



Japan's experiences of producing SDG indicator 15.4.2

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The 2030 Agenda for Sustainable Development stressed the importance of Geospatial Information and Earth Observations (including satellite observations) to assess the progress of SDG implementation.

Transforming our world: the 2030 Agenda for Sustainable Development, 2015

Follow-up and review

*76. We will support developing countries, particularly African countries, LDCs, SIDS and LLDCs, in strengthening the capacity of national statistical offices and data systems to ensure access to high-quality, timely, reliable and disaggregated data. 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.*

History of EO contribution to the Roadmap



Transforming our world: the 2030 Agenda for Sustainable Development, 2015



The Group on Earth Observation (GEO) set a priority of engaging with SDGs



Government of Japan (GOJ) established “SDGs Promotion Headquarters”

2015

2016

JAXA, together NASA and ESA, participate the WGGI as Earth Observation and Geospatial Data experts

2017

Japan(JAXA), together with US(NASA) and Mexico(INEGI), co-lead EO4SDG Initiative in GEO

⋮

2020

Provide EO4SDG consolidated inputs to the WGGI Roadmap development

Ministry of Internal Affairs and Comm. (MIC: Japan NSO) forms a Working Group to validate SDG Indicators – 15.4.2 (MGCI) indicator to compute and validate with EO and GI data in Japan (as initial step)

2021

Launch of the “Earth Observation Toolkit for Sustainable Cities and Human Settlements”

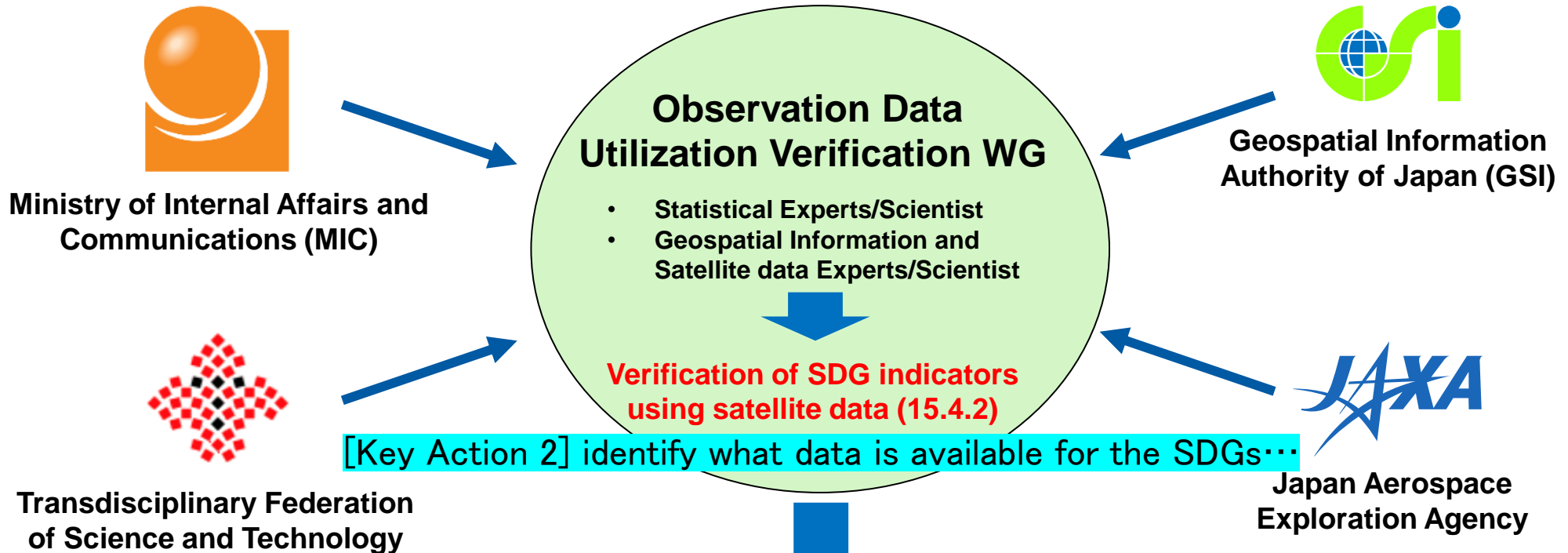
National validation result of 15.4.2 published both detail report and StoryMap

Roadmap Phase 1 “Prepare and Plan”



[Key Action 1] form a National SDGs Committee to help coordinate the production of the SDGs.

“Industry-Government-Academia Partnership Meeting for Promotion of the Use of Big Data”,
Ministry of Internal Affairs and Communications (MIC)



SDG 15.4.2 using JAXA’s satellite data was officially published as Japanese SDG national indicator

[Key Action 3,4] To be assessed in future

Roadmap Phase 2 “Design, Development and Testing”



[Key Action 1,2]

1. Identify key sources to prioritize data needs.
2. Prioritise Focus Indicators based on national circumstances and priorities.

JAXA has assessed the use of Earth observation data for SDG Indicators based on availabilities of data and methodology;

6.6.1 Spatial extent of water-related ecosystems

9.1.1 Rural population within 2km distance from all-season roads

11.3.1 Land consumption per population growth

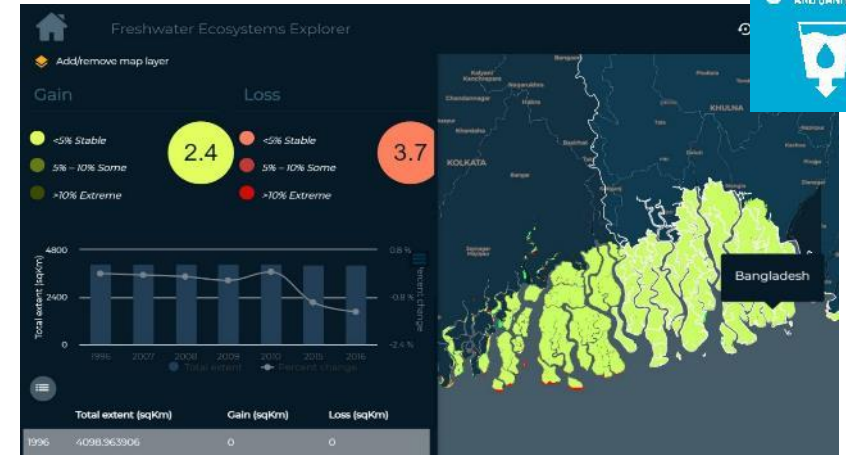
11.7.1 Share of built-up area of cities that is open space for public uses

14.1.1 Coastal eutrophication

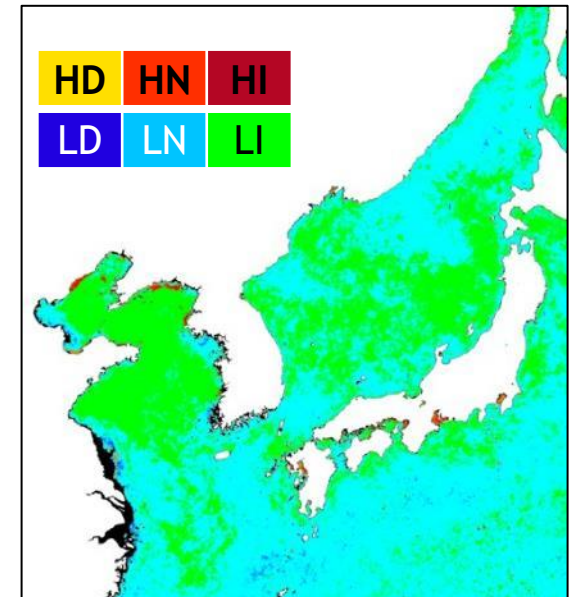
15.1.1 Forest areas as a proportion of total land area

15.3.1 Proportion of degraded land per total land

15.4.2 Mountain Green Cover Index



SDG6.6.1 platform by UNEP showing Bangladesh mangrove data



SDG14.1.1

Assessment of eutrophication in the Northwest Pacific Region
Terauchi et al 2018

Roadmap Phase 2 “Design, Development and Testing”



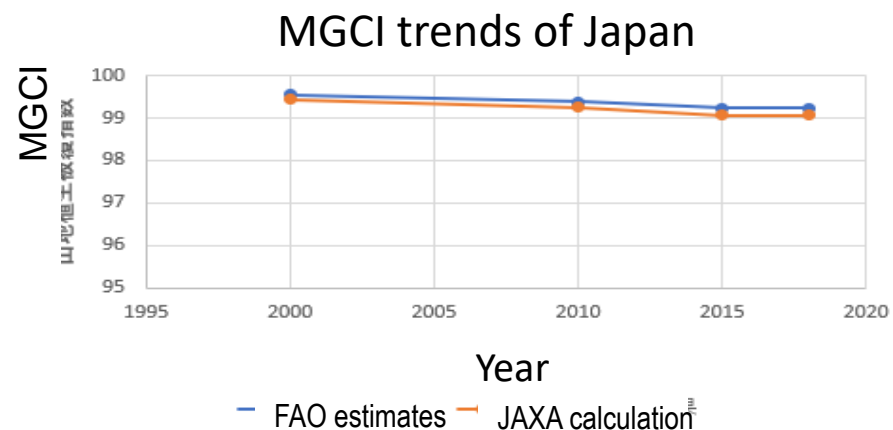
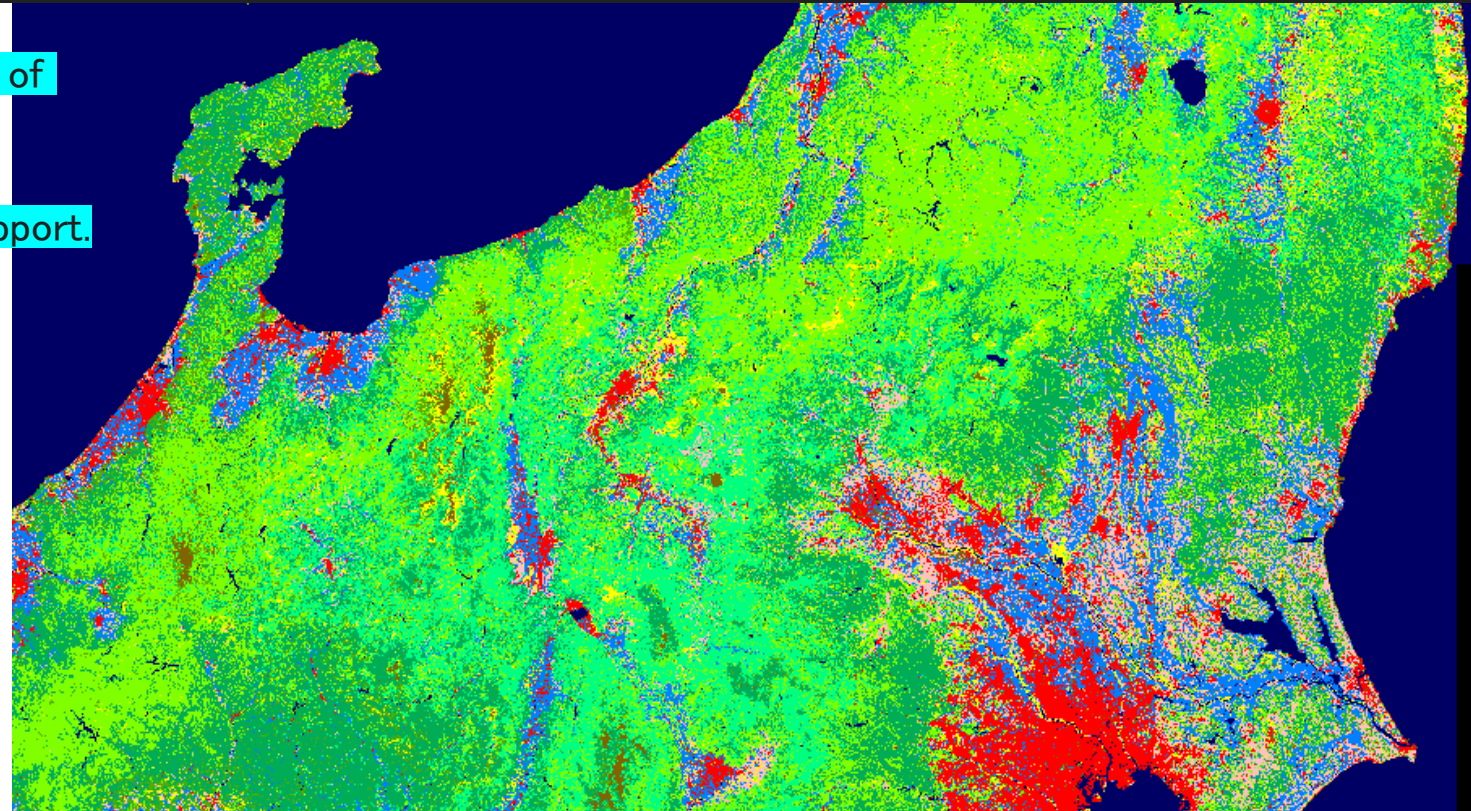
[Key Action 3,4]

3. Commit to convening workshops to promote the sharing of knowledge and experiences.

4. Convene workshops with SDG Custodians to confirm appropriate data, methods and coordinate development support.

15.4.2 Validation Results:

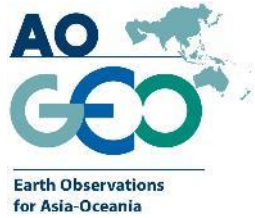
- ✓ The higher resolution and locally optimized national datasets are valuable for verification of SDG 15.4.2 MGCI in Japan, which has small geographic area and complex land use and topography.
- ✓ Reflection to the metadata revision of categorizing e.g., wetland into Green.
- ✓ Japan participates to the FAO Task Team on 15.4.2 indicator refinement



JAXA high resolution land cover data, 2014-2016

Roadmap Phase 2 “Design, Development and Testing”

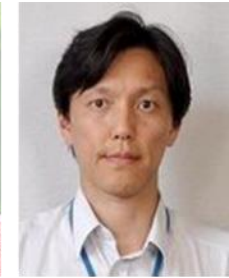
[Key Action 5]. Collaborate with regional and global entities to leverage available capacity.



1. **Introduction** by co-chairs
2. **Presentation #1:** The latest discussion of SDG Indicators and the expectation for EO (MIC/Japan)
3. **Presentation #2:** SDGs progress report by Asia Pacific countries (ESCAP)
4. **Presentation #3:** The latest activities of EO4SDG Initiative (EO4SDG)
5. **Q&A** on the 3 presentations
6. **Panel Discussion** on country cases (Malaysia, Mongol and Fiji) in applying EO data, moderated by the co-chairs
7. **Wrap-up and closing** by co-chairs



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Director of the Statistics Division
in the United Nations Economic and
Social Commission for Asia and the
Pacific (ESCAP)



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Roadmap Phase 3 “Producing, measuring, monitoring and reporting geospatially enabled SDG indicators”



Japan SDGs Action Platform

外務省 Ministry of Foreign Affairs of Japan

JAPAN SDGs Action Platform

このプラットフォームは、社会に広がるSDGsに関連した取組を幅広く紹介することを目的に運営しています

SDGsとは? 日本政府の取組 取組事例 ジャパンSDGsアワード

SDGグローバル指標 (SDG Indicators)

15: 陸の豊かさも守ろう

陸域生態系の保護、回復、持続可能な利用の推進、持続可能な森林の経営、砂漠化への対処、ならびに土地の劣化の防止・回復及び生物多様性の損失を防止する

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

グローバル指標	Global Indicator
15.4.1 山地生物多様性のための重要な場所前山にある保全された地域の範囲 Coverage by protected areas of important sites for mountain biodiversity	
15.4.2 山地グリーンカバー指数 Mountain Green Cover Index	

定義*
Definition

山地グリーンカバー指数 (MGCI) は、山地における植生被覆の割合 (%) で示される。
高精度土地分類図グリッドデータを用いる場合、山地グリーンカバー指数 (MGCI) = 山地の植生画素数 / 山地の総画素数 × 100 により計算することができる。
Mountain Green Cover Index (MGCI) is the proportion of green cover in the mountains. When using high-precision land classification map grid data, it can be calculated as follows:
Mountain Green Cover Index (MGCI) = number of green pixels in mountains / total number of green pixels in mountains × 100

* 「指標名」と定義は異なる場合があります。詳しくは「作成方法」をご覧ください。

詳細集計 Disaggregation	単位 Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Kaposa山地分類2 Kaposa mountain class 2	%	0.0	-	-	-	-	0.0	-	-	-	-
Kaposa山地分類3 Kaposa mountain class 3	%	14.3	-	-	-	-	32.4	-	-	-	-
Kaposa山地分類4 Kaposa mountain class 4	%	115.4	-	-	-	-	96.5	-	-	-	-
Kaposa山地分類5 Kaposa mountain class 5	%	98.9	-	-	-	-	99.4	-	-	-	-

Validation Report

MGCI

StoryMap – Japan’s Experiences 15.4.2



Japan’s National Experience in Producing SDG15.4.2

Under the cooperation by the Ministry of Internal Affairs and Communications (MIC), and Japan Aerospace Exploration Agency (JAXA)

January 27, 2022



Green Non-green Map

Green Non-green Map is a visualization tool to visualize the status of land cover in the Green and Non-green areas.

The last data is from the 15th publication of the Mountain Green Cover Index (MGCI) published by the Ministry of Internal Affairs and Communications (MIC) on January 27, 2022.

Kapos Mountain Classification Map

Kapos Mountain Classification Map is a visualization tool to visualize the status of land cover in the Kapos Mountain Classification areas.



StoryMap – FAO15.4.2

Office of the Chief Statistician (OCS)

Mountain Green Cover Index: revised metadata

15.4.2: Mountain Green Cover Index

15 LIFE ON LAND

Pietro Gennari, Chief Statistician, FAO
Lorenzo De Simone, Senior GEO expert, FAO
Darken Nwando, Programme Advisor, SDG

EO4SDG Website

EARTH OBSERVATIONS FOR THE SUSTAINABLE DEVELOPMENT GOALS

GROUP ON EARTH OBSERVATIONS

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EO4SDG organizes and realizes the potential of Earth observations and geospatial information to advance the United Nations 2030 Agenda and enable societal benefits through achievement of the Sustainable Development Goals.

Why satellite data utilization for SDGs indicators?



United Nations

- Data innovation
(Combination use of geospatial information and satellite data)
- Promotion and progress management of SDGs
- Validation and accuracy improvement of global statistics

National Statistics Office (NSO)

- Production and report of SDG national indicators
- Update of national statistical information system
- Improving the efficiency of national statistical data production
(shortening the statistical update cycle and reducing costs)

Space Agency

- Expansion of satellite data application fields (satellite data for statistics)
- Cooperation with the United Nations and national statistical offices
- Validation and accuracy improvement of satellite data

SDGs are opportunities for integrating statistical information, geospatial information and earth observation data



Thank you for your attention