

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

### **Telecon: Focus on COVID-19 Activities in the Asia-Pacific Region**

May 5, 2020

#### **In Attendance:** 64 participants

John Haynes (NASA HQ), Juli Trtanj (NOAA), Helena Chapman (NASA HQ/BAH), Sue Estes (U. of Alabama in Huntsville), Laura Judd (NASA Langley/SSAI), John Balbus (NIH/NIEHS), Trisha Castranio (NIEHS), Jeffrey Luvall (NASA Marshall), David Green (NASA HQ), Abigail Seadler (NASA HQ), Laura Mulvey (NASA HQ), Julie Chamberlain (NASA HQ/BAH), Shobhana Gupta (NASA HQ), Brady Helms (NASA HQ/AI Solutions), Sean McCartney (NASA Goddard), Cynthia Hall (NASA Earth Science Data Systems), Ana Prados (NASA Goddard/U. of Maryland Baltimore County), Dorian Janney (NASA Goddard/GPM), Jennifer Wei (NASA Goddard/GES DISC), Helen Amos (NASA Goddard/SSAI), Pawan Gupta (USRA/MSFC), Sushel Unninarayan (NASA Goddard/GESTAR/MSU), Amanda Quintana (USGCRP), Bob Chen (CIESIN/Columbia U.; NASA/SEDAC; GEO Human Planet and Data WG), Corey Hummel (HQ USAF, Directorate of Air Force Weather), Bill Frey (USAF, 14th Weather Squadron), Ray Kiess (USAF, 14th Weather Squadron), Rish Vaidyanathan (CDC), Bryan Richards (USGS National Wildlife Health Center), Jeff Donze (Esri - Atmospheric Sciences US), Lisa Conti (Florida Department of Agriculture), Ben Zaitchik (Johns Hopkins U.), William Pan (Duke U.), Ali Akanda (U. of Rhode Island), Greg Carmichael (U. of Iowa), Susan Anenberg (George Washington U.), Sabrina McCormick (George Washington U.), Augustin Vintzileos (U. of Maryland), Douglas Rao (North Carolina State U./NCICS/CISESS), Joy Shumake-Guillemot (WHO/WMO), Rifat Hossain (WHO), Vincent-Henri Peuch (European Centre for Medium-Range Weather Forecasts), Astrid-Christina Koch (European Commission, DG DEFIS – Copernicus), Jan Ramboer (European Commission), Jan Semenza (European Centre for Disease Prevention and Control), Juan Castillo (PAHO), Osamu Ochiai (JAXA), Didier Davignon (Meteorological Service of Canada), Celine Audette (Environment and Climate Change, Canada), Melissa MacDonald (Environment and Climate Change Canada), Milind Pimprikar (CANEUS International, Montreal, Canada), Serge Olivier Kotchi (Public Health Agency of Canada), Naledzani Mudau (South African National Space Agency), Neville Sweijd (COVID-19 Environmental Reference Group, South Africa), Fernando Belda (National Meteorological Service, Spain), David Rodriguez (Council of Health Ministries in Central America, COMISCA), Edson Arias (SENAMHI, Peru), Iphigenia Keramitsoglou (National Observatory of Athens), Evangelos Gerasopoulos (National Observatory of Athens/Greek GEO Office), Svetlana Zolotikova (UK National Centre for Earth Observation), Gina Tsarouchi (HR Wallingford), Alison Davies (Department for Environment, Food and Rural Affairs, UK), Adam Lewis (Digital Earth Africa, Geosciences Australia), Kawa Shinbun.

#### **Summary Notes:**

*\*Prepared by Helena Chapman (NASA HQ/BAH) and Helen Amos (NASA Goddard/SSAI)*

**John Haynes (NASA HQ)** and **Juli Trtanj (NOAA)** opened the telecon by welcoming all participants. They mentioned that this new meeting time would hopefully provide more interaction with partners in the Asia-Pacific geographic region. Unfortunately, they stated that they were unaware that May 5<sup>th</sup> coincided with several public holidays across Asia.

**John Haynes (NASA HQ)** invited GEO members to join the Interagency COVID-19 Meeting, moderated by NASA, would be held after the GEO Health CoP meeting, at 11AM EDT (GMT-4), and provided the WebEx connection details.

**Osamu Ochiai (JAXA)** presented an overview on JAXA's Earth Observation Activities on COVID-19, especially for climate change (GCOM-C/GCOM-W, GOSAT/GOSAT-2, GPM) and disaster risk management (ALOS-2). He shared the [Earth Data Collection by JAXA Satellites](#) link with data resources. He also mentioned that JAXA is collaborating with NASA and ESA on the Space Apps COVID-19 Challenge (May 30-31, 2020), providing Earth observation data to the hackathon, and inviting coders, designers, and the public to participate.

**John Haynes (NASA HQ)** stated that they are appreciative for the JAXA/NASA/ESA collaboration and partnership for the Space Apps COVID-19 Challenge. He mentioned that they are co-developing a data dashboard for the community to be released soon. **Astrid-Christina Koch (European Commission, DG DEFIS – Copernicus)** mentioned that her team has been promoting the Space Apps COVID-19 Challenge to the community and hopes for a remarkable outcome.

**Juli Trtanj (NOAA)** asked if JAXA is engaging with the public health community. **Osamu Ochiai (JAXA)** mentioned that they have not engaged with the health community as they have limited connections at this time. **Sushel Unninar (NASA Goddard/GESTAR/MSU)** asked if the JRC is involved in building the NASA/ESA/JAXA dashboard. **Osamu Ochiai (JAXA)** believed that JRC has not yet become involved with the dashboard, as the idea has just been formalized.

**Adam Lewis (Digital Earth Africa)** presented an overview on [Digital Earth Africa](#), which offers open access satellite data, [software](#), and products to all countries and sectors. These resources can support a wide range of decisions (e.g. and, water, forests, natural resources, coasts, cities), He said that as Earth observations are analyzed, these data products can inform decision-making of an array of stakeholders. Digital Earth Africa had initial funding from the Australian Government and the Leona M. and Harry B. Helmsley Charitable Trust, and African governance directs the program activities and delivery. He provided the virtual resource of the [Digital Earth Africa Map](#), highlighting that Sentinel-2 data will soon be available with the Landsat data for Africa.

**Juli Trtanj (NOAA)** asked if they were working with water quality or security issues in the context of COVID-19 transmission. **Adam Lewis (Digital Earth Africa)** responded that some researchers are working on preliminary studies on how water color can be interpreted as water quality.

**Rifat Hossain (WHO)** asked about any current research related to wastewater and water quality. **Adam Lewis (Digital Earth Africa)** said that Sentinel-2 data can be used to apply indices for qualitative interpretation of water quality, which can still be relevant in decision-making. **Sushel Unninayar (NASA Goddard/GESTAR/MSU)** mentioned that for water quality, turbidity (total suspended solids) and chlorophyll-a (algal blooms) can be detected with satellites (e.g. Landsat/Sentinel/MODIS), but algorithms require local calibration and validation.

**John Haynes (NASA HQ)** and **Juli Trtanj (NOAA)** moderated a dialogue on current CoP activities and updates related to the ongoing COVID-19 pandemic.

**Julie Chamberlain (NASA HQ/BAH)** shared that [Space Apps COVID-19 Challenge 2020](#) (Theme: Using Earth Observations to Learn about COVID-19) will be held from May 30-31, 2020. This 48-hour virtual hackathon, in collaboration with NASA, ESA, and JAXA, seeks subject matter expert volunteers for this activity. If GEO members are interested, then please complete the [form](#) and mention that you are from the GEO Health CoP. **Neville Sweijd (COVID-19 Environmental Reference Group, South Africa)** requested further clarification of a hackathon. **Julie Chamberlain (NASA HQ/BAH)** described that a hackathon is when people utilize open source data online and form teams to solve problems posed by the Space Apps Challenge. She mentioned that the Space Apps Challenge 2019 had more than 29,000 participants from more than 200 cities around the world. **John Haynes (NASA HQ)** confirmed that information about Space Apps COVID-19 Challenge 2020 will be posted on the [Funding Opportunities and Challenge Competitions](#) tab on the GEO Health CoP website.

**John Haynes (NASA HQ)** shared the [webpage](#) to the COVID-19 NO<sub>2</sub> page that the NASA OMI team created recently to provide scientists with an easy way to examine how/if satellite NO<sub>2</sub> has changed in 2020 (compared to 2015-2019 average) for the same 14-day period.

**Juli Trtanj (NOAA)** asked if the Space Apps participants would have access to EO and COVID-19 data or only EO data. **Julie Chamberlain (NASA HQ/BAH)** said that they are still compiling the datasets and unsure if they would have special COVID-19 datasets. **Sushel Unninayar (NASA Goddard/GESTAR/MSU)** mentioned that COVID-19 data are available from Johns Hopkins U. and the European Union's Copernicus. **Adam Lewis (Digital Earth Africa)** mentioned that some countries may be willing to share some COVID-19 health data, such as Ghana's detailed virtual map.

**Joy Shumake-Guillemot (WHO/WMO)** provided a brief update that they are continuing to develop a plan to consolidate research on seasonality and meteorological sensitivity to COVID-19 transmission.

**Neville Sweijd (COVID-19 Environmental Reference Group, South Africa)** mentioned that he wanted to connect with GEO Health CoP members interested in seasonality aspects of COVID-19 transmission, especially as the northern hemisphere is approaching summer months and the southern hemisphere is heading into winter months.

**Sushel Unninayar (NASA Goddard/GESTAR/MSU)** shared an update that he, **Juli Trtanj (NOAA)**, and **Jared Entin (NASA)** have proposed a panel session at the American Geophysical Union Fall Meeting 2020 on environmental modelling applications related to COVID-19 transmission. He also mentioned that partial research analyses are available on the Copernicus's [Climate Data Store – Monthly Climate Explorer for COVID-19](#) webpage. **Didier Davignon (Meteorological Service of Canada)** shared the WMO/WHO statement on [Impacts on Public Health](#): “Several research teams are investigating the correlation between environmental variables such as temperature, humidity, and UV radiation, and the number of cases of COVID-19. However, it seems that climate and weather conditions such as humidity and temperature probably play a limited role in determining where and when COVID-19 occurs.” **Jennifer Wei (NASA Goddard/GES DISC)** mentioned that the [NASA Goddard Earth Sciences Data and Information Services Center](#) (GES DISC) has developed the [Air Quality and Climate Anomaly Viewer](#).

**Ana Prados (NASA Goddard/U. of Maryland Baltimore County)** mentioned that [NASA ARSET](#) will hold an introductory training, *An Inside Look at how NASA Measures Air Pollution*, on May 26 and 28, 2020. This webinar will be held in [English](#) (10AM-11:30AM EDT/GMT-4) and [Spanish](#) (2-3:30PM EDT/GMT-4). Attendees will be able to list the pollutants that can be observed by NASA satellites, download imagery for NO<sub>2</sub> and aerosols and particles, and describe capabilities and limitations of NASA NO<sub>2</sub> and aerosol measurements.

**Trisha Castranio (NIEHS)** shared the upcoming webinar, [How Climate Changes Health and Why You Should Care](#), to be presented by John Balbus (NIEHS) on Wednesday, May 6, 2020 (11AM EDT/GMT-4).

**Helena Chapman (NASA HQ/BAH)** thanked all presenters for their insightful presentations to the group. **John Haynes (NASA HQ)** and **Juli Trtanj (NOAA)** moderated the open discussion for GEO members to provide updates on their COVID-19 activities

**John Haynes (NASA HQ)** stated that the GEO Secretariat has invited the GEO Health CoP to present a 90-minute session, *GEO Community Response to the COVID-19 Pandemic*, at the upcoming [GEO Virtual Symposium 2020](#) (June 15-19, 2020). This symposium will be facilitated by himself, Juli Trtanj (NOAA), and Astrid-Christina Koch (European Commission, DG DEFIS – Copernicus). He mentioned that they may approach some GEO members to present in this symposium. If interested, GEO members can complete the [pre-registration form](#).

**Helena Chapman (NASA HQ/BAH)** mentioned that she would compile a list of interested GEO members who would like to join the seasonality and environmental discussion group for **Neville Sweijd (COVID-19 Environmental Reference Group, South Africa)** and **Ben Zaitchik (Johns Hopkins U.)**.

**Juli Trtanj (NOAA)** shared the NOAA web feature, [NOAA's Polar-Orbiting Satellites See Drop in U.S. Air Pollution](#). She mentioned that NOAA aims to develop a synthesis of modeling seasonality, which is where the agency can be helpful with long-term monitoring. She requested that GEO members contact her if they are interested in water issues (e.g. aerosolization, reopened beaches, wastewater) related to COVID-19 transmission.

**John Haynes (NASA HQ)** and **Juli Trtanj (NOAA)** moderated the discussion on forward steps related to the deep dive discussions. Various CoP members mentioned air quality issues related to wildfires, air quality modelling and forecasting applications, health impacts of heat, indigenous populations, and future NASA missions (e.g. surface biology and geology impacts to public health).

**John Haynes (NASA HQ)** and **Juli Trtanj (NOAA)** thanked all GEO Health CoP members for their outstanding presentations, their continued contributions to the field, and engagement in the group discussion. They 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)** and **Juli Trtanj (NOAA)** closed the telecon and mentioned that the next telecon would be scheduled for Tuesday, May 12<sup>th</sup> at 8:30AM EDT (GMT-4). The focus area would be air quality issues related to COVID-19 transmission.

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