


UN-GGIM

UN-GGIM > Inter-Agency and Expert Group on the Sustainable Development Goal Indicators (IAEG-SDGs) Working Group on Geospatial Information

In September 2015, Member States adopted the 2030 Agenda for Sustainable Development and tasked the United Nations Statistical Commission to develop the global indicator framework. The overarching principle of the 2030 Agenda for Sustainable Development is that **no one should be left behind**.

"Data which is high quality, accessible, timely, reliable and disaggregated by income, sex, age, race, ethnicity, migration status, disability and geographic location and other characteristics relevant in the national contexts" is called for (A/RES/70/1). To support implementation at all levels, the 2030 Agenda included the need to exploit the contribution to be made by a wide range of data, including Earth observations and geospatial information.

At its 46th Session in March 2015, the United Nations Statistical Commission established the Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs), composed of Member States and including regional and international agencies as observers. The IAEG-SDGs was tasked to develop a global indicator framework for the 17 goals and 169 targets of the 2030 Agenda, and to support its implementation. At its 47th Session in March 2016, the Statistical Commission agreed as a practical starting point the global indicator framework consisting of 230 indicators, subject to future technical refinement.

To meet the ambitions and demands of the 2030 Agenda, it is necessary for the global indicator framework to adequately and systematically address the issue of alternative data sources and methodologies, including geospatial information and Earth observations in the context of geographic location. The report of the IAEG-SDGs to the Statistical Commission (in March 2016) noted that the integration of statistical data and geospatial information will be key for the production of a number of indicators. As a means to address these issues, and to address specific areas relevant to SDG indicator implementation, the IAEG-SDGs created the Working Group on Geospatial Information at its third meeting in Mexico City 30 March to 1 April 2016. Soon thereafter, the IAEG-SDGs finalised the Working Group's terms of reference, which guide the activities and modalities of the Working Group.

<http://ggim.un.org/UNGGIM-wg6/>

Objectives

The primary objective of the Working Group is to ensure from a statistical and geographic location perspective that the key principle of the 2030 Agenda, to leave no one behind, is reflected in the Global Indicator Framework

Annual sessions

- ▶ Seventh session
- ▶ Sixth session
- ▶ Past sessions

Overview

- ▶ Mandates
- ▶ Aims and Objectives
- ▶ Bureau
- ▶ Regional Committees
- ▶ Expert and Working Groups
- ▶ Thematic Groups

Quick links

- ▶ UN-GGIM Events
- ▶ Past Events
- ▶ Group of Experts on Geographical Names
- ▶ Photo gallery
- ▶ UN-GGIM Quarterly Volume 1


UN-GGIM

 United Nations Secretariat
Global Geospatial Information Management

Positioning geospatial information to address global challenges
ggim.un.org

Co-Chairs



Sweden

Ms. Marie Haldorson



Mexico

Ms. Paloma Merodio Gomez



Membership

Co-Chair:	Mexico	Co-Chair:	Sweden		
Members:	Botswana	Members:	Brazil	Members:	Canada
	Chile (UN-GGIM: Americas)		China (UN-GGIM: Asia Pacific)		Colombia
	Denmark (UN-GGIM Task Team on SDGs)		Ethiopia (UN-GGIM: Africa)		France
	Germany		Germany (UN-GGIM: Europe)		Italy (UN-GGIM: Europe)
	Netherlands		Qatar (UN-GGIM: Arab States)		United Kingdom (UN-GGIM EG-ISGI)
	tba (GWG-Big Data)		UN-Habitat		WHO
	EuroStat (European Commission)		GEO Secretariat		GEO – EO4SDG
	OECD		UN-GGIM: Private Sector Network		

(March 2018)


UN-GGIM

 United Nations Secretariat
Global Geospatial Information Management

Positioning geospatial information to address global challenges

ggim.un.org

Work Plan for 2018/2019 will focus and seek to –

<p>a) Provide expert advice and guidance to IAEG-SDGs, and the larger statistical community as to how geospatial information, earth observation and other data sources can reliably and consistently contribute to the production of indicators;</p>	<p>b) Provide national and regional experiences and good practices including case studies in geospatial data generation to monitor “leaving no one behind”.</p>	<p>c) Propose strategies for undertaking methodological work on specific areas for improving disaggregation by geographic location. In particular with a focus on national and sub-national reporting, in this regard, to report to the High-Level Group, Statistical Commission and Committee of Experts on Global Geospatial Information Management</p>	<p>d) Review options and provide guidance to IAEG-SDGs on the role of National Statistical Offices in considering and applying geospatial information and earth observations primarily as a means to contribute to and validate data as part of official statistics.</p>
---	--	---	---

Shortlist
results of the analysis of the Global Indicator Framework with a “geographic location” lens

Table A:

List of Indicators where geospatial information has a direct contribution

Table B:

List of additional Indicators where geospatial information has a significant/supporting contribution.

Table A (annotated)

List of Indicators where geospatial information has a direct contribution

Goal	Target	Indicator	Tier	
Goal 2 End hunger, achieve food security and improved nutrition and promote sustainable agriculture (Reviewed in depth by HLPF in 2017)	2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality	2.4.1 Proportion of agricultural area under productive and sustainable agriculture	Tier III (FAO & UNEP)	(1)
Goal 6. Ensure availability and sustainable management of water and sanitation for all (Review in depth by HLPF in 2018)	6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally	6.3.2 Proportion of bodies of water with good ambient water quality	Tier III (UNEP & UN-Water)	(2)
	6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate	6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation	Tier II (UNESCO -UIS/ UNECE & IUCN)	(3)
	6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes	6.6.1 Change in the extent of water-related ecosystems over time	Tier III (UNEP & UN-Water, IUCN, Ramsar)	(4)

Short list of “geospatial” indicators

The IAEG SDG WG GI has selected a list of 15 indicators (5 tier I, 3 tier II, 7 tier III):

<https://unstats.un.org/sdgs/iaeg-sdgs/>

Contribution by UN-GGIM: Europe:

- Survey and evaluation by the **WG on Core Data** based on use cases for geospatial data needed for the SDG monitoring provided in June 2017
- Findings of **WG Data Integration**, Task 2 – Analysis of specific indicators 11.2.1, 11.3.1, 11.7.1 and 15.1.1 provided in December 2017

Task Stream #1 – Scope of Task

- Guided by the Five Principles of the Global Statistical Geospatial Framework (GSGF) that mainly gives guidance on **how to aggregate statistical and geospatial data** (a “bottom-up” approach) including geo-coding of unit record data;
- **Consider disaggregation techniques** involving different data sources including earth observations (a “top-down” approach).
- Also be guided by UN-GGIM adopted Minimum **List of Fundamental Geospatial Data Themes**.
- Seeks to develop and provide **guidance on disaggregation by geographic location**, by documenting and providing national experiences and identifying exemplars, develop good practices guides including referencing national exemplars and case studies.



Task Stream #2 – Scope of Task

- Build broader understanding on the **application of analysis-ready satellite earth observations** (data processed to a minimum set of requirements and organized into a form that allows immediate uptake with minimum user effort)
 - include feasibility studies, demonstration projects, pilot projects, guidance on methodology and training
- **Leverage partnerships with space agencies** to develop appropriate approaches for interested NSOs to uptake appropriate analysis or production ready satellite earth observation time series data.
- Seeks to develop **expert advice and guidance to IAEG-SDGs and statistical community**
 - document national experiences and good practices; and recommend on NSOs' role to uptake of analysis-ready satellite earth observations





Examples for goals, targets and indicators

6 CLEAN WATER AND SANITATION



Goal 6:

Ensure availability and sustainable management of water and sanitation for all

Targets:

6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all

[...]

6.6: By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

One proposed indicator is 6.6.1: „Percentage of change in the extent of water-related ecosystems over time“.

11 SUSTAINABLE CITIES AND COMMUNITIES



Goal 11:

Make cities and human settlements inclusive, safe, resilient and sustainable

Targets:

[...]

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

One proposed indicator is 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



UN-GGIM

United Nations Secretariat
Global Geospatial Information Management

Positioning geospatial information to address global challenges

ggim.un.org



Global Geodetic
Reference Frame



Geographical
Names



Addresses



Functional Areas



Buildings and
Settlements



Land Parcels
/Properties



Transport
Networks



Elevation and
Depth



Population
Distribution



Land Cover
and Use



Geology and
Soils



Physical
Infrastructure/
Service Points



Water



Imagery

Shortlist & Fundamental Data

Indicator	
2.4.1	Proportion of agricultural area under productive and sustainable agriculture
6.3.1	Proportion of wastewater safely treated
6.3.2	Proportion of bodies of water with good ambient water quality
6.5.2	Proportion of transboundary basin area with an operational arrangement for water cooperation
6.6.1	Change in the extent of water-related ecosystems over time
9.1.1	Proportion of the rural population who live within 2 km of an all-season road
9.c.1	Proportion of population covered by a mobile network, by technology
11.2.1	Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities
11.3.1	Ratio of land consumption rate to population growth rate
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
14.2.1	Proportion of national exclusive economic zones managed using ecosystem_based approaches
14.5.1	Coverage of protected areas in relation to marine areas
15.1.1	Forest area as a proportion of total land area
15.1.2	Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type
15.3.1	Proportion of land that is degraded over total land area
15.4.1	Coverage by protected areas of important sites for mountain biodiversity

Water



UN-GGIM

United Nations Secretariat
Global Geospatial Information Management

Positioning geospatial information to address global challenges

ggim.un.org

Global Geodetic
Reference FrameGeographical
Names

Addresses



Functional Areas

Buildings and
SettlementsLand Parcels
/ PropertiesTransport
NetworksElevation and
DepthPopulation
DistributionLand Cover
and UseGeology and
SoilsPhysical
Infrastructure/
Service Points

Water



Imagery

Shortlist & Fundamental Data

Land Cover and Land Use



Indicator	
2.4.1	Proportion of agricultural area under productive and sustainable agriculture
6.3.1	Proportion of wastewater safely treated
6.3.2	Proportion of bodies of water with good ambient water quality
6.5.2	Proportion of transboundary basin area with an operational arrangement for water cooperation
6.6.1	Change in the extent of water-related ecosystems over time
9.1.1	Proportion of the rural population who live within 2 km of an all-season road
9.c.1	Proportion of population covered by a mobile network, by technology
11.2.1	Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities
11.3.1	Ratio of land consumption rate to population growth rate
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
14.2.1	Proportion of national exclusive economic zones managed using ecosystem_based approaches
14.5.1	Coverage of protected areas in relation to marine areas
15.1.1	Forest area as a proportion of total land area
15.1.2	Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type
15.3.1	Proportion of land that is degraded over total land area
15.4.1	Coverage by protected areas of important sites for mountain biodiversity



UN-GGIM

United Nations Secretariat
Global Geospatial Information Management

Leveraging geospatial information to address global challenges

ggim.un.org



Global Geodetic
Reference Frame



Geographical
Names



Addresses



Functional Areas



Buildings and
Settlements



Land Parcels
/Properties



Transport
Networks



Elevation and
Depth



Population
Distribution



Land Cover
and Use



Geology and
Soils



Physical
Infrastructure/
Service Points



Water



Imagery

Shortlist & Fundamental Data

Geo- graphical Names



UN-Geospatial Data

Indicator	
2.4.1	Proportion of agricultural area under productive and sustainable agriculture
6.3.1	Proportion of wastewater safely treated
6.3.2	Proportion of bodies of water with good ambient water quality
6.5.2	Proportion of transboundary basin area with an operational arrangement for water cooperation
6.6.1	Change in the extent of water-related ecosystems over time
9.1.1	Proportion of the rural population who live within 2 km of an all-season road
9.c.1	Proportion of population covered by a mobile network, by technology
11.2.1	Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities
11.3.1	Ratio of land consumption rate to population growth rate
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
14.2.1	Proportion of national exclusive economic zones managed using ecosystem_based approaches
14.5.1	Coverage of protected areas in relation to marine areas
15.1.1	Forest area as a proportion of total land area
15.1.2	Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type
15.3.1	Proportion of land that is degraded over total land area
15.4.1	Coverage by protected areas of important sites for mountain biodiversity



Example Geographical Names:

Do they play a specific role for the SDGs?

11 SUSTAINABLE CITIES AND COMMUNITIES



Goal 11:

Make cities and human settlements inclusive, safe, resilient and sustainable

Targets:

[...]

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

One proposed indicator is 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

This indicator is an example for **social issues** which have to be addressed and monitored as well.

Apart from the importance of standardized geographical names for the identification of the features 'open spaces', the **cultural aspects** and the **language issues** related to geographical names become crucial here.



UN-GGIM

United Nations Secretariat
Global Geospatial Information Management

Positioning geospatial information to address global challenges

ggim.un.org



Global Geodetic
Reference Frame



Geographical
Names



Addresses



Functional Areas



Buildings and
Settlements



Land Parcels
/Properties



Transport
Networks



Elevation and
Depth



Population
Distribution



Land Cover
and Use



Geology and
Soils



Physical
Infrastructure/
Service Points



Water



Imagery

Example Geographical Names:

Do they play a specific role for the SDGs?

How do geographical names data files and gazetteers fit within the big picture of the SDGs?

Are the issues related to production or accessibility?

Is toponymic information like language, status of a name/language, etc. needed for all SDG indicators where geospatial data is needed?

What is UNGEGN's contribution to this overall UN/DESA - ECOSOC work program - 2030 Agenda – leaving no one behind?

UNGEGN Bulletin
No. 54:
"Geographical
names supporting
sustainable
development"
already published
in June 2018



UN-GGIM

United Nations Secretariat
Global Geospatial Information Management

Positioning geospatial information to address global challenges

ggim.un.org



Using **INSPIRE**: analysis of themes and structures in 2016

Target	Indicator	Addresses	Administrative units	Built-up area polygons	Cadastral parcels	Geographical names	Habitats and biotopes	Transport networks	Additional geometry
Goal 1 End poverty in all its forms everywhere										
1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day	1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)	X	X	X						
Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation										
9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	9.1.1 Proportion of the rural population who live within 2 km of an all-season road		X					X		
Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable										
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	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		X	X						"Open space" polygons

Are INSPIRE data and services fit for the SDG monitoring?

UN-GGIM: Europe Core Data recommendations for „content“

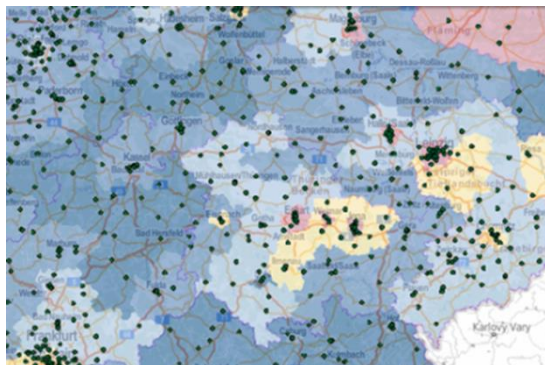
Positioning geospatial information to address global challenges

ggim.un.org



UN-GGIM: Europe WG Data Integration

Report B1: “priority user needs” – National use cases

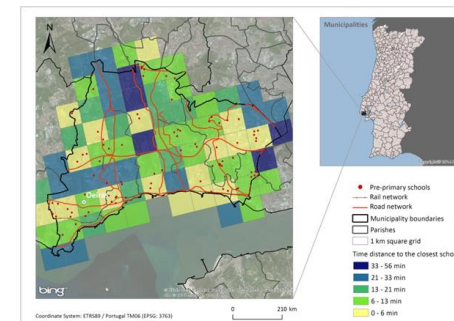


DE-examples from the geoportal

www.geoportal.de:

1. Wind Power
2. Flood protection
3. Future development of the school population
4. Accessibility of Central Locations

Albania
Germany
Denmark
Spain
Italy
Poland
Portugal
Sweden
Turkey
United Kingdom



UN-GGIM

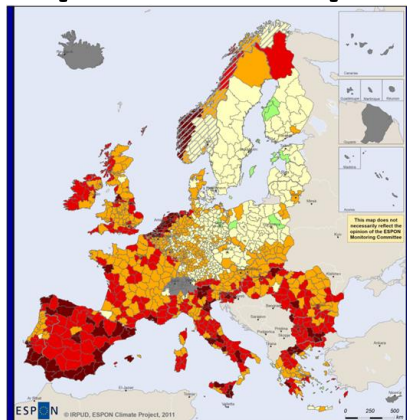
United Nations Secretariat
Global Geospatial Information Management

Positioning geospatial information to address global challenges

ggim.un.org

UN-GGIM: Europe WG Data Integration

Report B1: “priority user needs” – cross-border use cases



Examples:

1. NL – Fighting international organised crime
2. ESPON – Availability of secondary schools
3. [...]

DG REGIO
(EU-COM)

Netherlands

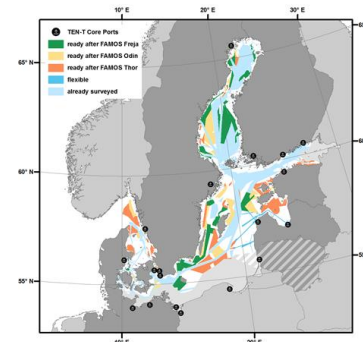
Sweden

ESPON

GEOSTAT 1B

(Eurostat)

European Court of
Auditors and
European Commission



UN-GGIM

United Nations Secretariat
Global Geospatial Information Management

Positioning geospatial information to address global challenges

ggim.un.org



UN-GGIM: Europe WG Data Integration

Current work: Gap Analysis of selected SDG indicators of goal 11 and 15

e.g. **Current National Practice(s)**: e.g. → AT, ES, IT, FI, SI, FR, DE,...

UN-GGIM: EUROPE
United Nations Secretariat
Global Geospatial Information Management

B. CURRENT NATIONAL PRACTICE | Austria (NMCA)

1. Current reporting situation

Responsibility: (Identify the agency responsible for the indicator and the situation regarding the ESS and NSS projects (including dissemination) and /or INSPIRE conformance)

The theme forest has different responsibilities in Austria:

- (1) the ministry of environment maintains forest areas from a thematic expert point of view in an autonomous agency (<https://bfw.ac.at/>) and
- (2) the ministry of economy with its federal office of metrology and surveying annually records land use areas (and therefore the forest areas) for all administrative units, derived from the Austrian cadastre (<http://www.bev.gv.at>).

This assessment focuses on (2) because it provides a precise area calculation (cadastre) of high frequency (yearly).

Indicator disaggregation: (List the indicator disaggregation by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts to support the monitoring of the implementation of the SDGs)

UN-GGIM: EUROPE
United Nations Secretariat
Global Geospatial Information Management

Cadastral measurements are used to receive forest areas.

Data quality requirements: (List in general terms the requirements for the sources and themes in use with relevant parameters: Resolution, completeness, logical consistency, positional accuracy, temporal accuracy etc. List if certain international standards are being followed, including classifications/nomenclatures. Data quality should allow computing results to the needed level of resolution and disaggregation). Please take into account the EURO-SDMX Metadata Structure (ESMS) 2.0.

The dataset for forest areas requires high temporal accuracy because administrative units may change. Definitions for forest areas are very important because any calculated area for the forest may change with its demarcation. The definition given in the metadata concepts (<https://unstats.un.org/sdgs/metadata/files/Metadata-15-01-01.pdf>) are a good starting point. It is still open how to deal with legally defined forest areas that may not be observed in remote sensing - or non-legally defined forest areas (forest observable in OI but legally not defined as forest)

Current use of geospatial data for the indicator: (Describe the current use of geospatial data, as suggested by the existing metadata – the “as-is” situation)

[...]



UN-GGIM

United Nations Secretariat
Global Geospatial Information Management

Positioning geospatial information to address global challenges

ggim.un.org



General questions?

Which fundamental data sets are available for the national SDG monitoring?

Which fundamental data sets are used for the national SDG monitoring?

Is there a competition authoritative vs. alternative data sets for the national SDG monitoring?

Is it needed to improve the quality of authoritative data sets for the national SDG monitoring?

What regional analysis for Europe are needed? Many players: Eurostat, ESA, EEA,...& global vs. national vs. regional analysis

What cooperation efforts between NSIs and NMCAs are envisaged concerning the use of fundamental data themes?

Clarify roles and tasks for the NMCAs, NSIs,...

Use of INSPIRE and Copernicus for European analysis and reports...



Thank You

<http://ggim.un.org>



UN-GGIM

United Nations Secretariat
Global Geospatial Information Management

Positioning geospatial information to address global challenges

ggim.un.org