

Call for Expression of Interest

GEO and UN-Habitat “Earth Observation Toolkit for Sustainable Cities and Communities” Programme

Purpose

The Group on Earth Observations (GEO) and UN-Habitat “Earth Observation Toolkit for Sustainable Cities and Communities” Programme is designed to support UN Member States, including cities, in achieving the United Nations Sustainable Development Goal (SDG) 11 to “make cities and human settlements inclusive, safe, resilient and sustainable,” and to implement the New Urban Agenda (NUA) through sustained utilization of Earth observation (EO) data and applications.

The Programme aims to develop a customizable and continually updated toolkit on the integration of Earth observation and geospatial information into the urban monitoring and reporting processes on SDG targets and indicators based on inputs from UN Member States and cities. The toolkit, developed through a consultative process with countries and cities, will complement [guidance published by UN-Habitat](#), and will be produced in conjunction with UN-Habitat and a selected number of regionally representative countries and cities. It will define needs, data requirements, and provide practical guidance on the integration of remotely sensed and ground-based EO data with national statistics, socioeconomic data, and other, ancillary information to help countries monitor, report, and drive progress on SDG 11 and the NUA. The “EO Toolkit for Sustainable Cities and Communities” Programme will facilitate knowledge sharing, connect national, sub-national, and city experiences, and foster understanding between technical analysts and decision makers regarding the role and potential contributions of EO in support of SDG 11 and the NUA.

Key areas will include but will not be limited to: monitoring urban expansion and densification, tracking accessibility to public transport, taking stock of open public spaces and their distributions across urban extents, mapping slums, informal settlements and inadequate housing conditions, assessing enviro-climatic conditions and spatial typology as well as urban vulnerabilities, and reducing the adverse per capita environmental impacts of cities, including air quality. The programme will illustrate guidance and use cases on how EO technologies and advances in cloud computing platforms are applied to enable fast and cost effective access to, and use of, EO by countries, cities, and local communities. Special emphasis will be applied to analysis ready data, open data cubes, training data sets and Artificial Intelligence (AI) and Machine Learning (ML) techniques to harness EO for decision makers.

1 Programme Details and Assessment Criteria

GEO Members, and interested cities from Member countries, are invited to contribute to the design and implementation of this toolkit, in accordance with their needs and priorities. A selected list of regionally representative countries, and interested cities from those countries, will participate in a Steering Committee that will serve for a period of one year, with the possibility for renewal. The Steering Committee, consisting of the selected countries and cities from those countries, UN-Habitat, EO providers, and representatives of GEO urban-related activities, will meet (in person or virtually) as needed, and consult electronically between meetings. The participating countries and cities will act as case studies and demonstration pilots to showcase how the toolkit is used to support their monitoring, reporting, and planning activities in relation to SDG 11, the NUA and other, identified urban-related priorities.

1.1 Associated Opportunities

Becoming part of the EO Toolkit for Sustainable Cities and Communities Programme will contribute to the expedited use of EO data, applications, and tools and their integration with statistical and other data sources, with the ultimate goal of accelerated monitoring of trends at the city/urban, national, regional, and global levels.

Additional benefits to individuals and organizations include:

- Joining a global network of experts and practitioners from national/ sub-national, regional or thematic initiatives, where methods, lessons learned, good practices, and experiences in geospatial information and EO-integrated SDG efforts of relevance to SDG 11 and the NUA can be shared;
- Helping drive progress towards urban sustainability in your country and cities that choose to support the programme;
- Working at a national level to coordinate activities and ensure communication and collaboration around the national urban agenda and associated priorities;

- Receiving direct technical support and capacity development from GEO, UN-Habitat, and EO providers (Space Agencies), including on the replication of global approaches using local datasets to support their monitoring, reporting, and planning activities in relation to SDG 11 and the NUA,
- Addressing the GEO Plenary with illustrations of end-to-end applications of EO in country and city use cases; and,
- Becoming a global reference point and “go to” place for city to city and country to country learning.

1.2 Assessment Criteria

Expressions of interest will be evaluated against the following, key criteria:

1. Alignment of clearly defined country or city needs and commitment to work on the SDG areas of focus, including the following:
 - Target 11.1, By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums; Indicator 11.1.1, Proportion of urban population living in slums, informal settlements or inadequate housing
 - Target 11.2, By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons, Indicator 11.2.1, Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities
 - Target 11.3, By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries, Indicator 11.3.1, Ratio of land consumption rate to population growth rate
 - Target 11.6, By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management, Indicator 11.6.2, Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)
 - Target 11.7, By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities, Indicator 11.7.1, Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities.
2. Have existing use cases or identified new potential uses of EO to inform one or more of the aforementioned indicators or targets, and/or supplemental (new) indicators at country/ city level.
3. Willing to make data and methods applied in use cases fully documented and available via the Earth Observation Toolkit for Sustainable Cities and Communities, in a free and open manner, according to the GEOSS Data Sharing Principles and the FAIR Principles.
4. Have existing resources (personnel, funding) to demonstrate utility of EO data in own monitoring and reporting mechanisms, decision-support processes or policy development.
5. Willing to incorporate data and methods applied in use cases into national / city voluntary reviews, and present these at upcoming fora (e.g., the UN High Level Political Forum, the UN World Urban Forum, the UN World Data Forum).

Additional, preferred criteria include:

1. Represent a national statistical organization, ministry, local government or other entity involved in SDG process at national/sub-national and city level.
2. Demonstrate a good coordination mechanism between different agencies/actors, such as between city and national governments or between government ministries, or between government and civil society organizations
3. Demonstrated progress on applying EO in support of SDG 11 and NUA.

2 Evaluation Panel

Submitted expressions of interest will be reviewed and evaluated by UN-Habitat, the EO4SDG Initiative Co-chairs and the Executive Secretary, the Human Planet and GUOI initiative Co-chairs, the UN IAEG-SDG WGGI Co-Chairs, the GEO Secretariat Director, and the Co-chairs of the GEO Urban Resilience Programme Board Sub Group. Applicants submit their applications in the knowledge that the expressions of interest may be declined without further consideration, subsequent to the outcomes of the review and the evaluation process.

3 Guidelines on Earth Observation Data Usage

Use of Earth observation data from any open, free and fully accessible source is strongly encouraged in the proposed activities. To find free and open data, proponents are invited to explore the GEOSS Platform¹.

4 Intellectual Property Rights

- a) All data used in this effort should be fully documented (showing provenance and access conditions, if any), and made available in a free and open manner, according to the GEOSS Data Sharing Principles and the FAIR Principles².
- b) Data from third party space-borne platforms (either in its original or processed formats) should be made available using the same license and giving the same rights of use as the original data.
- c) Data from in situ measurements provided by third parties should be made available using the same license as the original data.
- d) Data from in situ measurements should be made available using a clear and accessible data usage license, such as Creative Commons³ or the Open Database License⁴.

5 Project Follow-up and Monitoring

1. The “Earth Observation Toolkit for Sustainable Cities and Communities” development, execution and results will be monitored by the EO4SDG and GEO Secretariats, in close consultation with UN-Habitat, the GEO Human Planet and GUOI initiatives.
2. Results from existing and new activities in support of the “Earth Observation Toolkit for Sustainable Cities and Communities” will be presented on specific side events linked to the GEO Week 2020 and the UN World Data Forum 2020. Participating countries/cities are encouraged to participate in these activities.
3. Country to country and city to city experience sharing and knowledge transfer will be encouraged through direct referrals for engagement as well as pairing where relevant.
4. Reproducible use cases will be made available via the GEO Knowledge Hub.

6 Deadline and anticipated timeline

The expected due date for the expressions of interest will be 30 days from the public release of this call. Notifications will be sent back to applicants within 15 days from the close date of submission of expressions of interest.

7 Further information

<https://unhabitat.org/>
<https://urban-data-guo-un-habitat.hub.arcgis.com/>
<http://eo4sdg.org>
<https://www.earthobservations.org/>

Please submit your applications to: Dr. Argyro Kavvada secretariat@eo4sdg.org and Mr. Steven Ramage, sramage@geosec.org by May 15, 2020.

¹ <https://www.geoportal.org>
² <https://www.nature.com/articles/sdata201618>
³ <https://creativecommons.org/>
⁴ <https://opendatacommons.org/licenses/odbl/>