

GEO Programme Board Urban Resilience Subgroup (URSG)

Subgroup Report to Programme Board

17th PB Meeting - 11-12 June 2020

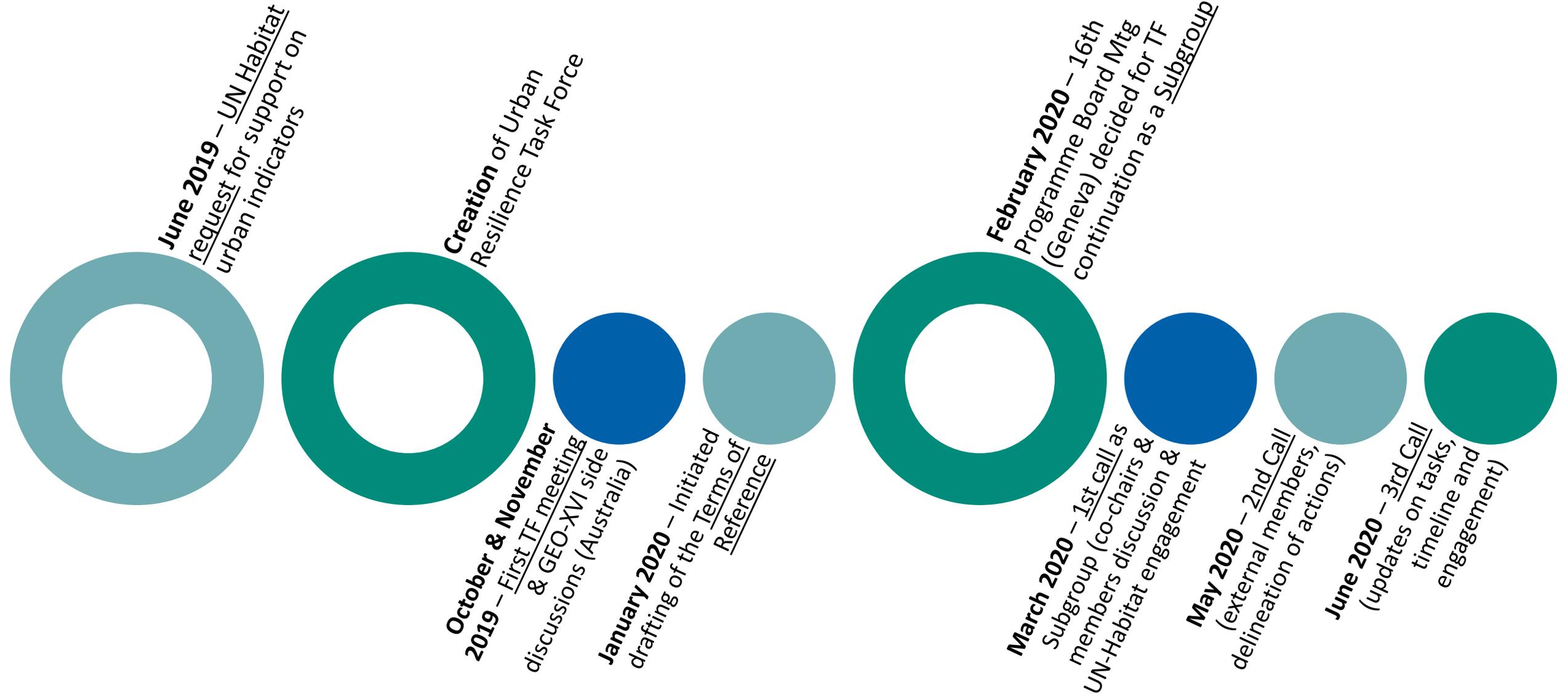
Co-Chairs: Evangelos Gerasopoulos (GR) & Ivan Petiteville (ESA)

SG Coordination support: Jennifer Bailey - Greek GEO Office/GR

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Subgroup Creation & Kickoff



June 2019 – UN Habitat request for support on urban indicators

Creation of Urban Resilience Task Force

October & November 2019 – First TF meeting & GEO-XVI side discussions (Australia)

January 2020 – Initiated drafting of the Terms of Reference

February 2020 – 16th Programme Board Mtg (Geneva) decided for TF continuation as a Subgroup

March 2020 – 1st call as Subgroup (co-chairs & members discussion & UN-Habitat engagement)

May 2020 – 2nd Call (external members, delineation of actions)

June 2020 – 3rd Call (updates on tasks, timeline and engagement)

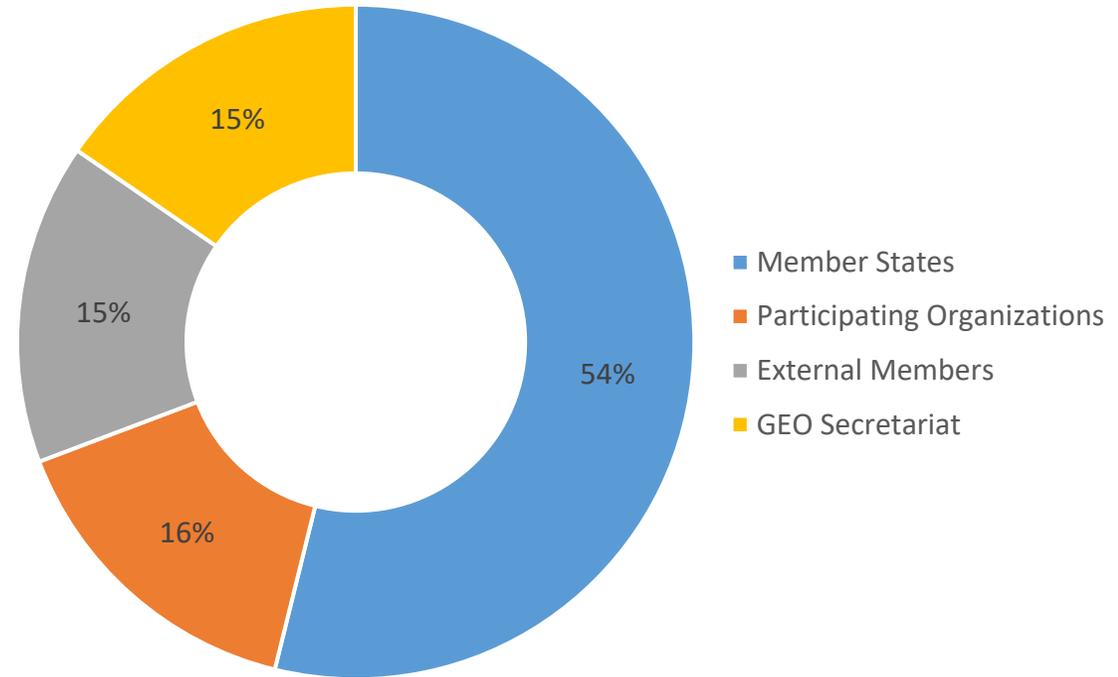
Subgroup Scope

- Identify areas for **collaboration with urban GEO Initiatives**, foster interaction with indirectly relevant GEO Flagships/Initiatives (incl. **Regional GEOs**);
- Trigger discussions between & with EO4SDG, Human Planet Initiative (HPI) & Global Urban Observation & Information Initiative (GUOI);
- **Liaise with internal & external experts** to enable cross-cutting interaction & amplification of urban GEO activities;
- With the urban GEO Initiatives, **identify use cases/inventory EO tools in service of urban indicators** (SDG & others);
- With GEO Secretariat, **support UN-Habitat/New Urban Agenda** (NUA as 4th GEO engagement priority under development aimed at bolstering the global commitment to sustainable urbanization)

Subgroup Members

- Co-Chair: Evangelos Gerasopoulos – Greece
- Co-Chair: Ivan Petiteville – ESA
- Paul Briand – Canada
- Xiang Zhou – China
- Thomas Kemper – EC/JRC
- Anita Antiwiwaa – Ghana
- Andrew Nyawade – Kenya
- Muhammad Irfan Tariq - Pakistan
- Ivan DeLoatch – United States
- Marc Paganini – ESA
- Suchith Anand – GODAN, PO
- Siri Jodha Khalsa – IEEE, PO
- Jennifer Bailey – GR, Subgroup support
- Craig Larlee – GEO Secretariat
- Steven Ramage – GEO Secretariat

Current Spread of Subgroup Members



External Members:

- Graham Colclough – European Innovation Partnership on Smart Cities & Communities (EIP-SCC)
- Nektarios Chrysoulakis – FORTH
- Engaging with Global Resilient Cities Network (in progress)
- Invitations to be sent for UN-Habitat, HPI, GUOI, & EO4SDG

External Engagement

European Innovation Partnership (EIP) – Evangelos Gerasopoulos/GR & ERA-PLANET SMURBS

- EIP on Smart Cities and Communities Subgroup member
- Networking with city-level leaders and EU-funded portfolio of smart city ‘Lighthouse’ programmes (116 cities)
- Aim to join together different parts of the puzzle for cities & bring EO to them
- Writing EIP blog highlighting “Open EOs for Sustainable Urban Development”



EIP-SCC
European Innovation Partnership
on Smart Cities and Communities



**GLOBAL
RESILIENT
CITIES
NETWORK**

Global Resilient Cities Network – Thomas Kemper/JRC

- Initial discussions with GRCN representatives and presented GEO/urban initiatives
- GRCN highlighted Milan and Thessaloniki (advanced in using geospatial information) - follow up postponed due to COVID-19
- EIP currently interacting with GCRN, also identified other Milan & Rotterdam as cities to contact

External Engagement

The two are already talking each other
we are moving from “smart cities” and
“resilient cities”
to **“smart resilience”**

The need and importance of data is
emerging rapidly. The Urban SG works
are aligned and timely to push EO use



Previous EOL

To formalize relationship



To provide grounds for response to UN-Habitat request



Currently:

UN-Habitat only accepting EOL if relate to COVID-19 or direct funding



SDG 11 Toolkit

In-kind contribution

Urban GEO activities re COVID-19

Potential SG contribution

Help to build the *Earth Observations for Sustainable Cities and Communities Toolkit*

Deadline Extended!
Apply by May 31, 2020

11 SUSTAINABLE CITIES
AND COMMUNITIES



GEO GROUP ON
EARTH OBSERVATIONS



EARTH OBSERVATIONS FOR THE
SUSTAINABLE DEVELOPMENT GOALS

UN HABITAT
FOR A BETTER URBAN FUTURE

https://www.earthobservations.org/geo_blog_obs.php?id=422

- GEO & UN-Habitat (among others) developing an EO Toolkit for SDG 11
- Build dataset/tool inventory with practical guidance for EO & SDG 11/New Urban Agenda
- To be integrated into UN-Habitat portal & GEO Knowledge Hub
- SG will use inventory & examples

Received 40+ applications from countries & cities, including NSOs, academia/research networks, municipalities, etc.

Connection with Disaster Risk Reduction Activities

GEO engagement with UN-DRR - facilitated by Steven Ramage

- GEO engagement with UN-DRR related to the UN Global Assessment Report on DRR 2022, along with a 2021 drought report
- There are linkages with urban/peri-urban areas & with priorities (Paris Agreement, Sendai Framework, SDGs, & NUA)
- Potential SG involvement – bring urban EO expertise & SG members have previous experience contributing to such reporting



Climate Change Impacts on World Heritage Cities

- **GEO Community Activity** proposal to be launched soon
- GEO Secretariat, Greek GEO Office and UNESCO (World Heritage Centre) EOL
- Follows Greek GEO-XVI (Canberra) statement on need for coordinated efforts using EO to address climate change impacts on cultural heritage
- **Focus on Urban Heritage** (high percentage of sites/monuments located in cities)
- Aim: **tangible actions**, bring together fragmented information about CC risk for urban heritage, identifying and assigning risk to sites/monuments, etc.

Call for Interest: Earth Observations for Climate Change Impacts on World Heritage Cities

As a follow up of the Greek statement during the "Action on Climate Change" Session at the GEO-XVI Plenary in Canberra in November 2019, this acts as an open invitation to gauge the interest and support of the GEO community to propose a Community Activity, incorporating urban cultural heritage aspects into the 2020-2022 Work Programme, in cooperation with UNESCO. The Community Activity will draw on the GEO community's rich expertise to realize the untapped potential of Earth observations to monitor and enable specific mitigation and adaptation strategies to shield urban cultural heritage from climate change risks. All three GEO priority engagement areas, i.e. the Paris Agreement on Climate Change, the Sendai Framework for Disaster Risk Reduction and the UN 2030 Agenda for Sustainable Development, will be addressed, allowing for an integrated Earth observation-based effort to create a better future by protecting our past. Furthermore, the activity will support the implementation of the fourth GEO engagement priority under development, the New Urban Agenda, adopted at the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) in 2016 aimed at bolstering the global commitment to sustainable urbanization where World Heritage Cities play a crucial role.

For millennia, people have engaged with cultural landscapes, archaeological sites, historic townscapes, buildings and associated intangible values, allowing for past lessons to be preserved and provide future generations a sense of belonging. The protection of heritage sites, whether of local, national or universal value, is globally recognized through organizations such as the United Nations Educational, Scientific and Cultural Organization (UNESCO) and its 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage (the "World Heritage Convention"), which provide an authoritative framework to monitor and manage the properties inscribed on the World Heritage List.¹ The UNESCO World Heritage framework also provides a number of programmes, addressing specific challenges including World Heritage Cities.²

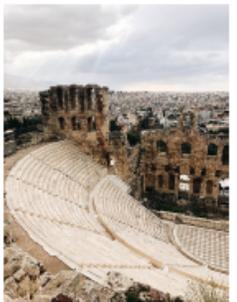
Climate change is one of the most critical issues of our time, and its impact on both cultural and natural World Heritage is more evident than ever. From the wildfires in Australia to the flooding of Venice, heritage is affected by climate change in every corner of the globe. Cultural heritage sites and their local communities are threatened by increasing fires, floods, droughts, disease, food insecurity, while the uprooting of communities due to climate change is putting entire ways of life at risk, including the practices and transmission of intangible cultural heritage often related to heritage places. The loss and damage to urban heritage, may deprive local communities who live in and around them of their abilities to access and use the sites as has been their practice, as well as their abilities to care for the sites and maintain them according to their traditional practice. The impact of climate change on our cultural heritage is not only physical, but also social and economic. Loss and damage to World Heritage properties also impact future generations. Without urgent and substantial action, including in the Least Developed Countries (LDCs), the Small Islands Developing States (SIDS) and Africa, which is a strategic priority at UNESCO, they could lead to irreversible damage and undermine the ties between heritage sites and future generations, while heritage is an important asset for identity as well as social development and livelihood. Furthermore, World Heritage properties serve as climate change observatories to gather and share information on applied and tested monitoring, mitigation and adaptation practices. Historic towns that

were densely built with a mix of commercial and residential uses and often pedestrian, also serve as models for developing mitigation/adaptation solutions.

UNESCO has been at the forefront of exploring and managing the impacts of climate change on World Heritage. In 2006, under the guidance of the World Heritage Committee, it prepared a report on Predicting and Managing the Effects of Climate Change on World Heritage (2007), followed by a compilation of Case Studies on Climate Change and World Heritage, and a Policy Document on the Impacts of Climate Change on World Heritage Properties in 2008. In 2014, it published a practical guide to Climate Change Adaptation for Natural World Heritage Sites and continues to build the capacity of site managers to deal with climate change.³ Moreover, the World Heritage Centre is in the process of updating its Policy Document on the impacts of climate change on World Heritage properties to be presented to the 44th session of the World Heritage Committee. The International Council on Monuments and Sites (ICOMOS), an Advisory Body to the World Heritage Committee, maintains a Working Group on Climate Change and Heritage, and while their main focus is to bolster the link between cultural heritage and climate change, they have identified a need to adjust and update methodologies surrounding heritage practices. The UNESCO 2011 Recommendation on the Historic Urban Landscape is another important framework to integrate heritage conservation with sustainable development.

Other global impact frames can also be used to coordinate efforts towards protecting cultural heritage assets from climate change, e.g. the UN Sustainable Development Agenda through SDG 13 to "combat climate change in all its aspects" and SDG 11 "make cities and human settlements inclusive, safe, resilient and sustainable" with its Target 11.4 to "strengthen efforts to protect and safeguard the world's cultural and natural heritage" among others. The *UNESCO Culture|2030 Indicators* launched in 2019 during the UNESCO General Conference and the Forum of Ministers of Culture, includes a specific indicator to measure the role and contribution of culture in climate adaptation and resilience.⁴

Earth observation offers a widespread means to continuously monitor and standardize practices around climate change risk to cultural heritage. Especially in World Heritage Cities, it can accelerate and improve the provision of documentary evidence of cultural heritage engaging multiple disciplines and building upon systems and frameworks already in place. Satellite imagery combined with in situ data has been noted as extremely useful for monitoring and managing sites, as well as for change detection analysis, and disaster monitoring and risk assessment (both pre and post), although gaps remain in heritage sites geographical coordinates collection and integration and usability of products for stakeholders. Monitoring for damaging elements to buildings, cities and cultural complexes can be provided with capacity building



Odeon of Herodes Atticus, a legendary site that sits beneath the slopes of the Acropolis, in the urban web center of Athens, Greece.

Photo by Jullio Inokubo on Unsplash.

³ <http://whc.unesco.org/en/climatechange/>

⁴ The Culture|2030 Indicators is a framework of thematic indicators whose purpose is to measure and monitor the progress of culture's enabling contribution to the national and local implementation of the Goals and Targets of the 2030 Agenda for Sustainable Development (<http://whc.unesco.org/en/culture2030indicators/>).



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Immediate Focus of SG: Outputs, Timeline & Prioritization



1. Inventory of urban GEO activities
 - Bring together of initiatives/foster collaboration – HPI, GUOI, EO4SDGs
 - Co-chairs inviting representatives to discuss a common roadmap (**July 2020**)
2. Initiating engagement with external players
 - Already engaging with EIP/GCRN, further identification ongoing
 - Full list of key players and interaction (**September 2020**)
3. EO use cases
 - Incorporate ongoing GEO WP activities & external examples relevant to city stakeholders
 - To be presented at the September Meeting of the PB (**September 2020**)
 - Messages: i. more EO driven solutions, ii. EO is already out there, iii. costs can be reduced.
4. Engagement with Regional GEOs
 - Co-chairs to contact (**ASAP**)
5. Identifying synergies with the New Urban Agenda
 - Engage UN-Habitat for material to determine SG engagement areas (expecting reply end of **June 2020**)
6. Consolidation of case for urban resilience as 4th GEO priority engagement
 - For presentation at the first ExCom meeting after September PB meeting (**TBD 2020**)