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UNCCD Chief Science Technology & Innovation

Ingrid Teich

WOCAT - CDE Senior Research Scientist

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Joint Research Centre Senior Scientific and Technical Project Officer

Mustapha Mimouni

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Taylor Campbell

Creatve Commons Project Lead for Open Science

Nicole Harari

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Innovations for UNCCD Reporting 2026: Highlights from the SDG 15.3.1 Good Practice Guidance Addendum

Side Event at CRIC23

United Nations Convention to Combat Desertification

Monday, 1 December
13:15–14:45
CARIBE 5
Interpretation EN – ES
Snacks provided

WOCAT

United Nations Convention to Combat Desertification

UNIVERSITY OF BERN
CDE

CRIC23

United Nations Convention to Combat Desertification

CRIC23
United Nations Convention to Combat Desertification

Opening remarks

Johns Muleso Kharika

Chief of Science, Technology and Innovation of the UNCCD

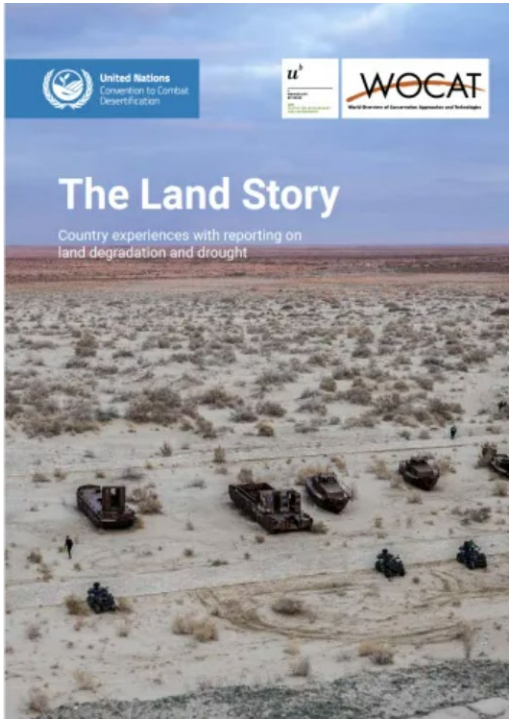
CRIC23
United Nations Convention to Combat Desertification

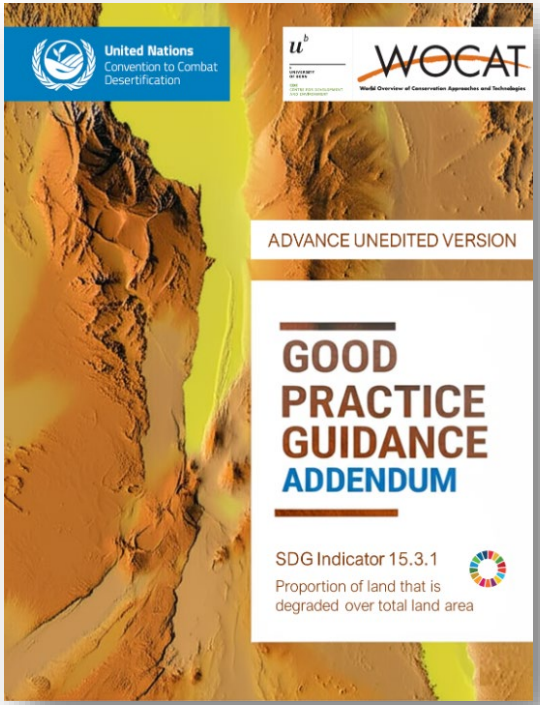
Addendum to the SDG 15.3.1 Good Practice Guidance: Key Innovations relevant for the 2026 Reporting Process

Ingrid Teich

Senior Research Scientist
University of Bern, CDE / WOCAT

Lessons learnt from the 2022 reporting process





WOCAT
World Overview of Conservation Approaches and Technologies

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United Nations
Convention to Combat Desertification

CONSERVATION INTERNATIONAL

JRC
EUROPEAN COMMISSION

Food and Agriculture Organization of the United Nations

APACHETA

CBAS

PLM
Partnership Initiative for Sustainable Land Management

OBSERVATOIRE DU SAHARA ET DU SAHEL

TRENDS.EARTH
tracking land change
from Conservation International

prais4

15 LIFE ON LAND

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

CONSERVE AND RESTORE TERRESTRIAL AND FRESHWATER ECOSYSTEMS

By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.

END DEFORESTATION AND RESTORE DEGRADED FORESTS

By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.

END DESERTIFICATION AND RESTORE DEGRADED LAND

By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world.

ENSURE CONSERVATION OF MOUNTAIN ECOSYSTEMS

By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development.

PROTECT BIODIVERSITY AND NATURAL HABITATS

Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.

PROMOTE ACCESS TO GENETIC RESOURCES AND FAIR SHARING OF THE BENEFITS

Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed.

ELIMINATE POACHING AND TRAFFICKING OF PROTECTED SPECIES

Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products.

PREVENT INVASIVE ALIEN SPECIES ON LAND AND IN WATER ECOSYSTEMS

By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species.

INTEGRATE ECOSYSTEM AND BIODIVERSITY IN GOVERNMENTAL PLANNING

By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.

INCREASE FINANCIAL RESOURCES TO CONSERVE AND SUSTAINABLY USE ECOSYSTEM AND BIODIVERSITY

Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems.

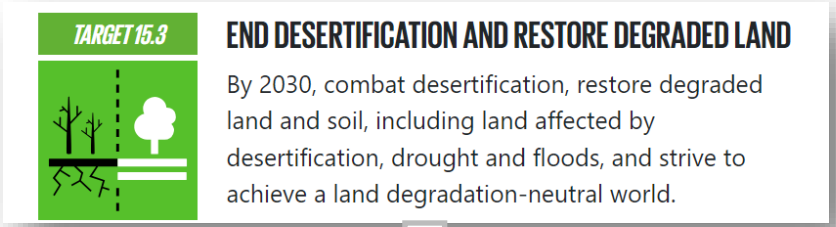
FINANCE AND INCENTIVIZE SUSTAINABLE FOREST MANAGEMENT

Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation.

COMBAT GLOBAL POACHING AND TRAFFICKING

Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities.

SDG indicator 15.3.1



To monitor progress towards achieving SDG Target 15.3, one indicator was adopted.

SDG indicator 15.3.1:
Proportion of land that is degraded over total land area

UNCCD is the CUSTODIAN AGENCY

The institution responsible for compiling and verifying country data and metadata of a particular SDG indicator; and for submitting the data, along with regional and global aggregates to the United Nations Statistics Division. It also provides Technical guidance to countries.

United Nations
Convention to Combat Desertification

The UNCCD is the Custodian Agency of SDG indicator 15.3.1

Decision 7/COP.13

The future strategic framework of the Convention

The Conference of the Parties,

Recalling decisions 3/COP.8, 12/COP.11, 7/COP.12, 8/COP.12 and 10/COP.12,

Recognizing that the adoption of a strategic framework contributes to a more focused, targeted, effective and efficient implementation of the UNCCD and to systematic monitoring and assessment of progress in the implementation of the Convention,

Acknowledging the outcomes of the United Nations Conference on Sustainable Development (Rio+20) related to desertification, land degradation and drought, as well as the Aichi Biodiversity Targets, Paris Agreement and Sendai Framework for Disaster Risk Reduction 2015–2030,

Reaffirming the 2030 Agenda for Sustainable Development and the Addis Ababa Action Agenda which is an integral part of it, and *recognizing* the important impact that United Nations Convention to Combat Desertification (UNCCD) implementation will have on the overall achievement of their objectives,

Welcoming the endorsement of the scientific conceptual framework for land degradation neutrality[6] and the work done by the Global Mechanism, particularly to put this concept into action through the voluntary Land Degradation Neutrality Target Setting Programme,

Highlighting the importance of civil society in all matters relating to UNCCD implementation at local, national, subregional and regional levels and reconfirming the important role of civil society in the implementation of the Convention and the strategic framework (UNCCD 2018–2030 Strategic Framework) annexed to this decision,

Acknowledging that gender equality and the empowerment of women, girls and youth will make a crucial contribution to the implementation of the Convention and the UNCCD 2018–2030 Strategic Framework and to achieving the goals of the 2030 Agenda for Sustainable Development,

Noting the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security[7] and *recognizing* their potential contribution to the effective implementation of the UNCCD 2018–2030 Strategic Framework,

Recalling decision 15/COP.13 that requests the Committee on Science and Technology to assist in the work relating to the establishment and improvement of the monitoring framework for strategic objective 3 of the UNCCD 2018–2030 Strategic Framework,

Emphasizing the potential for synergies in efforts to address desertification/land degradation and drought and other major environmental challenges,

[6] Decision 18/COP.13.

[7] <www.fao.org/docrep/016/i2801e/i2801e.pdf>.

UNCCD 2018-2030 Strategic Framework

VISION + 5 SOs + IF

UNCCD uses national reporting as a tool to monitor progress toward the strategic objectives.

1. SO: Strategic objectives

A. SO-1: To improve the condition of affected ecosystems, combat desertification/land degradation, promote sustainable land management and contribute to land degradation neutrality.
- SO1-1 Trends in land cover
- SO1-2 Trends in land productivity or functioning of the land
- SO1-3 Trends in carbon stocks above and below ground
- SO1-4 Proportion of degraded land over the total land area
- SO1 Voluntary Targets

B. SO-2: To improve the living conditions of affected populations.
- SO2-1 Trends in population living below the relative poverty line and/or income inequality in affected areas
- SO2-2 Trends in access to safe drinking water in affected areas
- SO2-3 Trends in the proportion of population exposed to land degradation disaggregated by sex
- SO2 Voluntary Targets

C. SO-3: To mitigate, adapt to, and manage the effects of drought in order to enhance resilience of vulnerable populations and ecosystems.
- SO3-1 Trends in the proportion of land under drought over the total land area
- SO3-2 Trends in the proportion of the population exposed to drought
- SO3-3 Trends in the degree of drought vulnerability
- SO3 Voluntary Targets

D. SO-4: To generate global environmental benefits through effective implementation of the United Nations Convention to Combat Desertification.
- SO4-1 Trends in carbon stocks above and below ground
- SO4-2 Trends in abundance and distribution of selected species
- SO4-3 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type
- SO4 Voluntary Targets

E. SO-5: To mobilize substantial and additional financial and non-financial resources to support the implementation of the Convention by building effective partnerships at global and national level
- SO5-1 Bilateral and multilateral public resources
- SO5-2 Domestic public resources
- SO5-3 International and domestic private resources
- SO5-4 Technology transfer
- SO5-5 Future support for activities related to the implementation of the Convention

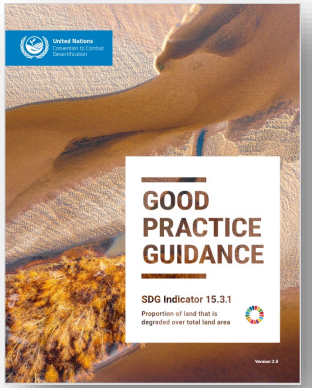
2. IF: Implementation Framework

A. Financial and Non-Financial Sources

B. Policy and Planning

C. Action on the Ground

SDG 15.3.1
PROPORTION OF LAND THAT IS DEGRADED



TRENDS IN LAND COVER

"transformational" variable

SO1-1

TRENDS IN LAND PRODUCTIVITY

"fast" ecological variable

SO1-2

TRENDS IN CARBON STOCKS

"slow" ecological variable

SO1-3

"While it is difficult for a single indicator to fully capture the state or condition of the land, the sub-indicators are proxies to monitor the essential variables that reflect the capacity of the land to deliver ecosystem services" Sims et al. 2021

Addendum to the SDG 15.3.1 GPG

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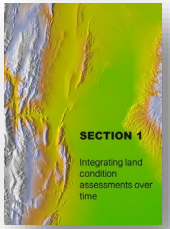


Section 1

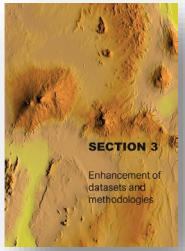
INTEGRATING LAND CONDITION ASSESSMENTS OVER TIME

Focusses on the timeframe of the data used to assess land condition in each reporting period, on how to integrate the period assessment with the baseline, as well as providing additional guidelines on how to interpret and visualize changes over

Section 2

TRACKING PROGRESS TOWARDS LDN

This section responds to the need for guidance on incorporating the improved land component and the neutrality mechanism into target setting, LDN intervention planning, prioritizing areas for investment, and tracking progress towards LDN.



Section 3

ENHANCEMENT OF DATASETS AND METHODOLOGIES

Introduces new datasets related to land cover, land productivity, and soil organic carbon (SOC), and discusses various methods and experiences in comparing and selecting the most representative datasets for different contexts .

1.1 PERIOD assessment

After the baseline period (2000–2015), the first reporting period (Period 1) covers January 1, 2016, to December 31, 2019. Subsequent reporting processes follow every four years, with periods increasing their duration by four years: Period 2 spanning 2016–2023, Period 3 covering 2016–2027, and Period 4 assessing changes from 2016 to 2031. Each reporting period evaluates changes in land condition through the three sub-indicators.

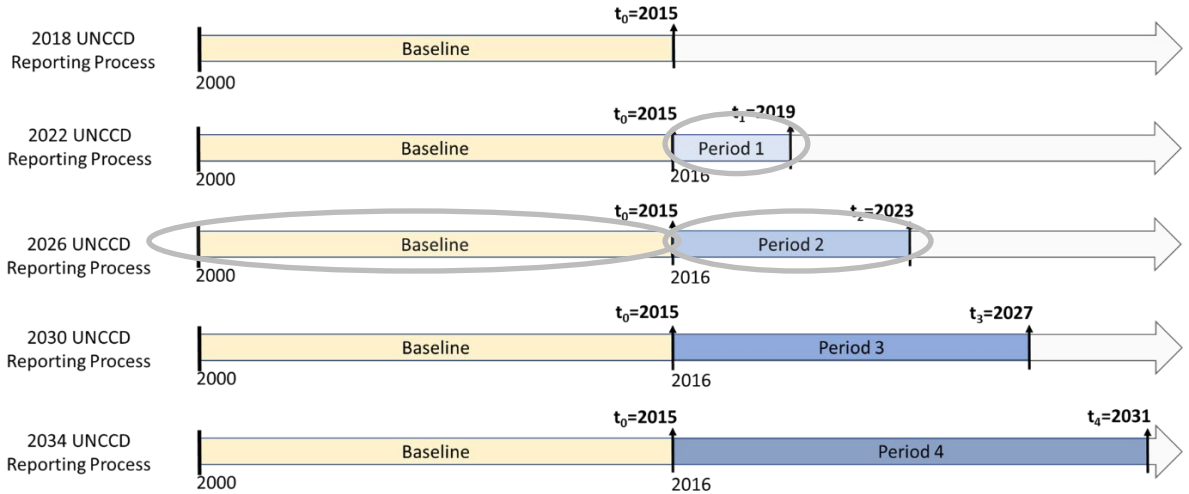


Figure 1: Timeline illustrating the four-year UNCCD reporting frequency for SDG 15.3.1.

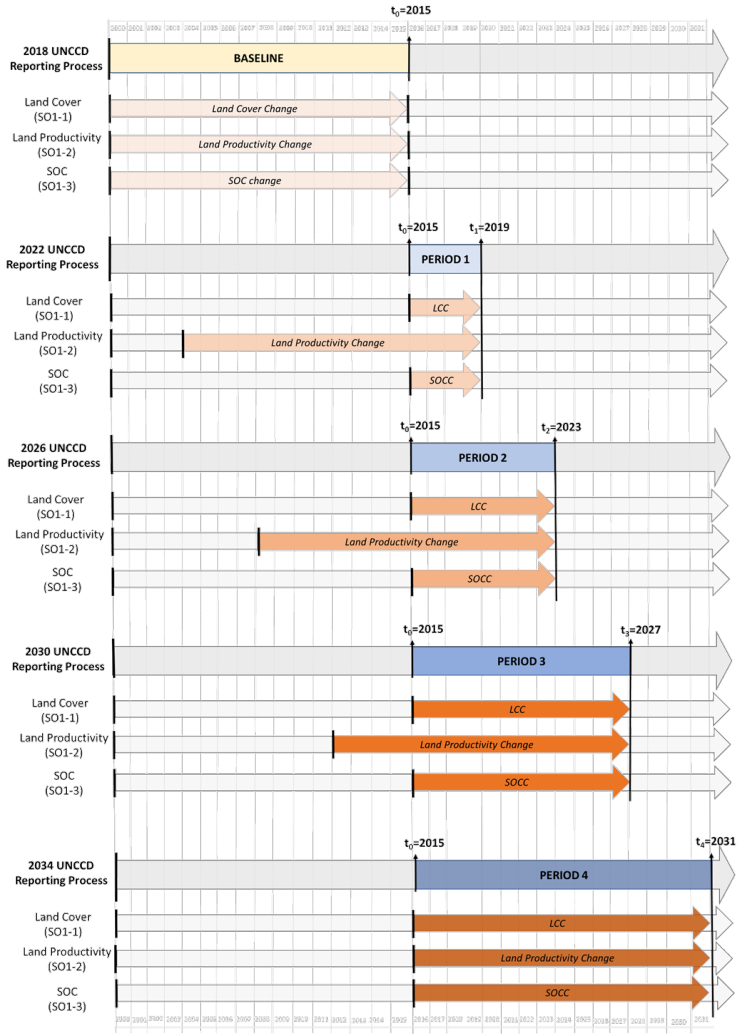
1.1 PERIOD assessment

Further clarification on the timeframes of the datasets used for Sub Indicator is included in the Addendum.

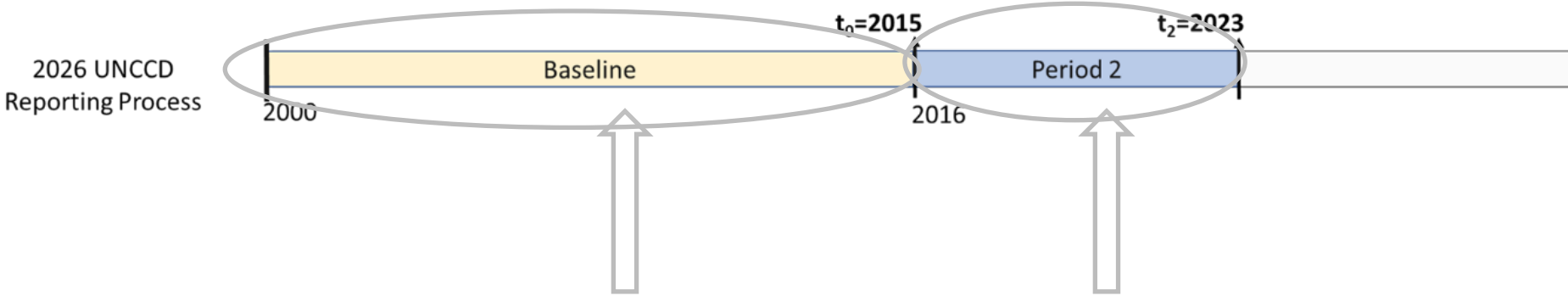
Period	Trends in Land cover	
	Initial Land Cover Year	*Final Land Cover Year*
Baseline: 2000-2015	2000	2015
Period 1: 2016-2019	2015	2019
Period 2: 2016-2023	2015	2023
Pe		
Pe		

Period	Trends in Land Productivity	
	Initial Year	*Final Year*
Baseline: 2000-2015	2000	2015
Period 1: 2016-2019	2004	2019
Period 2: 2016-2023	2008	2023
Period 3: 2016-2027	2012	2027
Period		

Period	Trends in Carbon Stocks	
	Initial Year	*Final Year*
Baseline: 2000-2015	2000	2015
Period 1: 2016-2019	2015	2019
Period 2: 2016-2023	2015	2023
Period 3: 2016-2027	2015	2027
Period 4: 2016-2031	2015	2031



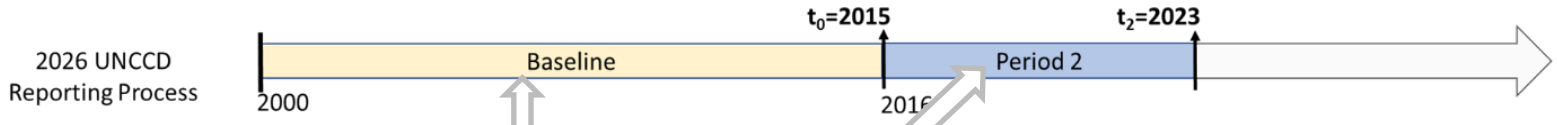
2026 Reporting process: periods for SO1-1, SO1-2 and SO1-3



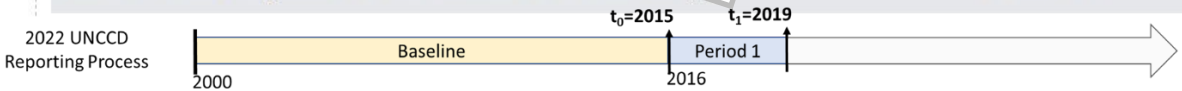
	Baseline period View raster		Reporting period View raster	
	Area (km²)	Percent of total country area (%)	Area (km²)	Percent of total country area (%)
Land area with improved land cover ⓘ	1335.24	1.77 %	143.27	0.19 %
Land area with stable land cover ⓘ	73091.67	97.11 %	74354.74	98.79 %
Land area with degraded land cover ⓘ	837.59	1.11 %	766.48	1.02 %
Land area with no land cover data ⓘ	0	0 %	0	0 %

2026 Reporting process: periods for SO1-4 (SDG 15.3.1)

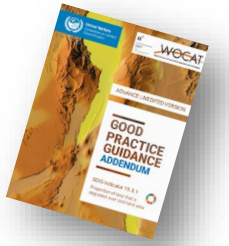
It is necessary to estimate each indicator for the 3 periods!



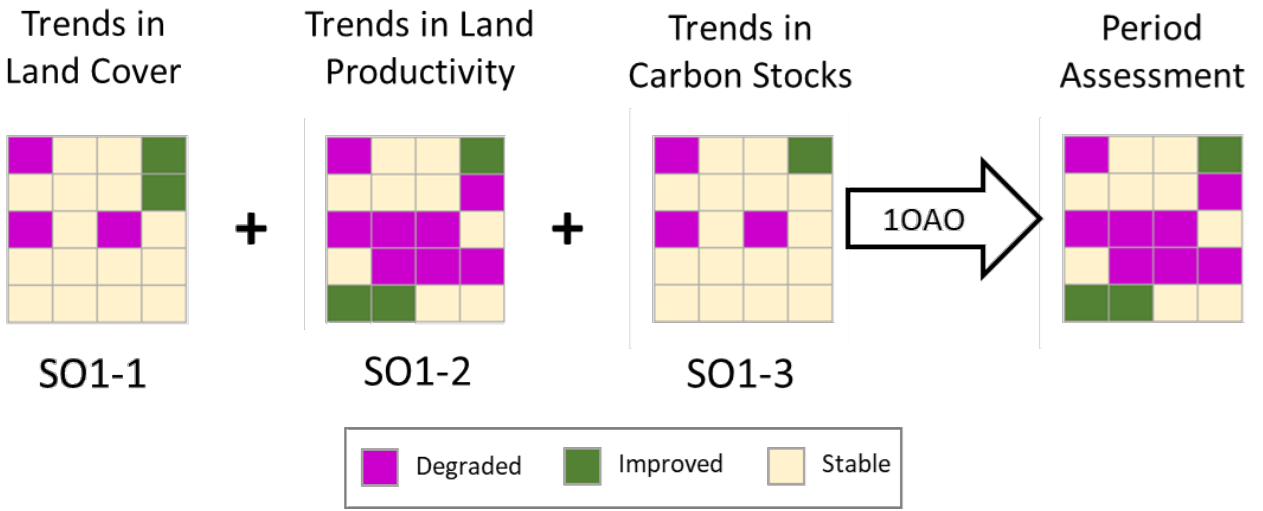
	Total of degraded land (km²)	Proportion of degraded land over the total land area (%) ⓘ
Baseline as of 2015 ⓘ	22036.29	29.9 %
Status as of 2019 ⓘ	34127.6	46.31 %
Status as of 2023 ⓘ	28887	39.2 %
	Area of change (km²)	**Percentage change ⓘ**
Difference in degraded extent relative to Baseline ⓘ	6 850.71	31.09 %



1.1 PERIOD assessment



For each reporting period a final map that shows the results of the period assessment is obtained. The **"Period Assessment"** is the result of the evaluation of land condition for a specific reporting period, based on the combination of the three sub-indicators (Trends in Land Cover, Trends in Land Productivity, and Trends in Carbon Stocks) by applying the one-out, all-out principle. **The period assessment does not capture the degradation or improvement that occurred during the baseline period and therefore it cannot be used to estimate SDG indicator 15.3.1 on its own.**



1.2 STATUS

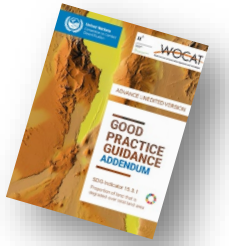
- **Status** refers to the final condition of land at the end of each reporting period, classified as either degraded, stable, or improved.

- The Status is determined by **combining the results of the current period assessment with the baseline assessment .**

- This comparison is essential to account for areas identified as degraded in the baseline that have since remained unchanged in land condition. For example, if an area was classified as degraded during the baseline period but was stable afterwards, it will be assessed as stable during the period assessment. However, the land's condition is still degraded as there has been no improvement since the baseline

- **The resulting status map enables the estimation of SDG Indicator 15.3.1** by providing a spatially explicit view of areas that are either stable, improved, or degraded, considering also their initial condition

1.2 STATUS MATRIX



The **"Status Matrix"** allows a systematic **comparison of the period assessment with the baseline** to determine the status of land condition at pixel level.

		PERIOD ASSESSMENT		
		DEGRADED	STABLE*	IMPROVED*
BASELINE	DEGRADED	Degraded	Degraded	Improved
	STABLE*	Degraded	Stable	Improved
	IMPROVED*	Degraded	Improved	Improved

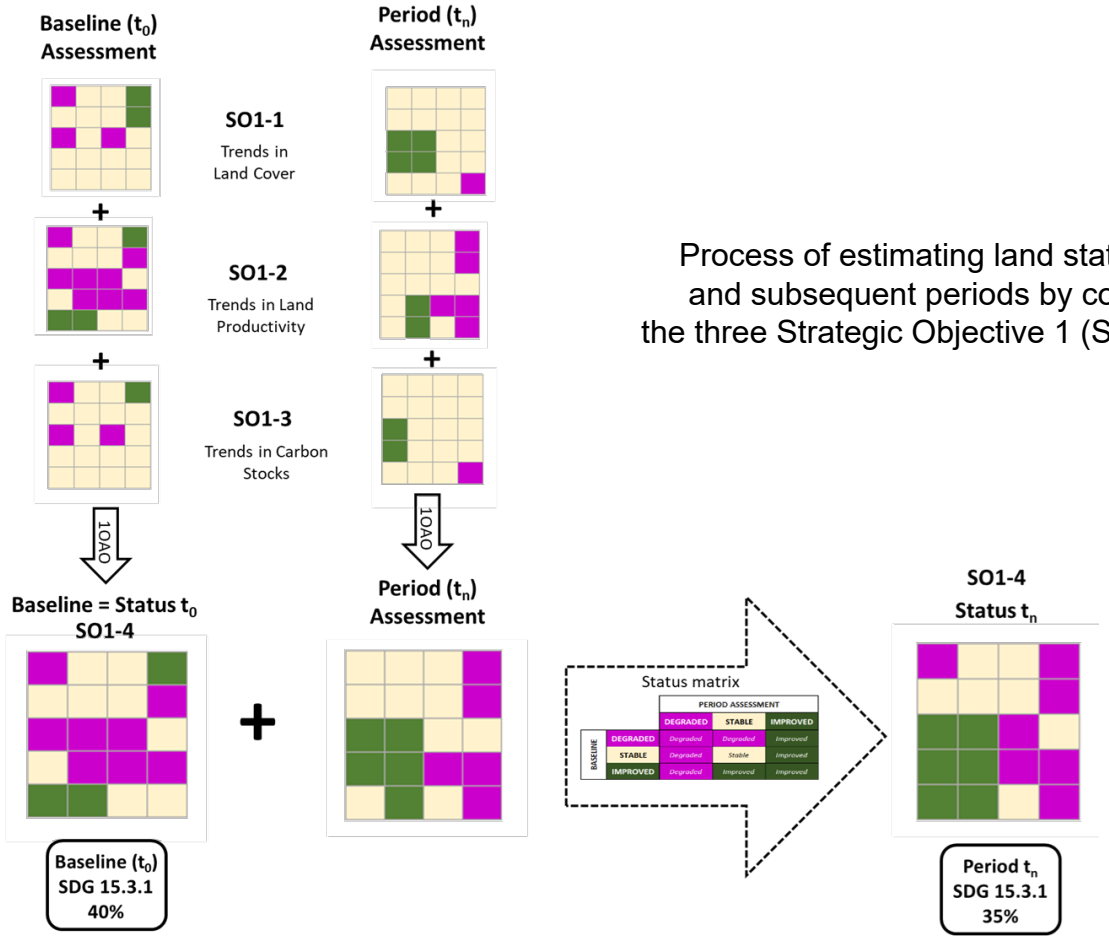
* Not Degraded areas.

The "Status Matrix" is a 3 x 3 matrix to assess Status by comparing the reporting period assessment (columns) and the baseline (rows).

The resulting map, called the Status Map, integrates the assessment of changes that occurred during the reporting period with the previous status of land condition (baseline). This approach ensures that the map reflects both past and recent changes, offering a more accurate overall assessment of land degradation and improvement over time.

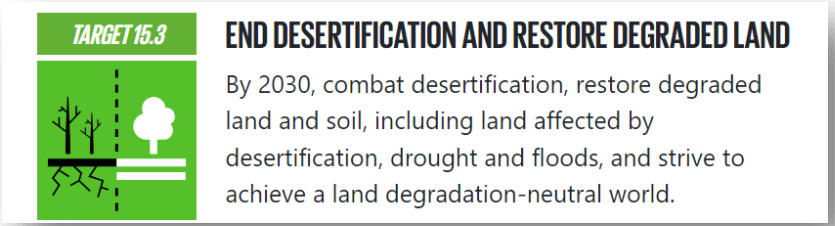
1.2 STATUS

Process of estimating land status for the baseline (2000-2015) and subsequent periods by comparing period assessments of the three Strategic Objective 1 (SO1) indicators with the baseline using the 3 x 3 Status matrix.



LDN

SDG target 15.3



SDG 15.3.1:
Proportion of degraded land

Addendum to the SDG 15.3.1 GPG

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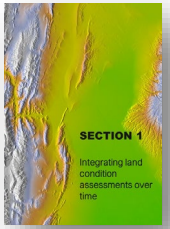

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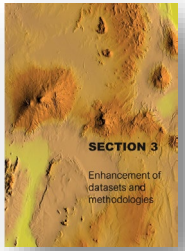

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ENHANCEMENT OF DATASETS AND METHODOLOGIES

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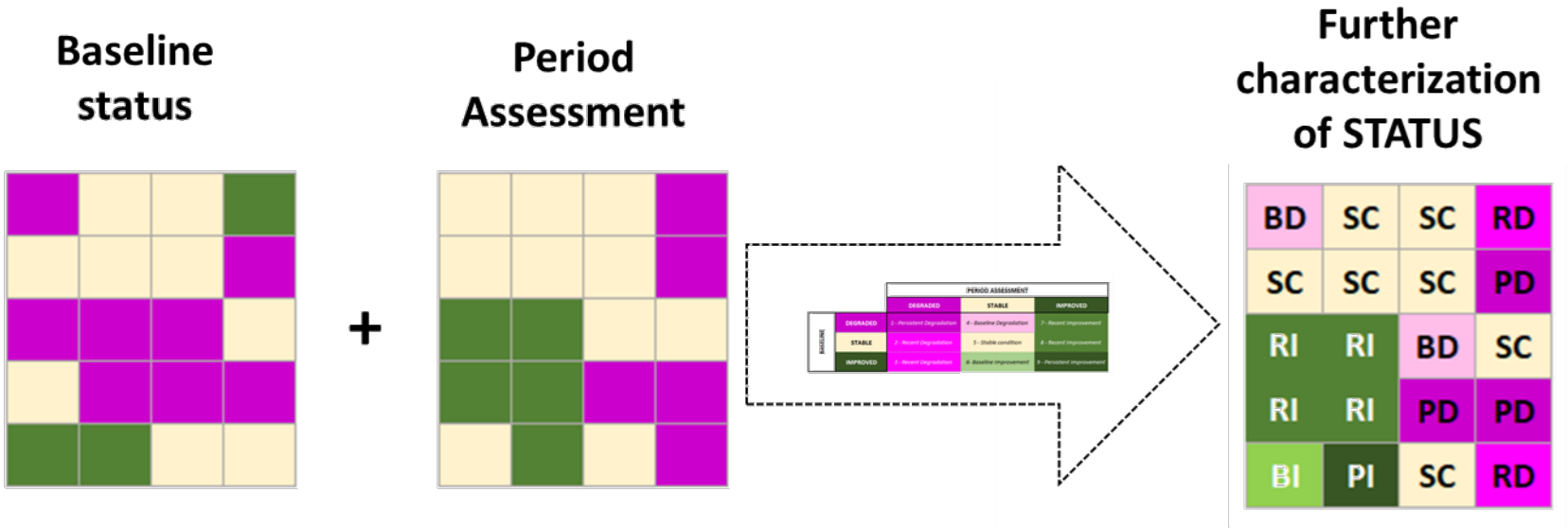
2.1 FURTHER CHARACTERIZATION

Even though the status maps categorize land condition into three broad categories (Degraded, Stable, and Improved), the underlying dynamics that lead to this final status can be more complex. Specifically, there are nine different types of changes from the baseline relative to any subsequent time period that can result in the final status, as illustrated in the 3 x 3 matrix of changes

		PERIOD ASSESSMENT		
		DEGRADED	STABLE	IMPROVED
BASELINE	DEGRADED	*1 - Persistent Degradation*	*4 - Baseline Degradation*	*7 - Recent Improvement*
	STABLE	*2 - Recent Degradation*	*5 - Stable condition*	*8 - Recent Improvement*
	IMPROVED	*3 - Recent Degradation*	*6- Baseline Improvement*	*9 - Persistent Improvement*

Expanded version of the "Status Matrix" showing land condition that results from the comparison of the baseline (rows) and the period assessment (columns)

2.1 Further Characterization



Example of further characterization of land degradation and land improvement, which allows detection of areas with persistent degradation (PD), recent degradation (RD) and baseline degradation (BD) and areas with persistent improvement (PI), recent improvement (RI) and baseline improvement (BI)

2.2 Counterbalancing

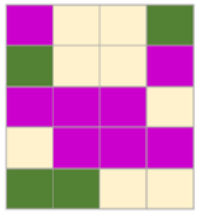
Category	Reported in SDG Indicator 15.3.1 as	Used in LDN counterbalancing mechanism
PD	Degraded	✓ (LOSS)
RD	Degraded	✓ (LOSS)
BD	Degraded	×
PI	Not-degraded	✓ (GAIN)
RI	Not-degraded	✓ (GAIN)
BI	Not-degraded	×
PS	Not-degraded	×

Categories of land condition according to the expanded status characterization and their usage for estimation of SDG indicator 15.3.1 and for counterbalancing

2.2 Counterbalancing

Baseline status

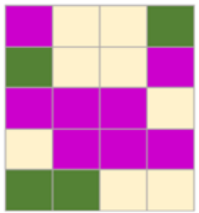
Scenario 1



SDG 15.3.1 = 40%

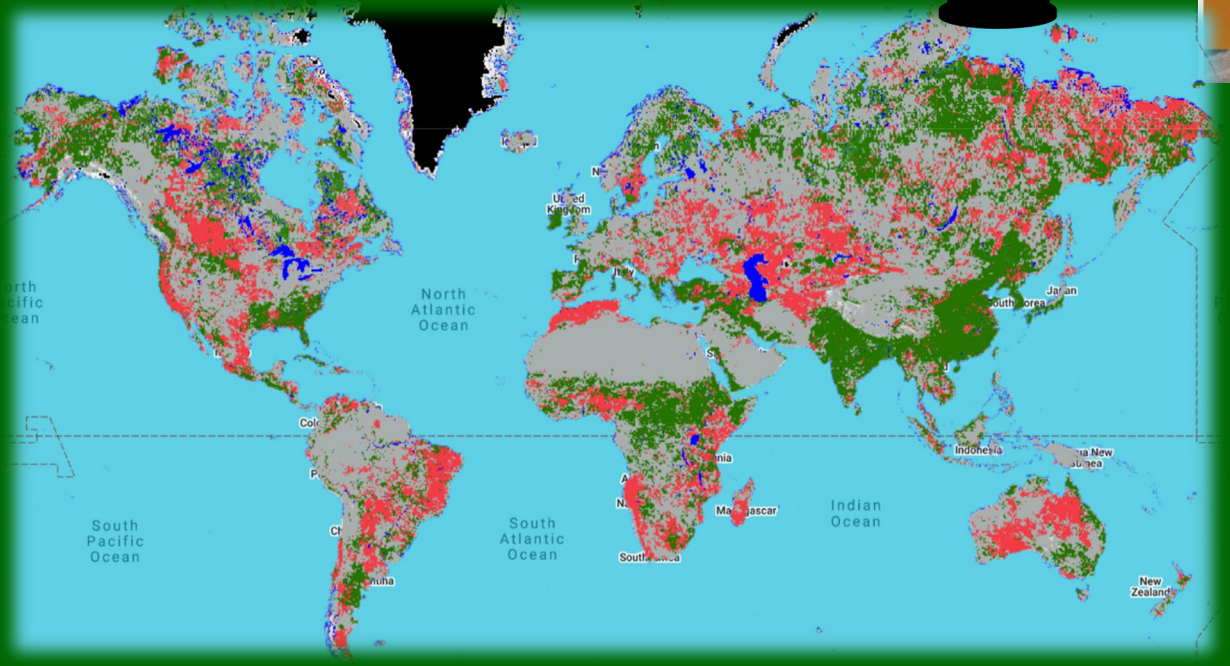
Baseline status

Scenario 2



SDG 15.3.1 = 40%

Improvement



Key Numbers

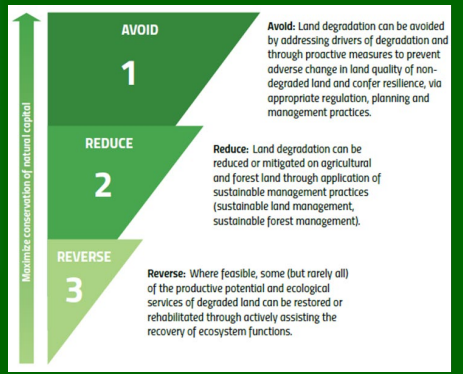
- 2497 SLM Practices published from 137 countries by 510 users.
  - 1482 SLM Technologies
  - 564 SLM Approaches
  - 442 UNCCD PRAIS Practices
- 15 new practices published in the past 90 days.

FRAMEWORK FOR ECOSYSTEM RESTORATION MONITORING

UNITED NATIONS DECADE ON ECOSYSTEM RESTORATION 2021-2030

United Nations Convention to Combat Desertification

Convention on Biological Diversity



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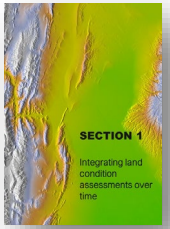
WOCAT World Overview of Conservation Approaches and Technologies



Section 1

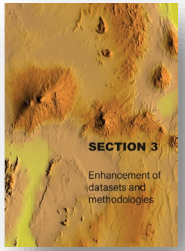
INTEGRATING LAND CONDITION ASSESSMENTS OVER TIME

Focusses on the timeframe of the data used to assess land condition in each reporting period, on how to integrate the period assessment with the baseline, as well as providing additional guidelines on how to interpret and visualize changes over

Section 2

TRACKING PROGRESS TOWARDS LDN

This section responds to the need for guidance on incorporating the improved land component and the neutrality mechanism into target setting, LDN intervention planning, prioritizing areas for investment, and tracking progress towards LDN.



Section 3

ENHANCEMENT OF DATASETS AND METHODOLOGIES

Introduces new datasets related to land cover, land productivity, and soil organic carbon (SOC), and discusses various methods and experiences in comparing and selecting the most representative datasets for different contexts .

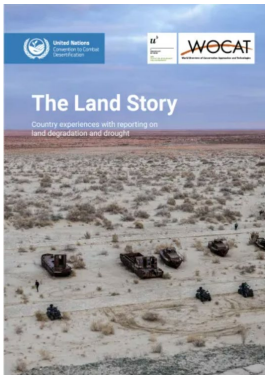
SECTION 3:

Enhancement of datasets and methodologies

Enhancements for assessing:

- **Trends in land cover (LC)**
- **Trends in land productivity (LPD)**
- **Trends in Carbon Stocks (SOC)**

High resolution datasets
New Tools
Workflows
Participatory Processes



CONSERVATION INTERNATIONAL

WOCAT

Food and Agriculture Organization of the United Nations

Partnership Initiative for Sustainable Land Management

APACHETA
ON THE PATH TO SUSTAINABILITY

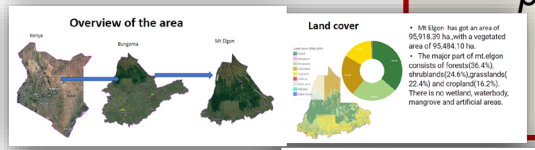
JRC
EUROPEAN COMMISSION

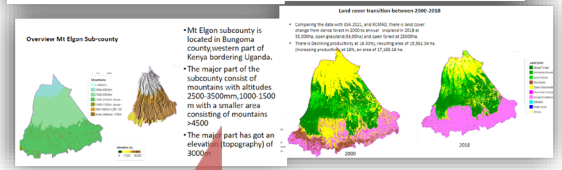
CBAS
INTERNATIONAL RESEARCH CENTER OF BIG DATA FOR SUSTAINABLE DEVELOPMENT GOALS
可持续发展大数据国际研究中心

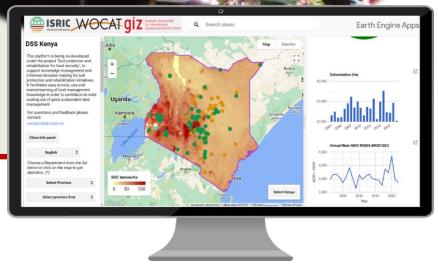
Decision Support for LDN across scales

New technologies and data + **People-centered processes**

fostering co-creation, discussion, analysis, and prioritization to ensure context-driven and actionable solutions

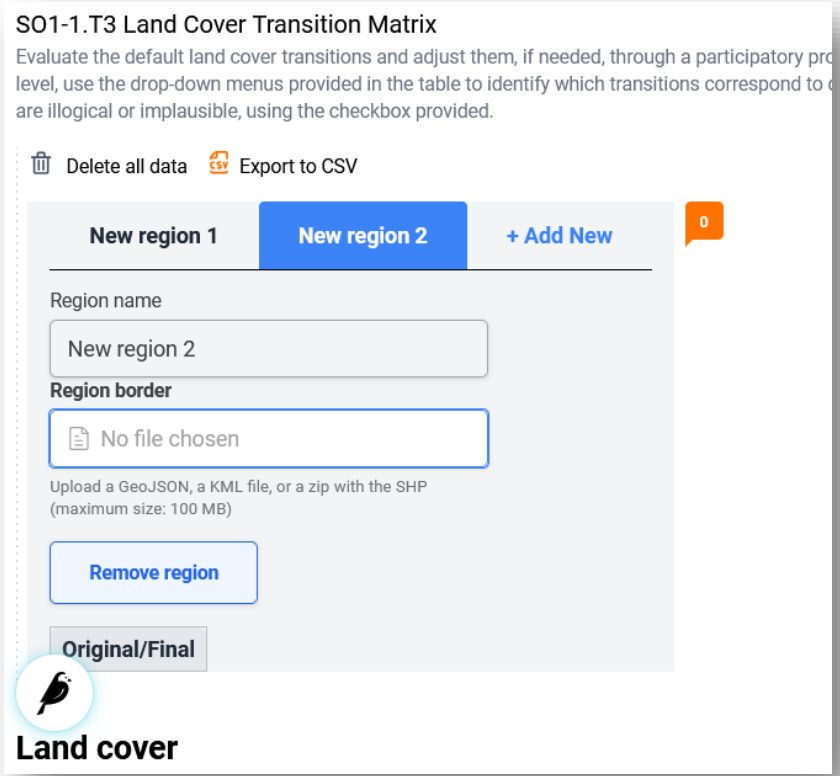




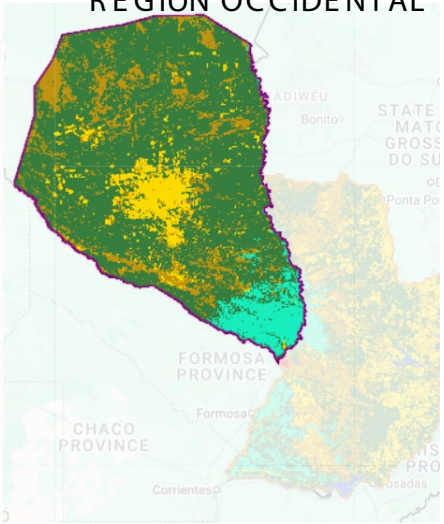


LOCAL NATIONAL GLOBAL

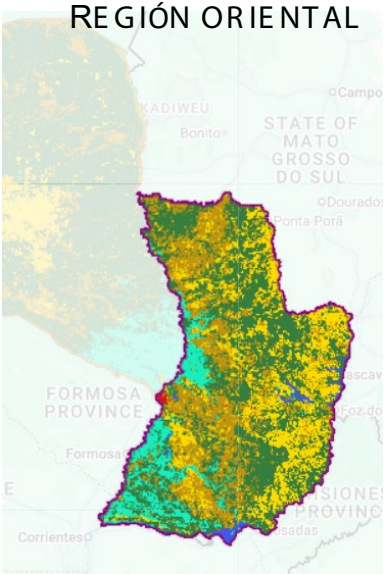
SUBNATIONAL EVALUATION



REGIÓN OCCIDENTAL



REGIÓN ORIENTAL



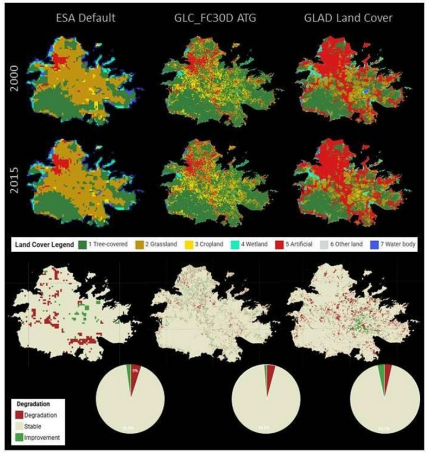
HIGH RESOLUTION LAND COVER DATA

APACHETA
ON THE PATH TO SUSTAINABILITY

Partnership Initiative for Sustainable Land Management

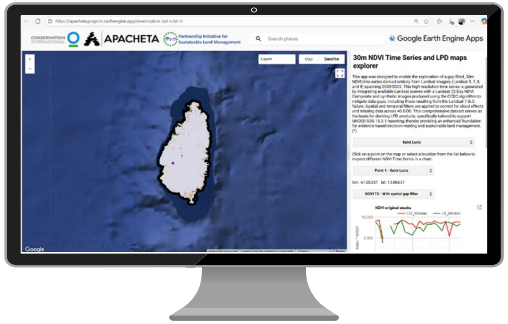
Land Cover Trends in SIDS: Supporting UNCCD PRAIS 5 and SDG 15.3.1 Reporting

Comparison of Global Land Cover Datasets and Development of a Land Cover Transition Tool

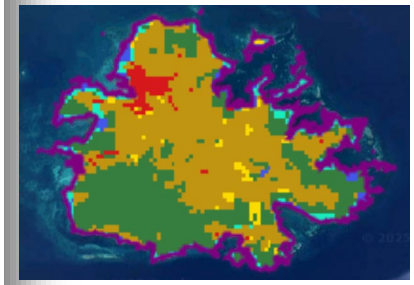


Version 1 - April 2025

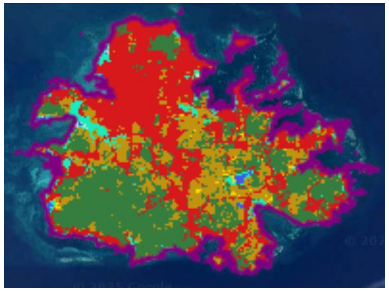
Land Cover Transitions Tool for 40 SIDS



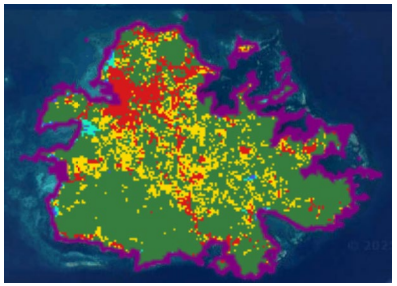
ESA CCI 300 m annually 2000-2022



GLAD (University of Maryland) GLAD GLC 30 m 2000



CBAS (SDG Center, China) GLC-FCS30D - 30 m annually 2000-2022



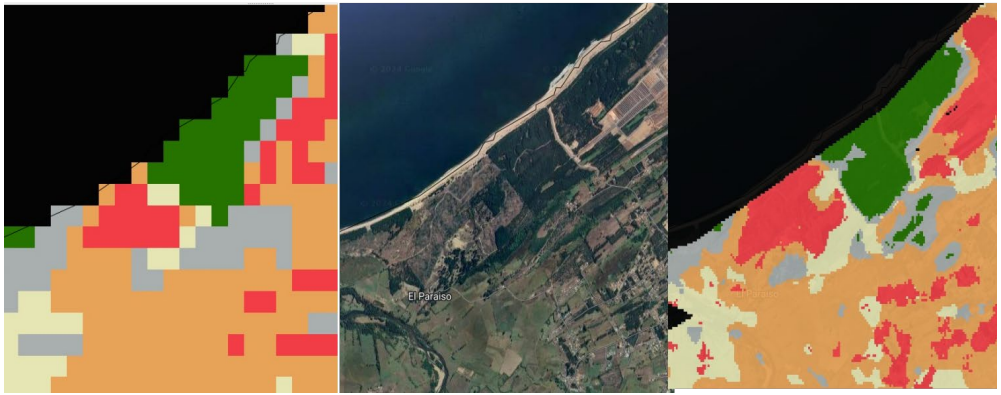
HIGH RESOLUTION FAO-WOCAT LPD

Two 30m Land Productivity Dynamics datasets co-developed by Apacheta, CBAS, Conservation International and the Partnership Initiative on Sustainable Land Management (PISLM):

- ML30-LPD (https://doi.org/10.5281/zenodo.15276519)
- HiLPD-SIDS (https://www.nature.com/articles/s41597-025-04883-3 , https://doi.org/10.12237/casearth.686dc91f24e15709b381ae4e)

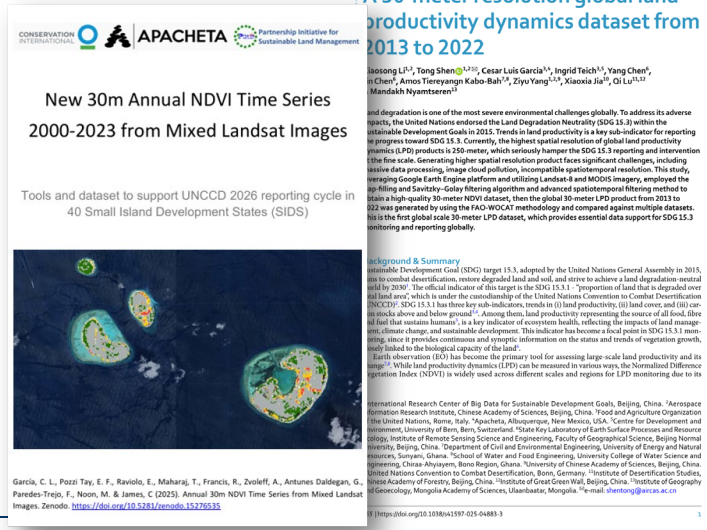
FAO – WOCAT 250m

HiLPD-GEE from CBAS
FAO – WOCAT 30m

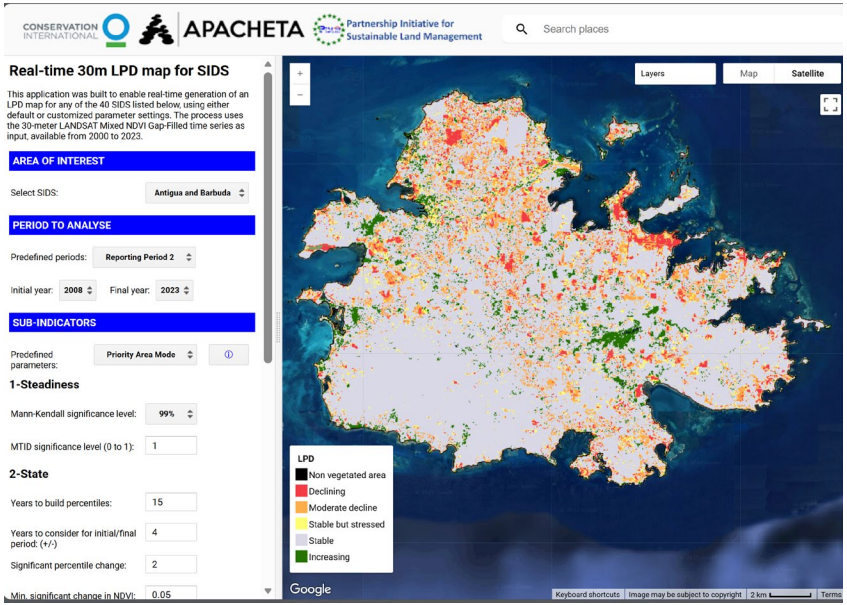


Partnership Initiative for Sustainable Land Management

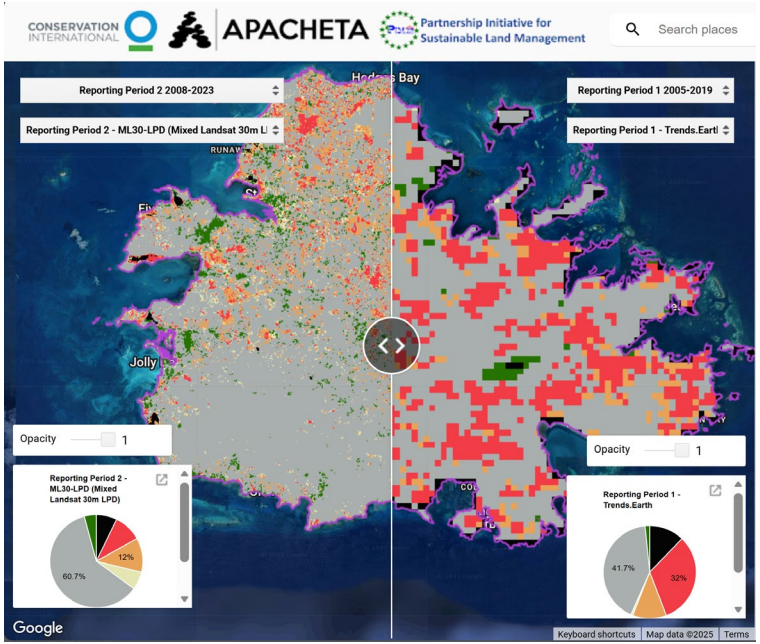
scientific data



Tools to support the parametrization and identification of the best HR LPDs

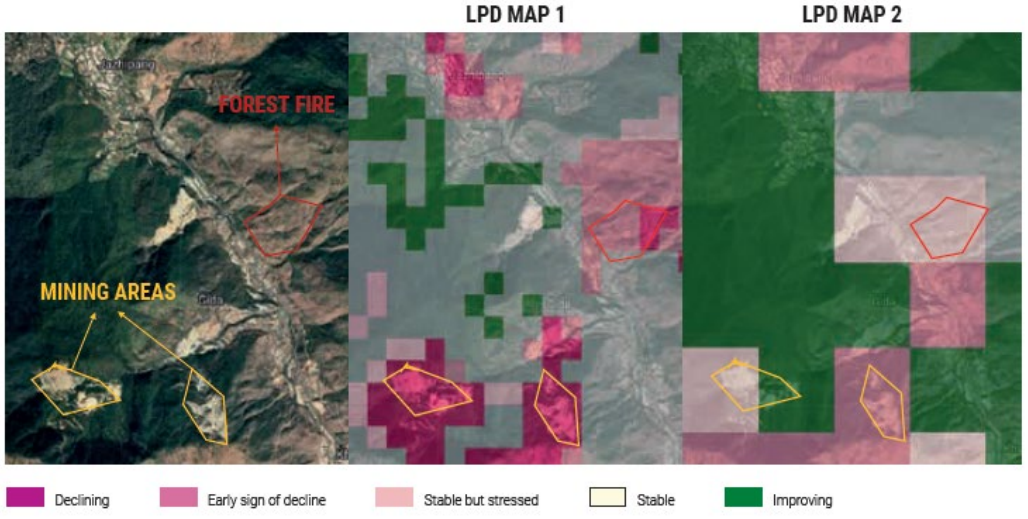


Real-time 30m LPD map for SIDS

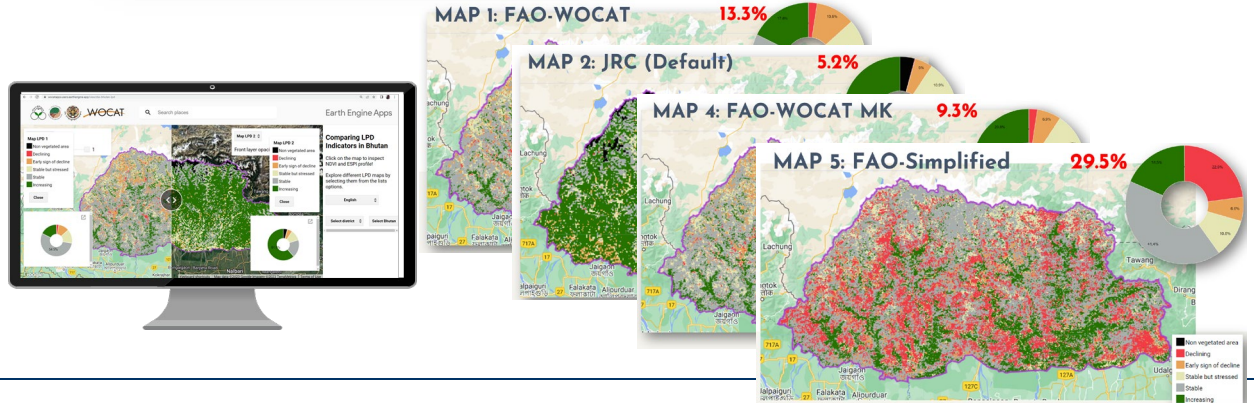


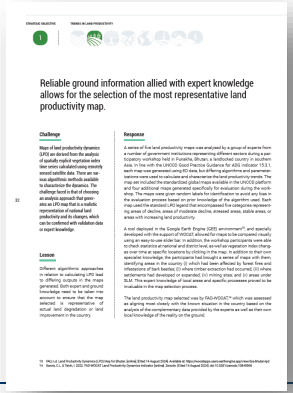
LPD Comparison Tool for SIDS

Workflows for verification



By using maps delineating areas of known land degradation and improvement, allied with expert knowledge, workshop participants were able to select the LPD map that best represented the known situation on the ground. The map on the left shows known areas of forest fires and mining, both of which represent areas of land degradation. The maps in the centre and right are two LPD maps from the map set. The centre map aligns best with the situation shown in the ground data (left map).





Thank you

Do you have any questions?

Ingrid.teich@unibe.ch

UNIVERSITY OF BERN

CDE
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WOCAT
World Overview of Conservation Approaches and Technologies

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Collaborative advances in Global Datasets on Land Productivity Dynamics and Land cover

Andreas Brink, Senior Scientific & Technical Project Officer

Federico Gianoli, GIS Specialist

Joint Research Centre – European Comission

Global Land Operations

Collaborative advances in Global Datasets on Land Productivity Dynamics and Land cover

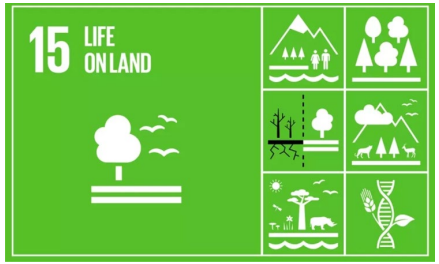
Andreas Brink - Joint Research Centre - European Commission
Federico Gianoli

CRIC23 - Panama

Global Land Operations

SDG Indicator 15.3.1 measures the proportion of land that is degraded over total land area.

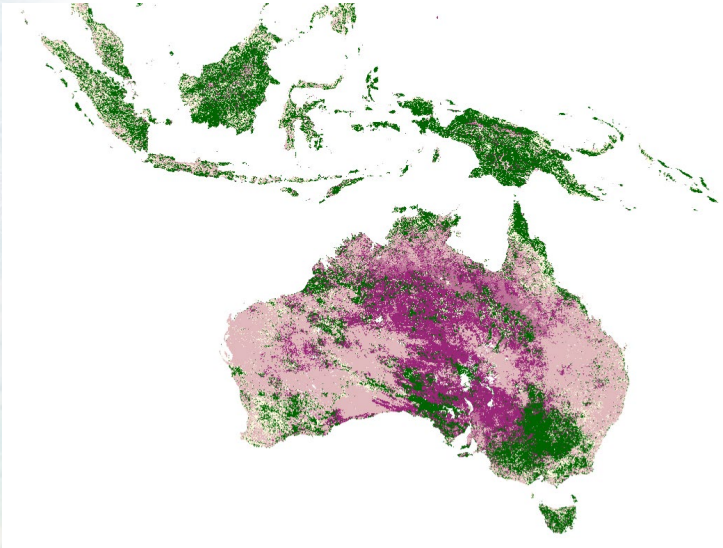
The UNCCD defines land degradation as “the reduction or loss of the biological or economic productivity and complexity of rain fed cropland, irrigated cropland, or range, pasture, forest and woodlands resulting from a combination of pressures, including land use and management practices” (UNCCD 1994, Article 1).



Global Land Operations

Under this definition, the extent of land degradation for reporting on SDG Indicator 15.3.1 is calculated as a binary - degraded/not degraded - quantification using its three sub-indicators which are:

Global Land Operations



Land Productivity Dynamics

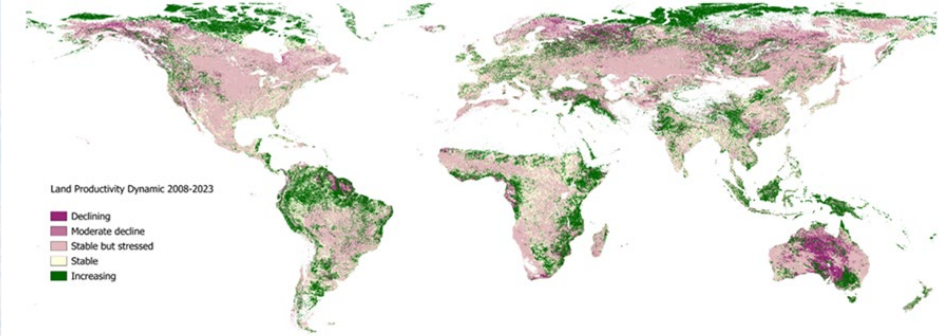
Global Land Operations

The Land Productivity Dynamics data set (LPD) integrate a 15 years baseline observation period from 2000 to 2015, a first reporting period from 2004 to 2019, and a second reporting period from 2008 to 2023.

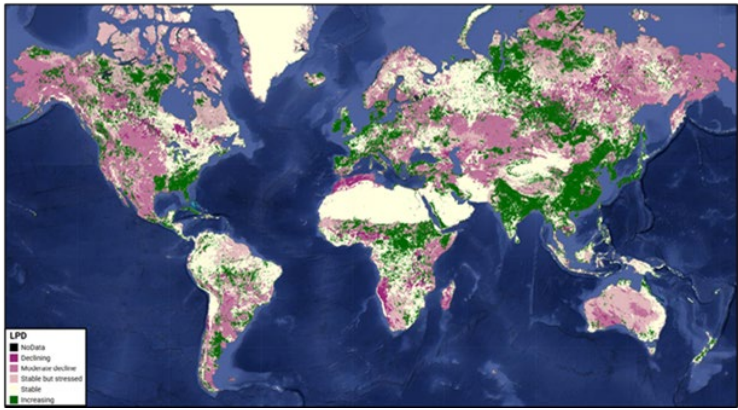
The maps provide information on the direction, intensity and persistence of the trend and change of above-ground biomass – surface biomass - generated by photosynthetically active vegetation cover, widely equivalent to Gross Primary Production (GPP) of the global land surface.

Global Land Operations

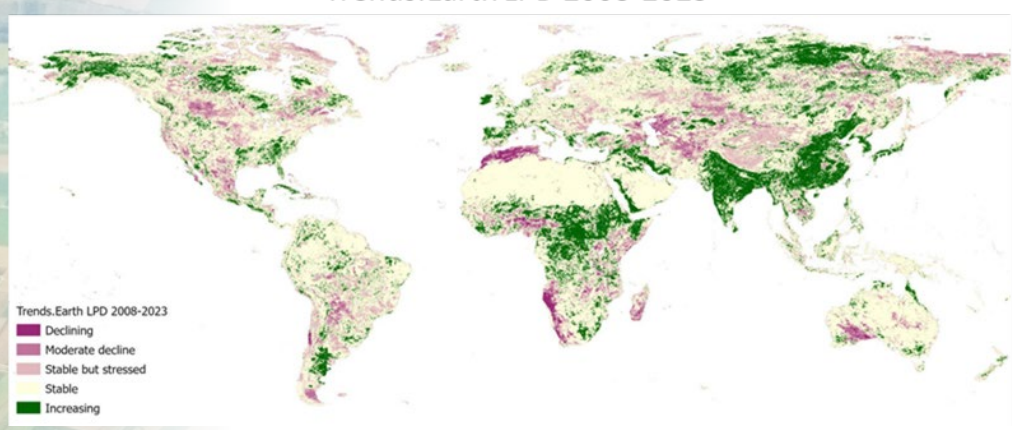
JRC LPD 2008-2023



FAO WOCAT LPD 2008-2023



Trends.Earth LPD 2008-2023



Global Land Operations

Key achievements:

- **Harmonized nomenclature** across all three data producers for consistent classification
- **Standardized class definitions and color schemes** enabling direct visual comparison between datasets
- **Comprehensive product documentation** currently under development to support informed data selection for national reporting

These efforts ensure comparability and reproducibility, facilitating evidence-based decision-making for SDG 15.3.1 monitoring.

Global Land Operations

Key Differences Between the Three Products

Input Data & Spatial Resolution:

- **JRC**: Multi-sensor time series (SPOT-VGT, PROBA-V, Sentinel-3 OLCI) spanning 1998-2024 at **1km resolution**, transitioning to harmonized 300m NDVI for v2
- **Trends.Earth**: MODIS Terra MOD13Q1 V6.1 at **250m resolution**
- **FAO WOCAT**: MODIS Terra MOD13Q1 V6.1 at **250m resolution**

Annual Statistic:

- **JRC**: Cumulative annual NDVI (SumNDVI) - captures total annual productivity
- **Trends.Earth**: Annual mean NDVI - represents average conditions
- **FAO WOCAT**: Annual mean NDVI with quality pixel replacement

Methodological Approach:

- **JRC**: Ecosystem-based clustering (EFTs) with Local Net Scaling for context-aware productivity assessment
- **Trends.Earth**: Three-component system (Trend, State, Performance) with optional climate corrections (RUE, RESTREND, WUE)
- **FAO WOCAT**: Flexible parametrization with three sensitivity modes (Broad Detection, Priority Area, Balanced) using Mann-Kendall trend analysis

Global Land Operations

3 Datasets can be downloaded from Trends.Earth

TRENDS.EARTH
tracking land change
from Conservation International

SDG Indicator 15.3.1 (UNCCD Strategic Objectives 1 and 2)

The below datasets can be used to support assessing SDG Indicator 15.3.1, and include indicators of change in land productivity dynamics (LPD), land cover, and soil organic carbon. These datasets can be used to support reporting on UNCCD Strategic Objectives 1 and 2. Note that there are three different LPD datasets available (from the default Trends.Earth method, from FAO-WOCAT, and from JRC).

Country	SDG 15.3.1 using Trends.Earth LPD	SDG 15.3.1 using FAO-WOCAT LPD	SDG 15.3.1 using JRC LPD
ABW	ABW (Trends.Earth LPD)	ABW (FAO-WOCAT LPD)	ABW (JRC LPD)
AFG	AFG (Trends.Earth LPD)	AFG (FAO-WOCAT LPD)	AFG (JRC LPD)
AGO	AGO (Trends.Earth LPD)	AGO (FAO-WOCAT LPD)	AGO (JRC LPD)
AIA	AIA (Trends.Earth LPD)	AIA (FAO-WOCAT LPD)	AIA (JRC LPD)
ALB	ALB (Trends.Earth LPD)	ALB (FAO-WOCAT LPD)	ALB (JRC LPD)
AND	AND (Trends.Earth LPD)	AND (FAO-WOCAT LPD)	AND (JRC LPD)
ARE	ARE (Trends.Earth LPD)	ARE (FAO-WOCAT LPD)	ARE (JRC LPD)
ARG	ARG (Trends.Earth LPD)	ARG (FAO-WOCAT LPD)	ARG (JRC LPD)
ARM	ARM (Trends.Earth LPD)	ARM (FAO-WOCAT LPD)	ARM (JRC LPD)
ASM	ASM (Trends.Earth LPD)	ASM (FAO-WOCAT LPD)	ASM (JRC LPD)
ATG	ATG (Trends.Earth LPD)	ATG (FAO-WOCAT LPD)	ATG (JRC LPD)
AUS	AUS (Trends.Earth LPD)	AUS (FAO-WOCAT LPD)	AUS (JRC LPD)

Global Land Operations

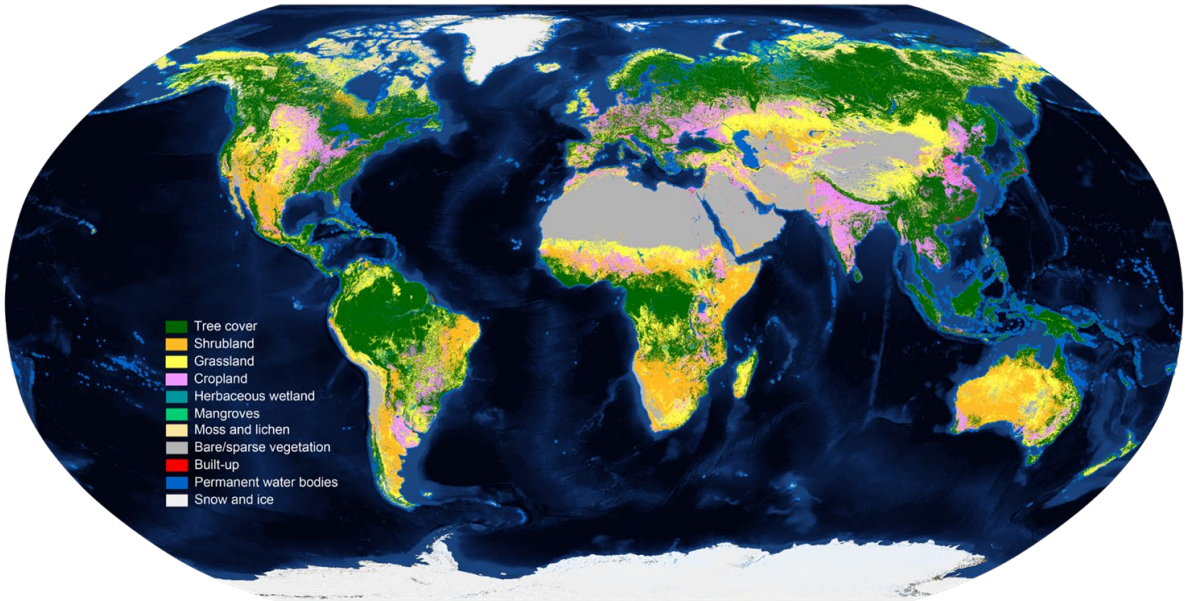
Land Cover - Requirements

CEOS Satellite Data for SDG Indicator 15.3.1

	How ?		When ?	Where ?		
SDG Requirement	Spatial Resolution	Measurement Type	Observation Frequency	Sampling Type	Comments	CEOS Mission Classes
SDG 15.3.1 Land Cover Change	10-100m (The agreed minimum standard for national data is 100m aiming at 30m)	Classification/ Change Detection	Annual	Global, National	[ESA-CCI-LC (300m) or SEEA-MODIS as global default. Another Copernicus Dynamic Land Cover (100m) also available.] In the last reporting cycle (2018), the global default data were ESA-CCI-LC at 300m resolution. (cf. Mattina et al. 2018) The agreed minimum standard for national land cover change data is 100m aiming at 30m . Data users expressed the need to have 10-30m resolution to generate reliable information for planning and decision-making processes to implement SDG 15.3. Many countries are already using national data at 30m resolution for LCC reporting. For small island developing states (SIDS), 300m and even 100m resolution is not sufficient - many SIDS depend on the global default data for reporting and would need a higher resolution. The standard for the classification scheme is that it is a user-decision but following specific rules, e.g. use hierarchical class structures, aggregate to the GPG listed reporting scheme, and attain internal consistency across dates. (cf. GEO-LDN Initiative 2020)	1,2

Global Land Operations

Global Land Cover 2020, 10 m resolution (LCM-10)



Global Land Operations

LCFM - a dynamic global land cover service at 10m

LCFM Product Suite

- **Annual land cover maps at 10 m** resolution for 2020-2026
  - Consistent change mapping between years
- **Innovative products**
  - 10 m Pan-tropical Tree Cover Density & Tree Cover Presence Change
  - 10 m sub-annual land cover products, monthly/NRT Land Surface Categories
- **Open-access datasets, training data & workflows**
- **A dynamic land cover service supporting: i) Enhanced global environmental monitoring ii) Tailored regional or thematic mapping iii) Valuable input for downstream applications**

Global Land Operations

CGLOPS product release schedule

Product name	Proposed Release Date	
BA v4 (Hst+Fwd)	15 October	NTC: July 2018 – (latest now: April 2025) NRT: December 2024-- (latest now October 18 2025)
ETA (NRT)	1 December	December 2025 – current (1 year of data ~ 0.6 TB)
NDVI V3 (Hist+ NRT)	11 December	January 2014 to December 2018: PROBA-V January 2019 – current: Sentinel-3
LSP (Hist)	15-19 December	2014 – 2018: PROBA-V 2019 – 2024: Sentinel-3
LAI/FAPAR/FCOVER (Hist+NRT)	19-30 January	January 2014 to December 2018: PROBA-V January 2019 – current: Sentinel-3
DMP/GDMP/NPP/GPP (Hist+NRT)	2-6 February	January 2014 to December 2018: PROBA-V January 2019 – current: Sentinel-3

Global Land Operations

Gracias

CRIC23
PANAMÁ
DICIEMBRE 1-5

United Nations Convention to Combat Desertification

Innovations for UNCCD 2026 Reporting: Building National Capacity

Sara Minelli,
Programme Officer
UNCCD secretariat

United Nations
Convention to Combat
Desertification

United Nations
Convention to Combat Desertification

CRIC23
United Nations Convention to Combat Desertification

Innovation for UNCCD Reporting Capacity Building

Integrated Support from Regional Centres: Leveraging regional institutions to provide localized technical assistance, context-specific training, and ongoing technical support

Strengthened Knowledge Exchange: Facilitating cross-country learning through regional workshops and peer-to-peer exchanges

Enhanced Sustainability Through Distributed Expertise: Establishing long-term, regionally based hubs that reduce reliance on external consultancies and ensure continuity between reporting cycles

United Nations
Convention to Combat Desertification

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United Nations Convention to Combat Desertification

Mandate

Decision 2/COP.16 requested the UNCCD secretariat, subject to the availability of financial resources, **together with data providers, financial and technical partners and the Earth Observation community**, including the Group on Earth Observations Land Degradation Neutrality Flagship initiative, **to enhance collaboration with regional institutions**, initiatives and organizations **to provide data and technical support to Parties**, especially developing countries, small island developing States and least developed countries **during the UNCCD 2026 reporting process**

United Nations
Convention to Combat
Desertification

Regional centres

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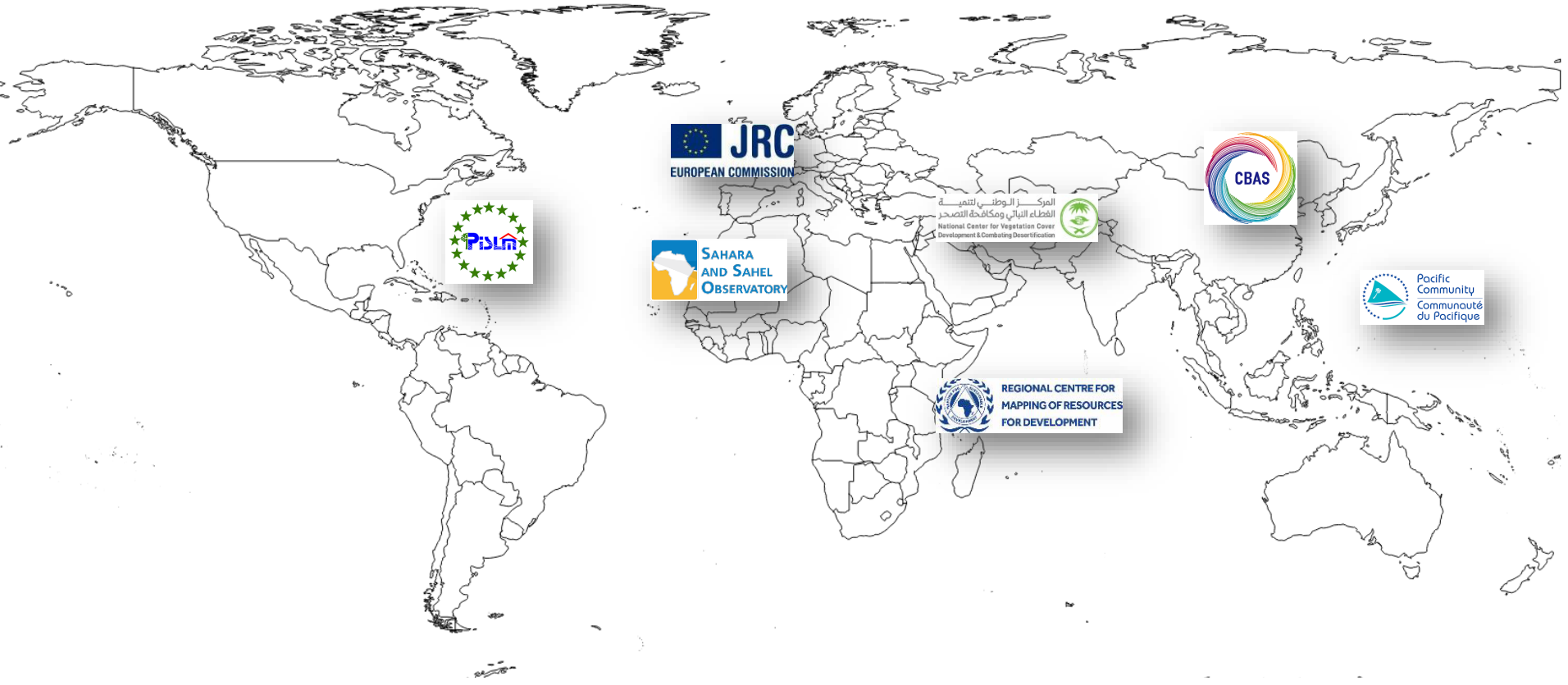
United Nations Convention to Combat Desertification



United Nations
Convention to Combat Desertification

Joint Work Programme

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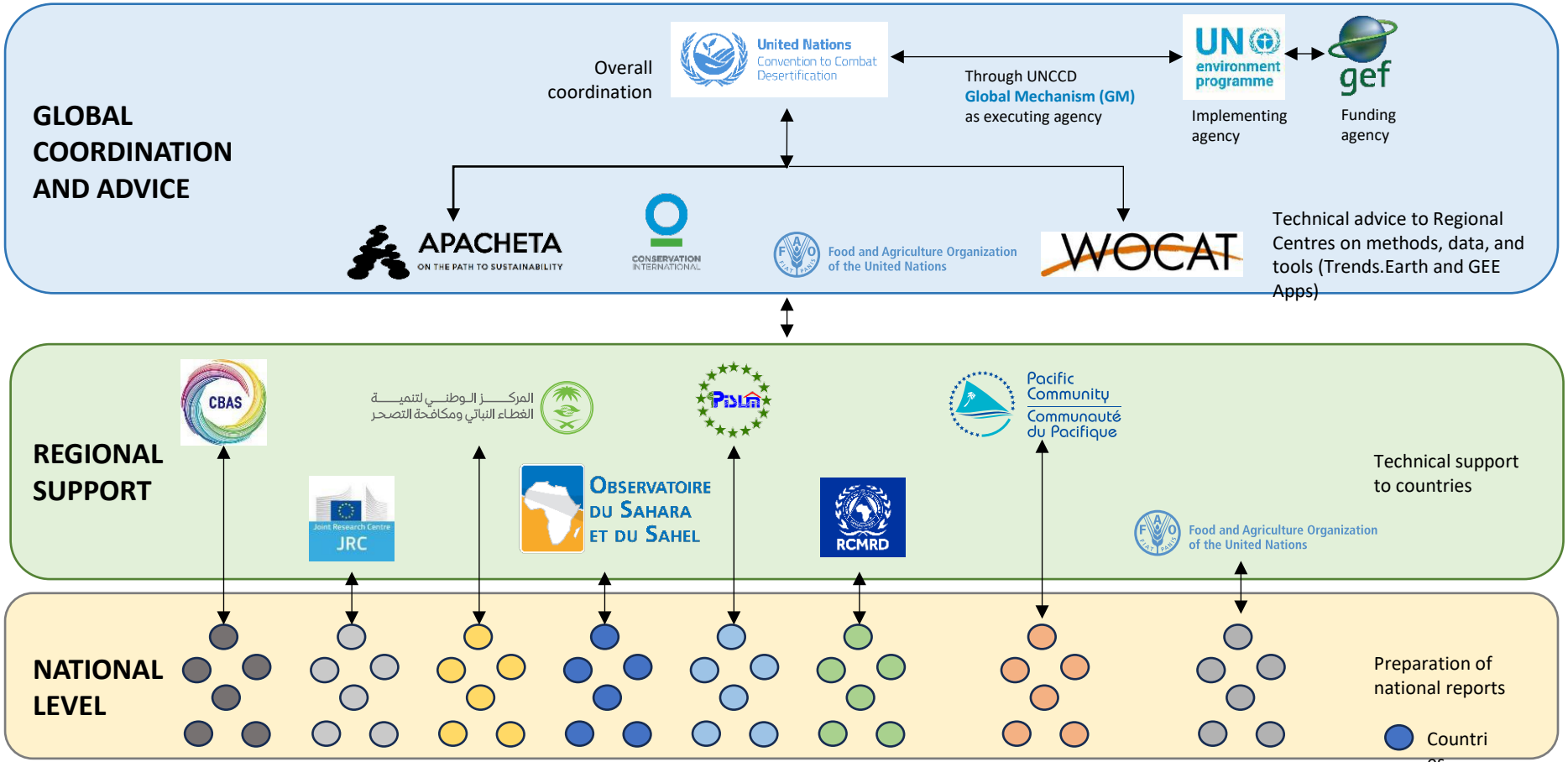
United Nations Convention to Combat Desertification



United Nations
Convention to Combat Desertification

Training of Trainers

27-28 November 2025, Panama City

CRIC23
United Nations Convention to Combat Desertification

Focus: Choices country Parties need to make when preparing their national reports

What other datasets are available?

What other land cover classes would be important to monitor?

Which stakeholders should participate in this discussion?

What soil-property data is available for the country?

What verification data can be used?

Is field validation possible?

United Nations
Convention to Combat Desertification

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Regional Centres – Main responsibilities

Act as trainers in regional capacity building workshops and online seminars

Assist countries with data access, interpretation, recalculation, and tool usage for consistent reporting

Respond to questions from countries

Review national reports for accuracy, consistency, and completeness

United Nations
Convention to Combat Desertification

Timeline for reporting

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United Nations Convention to Combat Desertification

Aug 2025

Launch of the 2026 reporting process

27-28 Nov 2025

Training of Trainers

Feb - May 2026

In-person regional capacity development workshops

Jan 2026 – Feb 2027

Ongoing technical support to countries

Before reporting deadlines

Quality assurance of national reports

Tentative deadlines for submission of national reports:

- **November 2026:** For SO1, including SDG Indicator 15.3.1
- **February 2027:** For all the other SOs

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DICIEMBRE 1-5

United Nations Convention to Combat Desertification

Thank You

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Desertification

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United Nations Convention to Combat Desertification

Land Degradation Monitoring in Africa : Lessons learnt, innovations and partnerships

Moustapha Momouni
Director - Department of Technology, Information and Remote Sensing
Observatoire du Sahara et du Sahel (OSS)

Land Degradation Monitoring in Africa : Lessons learnt, innovations and partnerships

Monitoring « Observatories » : a long tradition !

DNSE
- Raising awareness
- Defining guides

ROSELT
- Kit of indicators
- In-situ monit.

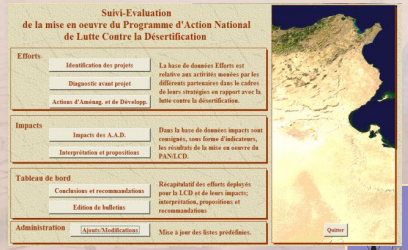
REP SAHEL
- Sites labeling
- EO integrat.

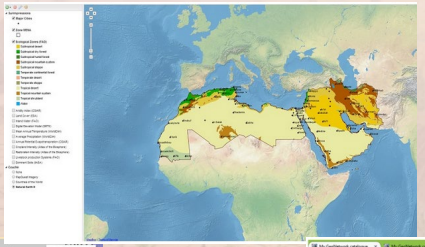
MENA DELP
- Kit of indicators
- Thematic studies

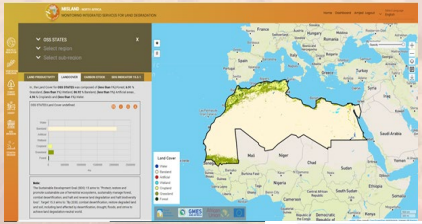
BRICKS
- M&E (GGW)
- DSS

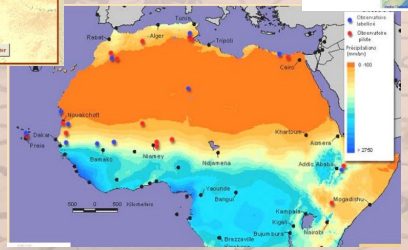
GMES &Africa
- Kit of indicators
- Contin en. DSS

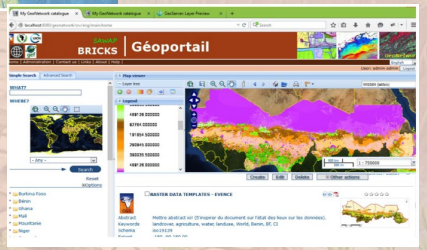
1992 — 2025

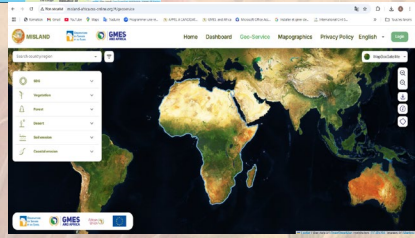










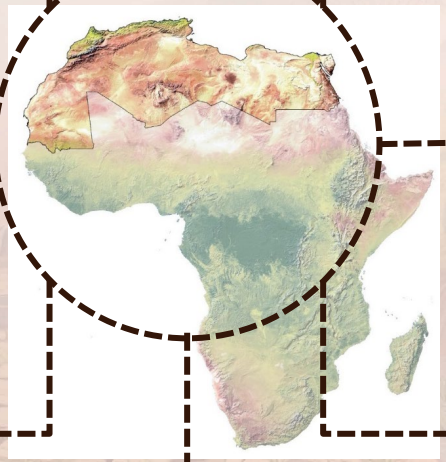


GMES&Africa : End-user needs in LD monitoring

How much forest area is lost due to forest fires?

Where are the hotspots of land degradation?

Needs



Where are my vegetation loss/gain hot spots?

Are we reaching land degradation neutrality? Where to prioritize ?

Urban extension over agricultural lands?

How are my forests changing over time? Vulnerability?

Information ?

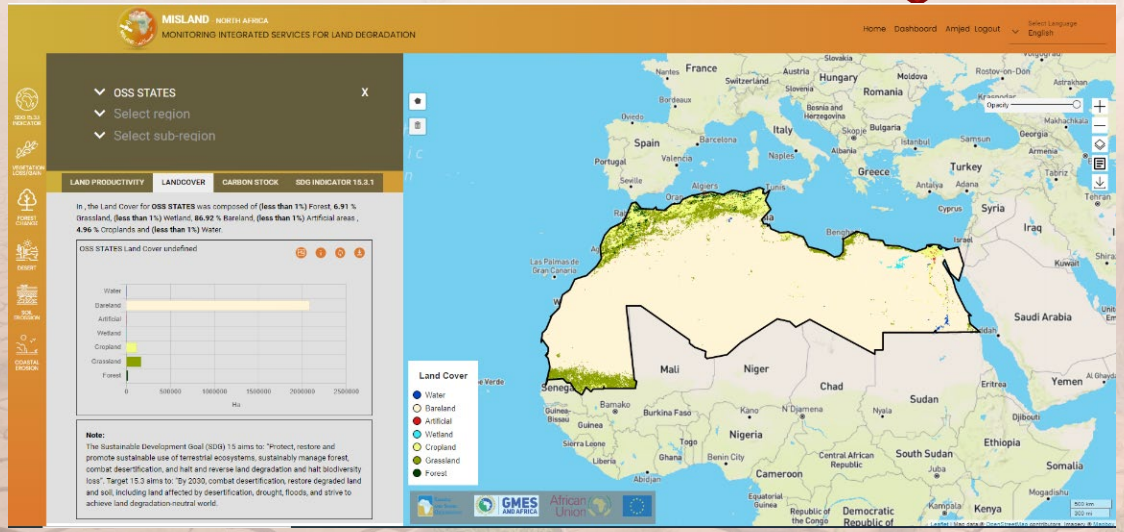
MISLAND development

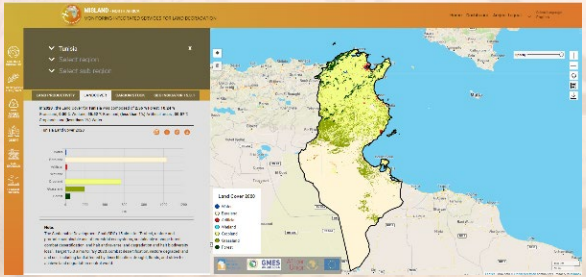
Past experiences of the partners

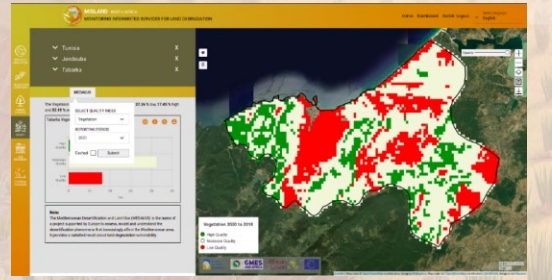
End-users needs assessment

North-Africa specific context

SDG 15.3.1 (UNCCD guidelines) + additional indicators (national expertise)







Integration of high spatial resolution datasets (Landsat 30 m & Sentinel-2 10 m)

Continental Land degradation workshop : Participatory Approach

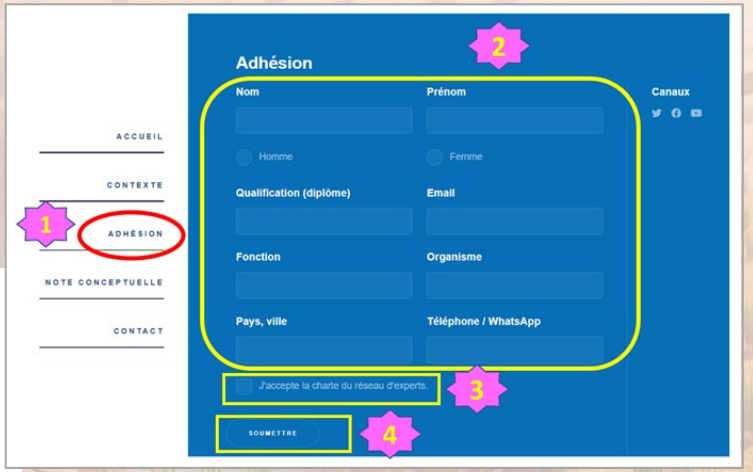
Abidjan (Cote d'Ivoire), October 2022

- AUC, IOC, JRC, AGRHYMET/CILSS, ABN, CEEAC ;
- GMES consortia : SASSCAL, CSE, RCMRD, ICPAC, CSIR, CICOS ;
- Academia & Private sector ;
- 2 UN organizations (UNCCD & FAO) ;
- 1 GEO initiative (GEO-LDN)

Network of experts on LD monitoring in Africa

Launched on **March 1st, 2023 in Nairobi** (First GMES & Africa Integrated Management Meeting).

Subscription is open:
http://projet.oss-online.org/GMES-Africa/jin/en/index.html

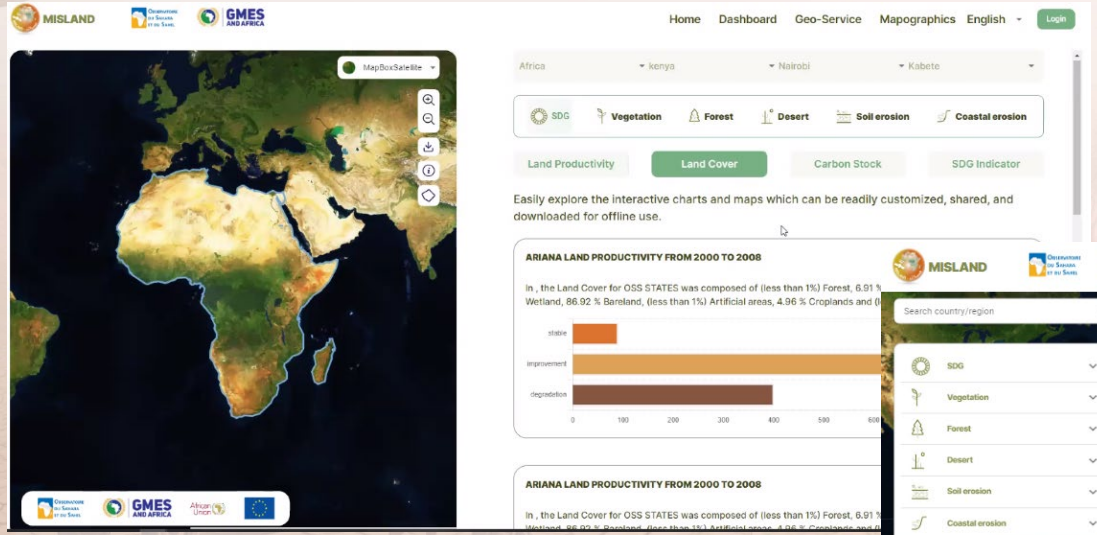


- **Initial composition: Committee of Champion-Leaders** (management, scientific community, regional economic comm., islands + Indian Ocean...) + **Awareness Committee** + Experts, researchers, etc.
- **Accompany & support the continental LD service development.**

MISLAND-Africa: continental prototype

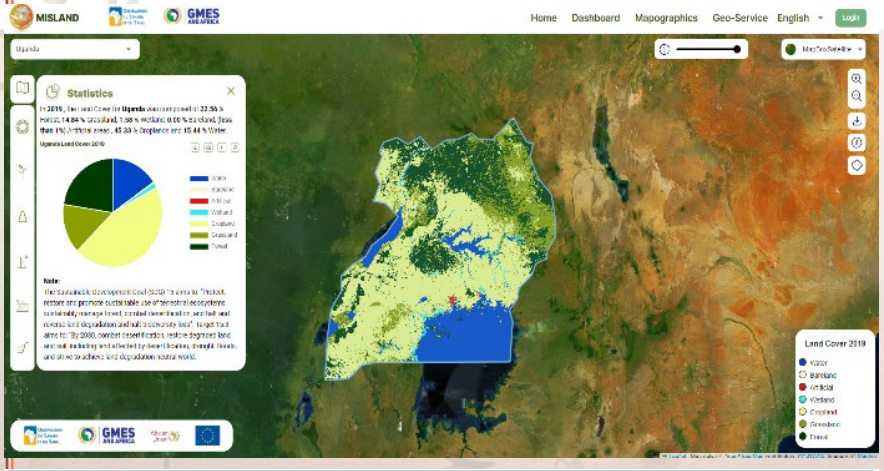
+9 Indicators

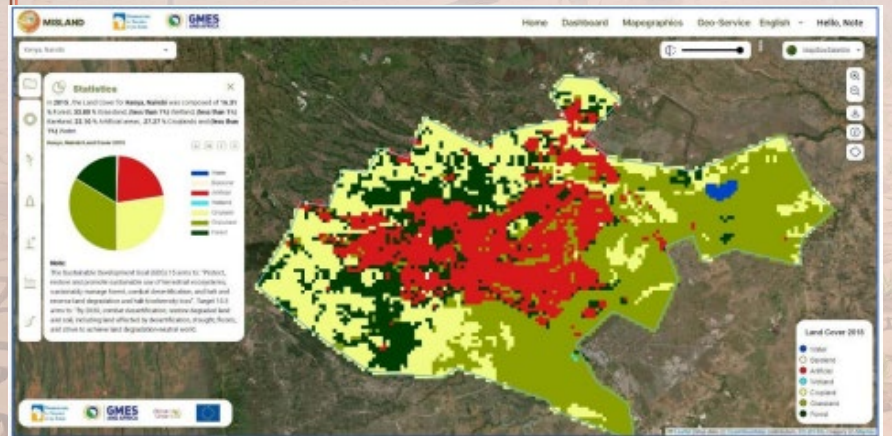
+20 Years covered

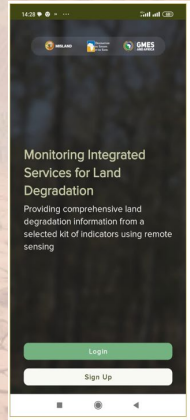


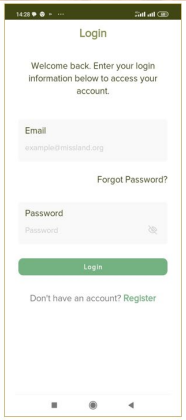
High spatial resolution

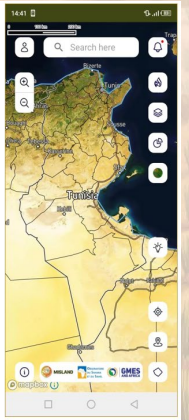
MISLAND-Africa : multi-scale services & products







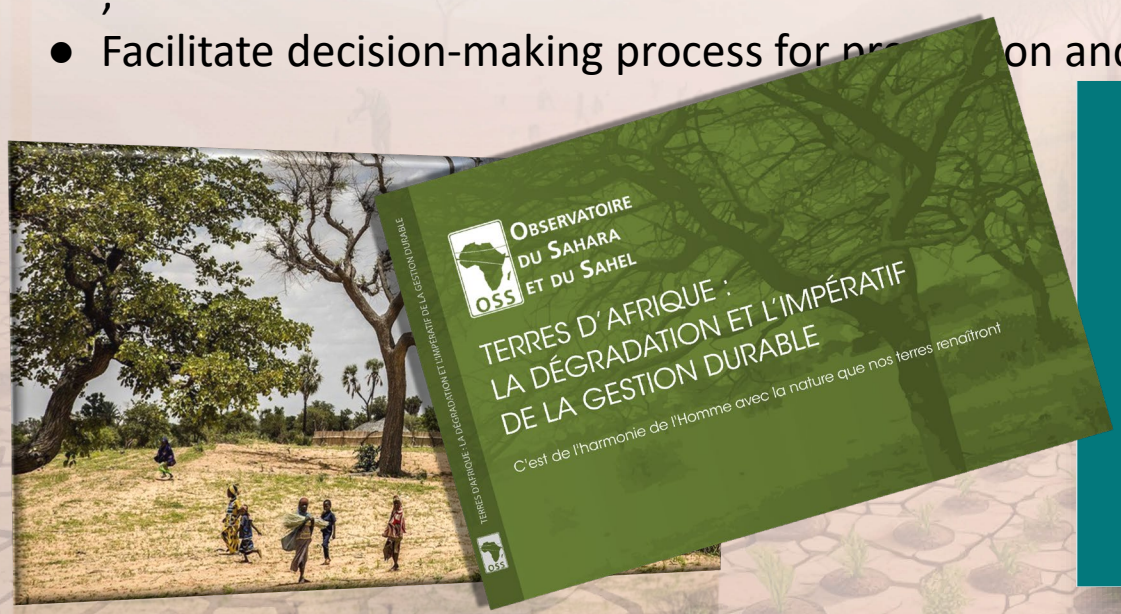




Restoration of degraded Lands in Africa : a Book !

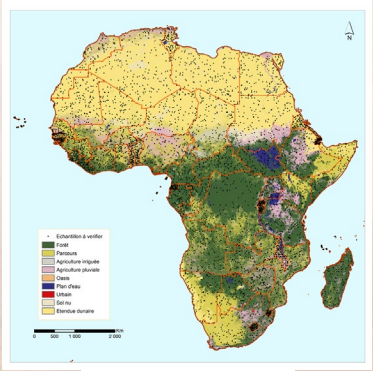
DOCUMENTARY BOOK ON RESTORED DEGRADED LANDS IN AFRICA

- Provide decision-makers and general public with useful, relevant and up-to-date infos ;
- Facilitate decision-making process for pr[illegible]on and restoration.



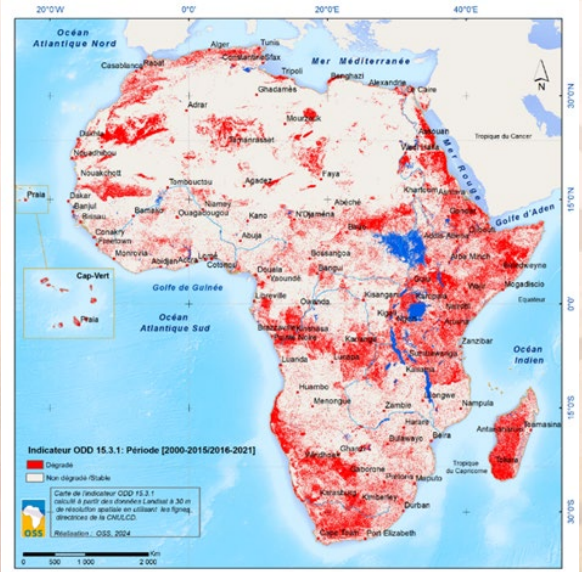
Characterizing land degradation in Africa : thematic products (Landsat data)

Land cover maps of Africa (2000, 2015, and 2021)



5500 samples

Kit of Indicators SDG 15.3.1 monitoring & reporting in Africa



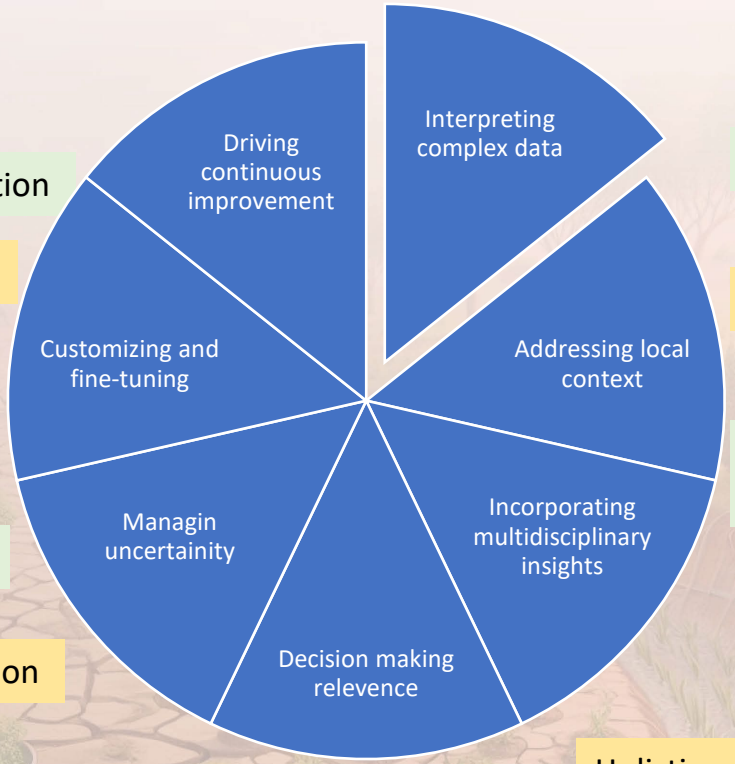
SDG 15.3.1 Indicator :
"Proportion of degraded land in Africa"

Land cover changes 2000-2021

Land productivity 2000-2021

Soil organic carbon 2000 - 2021

Leveraging advanced technologies and human expertise



Managing uncertainities

Pattern, anomalies and trends

Mis-interpret context-specific features

Complex interplay of ecological, climatic, and human factors

Holistic understanding of degradation processes

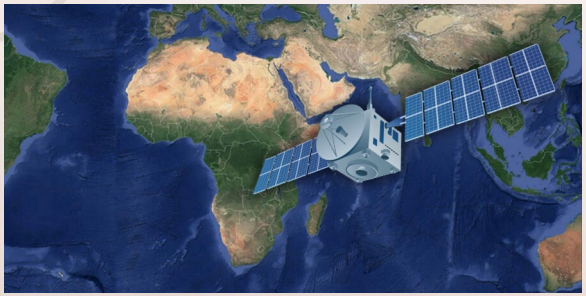
Need translation to actionable information

Interpret and communicate findings

Generalized models for larger areas

Localized knowledge for tools calibration

Bottom-up approach

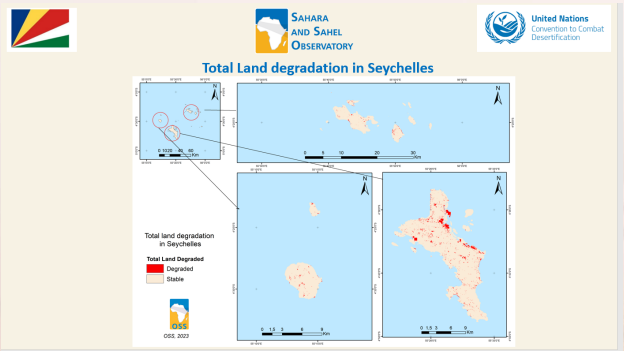


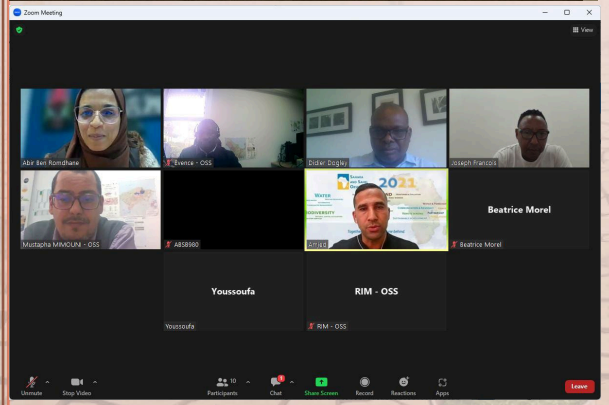
Earth Observation

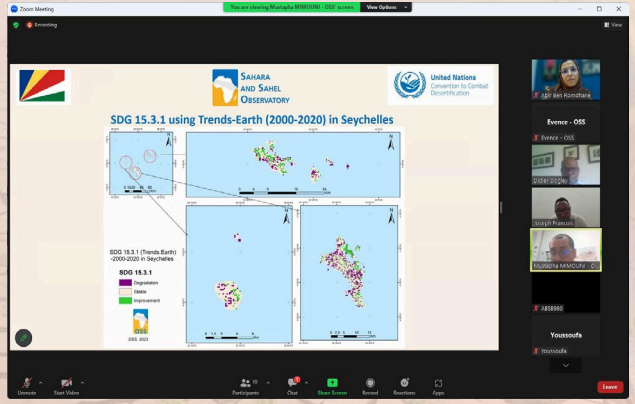
Experts knowledge

Tailored solutions addressing specific context

Success sorties : Seychelles







For a consistent continental LD monitoring service for Africa : Need to include its islands

- Adoption of cross-fertilization approach to support the Seychelles in establishing a permanent mechanism for monitoring and reporting on Land Degradation Neutrality (LDN) ;
- Providing technical assistance to national experts in order to monitor SDG 15.3.1 indicator.

Seychelles : Visits to hotspots identified by stakeholders

Invasive species

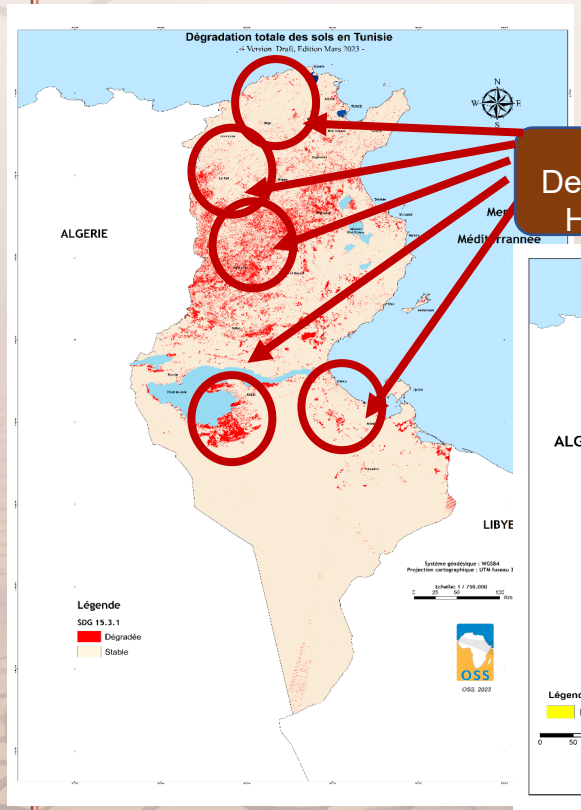
Forest destroyed by the fire

Erosion

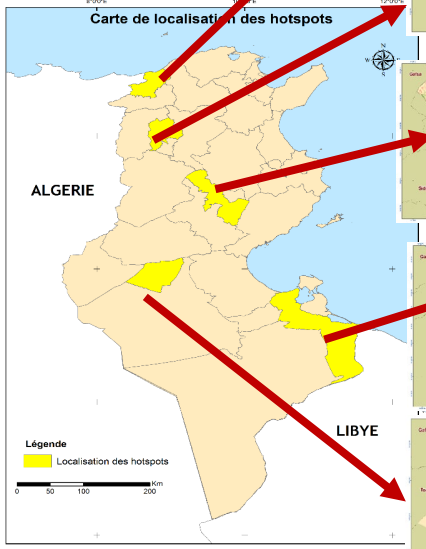
The artificial Island

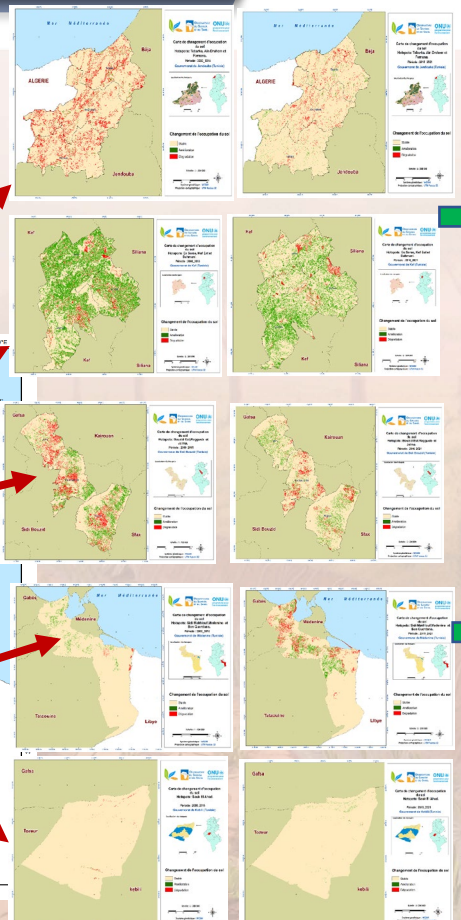
- **Invasive species** :This is considered as one of the major issues of land degradation in Seychelles and among the false positivies , where forest areas and natural parks appear greener in satellite images over time, but this is largely due to invasive species that add pressure on native vegetation.
- **Artificial islands** : the transformation from bare earth to urbanized areas and industrial zones, as well the development of artificial islands is a real concern for the Seychelles
- **Forest fires** : the fires occured in the last decades damaged severely the forest ecosystem
- **Gulf spaces** : misclassified as grasslands
- **Reconversion of agricultural lands into touristic zones**

Field visit in Tunisia :Main factors of land degradation



Land Degradation Hotspots





Forest Degradation

OverGrazing

Erosion

Drough

SAHARA AND SAHEL OBSERVATORY

UNCCD COP16 Riyadh | 2024

Merci pour votre attention
Thanks for your attention

CRIC23
United Nations Convention to Combat Desertification

Open Data and Sharing Approaches for Reporting with Creative Commons

Taylor Campbell , Open Science Project Lead

Monica Granados, Director of Open Science

Creative Commons

Open Data and Sharing Approaches for Reporting with Creative Commons

CRIC23 Side Event - 1 December 2025

Taylor Campbell and Monica Granados, Creative Commons

creative commons

WHAT IS CREATIVE COMMONS?

Creative Commons (CC) is an international nonprofit organization that empowers people to grow and sustain the commons of shared knowledge and culture with Creative Commons licenses. We aim to **address the world's challenges**, and our Open Science work promotes open access to research and data to equitably solve the climate crisis and preserve global biodiversity and ecology.

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CREATIVE COMMONS <> UNCCD

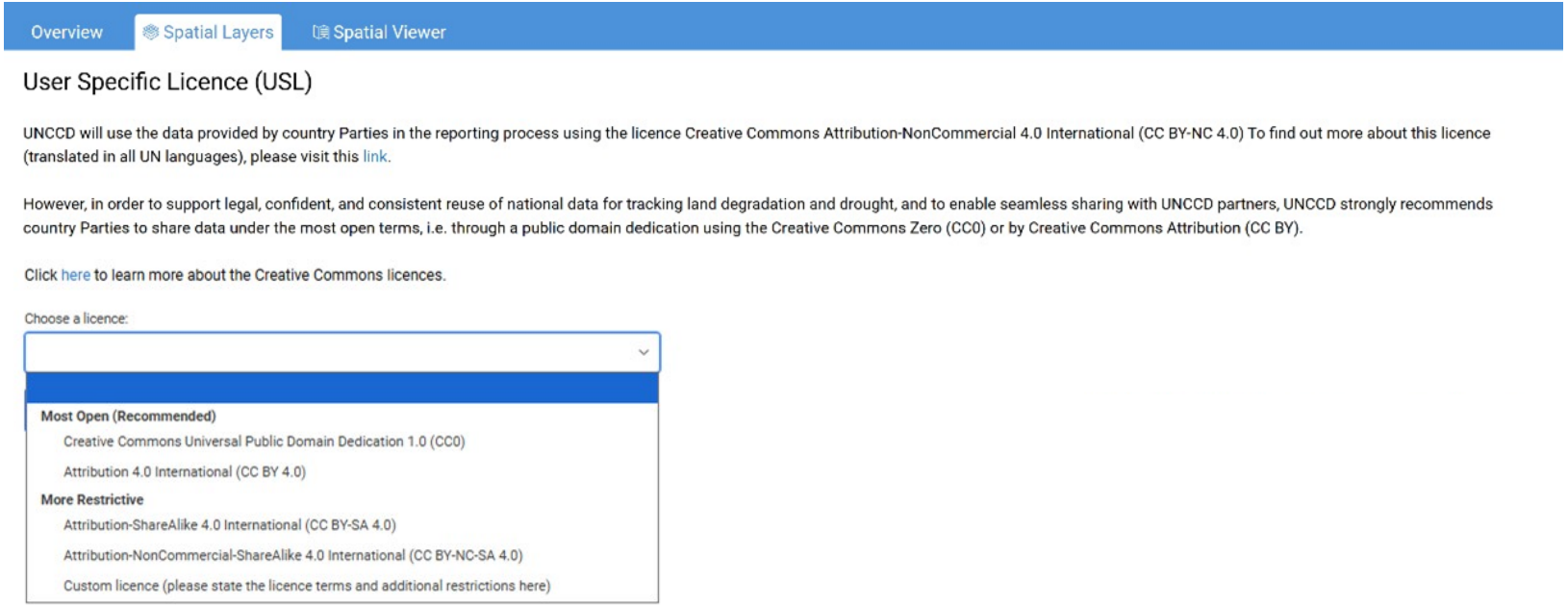
Advising the UNCCD Secretariat on applying data licensing guidance to the UNCCD's policies, platforms, and practices.

These steps help the UNCCD's valuable data resources be shared, accessible, reusable, and interoperable around the world, especially in support of Land Degradation Neutrality and the achievement of Sustainable Development Goal Target 15.3.

Specifically, when it comes to open data and sharing approaches for reporting, Country Parties are prompted to indicate the open licenses.

LICENSE SELECTION

When it comes to open data and sharing approaches for UNCCD reporting, Country Parties are prompted to indicate the open licenses that apply to their national data.



THE CALL FOR OPEN

Open licensing is critical for data and sharing approaches to reporting. These approaches strengthen synergies with other Rio Conventions by promoting open knowledge exchange across climate, biodiversity, and land agendas.

Our data licensing guidance offers a practical pathway for reporting according to existing COP decisions for enhancing data accessibility. Specifically:

- Decision 16/COP.11 requests that data and information from the reporting process are available and accessible to all, especially at the national and local levels.
- Decision 17/COP.11 requests a UNCCD policy to access data and information provided by Parties and other reporting entities.

FACILITATING BETTER SHARING OF CLIMATE RESEARCH AND DATA

Supporting better data licensing, metadata, and database user-interface practices, so more people everywhere can find solutions to the climate crisis.

تعزيز التواصل بشكل أفضل فيما يتعلق بأبحاث وبيانات المناخ

.

促进更好地交流气候研究和数据

支持数据许可、元数据和数据库用户界面的最佳实践，**以便世界各地更多的人能**够找到应对气候危机**的解决方案。**

Promouvoir une meilleure communication de la recherche et des données climatiques

Soutenez les meilleures pratiques en matière de licences de données, de métadonnées et d'interfaces utilisateur de bases de données afin qu'un plus grand nombre de personnes dans le monde puissent trouver des solutions à la crise climatique.

FACILITAR UN MEJOR INTERCAMBIO DE INVESTIGACIONES Y DATOS SOBRE EL CLIMA

Apoyar mejores prácticas de licencias de datos, metadatos e interfaz de usuario de bases de datos, para que más personas en todas partes puedan encontrar soluciones a la crisis climática.

CONSULTED INSTITUTIONS

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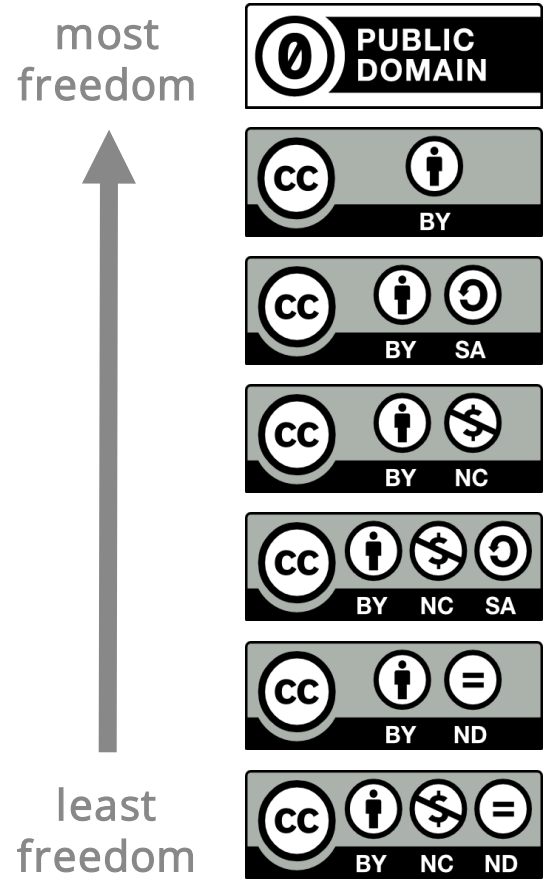

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Recommended Licensing and Legal Terms that maximize free and unrestricted sharing

Recommended Metadata Values that center licensing, attribution, and provenance

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THANK YOU!

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Monica Granados, Director of Open Science
monica@creativecommons.org

United Nations
Convention to Combat
Desertification

CRIC23
United Nations Convention to Combat Desertification

Closing Remarks

WOCAT
World Overview of Conservation Approaches and Technologies

UNIVERSITY OF BERN
CDE
CENTRE FOR DEVELOPMENT AND ENVIRONMENT

Nicole Harari
Research Scientist – WOCAT
Executive Team
University of Bern, CDE / WOCAT