



Geospatial information and the 2030 Agenda for Sustainable Development

The 2030 Agenda for Sustainable Development adopted a comprehensive global monitoring framework comprising 231¹ unique indicators across 169 targets and 17 Goals. The framework calls for 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" (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.

The purpose of this paper is to share country examples of SDG indicators compiled using Earth observations and geospatial data. By focussing on country examples, the paper provides transparency on the uptake of Earth observation and geospatial information by the signatories of the country-led 2030 Agenda. Cooperation opportunities can also be identified, particularly between countries, as well as areas for further exploitation of Earth observations and geospatial information.

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What SDG indicators benefit from 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 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 to produce several indicators.

To address these issues and to address specific areas relevant to the production of SDG indicators, the

IAEG-SDGs created the [Working Group on Geospatial Information](#).

The Working Group on Geospatial Information delivered the results of its review and analysis of the global indicator framework, and its compiled metadata through a 'geographic-location' lens, in its report to the IAEG-SDGs at its fifth meeting held in March 2017. The United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) at its seventh session in August 2017² was similarly informed that the Working Group had identified 15 global SDG indicators which need geospatial data and

¹ The global SDG indicator framework adopted in 2015 originally had 232 unique indicators (244 non-unique). The indicator list was revised in 2020 and now includes 231 unique indicators.

² [http://ggim.un.org/meetings/GGIM-committee/7th-Session/documents/Agenda%2012%20-%20Initial%20short-list%20\(Review%20of%20Global%20indicator%20framework%20with%20geographic%20lens\).pdf](http://ggim.un.org/meetings/GGIM-committee/7th-Session/documents/Agenda%2012%20-%20Initial%20short-list%20(Review%20of%20Global%20indicator%20framework%20with%20geographic%20lens).pdf)

another 9 which geospatial data can support. [Annex A](#) lists these 24 global SDG indicators.

The Group on Earth Observations (GEO) is a global partnership of governments and organizations that envisions “a future wherein decisions and actions for the benefit of humankind are informed by coordinated, comprehensive and sustained Earth observations”. GEO membership includes 112 UN Member States, 133 Partners/international organizations, and 15 Associates (non-governmental and private sector organizations) working to highlight and promote the value and usefulness of open Earth observations data, information and knowledge for policy, decision making and action.

Through the work of the EO4SDG initiative from the GEO work programme of 70 global projects, the GEO community has identified global SDG indicators which can be informed by Earth observation and geospatial information.³ The indicators are also included in [Annex A](#).

There are 14 global SDG indicators in common between the IAEG-SDG Working Group on Geospatial Information and GEO. The common indicators are in Goal 1 (SDG indicator 1.4.2), Goal 2 (2.4.1), Goal 5 (5.a.1), Goal 6 (6.3.2 and 6.6.1), Goal 9 (9.1.1), Goal 11 (11.2.1, 11.3.1, 11.7.1), Goal 14 (14.5.1) and Goal 15 (15.1.1, 15.3.1, 15.4.1, 15.4.2).

In addition, there are 10 global SDG indicators identified by the IAEG-SDG Working Group but not by GEO, and 15 indicators identified by GEO but not by the IAEG-SDG Working Group, making a total of 39 global SDG indicators which the Working Group and/or GEO have identified as benefiting from geospatial information.

Country examples

In response to Member State requests for practical examples of the compilation of the SDG indicators using geospatial data, [Annex A](#) provides country examples for each SDG indicator. Recognising that the 2030 Agenda is country-led and owned and calls on data to be compiled from national statistical sources, only examples which come directly from a country are

included in the Annex. Examples of compilation for a country or countries, such as Global Mangrove Watch⁴ for the change in extent of water-related ecosystems over time, are not included in this paper as this document is to share country practices only, not examples from international organizations or academia.

Fifty-four country examples have been identified for 18 SDG indicators across 22 countries. This is almost half of the 39 global SDG indicators identified by the IAEG-SDG Working Group on Geospatial Information and/or GEO as benefiting from geospatial information. The examples span seven Goals: 1, 2, 6, 9, 11, 14 and 15.

In addition to the country examples for the 16 indicators from the IAEG-SDG Working Group and/or GEO's lists, two examples were also found for SDG indicators in Goals 14 and 15. These have been included for reference as countries can choose to supplement the global SDG indicators for their national reporting purposes.

National statistical systems compiling the SDG indicators

Nine of the SDG indicators with country examples were compiled by a national statistical office, national geospatial information agency or environment ministry. The examples come from: the national statistical offices of Austria, Canada, Colombia, India, Ireland, Mexico, Netherlands, Portugal, Philippines, Sweden, Switzerland, and Turkey; the national geospatial information agencies of Finland, France, Germany, Japan and Spain; and the Environment Ministry of New Zealand.

1. SDG indicator **6.4.2** from national statistical offices of Canada (Statistics Canada) and the Netherlands (Statistics Netherlands).
2. SDG indicator **6.6.1** from Mexico's national statistical and geospatial office (INEGI), Germany's Federal Agency for Cartography and Geodesy and Environment Agency.
3. SDG indicator **9.1.1** from national statistical offices of the Philippines (PSA), Japan's

³ https://www.earthobservations.org/documents/publications/201704_geo_unggim_4pager.pdf

⁴ https://eo4sdg.org/wp-content/uploads/2020/04/Japan_6.6.1.pdf

- Geospatial Information Authority, and Colombia (DANE).
4. SDG indicator **11.2.1** from national statistical offices of: Colombia (DANE); Austria (Statistics Austria); Ireland (Statistics Ireland); Sweden (Statistics Sweden); and Switzerland (Swiss Federal Statistical Office) and from the National Geographic Institute of France (IGN).
 5. SDG indicator **11.3.1** from national statistical offices of: Colombia (DANE); Mexico (INEGI); Canada (Statistics Canada); India (Ministry of Statistics and Programme Implementation); Ireland (Statistics Ireland); Portugal (Statistics Portugal); and Sweden (Statistics Sweden), and from the National Land Survey of Finland.
 6. SDG indicator **11.7.1** from national statistical offices of: Colombia (DANE); Ireland (Statistics Ireland); and Switzerland (Swiss Federal Statistical Office); Sweden's national statistical office in collaboration with the national geospatial agency (Statistics Sweden and Swedish Mapping, Cadastral and Land Registration Authority), and from Germany's Federal Agency for Cartography and Geodesy.
 7. SDG indicator **15.1.1** from national geospatial information agencies of Germany (Federal Agency for Cartography and Geodesy), Finland (National Land Survey), France (National Geographic Institute) and Spain (National Geographic Institute), and from New Zealand's Ministry for the Environment.
 8. SDG indicator **15.3.1** from Mexico's national statistical and geospatial office (INEGI).
 9. SDG indicator **15.4.2** from Turkey's national statistical office (TurkStat), Germany's Federal Agency for Cartography and Geodesy (BKG), Japan's Geospatial Information Authority and New Zealand's Ministry for the Environment.
1. SDG indicator **1.4.2** for Ukraine jointly from the Space Research Institute National Academy of Sciences of Ukraine & State Space Agency of Ukraine; National Technical University of Ukraine 'Igor Sikorsky Kyiv Polytechnic Institute'; University of Maryland, USA; NASA Goddard Space Flight Center Code 619, USA; and National University of Life and Environmental Sciences of Ukraine.
 2. SDG Indicator **2.4.1** from the Chinese Academy of Sciences.
 3. SDG indicator **6.3.2** from Australia's CSIRO (Commonwealth Scientific and Industrial Research Organization responsible for scientific research) and NSW Government Department of Primary Industries - Office of Water, and from the Chinese Academy of Sciences.
 4. SDG indicator **11.2.1** from the Chinese Academy of Sciences.
 5. SDG indicator **11.3.1** for China from the Chinese Academy of Sciences and for Italy from Italy's e-Geos
 6. SDG indicator **11.6.2** from the Chinese Academy of Sciences.
 7. SDG indicator **11.7.1** from the Chinese Academy of Sciences.
 8. SDG indicator **14.2.1** from the Chinese Academy of Sciences.
 9. SDG indicator **15.1.1** for Ukraine jointly from the Space Research Institute National Academy of Sciences of Ukraine and State Space Agency of Ukraine; National Technical University of Ukraine 'Igor Sikorsky Kyiv Polytechnic Institute'; University of Maryland, USA; NASA Goddard Space Flight Center, Code 619, USA; and National University of Life and Environmental Sciences of Ukraine; and for Italy from Italy's e-Geos.
 10. SDG indicator **15.1.2** from the Chinese Academy of Sciences.
 11. SDG indicator **15.3.1** from Ukraine jointly from the Space Research Institute National Academy of Sciences of Ukraine and State Space Agency of Ukraine; National Technical University of Ukraine 'Igor Sikorsky Kyiv Polytechnic

Examples from national sources other than national statistical offices

Twelve SDG indicators were compiled by a countries' scientific agency and/or university. Examples found were from Australia, China, Italy and Ukraine.

Institute'; University of Maryland, USA; NASA Goddard Space Flight Center, Code 619, USA; and National University of Life and Environmental Sciences of Ukraine.

The two indicators not belonging to the IAEG-SDG Working Group and/or GEO's lists are for SDG indicator **11.4.1** from the Chinese Academy of Sciences, SDG indicator **14.1.1** from the Chinese Academy of Sciences and Australia's CSIRO in collaboration with the Australian Bureau of Meteorology, and for SDG indicator **15.5.1** from the Chinese Academy of Sciences.

An example of geospatial data use for monitoring SDGs at the local level was also found. The Deqing county in China piloted a local SDG monitoring practice, integrating geospatial data in the production of 14 SDG indicators across Goals 1, 2, 3, 6, 9, 11 and 15.⁵

Environment-related indicators

Twenty-eight SDG indicators that need or can be supported by geospatial data are environment-related indicators. Eleven of these can be compiled from the System of Environmental-Economic Accounting (SEEA), which in turn can be compiled using Earth observation data. [Annex A](#) identifies these indicators in green and provides corresponding environmental-economic accounts (water, land cover, ecosystem condition/extent). For example, Canada makes use of the SEEA System of Environmental-Economic Accounts for SDG indicators 6.4.2 and 11.3.1.

Indicator **6.4.2** is derived from physical flow accounts for water and **11.3.1** from land and ecosystem accounts.

Other frameworks can be used for compiling the environment-related indicators. For example, Finland, France, Italy, Spain and Sweden identify National Forest Inventories (NFI) as the main data sources to derive indicator **15.1.1**.

Mapping and models can also be used. For example, the New Zealand Ministry for the Environment calculates **15.1.1** and **15.4.2** with land use and land cover mapping whilst the German Federal Agency for Cartography and Geodesy calculates the same indicator from the German Land Model.

Sendai Framework for Disaster Risk Reduction

SDG indicators 1.5.1, 11.5.1 and 13.1.1 are identical and correspond to Indicators A1 and B1 of the Sendai Framework for Disaster Risk Reduction 2015-2030⁶. The integration of Sendai Framework indicators with the 2030 Agenda indicators prompts collaboration between national mapping, geospatial information institutions and NSOs, in the follow up to the Sendai Framework.⁷ UNESCAP has developed the [Disaster-related Statistics Framework \(DRSF\)](#) to improve quality and harmonization of statistics in support of monitoring and achievement of the Sendai Framework for Disaster Risk Reduction. So far, no country examples have been identified in using geospatial data for the Sendai Framework indicators. This is an area of potential collaboration between the IAEG-SDGs Working Group on Geospatial Information and GEO.

⁵ <https://sustainabledevelopment.un.org/partnership/?p=29982>. The SDG indicators are 1.4.1, 2.4.1, 3.8.1, 6.3.2, 6.6.1, 9.1.1, 11.2.1, 11.3.1, 11.7.1, 15.1.1, 15.1.2, 15.2.1, 15.3.1, 15.4.1.

⁶ <https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030>

⁷ https://www.unisdr.org/files/globalplatform/entry_bg_paper~globalsummaryreportdisasterrelateddataforsustainabledevelopment.pdf

Annex A

Goal	Indicator	Needed or supporting ⁸ ?	Country examples	Relevant SEEA accounts ⁹
Goal 1. End poverty in all its forms everywhere	1.1.1* Proportion of the population living below the international poverty line by sex, age, employment status and geographic location (urban/rural)	Geospatial data can support compilation of this indicator		
	1.4.2 Proportion of total adult population with secure tenure rights to land, (a) with legally recognized documentation, and (b) who perceive their rights to land as secure, by sex and type of tenure	Geospatial data can support compilation of this indicator	Ukraine ¹⁰	
Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture	2.4.1 Proportion of agricultural area under productive and sustainable agriculture	Geospatial data is needed to compile this indicator	China ¹¹	
Goal 3. Ensure healthy lives and promote well-being for all at all ages	3.9.1** Mortality rate attributed to household and ambient air pollution			
Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.5.1* Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated	Geospatial data can support compilation of this indicator		
Goal 5. Achieve gender equality and empower all women and girls	5.2.2* Proportion of women and girls aged 15 years and older subjected to sexual violence by persons other than an intimate partner in the previous 12 months, by age and place of occurrence	Geospatial data can support compilation of this indicator		
	5.4.1* Proportion of time spent on unpaid domestic and care work, by sex, age and location	Geospatial data can support compilation of this indicator		
	5.a.1 (a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure	Geospatial data can support compilation of this indicator		
	5.a.2* Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control	Geospatial data can support compilation of this indicator		

⁸ According to IAEG-SDG Working Group

⁹ https://seea.un.org/sites/seea.un.org/files/seea_global_indicator_review_methodological_note_post_workshop_0.pdf

¹⁰ https://eo4sdg.org/wp-content/uploads/2020/04/Ukraine_2.4.1_15.1.1_15.3.1.pdf

¹¹ https://www.fmprc.gov.cn/mfa_eng/topics_665678/2030kcxzfzc/P020190924800116340503.pdf, page 22

Goal	Indicator	Needed or supporting ^{8?}	Country examples	Relevant SEEA accounts ⁹
Goal 6. Ensure availability and sustainable management of water and sanitation for all	6.3.1** Proportion of domestic and industrial wastewater flows safely treated			SEEA Water Account
	6.3.2 Proportion of bodies of water with good ambient water quality	Geospatial data is needed to compile this indicator	Australia, ¹² China ¹³	SEEA Water Account SEEA Ecosystem Condition Account
	6.4.2** Level of water stress: freshwater withdrawal as a proportion of available freshwater resources		Canada, ¹⁴ Netherlands ¹⁵	SEEA Water Account
	6.5.1** Degree of integrated water resources management			
	6.5.2* Proportion of transboundary basin area with an operational arrangement for water cooperation	Geospatial data is needed to compile this indicator		
	6.6.1 Change in the extent of water-related ecosystems over time	Geospatial data is needed to compile this indicator	Germany, ¹⁶ Mexico ¹⁷	SEEA Ecosystem Extent Account SEEA Land Cover Account SEEA Water Accounts
Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all	7.1.1** Proportion of population with access to electricity			
Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	9.1.1 Proportion of the rural population who live within 2 km of an all-season road	Geospatial data is needed to compile this indicator	Colombia, ¹⁸ Japan, ¹⁹ Philippines ²⁰	
	9.4.1** CO ₂ emission per unit of value added			
	9.c.1* Proportion of population covered by a mobile network, by technology	Geospatial data is needed to compile this indicator		

¹² https://www.earthobservations.org/documents/publications/201703_geo_eo_for_2030_agenda.pdf, pages 9 and 10

¹³ https://www.fmprc.gov.cn/mfa_eng/topics_665678/2030kcxzfzyc/P020190924800116340503.pdf, page 30

¹⁴ https://eo4sdg.org/wp-content/uploads/2020/04/Canada_6.4.2.pdf and https://eo4sdg.org/wp-content/uploads/2020/04/Appendix-B_-_Data-sources-and-methods.htm

¹⁵ https://www.cbs.nl/-/media/_pdf/2016/51/sdgs-6-4-monitoring%20nl-ladder%20approach.pdf, page 29

¹⁶ https://geospatialworldforum.org/speaker/presentations2019/Copernicus-data-for-implementing-the-Sustainable-development-Goals-Gopika_Suresh.pdf

¹⁷ <https://ggim.un.org/meetings/2020/WG-GI-Mexico-City/documents/5.Hugo-Sanchez.pdf>

¹⁸ <https://ggim.un.org/meetings/2020/WG-GI-Mexico-City/documents/5.Sandra-Moreno.pdf>

¹⁹ <https://speakerdeck.com/hfu/partnership-activities-for-geospatial-statistical-integration?slide=7> This presentation delivered by the Geospatial Information Authority of Japan, highlights the “geospatial contribution to the government in calculating several geo-related SDG indicators” with examples for SDG 9.1.1 and 15.4.2.

²⁰

https://unstats.un.org/bigdata/events/2019/hangzhou/presentations/day2/3.%20RAI%20Presentation%20for%20International%20Symposium_Philippines.pdf

Goal	Indicator	Needed or supporting ^{8?}	Country examples	Relevant SEEA accounts ⁹
Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable	11.1.1** Proportion of urban population living in slums, informal settlements or inadequate housing			
	11.2.1 Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities	Geospatial data is needed to compile this indicator	Austria, ²¹ China, ²² Colombia, ²³ Ireland, ²⁴ France, ²⁵ Sweden, ²⁶ Switzerland ²⁷	
	11.3.1 Ratio of land consumption rate to population growth rate	Geospatial data is needed to compile this indicator	Canada, ²⁸ China, ²⁹ Colombia, ³⁰ Finland, ³¹ India, ³² Ireland, ³³ Italy, ³⁴ Mexico, ³⁵ Portugal ³⁶ Sweden ³⁷	

²¹ https://un-ggim-europe.org/wp-content/uploads/2019/05/UN_GGIM_08_05_2019-The-territorial-dimension-in-SDG-indicators-Final.pdf, page 42

²² https://www.fmprc.gov.cn/mfa_eng/topics_665678/2030kcxzfzyc/P020190924800116340503.pdf, page 38

²³ <https://ggim.un.org/meetings/2020/WG-GI-Mexico-City/documents/5.Sandra-Moreno.pdf>

²⁴ https://un-ggim-europe.org/wp-content/uploads/2019/05/UN_GGIM_08_05_2019-The-territorial-dimension-in-SDG-indicators-Final.pdf, page 42

²⁵ Idem

²⁶ Idem

²⁷ Idem

²⁸ https://eo4sdg.org/wp-content/uploads/2020/04/Canada_11.3.1.pdf and https://eo4sdg.org/wp-content/uploads/2020/04/Appendix-B_-Data-sources-and-methods.htm

²⁹ https://www.fmprc.gov.cn/mfa_eng/topics_665678/2030kcxzfzyc/P020190924800116340503.pdf, page 41

³⁰ <https://ggim.un.org/meetings/2020/WG-GI-Mexico-City/documents/5.Sandra-Moreno.pdf> and https://eo4sdg.org/wp-content/uploads/2020/04/Colombia_11.3.1.pdf

³¹ https://un-ggim-europe.org/wp-content/uploads/2019/05/UN_GGIM_08_05_2019-The-territorial-dimension-in-SDG-indicators-Final.pdf, page 51

³² http://mospi.gov.in/sites/default/files/reports_and_publication/statistical_publication/EnviStats2/b6_ES2_2020.pdf, page 115

³³ https://un-ggim-europe.org/wp-content/uploads/2019/05/UN_GGIM_08_05_2019-The-territorial-dimension-in-SDG-indicators-Final.pdf, page 51

³⁴ Idem

³⁵ <https://ggim.un.org/meetings/2020/WG-GI-Mexico-City/documents/5.Abel-Coronado.pdf>

³⁶ https://un-ggim-europe.org/wp-content/uploads/2019/05/UN_GGIM_08_05_2019-The-territorial-dimension-in-SDG-indicators-Final.pdf, page 51

³⁷ http://ggim.un.org/meetings/2018-International-Seminar-Kenya/documents/02_5th%20IAEG-SDG_WGGI_Swedish_example_Haldorson.pdf

Goal	Indicator	Needed or supporting ^{8?}	Country examples	Relevant SEEA accounts ⁹
	11.4.1 Total expenditure (public and private) per capita spent on the preservation, protection, and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed, and World Heritage Centre designation), level of government (national, regional, and local/municipal), type of expenditure (operating expenditure/investment) and type of private funding (donations in kind, private non-profit sector and sponsorship)		China ³⁸	
	11.6.2** Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)		China ³⁹	
	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	Geospatial data is needed to compile this indicator	Colombia, ⁴⁰ China, ⁴¹ Germany, ⁴² Ireland, ⁴³ Sweden, ⁴⁴ Switzerland ⁴⁵	SEEA Ecosystem Extent SEEA Land Cover Account
	11.7.2* Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months	Geospatial data can support compilation of this indicator		
Goal 12. Ensure sustainable consumption and production patterns	12.a.1** Installed renewable energy-generating capacity in developing countries (in watts per capita)			
Goal 13. Take urgent action to combat climate change and its impacts	13.1.1** ⁴⁶ Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population			
Goal 14. Conserve and sustainably use the oceans,	14.1.1 ⁴⁷ (a) <i>Index of coastal eutrophication;</i> and (b) <i>plastic debris density</i>		Australia, ⁴⁸ China ⁴⁹	SEEA Asset Accounts (Fisheries)

³⁸ https://www.fmprc.gov.cn/mfa_eng/topics_665678/2030kcxzfzyc/P020190924800116340503.pdf, page 44

³⁹ https://www.fmprc.gov.cn/mfa_eng/topics_665678/2030kcxzfzyc/P020190924800116340503.pdf, page 48

⁴⁰ <https://ggim.un.org/meetings/2020/WG-GI-Mexico-City/documents/5.Sandra-Moreno.pdf>

⁴¹ https://www.fmprc.gov.cn/mfa_eng/topics_665678/2030kcxzfzyc/P020190924800116340503.pdf, page 50

⁴² https://eo4sdg.org/wp-content/uploads/2020/04/Germany_11.7.1.pdf

⁴³ https://un-ggim-europe.org/wp-content/uploads/2019/05/UN_GGIM_08_05_2019-The-territorial-dimension-in-SDG-indicators-Final.pdf page 64 and https://un-ggim-europe.org/wp-content/uploads/2019/03/SDG_11.7.1_Average-share-of-built-up-areas-of-cities-that-is-open-space_0.pdf

⁴⁴ Idem

⁴⁵ Idem

⁴⁶ Indicator 13.1.1 is the same as indicators 1.5.1 and 11.5.1.

⁴⁷ SDG indicator 14.1.1 is not on the IAEG-SDG Working Group or GEO's list of indicators informed by, supporting or needing geospatial data. However, a country example for Australia is given in GEO's 2017 report

https://www.earthobservations.org/documents/publications/201703_geo_eo_for_2030_agenda.pdf

⁴⁸ https://www.earthobservations.org/documents/publications/201703_geo_eo_for_2030_agenda.pdf, pages 21 and 22

⁴⁹ https://www.fmprc.gov.cn/mfa_eng/topics_665678/2030kcxzfzyc/P020190924800116340503.pdf, page 58

Goal	Indicator	Needed or supporting ^{8?}	Country examples	Relevant SEEA accounts ⁹
seas and marine resources for sustainable development	14.2.1* Number of countries using ecosystem-based approaches to manage marine areas	Geospatial data is needed to compile this indicator	China ⁵⁰	
	14.3.1** Average marine acidity (pH) measured at agreed suite of representative sampling stations			
	14.4.1** Proportion of fish stocks within biologically sustainable levels			
	14.5.1 Coverage of protected areas in relation to marine areas	Geospatial data is needed to compile this indicator		SEEA Ecosystem Condition Account SEEA Biodiversity Account
Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	15.1.1 Forest area as a proportion of total land area	Geospatial data is needed to compile this indicator	Finland, ⁵¹ France, ⁵² Germany, ⁵³ Italy, ⁵⁴ New Zealand, ⁵⁵ Spain, ⁵⁶ Ukraine ⁵⁷	SEEA Ecosystem Extent Account SEEA Land Cover Account
	15.1.2* Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type	Geospatial data is needed to compile this indicator	China ⁵⁸	
	15.2.1** Progress towards sustainable forest management			SEEA Ecosystem Condition Account SEEA Ecosystem Extent Account SEEA Land Cover Account

⁵⁰ https://www.fmprc.gov.cn/mfa_eng/topics_665678/2030kcxzfzyc/P020190924800116340503.pdf, page 61

⁵¹ https://un-ggim-europe.org/wp-content/uploads/2019/05/UN_GGIM_08_05_2019-The-territorial-dimension-in-SDG-indicators-Final.pdf page 69

⁵² Idem

⁵³ https://un-ggim-europe.org/wp-content/uploads/2019/05/UN_GGIM_08_05_2019-The-territorial-dimension-in-SDG-indicators-Final.pdf page 69 and https://eo4sdg.org/wp-content/uploads/2020/04/Germany_15.1.1.pdf

⁵⁴ https://un-ggim-europe.org/wp-content/uploads/2019/05/UN_GGIM_08_05_2019-The-territorial-dimension-in-SDG-indicators-Final.pdf page 69

⁵⁵ https://eo4sdg.org/wp-content/uploads/2020/04/NZ_15.11_15.4.2.pdf

⁵⁶ https://un-ggim-europe.org/wp-content/uploads/2019/05/UN_GGIM_08_05_2019-The-territorial-dimension-in-SDG-indicators-Final.pdf page 69 and https://un-ggim-europe.org/wp-content/uploads/2019/03/SDG_11.7.1_Average-share-of-built-up-areas-of-cities-that-is-open-space_0.pdf

⁵⁷ https://eo4sdg.org/wp-content/uploads/2020/04/Ukraine_2.4.1_15.1.1_15.3.1.pdf

⁵⁸ https://www.fmprc.gov.cn/mfa_eng/topics_665678/2030kcxzfzyc/P020190924800116340503.pdf, page 70

Goal	Indicator	Needed or supporting ^{8?}	Country examples	Relevant SEEA accounts ⁹
	15.3.1 Proportion of land that is degraded over total land area	Geospatial data is needed to compile this indicator	Mexico, ⁵⁹ Ukraine ⁶⁰	SEEA Ecosystem Condition Account SEEA Ecosystem Extent Account SEEA Land Cover Account
	15.4.1 Coverage by protected areas of important sites for mountain biodiversity	Geospatial data is needed to compile this indicator		
	15.4.2 Mountain Green Cover Index	Geospatial data can support compilation of this indicator	Germany, ⁶¹ Japan, ⁶² New Zealand, ⁶³ Turkey ⁶⁴	SEEA Ecosystem Condition Account SEEA Ecosystem Extent Account SEEA Land Cover Account
	15.5.1 ⁶⁵ <i>Red List Index</i>		China ⁶⁶	
Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development	17.6.1 ^{**67} Fixed Internet broadband subscriptions per 100 inhabitants, by speed			
	17.18.1 ^{**} Statistical capacity indicator for Sustainable Development Goal monitoring			

* Identified by members of the IAEG-SDG Working Group on Geospatial Information as an SDG indicator which needs or can be supported by geospatial data but not identified by GEO as informing an SDG indicator

** Identified by GEO as informing an SDG indicator but not identified by IAEG-SDG Working Group on Geospatial Information as needed for the SDG indicator or supporting the global SDG indicator

⁵⁹ <https://ggim.un.org/meetings/2020/WG-GI-Mexico-City/documents/5.Abail-Coronado.pdf>

⁶⁰ https://eo4sdg.org/wp-content/uploads/2020/04/Ukraine_2.4.1_15.1.1_15.3.1.pdf

⁶¹ https://eo4sdg.org/wp-content/uploads/2020/04/Germany_15.4.2.pdf

⁶² <https://speakerdeck.com/hfu/partnership-activities-for-geospatial-statistical-integration?slide=7> This presentation delivered by the Geospatial Information Authority of Japan highlights collaboration between Statistics, Space and Geospatial bodies and the “geospatial contribution to the government in calculating several geo-related SDG indicators” with examples for SDG 9.1.1 and 15.4.2.

⁶³ https://eo4sdg.org/wp-content/uploads/2020/04/NZ_15.11_15.4.2.pdf

⁶⁴

https://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.32/2019/mtg2/S_2_4_Mountain_Green_Cover_Index_MGCI_Turkey.pdf FAO supported TurkStat in the compilation of the indicator. TurkStat then compiled the indicator independently and compared with FAO’s results.

⁶⁵ SDG indicator 15.5.1 is not on the Working Group or GEO’s list of indicators informed by, supporting or needing geospatial data. However, a country example was found in “Big Earth Data in Support of the Sustainable Development Goals” of the Chinese Academy of Sciences

⁶⁶ https://www.fmprc.gov.cn/mfa_eng/topics_665678/2030kcxzfzyc/P020190924800116340503.pdf, page 70

⁶⁷ The initial SDG indicator 17.6.1 Number of science and/or technology cooperation agreements and programmes between countries, by type of cooperation was deleted and replaced by 17.6.2 Fixed Internet broadband subscriptions per 100 inhabitants, by speed following the 51st Session of the Statistics Committee in 2020. Indicator 17.6.2 did not count among the geospatial-enabled SDG indicators identified by either IAEG-SDG Working Group on Geospatial Information or GEO.

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