

## **GEO Health Community of Practice (CoP)**

**Telecon: Air Quality**

July 20, 2021

### **In Attendance:** 35 participants

John Haynes (NASA HQ), Juli Trtanj (NOAA), Helena Chapman (NASA HQ/BAH), Trisha Castranio (NIH/NIEHS), Morgan Zabow (NOAA), Sheila Fleischhacker (USDA NIFA), Cynthia Hall (NASA), Mike Gremillion (U. of Alabama), Sydney Neugebauer (NASA), Assaf Anyamba (USRA/NASA GSFC), Sean McCartney (NASA ARSET), Helen Amos (NASA GSFC/SSAI), Ana Prados (U. of Maryland Baltimore County; NASA GSFC), Natasha Sadoff (NASA/GSFC PACE Applications), Erin Urquhart Jephson (NASA/GSFC PACE Applications), Dana Yakabowskas (NY State Department of Health), Mustafa Sikder (Institute for Health Metrics and Evaluation/U. of Washington), Maria Tonellato (U. of Maryland), Cascade Tuholske (CIESIN, Columbia U.), Ben Zaitchik (Johns Hopkins U.), Aaron Naeger (U. of Alabama in Huntsville), Antar Jutla (U. of Florida), Olayinka Osuolale (Elizade University), Shivam Gupta (U. of Bonn), Juan Castillo (WHO/PAHO), Adrian Guzman (Mexican Space Agency), Jorge Cabrera Hidalgo (SICA), Reyna Maria Duron Martinez (UNITEC, Honduras), Mapa La Curva Honduras, Mercy Julia Borbor Cordova (Escuela Superior Politécnica del Litoral, Ecuador), Melissa MacDonald (Environment and Climate Change Canada), Celine Audette (Environment and Climate Change Canada), Don Roberts, Rocky Nelson Gonzalez, Maria.

### **Summary Notes:**

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

**John Haynes (NASA HQ)** and **Juli Trtanj (NOAA)** opened the telecon by welcoming all participants. They invited CoP members to provide brief updates on upcoming conferences and related activities.

**John Haynes (NASA HQ)** reminded CoP members that at the recorded presentations of the *Sustainable Partnerships for Health Decision-making and One Health Collaborations* session at the GEO Virtual Symposium are now available ([GEO Virtual Symposium 2021](#)). Three CoP members shared their topics: *COVID-19 and Influence of Seasonality* (Ben Zaitchik, Johns Hopkins U.), *Impact of the COVID-19 Pandemic on Health Care Infrastructure* (Andreas Skouloudis, iSteep.org), and *Dengue MOdel forecasting Satellite-based System* (Gina Tsarouchi, HR Wallingford). Then, he mentioned that he, **Helena Chapman (NASA HQ/BAH)**, and **Steven Ramage (GEO)** presented on the International Society for Photogrammetry and Remote Sensing's [Geo for Pandemics Forum](#) on Friday, July 9, 2021. Finally, he highlighted three [new GEO leaders](#) who are assuming positions in summer 2021: Yana Gevorgyan (GEO Secretariat General), Rui Kotani (Disaster Risk Reduction Coordinator), and Laurent Durieux (Coordinator of the SDG Engagement).

**Helena Chapman (NASA HQ/BAH)** shared that the Health session will be held on Tuesday, August 24, 2021 (9:00-10:30AM EDT/GMT-4) at the AmeriGEO Week 2021 (August 23-27, 2021). She confirmed 17 poster presenters and six panelists: John Malone (*A Geospatial Surveillance and Response System Resource for Vector Borne Disease in the Americas*), Pablo Méndez-Lázaro (*Interactions between SARS-CoV-2 (COVID-19), Air Quality due to Saharan Dust and Social-Environmental Factors in Puerto Rico*), Kim Portmess (STePs to upscale and implement a regional malaria early warning system), Cascade Tuholske (*Urban Extreme Heat Exposure Trajectories in AmeriGEO Countries*), Ana Watson (*Addressing the Challenge: Building a Transdisciplinary Climate*

*Environment Health Research Network in Latin America and the Caribbean*), and Ben Zaitchik (*Climate and COVID-19: using Earth Observations to Understand Seasonal and Meteorological Sensitivities*). Next, she encouraged all presenters to prepare flash talks for the *Special Edition of the GEO Health CoP: The Americas*, which will be held on September 7, 2021 (8:30-10:00AM EDT/GMT-4).

**Juli Trtanj (NOAA)** shared information about the upcoming congressional briefing for the National Integrated Heat Health Information System (NIHHIS), which offers visibility for heat on a national platform. She also shared that [Richard Spinrad](#) was just confirmed as NOAA Administrator in June 2021. Then, she also reminded CoP members about the community-led summer campaign by NOAA's National Integrated Heat Information System and partners, to map the hottest parts of cities in 11 states across the United States ([NOAA and Communities to Map Heat Inequities in 11 States](#)). Also, she mentioned that the WMO/WHO Integrated Health Services Study Group will hold listening sessions at regional levels, as they seek input of case studies on successful climate and weather information. Finally, she introduced **Morgan Zabow (NOAA)**, who recently joined the NOAA Climate Program Office and who will be helping with communication support and outreach, interagency working groups, website logistics, and urban heat island campaign outreach.

**Juli Trtanj (NOAA)** introduced **Cascade Tuholske (Center for International Earth Science Information Network; Columbia University's Earth Institute)** provided an overview of analysis of Global High Resolution Daily Urban Extreme Heat Exposure (UEH-Daily), a new daily urban extreme heat dataset that maps urban population extreme heat exposure trajectories for more than 13,000 settlements worldwide from 1983-2016.

**Juli Trtanj (NOAA)** asked about adding prediction tools to enhance the human-level experience. **Cascade Tuholske (Center for International Earth Science Information Network; Columbia University's Earth Institute)** mentioned that the CHIRTS data have 4-5 km finer resolution than other global climate circulation model projections, which will enhance operationalizing and forecasting. He stated that these data will be helpful to examine how much heat can impact health and wellbeing, including issues related to food security across urban-rural continuum. He recognized that there are different adaptive capacities and stresses across the planet (e.g. heat stress, growing due to pop growth), and that it will be important to identify long-term nuances related to demographic needs, working and building communication with communities, and forming collaborations to identify new sensors (e.g. ECOSTRESS).

**Helen Amos (NASA Goddard)** asked if the python workflow is available. **Cascade Tuholske (Center for International Earth Science Information Network; Columbia University's Earth Institute)** confirmed that the python workflow will be publicly available as he fully supports open data science. **Helen Amos (NASA Goddard)** asked if data could be tailored to specific research needs at a local level. **Reyna Maria Duron Martinez (UNITEC, Honduras)** asked if the public is aware of these data sources and if authorities are aware and available to plan interventions. **Cascade Tuholske (Center for International Earth Science Information Network; Columbia University's Earth Institute)** said that he hopes to join groups (like CoP) to collaborate with researchers who have different field experiences. He stated that he looks for best practices to make meaningful impacts in local communities.

**Mercy Julia Borbor Cordova** said that some research uses the 84 percentiles for the Tmax as a threshold for studies in heat and mortality, and that his model could use this level for global analysis.

**Cascade Tuholske (Center for International Earth Science Information Network; Columbia University's Earth Institute)** stated that any threshold can be applied to data and quickly analyzed. He said the importance lies in geospatial data for different communities (e.g. meteorology, public health) and the appropriate metric in a specific geography.

**Juli Trtanj (NOAA)** asked about next steps to better use and understand heat products. **Melissa MacDonald (Environment and Climate Change Canada)** said that she would be interested in learning more, especially with the wide climate range in Canada. She said that this information would be beneficial to public health agencies across Canada when completing risk assessments.

**Ben Zaitchik (Johns Hopkins U.)** shared an update about the Heat Small Work Group. He mentioned that the meeting highlighted Cascade's work with a productive discussion about how this product is representative of a broader suite of Earth observations to link actionable information. He said that the work group offers an exciting and challenging platform to discuss how to enhance two-way communication with the public and the public health community as well as identify opportunities of specific actions. Now, the group aims to seek how they can apply products in Earth observations and inspire better warning systems with a greater sense of need for action. He encouraged all CoP members to join a Small Work Group, especially since many cross-cutting issues offer valuable conversations. **Juli Trtanj (NOAA)** thanked **Ben Zaitchik (Johns Hopkins U.)** for his leadership of the Heat Small Work Group, especially when there is no dedicated funding workstream.

**Juli Trtanj (NOAA)** opened the telecon for CoP member updates.

**Ana Prados (U. of Maryland Baltimore County; NASA GSFC)** shared an upcoming ARSET training on Monitoring Coastal and Estuarine Water Quality: Transitioning from MODIS to VIIRS, which will be held on September 14, 16, and 21, 2021 at 11:00-12:30 EDT (GMT-4) in [English](#) and 4:00-5:30PM EDT (GMT-4) in [Spanish](#). Then, she highlighted an upcoming ARSET training on air quality forecasting with ECWF, which will be held in September 2021. **Erin Urquhart Jephson (NASA PACE Applications)** mentioned that they will present an overview about the Plankton, Aerosol, Cloud, ocean Ecosystem (PACE) mission during the next CoP telecon. She also shared the upcoming [2021 PACE Applications Workshop](#) on September 15-16, 2021. **Jorge Cabrera Hidalgo (SICA)** mentioned that the Central American Integration System (SICA, in Spanish) hopes to continue to engage with CoP members, especially since they will serve as a host for AmeriGEO Week 2022.

**John Haynes (NASA HQ)** mentioned that it is the 52<sup>nd</sup> anniversary of Apollo 11 astronauts' first steps on the moon ([July 20, 1969: One Giant Leap for Mankind](#)). He also shared that the [Artemis program](#) has plans to land the first woman and first person of color on the moon, using innovative technologies to explore more of the lunar surface than ever before.

**John Haynes (NASA HQ)** and **Juli Trtanj (NOAA)** thanked CoP members for their continued contributions to the field and engagement in the group discussion. She agreed that this telecon had provided an opportunity to share information, connect researchers, and leverage resources that can amplify current activities using Earth observations for public health applications.

**John Haynes (NASA HQ)** and **Juli Trtanj (NOAA)** closed the telecon and mentioned that the next telecon will be scheduled for Tuesday, August 3, 2021 at 8:30AM EDT (GMT-4). The next telecon will focus on the NASA Plankton, Aerosol, Cloud, ocean Ecosystem (PACE) mission.

Adjourned: 10:00AM EDT (GMT-4)