geostationary Earth Orbit. He mentioned that the first light images were shared on August 2, and that users would need to create an Earthdata account for downloading TEMPO data (TEMPO Data Webinar). He encouraged interested CoP members to join the TEMPO Early Adopters and shared examples of TEMPO data from scan operations across U.S. cities (including areas with prescribed burns).

Amber Jenkins (NASA Jet Propulsion Lab) offered an overview of the Multi-Angle Imager for Aerosols (MAIA), in collaboration with the Italian Space Agency, to be launched in 2025. She said that the instrument will help researchers examine the effects of PM air pollution on acute illness and premature death, adverse birth outcomes, and chronic disease. She mentioned that the MAIA team has deployed surface monitors around the world, to fill crucial data gaps for some countries, as a symphony of efforts with field teams, collaborators, and federal agencies (U.S. Agency for International Development, U.S. Department of State). She encouraged interested CoP members to join the MAIA Early Adopters CoP members as well as learn more about the geographic information visualization tool (GIVT).

Jenny Bratburd (Univ. of Wisconsin-Madison) provided an overview of the 14-member NASA Health and Air Quality Applied Sciences Team (HAQAST), including HAQAST Ambassadors, and shared updates on the HAQAST Flowchart for Health and Air Quality Resources and Data Products. She described a few HAQAST projects, including examining wildfire exposure linked to higher risk for death after lung cancer surgery, partnering with NASA to expand reliable air quality data for the
U.S. Department of State, and using satellite data to help limit the harmful effects of windblown dust. Then, she introduced the HAQAST Flowchart that guides users to over 30 different tools to learn how to use data sets (e.g. Google Earth Engine, ArcGIS, Python). The team aims to make data more accessible by enabling stakeholder access to data products with thorough documentation in a central location on the NASA Distributed Active Archive Center.

Carl Malings (NASA GSFC/Morgan State Univ.) and Nathan Pavlovic (Sonoma Technologies, Inc.), who serve as leads of the CoP Air Quality Work Group, moderated the open discussion. They commented that the next Air Quality Work Group will be held on June 12, and Meryl Kruskopf (Univ. of Alabama in Huntsville/NASA SERVIR) will share information about NASA SERVIR and air quality topics.

Juli Trtanj (NOAA) commented that the HAQAST Flowchart is a powerful tool for HAQAST and the wider air quality community, and she hoped that they could model this format for the heat community. She wondered if they plan to add PM2.5 or PM10 data that can connect wildfire smoke and heat and hence examine compounding and cascading impacts. Jenny Bratburd (Univ. of Wisconsin-Madison) said that they are currently focused on pollutants (vs cumulative impacts), but they are interested in expanding efforts to include wildfire-specific data or heat, due to health organizations’ interest. Amber Jenkins (NASA Jet Propulsion Lab) and Nathan Pavlovic (Sonoma Technologies, Inc.) agreed that the HAQAST Flowchart offers key information to enhance data access and availability among the end-user community. Helena Chapman (NASA HQ/BAH) shared the example of the FireAQ website.

Didier Davignon (Meteorological Service of Canada) commented on the MAIA instrument, noting that it would be helpful to emphasize the available statistical power (for exposure statistics) for these epidemiological studies, especially in areas with limited surface monitoring. He said that this can help us better understand how the MAIA instrument serves as a powerful tool, beyond existing approaches with surface monitoring networks and air quality models.

Patti Bright (USGS) mentioned that the South America Network for One Health (SANO) represents a two-year project through Embassy Science Fellowship program. It aimed to serve as a One Health information hub and communication platform, to coordinate ongoing working groups and activities as well encourage collaborations for research proposal submissions (e.g. Belmont Forum). She mentioned that there are four current working groups (climate, vector-borne and infectious diseases, environmental contamination, land use), and that eight South American countries (with over 175 members) are involved. She was enthusiastic to make connections within the CoP community for expanded networking opportunities. Amber Jenkins (NASA Jet Propulsion Laboratory) commented that the MAIA team has added a new primary target area (Santiago, Chile).

Siddhi Munde (Univ. of Nebraska Medical Center) mentioned that his research on air quality and health outcomes focuses on the U.S. Midwest with few monitoring networks. As a new CoP member, he asked about upcoming NASA ARSET and HAQAST trainings. Carl Malings (NASA GSFC/Morgan State Univ.) recommended that he review the upcoming NASA ARSET trainings, noting that they are currently preparing a training on ground networks for air quality remote sensing (AERONET, Pandora, MPLNet, TOLNET). Jenny Bratburd (Univ. of Wisconsin-Madison) said that the meeting recordings will be posted to the HAQAST Massachusetts website. Helena Chapman (NASA HQ/BAH) stated that interested CoP members can join the HAQAST listserv for quarterly newsletter distribution and shared the NASA ARSET Fundamentals course as an introductory course.
**Juli Trtanj** (NOAA) and **Helena Chapman** (NASA HQ/BAH) thanked CoP members for their continued contributions to the field and engagement in this community telecon focused on air quality topics. They closed the teleconference and mentioned that the next community teleconference will be scheduled for Tuesday, July 9, 2024 at 8:30AM EDT (GMT-4).

Adjourned: 12:30PM EDT (GMT-4)