Earth Observations for Sustainable Development Goals

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27-29 May 2019 / Geneva, Switzerland
Article 76:

... We will promote transparent and accountable scaling-up of appropriate public-private cooperation to exploit the contribution to be made by a wide range of data, including Earth observation and geo-spatial information, while ensuring national ownership in supporting and tracking progress.
Initiative Purpose:
Organize and realize the potential of Earth observations and geospatial information to advance the 2030 Agenda and enable societal benefits through achievement of the SDGs.

Key Emphasis:
Collaboration with national statistical offices, line ministries, national mapping agencies, global statistical community, UN Agencies, international initiatives, non-public sector

http://eo4sdg.org/  Twitter: @EO4SDG

SDGs with most opportunities
Unique Value Provided

- EO4SDG serves a fundamental role to advance global knowledge about effective ways that Earth observations can support the SDG.

- The Initiative seeks to advance the benefits of the SDG through sustained, effective use of EO. And, these uses can lead to greater awareness of, and interest in, EO to enable even greater societal benefits and inform decision-making within and across sustainable development domains.

- EO4SDG provides technical and other guidance for projects developed under other GEO activities, serving a coordination role in a federated approach to GEO’s overall service to the SDG.

- Mechanisms for collaboration with UN Statistics Division and UN SDG process / key stakeholders

- A forum for developing, documenting, sharing, and creating consensus around EO workflows that are fully replicable and reproducible for SDG Targets/Indicators
Earth Obs. and Geospatial Information Support to SDG

Opportunities for value with national:
- Planning
- Tracking
- Reporting
- Evaluating

- As of April 4, 2019

[VALUE] 232 Indicators
- 6 multiple tier indicators
- 101 tier 1 indicators
- 91 tier 2 indicators

- 1 tier 3 indicators

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A stepwise approach

**Desktop Review**
- **Step 1**: Screen the indicators
- **Step 2**: Analyse indicator metadata
- **Step 3**: Classify supported indicators
- **Step 4**: Describe role of EO in each indicator (factsheets)

**External consultation**
- **Step 5**: Consult EO experts and SDG stakeholders
- **Step 6**: Iterate and refine factsheets

**Collation of materials**
- **Step 7**: Compilation of materials:
  1. Compendium
  2. Policy brief
- **Step 8**: Review by GEO/CEOS/WGI and disseminate

**Assessing EO potential for indicators**

**National experience in using EO for selected indicators**

**Under Review**

**Compendium**

**Policy brief**
EO Integration in SDG Methodologies
- SDG indicators 6.6.1, 6.3.2, 11.3.1, 11.7.1, 15.3.1
- Feasibility studies, pilot projects, in-depth endeavors
- Focus on scalability & replicability of methods

Capacity Development
- In-person trainings: UN-GGIM 8, RCMRD Intern. Conf. 2018, AMERIGEO 2019
- Webinars (SDG Awareness; thematic webinars)
- Contribution to UN Habitat, UNEP, UNCCD activities

Stakeholder Engagement
- UN IAEG-SDG WGGI, UN-GGIM, UN Custodian Agencies
- Line ministries, NSOs, Mapping Agencies, GEO Community
- Non-public sector

Data & Information Products
- Survey to GEO Member Countries on EO data use with SDG
- Satellite data requirements, data acquisition, access, discovery and usability (with CEOS, GEOGLAM)
Key Results Achieved in 2017-2019

**EO Integration in SDG Methodologies**

**Indicator Methodology:** Moved from Tier III to Tier I

(internationally accepted methodology, data regularly produced)

- Contributed to revised monitoring methodology: explicit references to EO on spatial extent of open waters / vegetated wetlands and WQ
- Pilot tested use of EO for official monitoring on mangroves, wetlands and WQ
- Joined capacity development efforts w/ UNEP to promote EO use for national policy making

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The Water-Related Ecosystems platform, [https://www.sdg661.app/](https://www.sdg661.app/)
Key Results Achieved in 2017-2019

EO Integration in SDG Methodologies

Moving Forward ..

- Global / Regional EO products (UNEP 2020 data drive to countries, SDG661.app)
- Enhanced community engagement, country adoption of using EO (national experiences, good practice examples)
- Joined capacity development efforts w/ UNEP & countries to promote EO use for national policy making
- Guidance on EO-enabling tools & platforms

“… a progressive methodology promotes country-derived data collection to be complemented by other globally available datasets such as earth observations..”
UN Environment, SDG Indicator 6.6.1. Monitoring methodology for SDG Indicator 6.6.1

Country consultation workshop convened by UNEP, Italy on 7-9 Nov 2018
Monitoring water quality using satellite and in situ observations

UN Environment, **Countries**: Peru, Panama, Brazil, Zambia, Egypt, Uganda, Senegal

Tool development: SDG monitoring, community engagement, country adoption

Online & in person consultations

Planned workshop as part of AmeriGEO Week (Aug 19-23, 2019, Lima, Peru)

[http://eo4sdg.org](http://eo4sdg.org)

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Key Results Achieved in 2017-2019


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#EO4IMPACT19
Key Results Achieved in 2017-2019

Scaling Use of EO in support of 11.3.1

Sustainable Urbanization

- National experience from Colombia’s DANE
- Pilot with Conservation International, NASA, UN Habitat, Colombia, Mexico, Morocco, Peru
- Capacity Development Efforts: Upcoming Webinar on SDG 11.3.1 – July 23, 2019 (in English & Spanish) [NASA ARSET, UN Habitat, Conservation International]

Moving forward

- Work with Human Planet & GUOI on guidance on global datasets, EO good practices, platforms & tools, national experiences, relevance of population data at city level, definition of cities, urban vs rural
- Leverage what ALREADY EXISTS!

Trends.Earth Urban Mapper Released

https://geflanddegradation.users.earthengine.app/view/trendsearth-urban-mapper
Survey on EO Uses for SDGs by GEO Member Countries

69 Unique Responses

Government, Multinational Research or Conservation Entities

Content
• Current & future uses of EO data for SDGs
• Types of EO data
• Challenges
• Good practices, lessons learned
• Recommendations

Key Results Achieved in 2017-2019
Survey on EO Uses for SDGs by GEO Member Countries

• Current Use of EO for SDGs
  – SDG 15 most commonly addressed, 15.1.1 (forest area), 15.3.1 (degraded land)
  – 25 country examples of use of EO for analyzing and reporting on SDG Indicators
  – Additional good practice use cases

• Challenges
  – Organizational Issues*
  – Capacity Issues
  – Data Issues
  – Other: inadequate funding, other financial constraints

* Institutional coordination was the most common challenge (60% of respondents)
Key Results Achieved in 2017-2019

Survey on EO Uses for SDGs by GEO Member Countries (Cont.)

Recommendations for Action

– **Harmonization** of global best practices of EO uses with the SDGs
– **Toolkit of workflows** between EVs and SDG Indicators with **concrete examples and country use cases, including testimonials** about impact on cost, time, other resources
– Guidance on how to handle and process EO data (for different levels of geospatial expertise)
– A universal platform to enable use of EO for SDG monitoring, including a **library of workflows ready to replicate**
– A dedicated forum between countries to exchange EO best practices and address technical issues
– A process that demonstrates how EO data are used to achieve the Goals
– Workshops at national level to help promote local cross-institutional collaborations and promote skills to apply EO for SDG monitoring, analysis, and reporting
– At the GEO Ministerial Summit 2019, **showcase country success stories** of indicators and targets measured using data generated from EO

Acknowledgements:
This survey was conducted by EO4SDG Co-Chair Japan [JAXA] & Symbios in cooperation with the GEO & EO4SDG Secretariat.
Key Results Achieved in 2017-2019

Issuance of Earth Observations for Sustainable Development Awards 2019

Nominations Deadline: June 30, 2019

More information: http://eo4sdg.org http://earthobservations.org/ @GEOSEC2025 @ EO4SDG

Recognize excellence and innovation, generating examples that users can consider and pursue
Key Milestones and/or Deliverables for 2020-2022

Goal I. Demonstrate how Earth observations, geospatial information, and socio-economic and other data contribute in novel and practical ways to support sustainable development efforts and the SDGs.

- Develop good practice examples on uses of EO for SDG Targets & Indicators
- Contribute to the tier advancement of indicators that can be supported by EO
- Advance the development of SDG examples completed under thematic GEO WP Elements
- Develop the EO4SDG website into an interactive knowledge resource

Goal II. Increase skills and capabilities in uses of Earth observations for SDG activities and their broader benefits.

- Produce valuations and impact assessments on EO-integrated SDG methods
- Roll out a SDG toolbox for SDG Targets/Indicators with EO relevance
- Engage countries in capacity development (via co-design of applications, in person trainings, webinars)
- Support the coordination of Regional CapDev activities to expedite the uptake of EO for SDG
- Document national experiences and good practices including case studies, and maintain a handbook on SDG and EO

Goal III. Broaden interest, awareness, and understanding of Earth observations support to the SDGs and contributions to social, environmental, and economic benefits.

- Issue annual awards on uses of Earth observations for SDGs.
- Organize special issues, and publish one or more articles per year, in popular and scientific/trade literature on Earth observations and SDG.
- Arrange partnerships with major entities at the nexus of science, decision support, and sustainability.
Good Practices and/or Lessons Learned

- As a result of work on Indicators, statisticians (at global to national level) now recognize that measuring and monitoring requires GI/EO to provide new and consistent data sources and methodologies to inform official statistics & the SDG.
- Coordination and communication of data and results is key.
- Capacity development through co-design of applications and functional tools is essential for country adoption & ownership
- Innovative partnerships to encourage data integration from different sources
- Cross-cutting activities (across research, applications, technology, missions) to work toward an EO knowledge sharing framework for achievement of the SDGs and associated benefits

Towards an EO knowledge sharing framework
Requests for Assistance

- Need for GEO to reinforce the role of GEO Principals in coordinating with their respective national statistical offices, mapping agencies, and line ministries to help develop examples of EO uses with SDG.

- Need for GEO Sec SDG Technical Expert. This role could help work with EO4SDG and Work Programme elements on cross-cutting engagement with UN SDGs, Sendai, Paris;

- Call for GEO Member Countries & POs to share good practice examples, use cases on EO uses with SDG and/or submit nominations for the GEO Awards to recognize innovation for SDG http://eo4sdg.org/

- Call for GEO WP Elements to work with EO4SDG to develop example(s) of Earth observation contributions to SDGs at the Goal/ Target/ Indicator level.
secretariat@eo4sdg.org

Earth Observations for Sustainable Development Goals

http://eo4sdg.org

@EO4SDG/ #EO4SDG
July 30-31 SDG Training at UN-GGIM 8

Workshop Highlights:

- Approximately 35 people from the Americas participated, with the majority from SIDS in the Caribbean.
- Focus on water management, land cover, and land degradation as part of the SDGs, including remote sensing techniques; overview of data portals and tools for visualizing and acquiring EO.

Presentation material: https://arset.gsfc.nasa.gov/all/workshops/GGIM-SDGs-18

International: Trainings on Earth Observations & SDGs

ARSET Trainings for Monitoring & Meeting the UN Sustainable Development Goals

In 2015, global leaders adopted the 17 Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development. These goals aim to end all forms of poverty, and recognize that ending poverty faces hand-in-hand with strategies that build economic growth and address a range of social needs, including education, health, social protection, and job opportunities, while tackling climate change and environmental protection. (UN Sustainable Development Agenda)

Earth observations can support the implementation and monitoring of SDG targets and indicators. ARSET training helps people understand how to access and apply those observations. It’s a goal below is greyed out. It does not mean that remote sensing can’t be applied - just that ARSET has yet to offer a training related to that goal.

Click on a goal below to see relevant ARSET trainings:

GEO/CEOS special issues on EO for SDGs in scientific journals

- RSE Special Issue on “Earth Observation for the Sustainable Development Goals” (UNSW, CSIRO, NASA, GEO) – editing phase
- RS Special Issue on “EO Solutions to Support Countries Implementing the SDGs” (ITC, ESA, NASA, SANSA) – call for papers
- AGU Book on ‘Earth Observation for Global Policy Frameworks’ (NASA, EO4SDG, GEO) – review & editing phase

Capacity Building and Outreach Activities

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#EO4IMPACT19