

GEO Health Community of Practice (CoP)
Telecon: Focus on COVID-19 Transmission
August 25, 2020

In Attendance: 23 participants

John Haynes (NASA HQ), Helena Chapman (NASA HQ/BAH), David Green (NASA HQ), Ann Liu (NIEHS), Anna Borovikov (NASA GMAO/SSAI), Cynthia Hall (NASA Earth Science Data Systems), Sean McCartney (ARSET), Allan Auclair (USDA), Jonathan O'Brien (NASA ARSET), Assaf Anyamba (USRA/NASA Goddard), Sushel Unninayar (NASA Goddard/GESTAR/MSU), Ray Kiess (USAF, 14th Weather Squadron), Bob Chen (CIESIN/Columbia U.; NASA SEDAC), Jorge Del Rio Vera (UNOOSA), Adrián Guzmán González (Mexican Space Agency), David Rodríguez (Council of Health Ministers in Central America, SE-COMISCA/SICA), Nadine Alameh (Open Geospatial Consortium), Rachel Lowe (London School of Hygiene & Tropical Medicine), Rowena Christiansen (U. of Melbourne Medical School, Australia), Ben Zaitchik (Johns Hopkins U.), Aaron Naeger (U. of Alabama in Huntsville), Shannon Vattikuti (Mississippi State U.), Matthew Romm (Mount Sinai Health System).

Summary Notes:

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

John Haynes (NASA HQ) opened the telecon by welcoming all participants. He invited GEO members to provide brief updates on upcoming conferences and related activities.

John Haynes (NASA HQ) mentioned that he would share more details about the upcoming GEO Virtual Symposium in November 2020, when more information was provided by the GEO Secretariat. Next, he shared exciting news that the [GEO Americas Caucus](#) recently confirmed that health would serve as the fifth focus area, following biodiversity and ecosystem sustainability, disaster resilience, food security and sustainable agriculture, and water resources management. Then, he stated that [AmeriGEO Week 2020](#) would be held virtually from September 7-8, 2020, where CoP members could complete the [registration form](#). Finally, he said that the [International Society for Environmental Epidemiology \(SEE\) Virtual Meeting 2020](#) is currently held from August 24-27, 2020. At this event, he will give a presentation as part of the CDC panel symposium, and **Helena Chapman (NASA HQ/BAH)** will give an e-poster presentation.

Helena Chapman (NASA HQ/BAH) reminded CoP members about the upcoming deadline (August 31st) for abstract submissions to the [American Meteorological Society Annual Meeting 2021](#).

David Green (NASA HQ) provided the link for the Interagency COVID-19 Meeting, which would follow the GEO Health CoP telecon, at 11AM EDT (GMT-4). He mentioned that the group discussion, led by David Saah (Director of Geospatial Analysis Lab, Department of Environmental Science, U. of San Francisco), would focus on wildfires in California.

Helena Chapman (NASA HQ/BAH) reminded CoP members to provide brief testimonials (e.g. paragraph) via email (helena.chapman@nasa.gov) about how the GEO Health CoP helped them network, communicate, leverage resources, and advance their research, especially during the COVID-19 pandemic. She mentioned that we would like to showcase these success stories during this global challenge to the GEO Secretariat.

Nadine Alameh (Open Geospatial Consortium) provided an overview of the importance of building a health spatial data infrastructure. She described the Open Geospatial Consortium as a global consortium representing over 500 industry, government, research and academic organizations, which serves as a hub for thought leadership and innovation as well as a neutral and trusted forum. She mentioned that various agencies – National States Geographic Information Council, National Alliance for Public Safety, Research Data Alliance, and the National Academies of Sciences, Engineering, and Medicine – support geo-enabled public health and emergency response measures. She stated that with an array of COVID-19 data portals and dashboards – such as US Department of Health and Human Services’ [GeoHEALTH platform](#) and US Department of Homeland Security’s [FEMA COVID-19 App](#) – we should connect the dots and fill in knowledge gaps on how to integrate data from different data sources behind the dashboard. As part of building a Health Spatial Data Infrastructure Initiative, she said that this could build on the latest technological developments (e.g. artificial intelligence, machine learning), incorporate a new set of dynamic crowd-sourced data (e.g. mobility data), and support secondary industries’ impact of a health crisis as understanding supply-chain repercussions and emerging use cases (e.g. broadband service provision and expansion to rural areas). She provided the [website](#) for the OGC Health Spatial Data Infrastructure.

John Haynes (NASA HQ) asked if her agency planned any community events (e.g. symposia, workshops, townhall sessions) to bring scientists and stakeholders together to discuss these challenges. **Nadine Alameh (Open Geospatial Consortium)** mentioned that they were planning a health summit at the next quarterly meeting (December 2020), but due to urgency, they plan to coordinate a call with the core group in late September 2020. They would like to plan upcoming symposia or other events to leverage momentum and networks. **John Haynes (NASA HQ)** and **Helena Chapman (NASA HQ/BAH)** suggested that they consider the [GeoHealth](#) section at the American Geophysical Union and the [Conference on Environment and Health](#) at the American Meteorological Society meetings.

David Green (NASA HQ) mentioned that he recently provided a presentation to a forum of the UN Department of Economic and Social Affairs, which focused on the role of data and knowledge in locations that underpin disruptions to economic and social constructs. He said that he plans to introduce **Nadine Alameh (Open Geospatial Consortium)** to this global community. He mentioned that this discussion raised one major challenge: How can these technical solutions be readily accessible and cost-effective to implement in practice across developing nations? He shared policy briefs on [general topics](#) and [COVID-19](#) from the UN Department of Economic and Social Affairs. **Nadine Alameh (Open Geospatial Consortium)** said that if we are deploying initiatives at a large scale, we may not need refined infrastructure, as anyone can use the cloud-based resources. **Sushel Unninar (NASA Goddard/GESTAR/MSU)** asked if ensemble modeling and prediction for SARS-CoV-2

incidence, propagation, and mortality has been considered by integrating satellite data with social and economic data. He said that many models examine the ensemble average to integrate the uncertainties in parameterization in COVID-19 with epidemiologic factors. **Nadine Alameh (Open Geospatial Consortium)** mentioned that she would request more information from her community.

Shannon Vattikuti (Mississippi State U.) provided an overview about restructuring science-policy frameworks after COVID-19 to strengthen application and sustainability. He stressed the importance of transparency between scientists, stakeholders, and the general public. He mentioned that the hallmarks of the Fourth Industrial Revolution are the re-engineering of global science-policy framework architectures that revolve around an environmentally sustainable, equitably fair, long-term and stable circular economies.

John Haynes (NASA HQ) mentioned that there are challenges with managing the overarching issues of climate change and types of disasters (e.g. tropical storms, wildfires) together with the global crisis of the COVID-19 pandemic. As disasters interplay with each other, he wondered how these compounding disasters can be best managed. **Shannon Vattikuti (Mississippi State U.)** agreed that these multiple factors complicate management, and it is important to have a regional perspective to tackle these overarching issues. For example, understanding that the local and state leadership may leave office in a four-year time frame, it is important to promptly address science policy framework and aim for standardization.

Sushel Unninayar (NASA Goddard/GESTAR/MSU) wondered if it were possible to separate politics from science policy, with the influences of economic and social practices. He also wondered if these concepts should be introduced earlier in education systems (e.g. before “belief systems” are solidified). **Cynthia Hall (NASA Earth Science Data Systems)** agreed that the scientific process should be introduced earlier for the general public to understand how scientific research is conducted and what consensus means. **Shannon Vattikuti (Mississippi State U.)** mentioned that public trust in federal scientists is currently limited, and that social media has become a more influential source of information. He recommended that the standardization of scientific policy is essential to achieve the targets of the Sustainable Development Goals by 2030 or 2050.

John Haynes (NASA HQ) mentioned that from a recent lecture by the Metropolitan Group, he learned that an [IBM report](#) identified that 88% of data is “dark data” (e.g. not being utilized or analyzed). He highlighted that without scientific analysis of these data, we are missing potentially important information to advance science. **Aaron Naeger (U. of Alabama in Huntsville)** asked if the presentation mentioned specific databases that were unused. **John Haynes (NASA HQ)** mentioned that the presentation offered an overview of global challenges over the next 5-10 years. He stated that two of the major challenges included in the presentation were: 1) an inability to analyze the significant quantity of data (e.g. “big data”); and 2) misinformation propagated by social media which can influence an uninformed public and foment distrust in public institutions.

John Haynes (NASA HQ) requested agency updates from CoP members.

David Green (NASA HQ) mentioned that the NASA Disasters Program is involved in research and applications for an array of current events – from the [Beirut blast damage](#) to [Sargassum seaweed in the Gulf of Mexico](#). He said that they plan to support numerous sessions at the American Geophysical Union and American Meteorological Society meetings, in efforts to bridge disaster and health communities and encourage early career scientists in research and communication activities.

Ben Zaitchik (Johns Hopkins U.) mentioned that the World Meteorological Organization and the Symposium’s Scientific Committee are finalizing a two-page outcome statement on the [Climatological, Meteorological, and Environmental Factors in the COVID-19 Pandemic: An International Virtual Symposium on Drivers, Predictability, and Actionable Information](#). Next, he encouraged symposium presenters to send their manuscripts to the [One Health](#) journal (deadline: September 30, 2020). Then, he said that the American Geophysical Union Fall Meeting programming has included numerous talks on COVID-19 research by CoP members, including the session coordinated by **Sushel Unninayar (NASA Goddard/GESTAR/MSU)** (*COVID-19: Earth Observations and Environmental Modeling Applications for Understanding, Quantifying and Predicting the Seasonality (or not) and Propagation of COVID-19*). He is working with the American Geophysical Union staff to coordinate a special programming meeting that will feature Earth science connections with COVID-19 transmission – such as how climatological and environmental factors may influence COVID-19 transmission and science in the time of COVID-19 transmission. He said that although abstract deadlines have closed, he anticipated late-breaking sessions due to COVID-19 response efforts. Finally, he shared an update on his NASA-funded project, where his team has harmonized the COVID-19 database with hydrometeorological data (available on GitHub), and he plans to provide a more substantial update in a few weeks.

Bob Chen (CIRES/Columbia U.; NASA SEDAC) shared the new version of the [SEDAC Global COVID-19 Viewer](#) that is currently being tested. He welcomed all feedback from CoP members!

Rowena Christiansen (U. of Melbourne Medical School, Australia) shared that the Ad Astra Vita’s [Space Health Symposium](#) would be held from October 5-6, 2020. She planned a 90-minute session to focus on Space4Health and invited CoP members to contact her (rchr@unimelb.edu.au) if they were interested to share their work at this virtual event.

Jorge Del Rio Vera (UNOOSA) shared that the [Space2030 Agenda](#), which is being reviewed by Committee on the Peaceful Uses of Outer Space (COPUOS) Member States, will consider aspects for Earth observations and health. He shared that the overarching objective 1 is “*Enhance space-derived economic benefits and strengthen the role of the space sector as a major driver of sustainable development*”. In this objective, he noted one main element is “*Facilitate and promote the integration of the space sector with other sectors including energy, public health, environment, climate change, management of resources, information and communication technology as well as the development of multi-stakeholder partnerships leading to innovative space-based solutions for social and economic development, that can be integrated into mechanisms for implementing the Sustainable Development Goals.*” He stated that [upcoming COPUOS meetings](#) were rescheduled, including the COPUOS Legal Subcommittee (59th

session) previously scheduled on September 7, 2020, and the COPUOS (63rd session) from September 8-10, 2020.

John Haynes (NASA HQ) thanked both presenters for their outstanding presentations as well as CoP members for their continued contributions to the field and engagement in the group discussion. He agreed that this telecon had provided an opportunity to share information, connect researchers, and leverage resources that can amplify current activities related to the COVID-19 response.

John Haynes (NASA HQ) closed the telecon and mentioned that the next telecon would be scheduled for Tuesday, September 15th at 8:30AM EDT (GMT-4).

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