

GEO Health Community of Practice (CoP)

CoP/AmeriGEO Special Edition

August 29, 2023

In Attendance: 55 participants

John Haynes (NASA HQ), Juli Trtanj (NOAA), Helena Chapman (NASA HQ/BAH), Sophia Liu (USGS/FGDC GeoPathways), Kim McMahon (NOAA NWS), Janet McGinn (FDA), Justyna Nicinska (NOAA/NESDIS), Elizabeth Joyner (NASA Earth Science Data Systems), Sean McCartney (NASA GSFC), Natasha Sadoff (NASA PACE Mission, NASA GSFC), Jennifer Wei (NASA GSFC), Corena Pincham (NASA HQ/BAH), Yasha Moz (NASA HQ/BAH), Emma Knowland (NASA GFSC & Morgan State Univ.), Carl Malings (NASA GSFV & Morgan State Univ.), Sushel Unninarayar (NASA GSFC & KBR/Morgan State Univ.), Assaf Anyamba (Oak Ridge National Laboratory), Bob Chen (CIESIN/Columbia Univ; NASA SEDAC), Susana Adamo (CIESIN/Columbia Univ; NASA SEDAC), Rajesh Kumar (NCAR/UCAR), Steve Ambrose (SAIC Climate Enterprise), Steve Moran (Google), Ajay Gupta (HSR.health), Jean Felipe Teotonio (HSR.health), Paul Churchyard (HSR.health), Ram Peruvemba (HSR.health), Sam Malloy (MITRE), Ben Zaitchik (Johns Hopkins Univ.), Carolina Zilli Vieira (Harvard Univ. School of Public Health), Matthew Romm (North Carolina State Univ./NASA DEVELOP), Susan Alexander (Univ. of Alabama in Huntsville), Aaron Naeger (Univ. of Alabama in Huntsville), Jenny Bratburd (Univ. of Wisconsin-Madison), Douglas Rao (NC Institute for Climate Studies), Shay Nair Sharma (NASA HQ/Stanford Univ.), Camilo De Los Rios (Duke Univ.), William Pan (Duke Univ.), Olayinka Osuolale (Elizade Univ., Nigeria), Felipe Lobo (Universidade Federal de Pelotas, Brazil), Jorge Del Rio Vera (United Nations Office for Outer Affairs), Andreas Skouloudis (iSteep.org), Didier Davignon (Meteorological Service of Canada), Erin Rees (Geomatics Unit, Public Health Agency of Canada), Carlos Barboza (Ministry of Public Health, Uruguay), Catalina Marceló (Instituto Nacional de Salud, Colombia), Mercy Borbor (Escuela Superior Politécnica del Litoral, Ecuador), Lia Loredó (UNITEC, IFMSA-Honduras), Dariana Avila (Organization of Women for Science, Honduras), Zerdoum Saliha, Ronald Barrera, Naïma El Assaoui, Vanesa Martin, Fernanda Caceres, Martin.

Summary Notes:

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

John Haynes (NASA HQ) and **Juli Trtanj (NOAA)** opened the telecon by welcoming all participants.

John Haynes (NASA HQ) expressed his appreciation of the CoP support at AmeriGEO Week 2023, where they coordinated the One Health scientific session (*Connecting Earth and Health Science Communities through One Health Regional Partnerships*) and side event (*Deep Dive on Using Earth Observations for Public Health Applications*) as well as the training session (*Environmental-Epidemiological Models for Dengue Early Warning Training*). Then, he provided a brief update that Tom Wagner was recently selected to lead Earth Action at NASA HQ. Finally, as the [International Day of Clean Air for Blue Skies](#) will be celebrated on September 7, he mentioned that he is an invited panelist at a local UNEP event ([Clean Air Day – Ozone Bioindicator Garden Event](#)) at the Walter Reed Community Center.

Juli Trtanj (NOAA) asked CoP members to let them know if they plan to attend the COP28 meeting. Then, she commented that their NOAA team will be working with the Arab League (22 countries) on the coordination of their first Health Day, where they plan to provide guidance on building capacity for conducting vulnerability assessments with urban heat mapping and analytics. Finally, she commented that this Special Edition: AmeriGEO telecon will offer time for CoP members to share their research findings, engage in group dialogue, and make connections with CoP members. She thanked AmeriGEO leadership and support of the One Health sessions at AmeriGEO Week 2023 as well as ongoing EO4Health and GEO Health CoP activities.

Helena Chapman (NASA HQ/BAH) thanked the CoP members for preparing their flash talk presentations for the Special Edition: AmeriGEO telecon. She introduced the 16 speakers for their flash talks on environmental health and emergencies, water resources, air quality, data integration and capacity building, and infectious disease topics.

Category I: Environmental Health and Emergencies

Title	Presenter	Affiliation
Building a Community of Practice in the Americas to Address Challenges associated with Artisanal and Small-Scale Gold Mining (ASGM)	Camilo de los Rios Rueda	Duke University (USA)
Addressing Natural Disasters-induced Health Concerns through GeoAI	Paul Churchyard	HSR.health (USA)
Environmental Emergencies for the Health Facilities situated at the island of Crete	Andreas Skouloudis (only first 3 slides)	iSteep.org (Greece)
NASA Satellite Data for Population Health Protection	Shay Sharma	Stanford University/NASA (USA)

Carlos Barboza (Ministry of Health, Uruguay) asked if they foresee that the document repository will include an online discussion forum. **William Pan (Duke Univ.)** mentioned that over the past 18 months, they have sponsored a few events including panels, debates, and discussions on specific technologies or research projects. He confirmed that ASGM CoP content (e.g. seminars) will be available online. He commented that they have discussed different approaches to managing the discussion and have agreed on the online forum for questions and comments ([ASGM CoP webpage](#)).

Carlos Barboza (Ministry of Health, Uruguay) asked if these results have only been published or if they have shared specific communications in a proactive format with decision makers. **Camilo de los Rios (Duke Univ.)** said that their team has been proactive in reaching out to policy makers and officials and requesting their participation in these panel discussions and workshops. He confirmed that it would ultimately represent a public repository available for consultation.

Category II: Water Resources

Title	Presenter	Affiliation
Introducing AlgaeMAP - Algae Bloom Monitoring Application for Inland Waters in Latin America.	Felipe Lobo	Universidade Federal de Pelotas (Brazil)
Enabling User-driven Environmental Management and Improving Health Outcomes using Future NASA PACE Mission Data	Natasha Sadoff	NASA Goddard (USA)
PACE Water Resources: Demonstrating the Use of NASA's PACE Hyperspectral Ocean Color Instrument Data for Enhanced Coastal Management	Matthew Romm	North Carolina State University (USA)

Felipe Lobo (Universidade Federal de Pelotas, Brazil) shared the GEO AquaWatch Initiative [webpage](#) and [AlgaeMAP link](#). **Elizabeth Joyner (NASA)** said that the NASA's Earth Science Data Systems has two Data Pathfinders – [Water Quality Data Pathfinder](#) and the [Agriculture and Water Resources Data Pathfinder](#) –that help connect users to NASA data resources.

Juli Trtanj (NOAA) asked about the level three data, and **Emma Knowland (NASA GSFC/Morgan State Univ.)** asked about the app for fisherman. **Matthew Romm (North Carolina State Univ./NASA DEVELOP)** said that the app is currently in development and not publicly available. **Natasha Sadoff (NASA GSFC)** said that they are working on the software release process for the PACE viewer app and will promote it soon.

Carlos Barboza (Ministry of Health, Uruguay) asked if the PACE research applications will interact with projects on the Atlantic Conveyor Belt, as it is an important environmental health topic. **Natasha Sadoff (NASA GSFC)** said that they do not have specific projects, but [PACE](#) would be able to detect ocean color changes associated with the Atlantic Conveyor Belt. She mentioned that SWOT is another mission that would be able to view upwelling changes. She said that they are always looking for new partnerships and engagement opportunities.

Category III: Air Quality

Title	Presenter	Affiliation
Overview of the NASA Health and Air Quality Applied Sciences Team (HAQAST)	Jenny Bratburd	University of Wisconsin-Madison (USA)
Enhancing the Accuracy of Air Quality Forecasts in Delhi via Assimilation of NASA Earth Observations and their Impact on Decision-making Activity	Rajesh Kumar	University Corporation for Atmospheric Research (USA)
Sub-Urban Air Pollution Exposures and Associations with Clinical Health Outcomes for Asthma in Jefferson County, Alabama	Susan Alexander	University of Alabama in Huntsville (USA)
The NASA TEMPO Mission: Hourly Daytime Air Pollution Observations for Enhanced Health and Air Quality Studies	Aaron Naeger	University of Alabama in Huntsville (USA)

Jenny Bratburd (Univ. of Wisconsin-Madison) invited CoP members to join the [HAQAST Utah](#) meeting in-person or virtually on October 19-20, as well as learn more about [HAQAST](#) and the [HAQAST Tiger Teams](#). **Elizabeth Joyner (NASA)** said that the NASA's Earth Science Data Systems also has a newly updated [Air Quality Data Pathfinder](#) to help connect users to NASA air quality-related data resources. She noted that there are many HAQAST resources linked in this tool. **Carl Malings (NASA GSFC; Morgan State Univ.)** highlighted the NASA ARSET training entitled, [Satellite Data for Environmental Justice](#), and **Aaron Naeger (Univ. of Alabama in Huntsville)** shared the NASA web feature on TEMPO ([NASA Shares First Images from US Pollution-Monitoring Instrument](#)).

Category IV: Data Management and Capacity Building

Title	Presenter	Affiliation
EOTEC DevNet: Fostering Collaboration among the Leading Global Providers of EO Training and Tools	Yasha Moz	NASA (USA)
The Earth Observations Toolkit: Creating Pathways to Healthy Cities and Human Settlements	Corena Pincham	NASA (USA)
Establishing a COVID-19 Observatory and a Pilot Earth Observation Center to Promote Sustainability in Honduras	Reyna Durón	Universidad Tecnológica Centroamericana (UNITEC) (Honduras)

Yasha Moz (NASA HQ/BAH) highlighted the EOTEC DevNet [website](#) and [Twitter resource](#), noting that they are happy to amplify any Earth observation training and education efforts. **Corena Pincham (NASA HQ/BAH)** shared the Earth Observation Toolkit for Sustainable Cities and Human Settlements [webpage](#) and the Earth Observation for Sustainable Development Goals (EO4SDG) [webpage](#). **Reyna Durón (UNITEC, Honduras)** presented the Honduras observatory webpage (<https://observatorio-covid19-unitec-arcgis.hub.arcgis.com/>) and commented that they are happy to share the CoP links in the resource list.

Juli Trtanj (NOAA) asked if they plan to explore adding heat to the urban projects, and **Carlos Barboza (Ministry of Health, Colombia)** asked about which cities are being selected. **Corena Pincham (NASA HQ/BAH)** said that they are considering Warsaw, Milan, Dhaka, Chiang Mai, Lagos, Sofia, and Varna, and that they welcome other cities that would like to get involved.

Category V: Infectious Diseases

Title	Presenter	Affiliation
Spatial Stratification of Dengue based on the Identification of Risk Factors: A Pilot Trial in the Department of Cauca, Colombia	Catalina Marceló-Díaz	Ministry of Health (Colombia)
EO 4 Advancing Zoonotic Spillover Mitigation	Jean Felipe Teotonio	HSR.health (USA)

Carolina Zilli Vieira (Harvard Univ. School of Public Health) asked how long they have identified zoonoses in the described areas. **Juli Trtanj (NOAA)** asked about the spillover map and noted that it would be great to build upon the map and add capacities, especially with the strong CoP network in the Americas region. She wondered about the final output (e.g. forecasting or other product). **Jean Felipe Teotonio (HSR.health)** mentioned that there are 17 different correlating factors associated with risk of zoonotic disease spillover (e.g. geographical, socioeconomic), and if they can identify where these factors align, then they can identify hotspots. He commented that this information is essential for low- and middle-income countries with limited financial resources and the greatest need for surveillance.

Reyna Durón (UNITEC, Honduras) asked about the types of collaborators that they seek. **Jean Felipe Teotonio (HSR.health)** said that the ideal collaborator would include Ministry of Health authorities, who would be the decision makers to support tool development and implementation for enhanced disease surveillance. He commented that they are currently focusing on wildlife risks of zoonotic spillover. **Juli Trtanj (NOAA)** wondered if they could apply the infectious disease and harmful algal bloom work and create an actionable product for a Ministry of Health or vector control board for a respective country. She hoped that the CoP coordination of a series of regional deep dive discussions (e.g. dengue and malaria) can continue to connect researchers across Earth and health communities. She reminded CoP members that AmeriGEO Week 2024 will be held in Ecuador, and they plan to focus their outreach efforts with health communities and practitioners to engage a larger population. She commented that they plan to support the use of different models for the dengue forecasting challenge, where they could expand the AmeriGEO training course and integrate it with other GEO activities.

Juli Trtanj (NOAA) asked about TEMPO and links within the Americas region, including South America. **Aaron Naeger (Univ. of Alabama in Huntsville)** said that the TEMPO team has partner missions (GEMS) which provide air quality data over Asia, and that the European mission (launch expected in 2024) will provide air quality data over North Africa. He said that air quality data over South America has been discussed as a long-term target down the road. **Juli Trtanj (NOAA)** wondered how we could compile the CoP resources on a map, so that experts can be easily identified for potential collaborations. **Jean Felipe Teotonio (HSR.health)** provided an example of bringing transplant hospitals together for collaborative improvement practices, where they identified parallel (vs in sequence) approaches to address the problem. **Lía Loredo (UNITEC, Honduras)** suggested that highlighting the value of acquiring knowledge not obtained from academic curricula will encourage medical students to join AmeriGEO activities. She used a specific example of social media technology using photos, videos, and reels to energize the audience. **Justyna Nicinska (NOAA)** commented that she observed many possible connections to the GEO Nexus and Incubator approach, especially with the ecosystem atlas. **Ram Peruvemba (HSR.health)** said that HSR.health could be used to highlight CoP members' work as well as be adapted to assess risk for various infectious diseases.

Susana Adamo (CIESIN/Columbia Univ; NASA SEDAC) asked about whether “medical practitioners” refer to “health practitioners”. **Juli Trtanj (NOAA)** said that they are distinct terms and mentioned the incorporation of medical students at AmeriGEO Week. **Reyna Durón (UNITEC, Honduras)** mentioned that **Lía Loredo (UNITEC, Honduras)** is a medical student from Honduras who has recently joined these CoP telecons. **Carolina Zilli Vieira (Harvard Univ.)** mentioned that she has her DDS and PhD in cardiology and many connections with medical schools in Brazil, Europe, South America, and the United States. **Jean Felipe Teotonio (HSR.health)** agreed that geospatial health is useful for clinical efforts beyond infectious diseases, including chronic disease prevention and social determinants of health. **Dariana Avila (Organization of Women for Science, Honduras)** said that she is currently completing her thesis in Spain on weather forecasts using NOAA GFS products.

Juli Trtanj (NOAA) and **Helena Chapman (NASA HQ/BAH)** thanked CoP members for their continued contributions to the field and engagement in the group discussion. They agreed that this Special Edition: AmeriGEO teleconference had provided an opportunity to share information, connect researchers, and leverage resources that can amplify current activities using Earth observations for public health applications.

Juli Trtanj (NOAA) closed the teleconference and mentioned that the next community teleconference will be scheduled for Tuesday, September 19, 2023 at 8:30AM EDT (GMT-4).

Adjourned: 10:30AM EDT (GMT-4)