



GEO's perspective on the impact of COVID-19 on Climate Science

GENeva Environment Dialogues
2 July 2020



Types of impacts of COVID-19 on the Earth observation community

- Impacts on Earth observations: focus on the space industry
- Impacts on the research agenda of the GEO community
- Impacts on GEO planned activities around climate change science and policy

Impacts on Earth observations: the space industry

- While other Earth observations are negatively affected by COVID-19, space-based measurements on climate, environment and society continued, largely without interruption.
- Only positive impact of COVID-19 on Earth observation: very strong increase in demand especially for Big Data Analytics services, both from commercial players and public entities.
- A growing interest for innovative imagery-based applications is expressed through open rapid responses procurement opportunities from space agencies, such as ESA or NASA, but also from non-space organizations.
- For space agencies the COVID-19 slowdown and recovery provides an unprecedented opportunity for assessing, refining and improving tools for tracking and quantifying the impacts of these activities on the environment (air pollution, GHG emissions, traffic, shipping, air travel...).



		Driver	Impact Level negative <-> positive				
Earth Observation	Demand		●	●	●	●	●
	Supply		●	●	●	●	●
	Private investment		●	●	●	●	●
	Public policy		●	●	●	●	●

Source: PwC, Resilience of the Space Sector to the COVID-19 crisis, April 2020

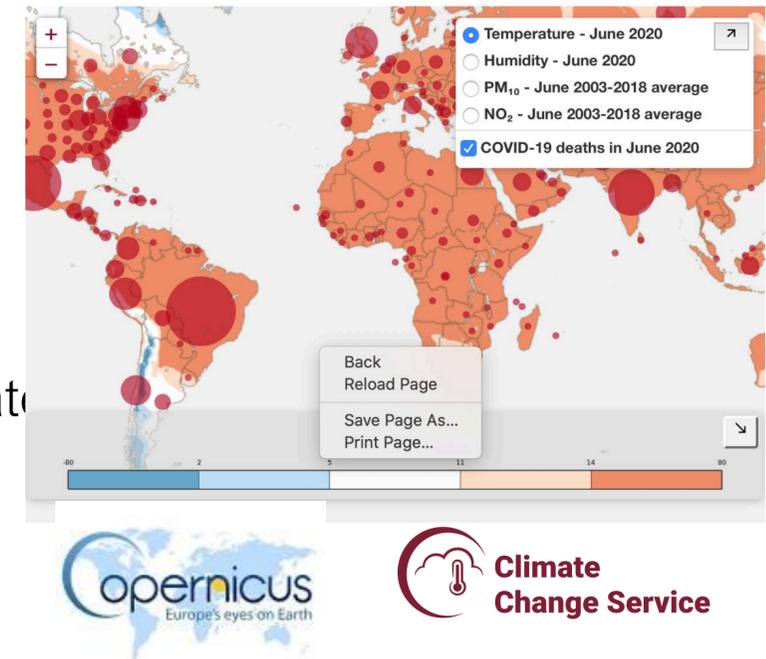
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Impacts on the research agenda of the GEO community

Space agencies are soliciting research that targets COVID-19 impacts and recovery efforts, including connections with climate, environmental and socio-economic variables:

- Copernicus activities in support of investigating the connections between COVID-19, air quality and climate: Monthly climate explorer for COVID-19 <https://cds.climate.copernicus.eu/cdsapp#!/software/app-c3s-monthly-climate-covid-19-explorer?tab=app>
- European Commission and European Space Agency (ESA) are offering Copernicus infrastructure and additional resources to monitor COVID-19: Rapid Action Coronavirus Earth (RACE) observation dashboard platform <https://www.copernicus.eu/en/events/events/european-commission-esa-press-conference-race-initiative>
- Space agencies are monitoring changes in the environment and socioeconomic activities related to COVID-19: ESA, NASA and JAXA produced the 'COVID-19 Earth Observation Dashboard' to explore environmental and economic indicators <https://eodashboard.org>
- NASA, ESA, Canadian Space Agency (CSA), and Japan Aerospace Exploration Agency (JAXA) co-sponsored a COVID-19 Virtual Hackathon on 30-31 May to engage the public to use space-based data to assess impacts and implement recovery efforts: 15,000 participants, winners to be announced in August and invited to work with experts to make real contribution to science <https://www.nasa.gov/press-release/nasa-partners-launch-virtual-hackathon-to-develop-covid-19-solutions>



Activities underway in the GEO community

Huge interest within GEO to bridge dialogue between the Earth and health science communities:

- GEO Community Response to COVID-19: 41 projects from GEO Members and partners from across the GEO Work Programme that are using Earth observation to support response and recovery actions <http://www.earthobservations.org/covid19.php>
- Since late March 2020, the GEO Health Community of Practice and the Earth Observations for Health (EO4HEALTH) Initiative have coordinated weekly community teleconferences to leverage expertise across sectors and geographies and share EO data, tools, and knowledge to support COVID-19 responses <http://www.geohealthcop.org>
- GEO Global Agricultural Monitoring Initiative (GEOGLAM) is responding to emerging food emergency as COVID-19 pandemic is predicted to exacerbate existing food crises and drive worsening food insecurity among already vulnerable populations http://www.earthobservations.org/geo_blog_obs.php?id=428
- Esri manages the COVID-19 GIS Hub to get maps, datasets, applications, and more to monitor COVID-19 <https://coronavirus-disasterresponse.hub.arcgis.com>
- GEO Indigenous COVID-19 Hackathon in May and June, focused on supporting communities to respond to local challenges. In July GEO Indigenous Alliance will present at the United Nations High Level Political Forum (HLPF) on how to benefit from Earth observations http://www.earthobservations.org/geo_blog_obs.php?id=440

Impacts on GEO planned activities around climate change science and policy

- **GEO Climate Change Working Group** launched in April, with 90+ experts: planning virtual WG meetings, workshops/webinars, engagement with UNFCCC and IPCC, and support to countries' climate action through enhanced use of Earth observation.
- **GEO first Virtual Symposium** with over 1,500 registered participants in 14 sessions throughout the week of June 15-19. Session on Earth Observations for COVID-19 Response and Recovery organised by GEO Health Community of Practice, and Session on Engaging UN agencies and IGOs with UNFCCC, GFOI, UNDRR and other partners.
- **GEO Week 2020** including climate action session postponed (tbd)

Climate change and its impacts cut across all areas of GEO's work.

GEO makes available Earth observations in support of effective policy making for climate change adaptation and mitigation, working with partners to enhance global observation systems in order to strengthen resilience and adaptive capacity to climate-related hazards.



PARIS20
UN CLIMATE CHANGE CONFERENCE
COP21-CMP



ipcc
INTERGOVERNMENTAL PANEL ON
climate change



Interactive webinars and virtual discussions

GEO VIRTUAL SYMPOSIUM 2020

15 - 19 JUNE 2020

All sessions are archived on GEO's YouTube channel and are available for viewing
<http://earthobservations.org/symposium2020.php>

#E04Impact

How can the international community participate in the upcoming GEO COVID-19 activities related to climate science?

- Engage with the **GEO Climate Change Working Group** through the GEO Secretariat for planning of COP26 side-events, dedicated expert workshops, etc
- Join the **GEO Health Community of Practice teleconferences on COVID-19 activities** in July, review materials of past teleconferences and the GEO Virtual Symposium and provide feedback to the experts
<http://www.geohealthcop.org/covid19-telecons>
- Participate in the Virtual “**Global Symposium on the seasonal and environmental confounders of the COVID-19 pandemic**”, 4-6 August 2020 – organised by Department of Science and Innovations-South Africa, WMO, Future Earth, ISC, AGU, GEO Health and partners.



Thank You

Communicate and Collaborate with GEO:



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