



Committee on Earth Observation Satellites

SDG Indicator: 15.3.1 (Land Degradation) Sub-team Update

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with contributions from other team members

CEOS AHT on SDGs, 15.3.1 sub-team

CEOS SIT Technical Workshop 2020

Session and Agenda Item #2.1

Virtual Meeting - 9 September 2020



- **Target 15.3 – Land Degradation Neutrality**
 - No increase in the extent of degraded land at the national level
- **Indicator 15.3.1 – Proportion of land that is degraded over total land area**
- **Sub-Indicators**
 - Land Cover and Land Cover Change
 - Land Productivity
 - Carbon Stocks above and below ground
 - Soil Organic Carbon as an interim measure
- **UN Convention to Combat Desertification (UNCCD) Custodian Agency**



- *All progress via email, on an ad-hoc basis.*
- *Monthly reporting to the SDG AHT meeting*
- **Recommendations derived in part from association with**
 - *UNCCD SDG 15.3.1 Good Practice Guidance review (methods)*
 - *GEO Land Degradation Neutrality Initiative (user needs)*

Agency	Individual's name
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GEO LDN

Data Quality Standards



- **Summary table from GEO LDN Working Group 2**
- **Extensive consultation process**
- **Decisions and suggested standards based on comments from data providers and specialists**

Topic	Suggested provider outcome	Suggested value
Grid cell size	Minimum Data Quality Standard	100 m ²
Temporal coverage	Minimum Data Quality Standard	Specific to sub-indicator ⁸
Analysis Ready Data (ARD)	Minimum Data Quality Standard	Use ARD
Land cover classes	Minimum Data Quality Standard	User decision
LC change assessment	Minimum Data Quality Standard	Accuracy > 85%
Legend translation	Minimum Data Quality Standard	LCML
Productivity index	Minimum Data Quality Standard	NDVI
Climate calibration/normalisation	Minimum Data Quality Standard	Use uncalibrated data
Linking time series	Minimum Data Quality Standard	Linear regression
Harmonise and compare indices	Minimum Data Quality Standard	Report change
Growing season definition	Minimum Data Quality Standard	Proportional
SOC data uncertainty	Minimum Data Quality Standard	Pixel-based
Soil inventory update period	Minimum Data Quality Standard	10 years

Summary of the Requirements Table



- Provide the link to the **MOST UPDATED Spreadsheet (SDG Google Drive)**

https://drive.google.com/file/d/1RFx6RGv3aIU_BYPs7wpiVLD3EllrSa3H/view?usp=sharing

- **Priority 1 products for sub-indicators of 15.3.1**

- Land cover and land cover change maps
- Land productivity proxies (indices, fractional cover)
- Above-ground biomass & Carbon stocks (Fcover)
 - *SOC as placeholder for C stocks above and below ground*
- **Land use*

- **Main observation gaps and challenges**

- Coverage – e.g Pacific Islands
- Higher spatial resolution – larger pixels OK at continental scale
- Structural information (SAR, Lidar, integration with optical)



UNCCD (via Trends.Earth) makes global default datasets available to all countries

Intended for use only where countries do not have a national dataset

SDG Requirement	How ?		When ?	Where ?	Comments	CEOS Mission Classes
	Spatial Resolution	Measurement Type	Observation Frequency	Sampling Type		
SDG 15.3.1 Land Cover Change	10-500m	Classification	Annual	Global	ESA-CCI-LC (300m) or SEEA-MODIS as global default. Another Copernicus Dynamic Land Cover (100m) also available.	1,2
SDG 15.3.1 Land Productivity	10-500m	Optical	Weekly to Monthly	Vegetation Mask	MODIS or Copernicus NDVI (global) and higher resolution for (regional/national)	1,2
SDG 15.3.1 Soil Organic Carbon	250-1000 m	Microwave	Monthly to Annual	Vegetation Mask	Harmonised World Soil Database (HWSD) or SoilGrids global soil products	1,5
* 15.3.1 - Reporting expected at 4-year intervals						



- **Summary including main updates provided and challenges about EO data for this indicator**
 - GEO LDN defined minimum data quality standards
 - Avoids specifying datasets
 - Development of new products required
 - E.g. C stocks above and below ground
 - Need for consistent & frequent observations for all sub-indicators
 - Baseline - 1 Jan 2000 to 31 Dec 2015
 - through to 2030

- **KEY MESSAGES FOR THE CEOS AGENCIES**
 - Improved coverage globally (e.g. Pacific Islands)
 - Closer links to local scale needs (GEO, local work groups, higher resolution data)
 - UNCCD and GEO LDN are well connected and informed on end user needs and data provider network – very willing to communicate



Thank you

***We will happily respond to your questions in the Q&A session
Or please contact us at:***

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