

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

### **Telecon: Air Quality**

June 29, 2021

#### **In Attendance:** 28 participants

Juli Trtanj (NOAA), Helena Chapman (NASA HQ/BAH), Hunter Jones (NOAA), Kim McMahon (NOAA National Weather Service), Ferdouz Cochran (MITRE), Mike Gremillion (U. of Alabama), Assaf Anyamba (USRA/NASA Goddard), Helen Amos (NASA Goddard/SSAI), Sushel Unninayar (NASA/GSFC & GESTAR/MSU), Anna Borovikov (NASA GSFC GMAO), Ana Prados (U. of Maryland Baltimore County; NASA GSFC), Joyner Miller (State Department OES/IHB), Julie Spencer (Los Alamos National Laboratory), Bob Chen (CIIESIN/Columbia U.; NASA SEDAC), Maria Tonellato (U. of Maryland), Brenda Thomson (Rensselaer Polytechnic Institute), Yuhan (Douglas) Rao (NC Institute for Climate Studies/NC State U.), Olayinka Osuolale (Elizade University), Juan Castillo (WHO/PAHO), Anna Stewart Ibarra (Inter-American Institute for Global Change Research), Adrian Guzman (Mexican Space Agency), Liana Anderson (CEMADEN/MCTI, Brazil), Monique Rodrigues da Silva Andrade Maia (CEMADEN, Brazil), Flavia de Souza Mendes (Remote Sensing Solutions, Munich), Ana Watson, Julie Spencer, Foster Brown, Cecilia Falconi.

#### **Summary Notes:**

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

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

**Juli Trtanj (NOAA)** said that at the [GEO Virtual Symposium](#) (June 21-24, 2021), the GEO Health CoP supported the *Sustainable Partnerships for Health Decision-making and One Health Collaborations* session at the GEO Virtual Symposium with three panelists: Ben Zaitchik (Johns Hopkins U.), Andreas Skouloudis (iSteep.org, Italy), and Gina Tsarouchi (HR Wallingford, UK). She shared that she and **John Haynes (NASA HQ)** also presented on *Starting Essential Variables on Health* at the Generalizing the Concept of the Essential Variables session, and **Bob Chen (CIIESIN/Columbia U.; NASA SEDAC)** presented on *Population, Settlement, and Infrastructure Data for GEO Applications in Climate, Disasters, and Sustainable Development* at the Human Planet Initiative Datasets in Support to GEO Projects and GEO Engagement Priorities session. She asked if any CoP members wanted to share any perspectives from attending these GEO Virtual Symposium sessions. **Bob Chen (CIIESIN/Columbia U.; NASA SEDAC)** said that the virtual platform allowed attendees to offer insight and share perspectives to the general discussion, but since each session was separate, he is unsure of the actual synergy between sessions. **Juli Trtanj (NOAA)** encouraged CoP members to seek potential intersections when participating in GEO events and working groups – such as Blue Planet and Aqua Watch – where we can find areas to leverage expertise and resources.

**Helena Chapman (NASA HQ/BAH)** shared that their team supported the *Innovative Uses of Earth Observations within NASA Health and Air Quality Applied Sciences Team (HAQAST)* session at the Air & Waste Management Association Annual Meeting in mid-June 2021. She said that **John Haynes (NASA HQ)**, HAQAST lead Tracey Holloway (U. of Wisconsin-Madison), and HAQAST PIs and co-Is Amber Soja (National Institute of Aerospace/NASA Langley Research Center), Daniel Tong (George Mason U.), and Talat Odman (Georgia Institute of Technology) described examples of integrating satellite- and ground-based data for use in stakeholder activities related to air quality

management. Topics included lessons learned from HAQAST 2016-2020 and how data from MODIS, VIIRS, GOES, Landsat, TROPOMI, and the FIREX-AQ campaign are enhancing decision support applications related to dust storm events and pollutant emissions from fires and ports. Second, she shared the recent [Tracking Mosquitoes from Space? NASA Does That](#) web feature for National Mosquito Control Awareness Week 2021. Finally, she highlighted three upcoming events: 1) The One Health Commission, Wilson Center, National Academies of Sciences, Engineering, and Medicine, and the Smithsonian National Museum of Natural History will host the [One Health 101: What is all the fuss?](#) on Wednesday, June 30, 2021 (12:00-1:30PM EDT/GMT-4); 2) The XXIV International Society for Photogrammetry and Remote Sensing Congress, which will be held from July 5-9, 2021, will be hosting a variety of panel sessions on an array of topics; and 3) The [Geo for Pandemics Forum](#) will be held on Friday, July 9, 2021 (2:00-5:00AM EDT/GMT-4 and 9:00-12:00PM EDT/GMT-4).

**Juli Trtanj (NOAA)** requested that CoP members mark their calendars to attend the Health session on Tuesday, August 24, 2021 (9:00-10:39AM EDT/GMT-4) at the AmeriGEO Week 2021 (August 23-27, 2021). She encouraged CoP members submit their abstracts on their research applications in the Americas region for [AmeriGEO Week 2021](#) (Deadline: June 30, 2021). She highlighted that PAHO will be recommending a speaker for the Ministry Roundtable on Monday, August 23, 2021. She mentioned that after AmeriGEO Week 2021, they plan to host the *Special Edition of the GEO Health CoP: The Americas* on September 7, 2021 (8:30-10:00AM EDT/GMT-4). If this model is informative to CoP members, then she said that they plan to support *Special Edition* telecons to focus on different geographic regions.

**Juli Trtanj (NOAA)** introduced **Anna Stewart-Ibarra (Inter-American Institute for Global Change Research)** will provide an overview of the IAI and describe a few research projects and capacity training within the IAI portfolio. She also mentioned that the IAI and the Alliance of Public Health Associations of the America will host the [Is Zero Covid Feasible? / Es viable la estrategia COVID Cero?](#) discussion about the viability and evidence from Latin America will be held on Tuesday, June 29, 2021 at 5:00PM EDT (GMT-4) with English/Spanish translation.

**Juli Trtanj (NOAA)** asked about the specific focus of the COVID-19 webinar. **Anna Stewart-Ibarra (Inter-American Institute for Global Change Research)** said that the webinar focused on public health strategies within the Americas region to reduce COVID-19 transmission.

**Juli Trtanj (NOAA)** asked about IAI's priorities as they related to the intersection of health and water. **Anna Stewart-Ibarra (Inter-American Institute for Global Change Research)** said IAI's strategic areas are reduction of poverty and inequality; improving food, water, and energy security; climate change adaptation and mitigation; improved human health and wellbeing; conservation and restoration of biodiversity and ecosystems; and clean air, water and soil. She also shared a link to the [Bridging Science and Policy through Collaborative, Interdisciplinary Global Change Research in the Americas](#) themed issue of the *Environmental Development* journal.

**Bob Chen (CIESIN/Columbia U.; NASA SEDAC)** mentioned that CIESIN is an associate of the IAI, and both CIESIN and IRI scientists have served on the IAI Scientific Advisory Committee. **Anna Stewart-Ibarra (Inter-American Institute for Global Change Research)** agreed that CIESIN has been a fantastic partner for many years, and that Susana Adamo was at the IAI meetings representing CIESIN last week.

**Juan Castillo (WHO/PAHO)** mentioned that they are in contact with Daniel Buss (WHO/PAHO) and happy to contribute to these global efforts. **Anna Stewart-Ibarra (Inter-American Institute for Global Change Research)** mentioned that they have appreciated PAHO's support on the IAI steering committee.

**Ana Prados (U. of Maryland Baltimore County; NASA GSFC)** shared the publication ([Best Practices In Multilanguage Satellite Remote Sensing Training: Case Studies In Spanish-Speaking Countries](#)) in the June 2021 issue of IEEE Geoscience and Remote Sensing Magazine. **Anna Stewart-Ibarra (Inter-American Institute for Global Change Research)** mentioned that she would like to include this article among the IAI training materials for Latin America.

**Helena Chapman (NASA HQ/BAH)** introduced **Liana Anderson (CEMADEN, Brazil)** will describe her IAI-funded project (MAP-FIRE: Multi-Actor Adaptation Plan to cope with Forests under Increasing Risk of Extensive fires) on the use of Earth observations for wildfire early warning in the Amazon region of Brazil, Peru, and Bolivia.

**Helen Amos (NASA Goddard/SSAI)** asked if she was collaborating with Doug Morton (NASA) who conducts research on fires in the Amazon. **Liana Anderson (CEMADEN, Brazil)** mentioned that they do work together. Other CoP members shared that both presentations were evidence of inspirational women in research in Latin America.

**Monique Rodrigues da Silva Andrade Maia (CEMADEN, Brazil)** asked about the main challenges and limitations in Brazil regarding the monitoring and response to fires. **Liana Anderson (CEMADEN, Brazil)** shared the challenges to control fires during drier seasons (e.g. California, Australia). She also mentioned that Brazil requires greater political will, enforcement of environmental organizations, and strategic plans to mitigate fire occurrence.

**Flavia de Souza Mendes (Remote Sensing Solutions, Munich)** asked about the main reasons for the increase of fires in 2020 and the environmental health consequences. She also asked about the biggest challenges in using Earth observation data to map fire in Brazilian biomes. **Liana Anderson (CEMADEN, Brazil)** said that fires are traditionally started on private properties by the general community (e.g. traditional community, small land owners) who were not observing the drier climatic conditions and hence lost control of the fires. Moving forward, she mentioned that they need to integrate different data sets to better understand the extent of understory fires, especially since they are underestimating the impact of fires in the Amazon. **Helen Amos (NASA Goddard/SSAI)** shared the NASA Visualization ([Tracking Amazon Deforestation](#)) published in April 2021.

**Juan Castillo (PAHO/WHO)** said that their PAHO team would be interested to explore collaboration opportunities, since the impact of wildfires on human health is one of the most frequent inquiries received from Member States. **Liana Anderson (CEMADEN, Brazil)** said that you can learn more about the [MAP-Fire Project](#) on social media.

**Juli Trtanj (NOAA)** asked if the tool is operational and how does the information reach the respective stakeholders and decision-makers at the Ministry of Environment or Health. **Liana Anderson (CEMADEN, Brazil)** said that the research center facilitated the acquisition of sensors, but with the US\$300 cost, it has been difficult to maintain over time. She admits that they aim to keep the network alive as the data can be used to alert the public. **Anna Stewart-Ibarra (Inter-American Institute for Global Change Research)** mentioned that institutional barriers are the biggest challenges, since health and climate sectors do not have an aligned infrastructure to collaborate and make joint decisions (e.g.

incorporating disaster information into health decision-making processes). She said that this limitation leads to a lack of political will, resources, and future visions of projects. She stated that the institutional frameworks are challenged to keep up with the rapid changes in scientific projects. **Juli Trtanj (NOAA)** agreed that it is important to understand science diplomacy and funding limitations related to political will and sustainability as well as recognize existing partnerships in the region.

**Juan Castillo (PAHO)** shared that his team has appreciated the CoP which has helped them connect with research and program activities in the region. He mentioned that they will host a PAHO intern to map the regional capacity to use Earth observations to address environmental determinants of health, including air quality, water, and heat waves. He said that these efforts will focus on the institutional capacity for Member States, including successful projects, existing gaps and lessons learned, and best practices to strengthen capacity. He stated that they will need to partner with research institutions and believe that the CoP is valuable for their work to support Member States.

**Ana Prados (U. of Maryland Baltimore County; NASA GSFC)** said that the [NASA ARSET](#) program has a large focus on Latin America with English/Spanish trainings. She said that they recently finalized a six-part training on fires, and that they are developing upcoming trainings on climate, agricultural applications and air quality forecasting.

**Juli Trtanj (NOAA)** mentioned that the [First WMO COVID-19 Task Team Roundtable: Compound Climate Hazards and COVID-19](#) will be held on Wednesday, June 30, 2021 from 9:00-11:00AM EDT (GMT04). She said that this first targeted roundtable event aims to identify prospects for actionable climate and meteorologically-informed decision-making during the COVID-19 pandemic. 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](#)).

**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.

**Juli Trtanj (NOAA)** closed the telecon and mentioned that the next telecon will be scheduled for Tuesday, July 20<sup>th</sup> at 8:30AM EDT (GMT-4). The next telecon will

Adjourned: 9:55AM EDT (GMT-4)