



4th Working Group on Geospatial Information

Session 5: Contributing to the Work of the Custodian Agencies

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UN-GGIM

United Nations Secretariat
Global Geospatial Information Management

Positioning Geospatial Information to address Global Challenges

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Outline

- Engagement with Custodian Agencies: Examples
- Collaboration with UN Environment: SDG 6, *Water and Sanitation*: Indicators 6.6.1 & 6.3.2
- Collaboration with UNCCD: SDG 15, *Life on Land*: Indicator 15.3.1
- Lessons Learned
- Conclusions

A perspective of how the EO community is collaborating with Custodian Agencies in support of the SDG monitoring and reporting process

Examples of Custodian Agency Engagement



- Collaboration with UN Environment
- Indicators 6.6.1 & 6.3.2
- Means for countries to adopt EO data, methods and tools for monitoring and reporting
- Global datasets i.e., JRC Global Surface Water
- Knowledge sharing platform



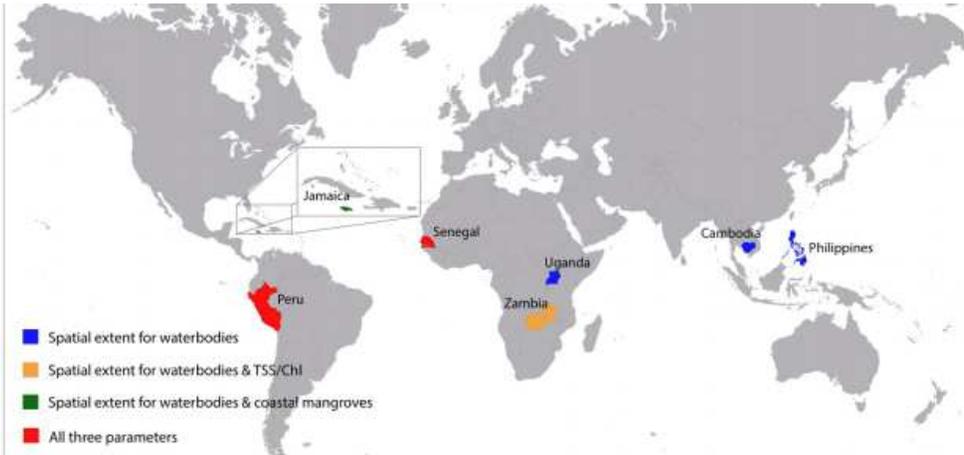
- Collaboration with UNCCD
- Indicator 15.3.1
- Good Practice Guidelines
- Global datasets i.e., ESA CCI LC/LCC, JRC Land Productivity, ISRIC Soil Organic Carbon
- National capacity building and standards development



- Collaboration with UN Environment, IOC / UNESCO
- Indicators 14.1.1, 14.3.1, 14.a.1
- Assess and monitor biodiversity and life in the oceans and the processes that affect it, advance ocean policy and management, including capacity building, and marine resource conservation



- Collaboration with UN Habitat and WHO
- Indicators 11.3.1 (also: 11.1.1, 11.2.1, 11.6.2, 11.7.1)
- Global datasets i.e., JRC GHSL and soon DRL GUF
- Demonstrate EO potential to inform SDG monitoring efforts (country examples), help extend successful methods, and integrate these with existing methods and datasets



Water Ecosystem Measured	Sub-indicators Measured	Datasets	Spatial Resolution (m)
Open water	Spatial extent	MOD44W C6.1*	250
Open water	Spatial extent	Landsat-5, 7, and 8*†	30
Lakes & reservoir	TSS and Chlorophyll	Landsat-8*† and Sentinel-2A‡	20-30
Wetlands (coastal mangroves)	Spatial extent	Landsat 8 OLI*†, Sentinel-1C‡, SRTM*	30

*National Aeronautics and Space Administration (NASA) †US Geological Survey (USGS) ‡European Space Agency (ESA)

EO4SDG has an ongoing, productive partnership with UN Environment

Together with NASA, ESA, and JRC, GEO is working with UN Environment to explore the applicability of EO datasets and tools in support of national reporting for changes over time in the extent of water-related ecosystems (indicator 6.6.1 under SDG 6, *Water and Sanitation*)

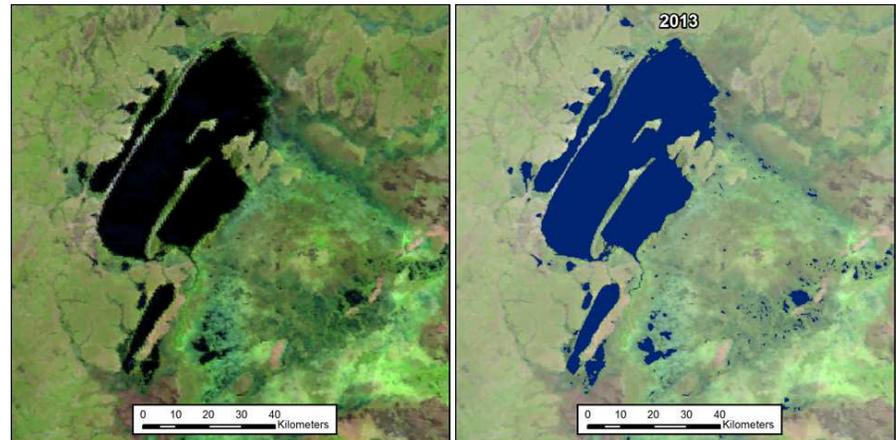
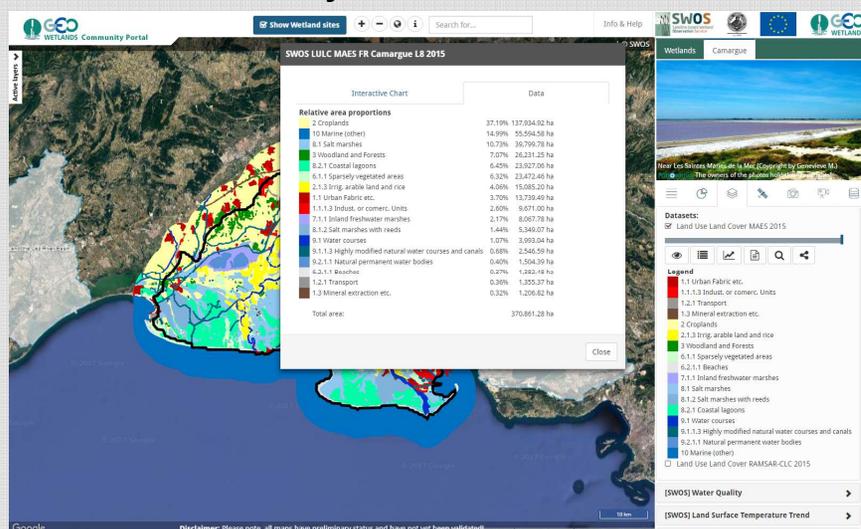


Figure 2 (left): False color composite MODIS surface reflectance image of several lakes, the largest of which is Lake Bangweulu, and associated swamps in Zambia. Imagery is an 8-day composite collected from a period beginning on 7/12/13. (right) The annual water dataset, overlain in blue, showing measured spatial extent of open water for the year 2013 (Credit: Vermote E. et al., 2015)

- » UN Environment, in its custodian role, is examining ways to distribute developed methods and products to countries, in support of SDG monitoring and reporting.
- » Example: The NASA –UMD pilot study (Fig. 1 & 2) serves as a proof of concept for similar future applications and provides a means for countries to adapt the EO methods to meet their needs.

Water-Related Community Portal



- User-friendly satellite imagery discovery, visualization and access
- Freely available wetland-related datasets
- Interoperability with other geo-information portals
- EO best case practices and guidelines
- Future perspective: Portal customization for SDG 6 monitoring and reporting; web-based analysis on-line production of SDG 6 products

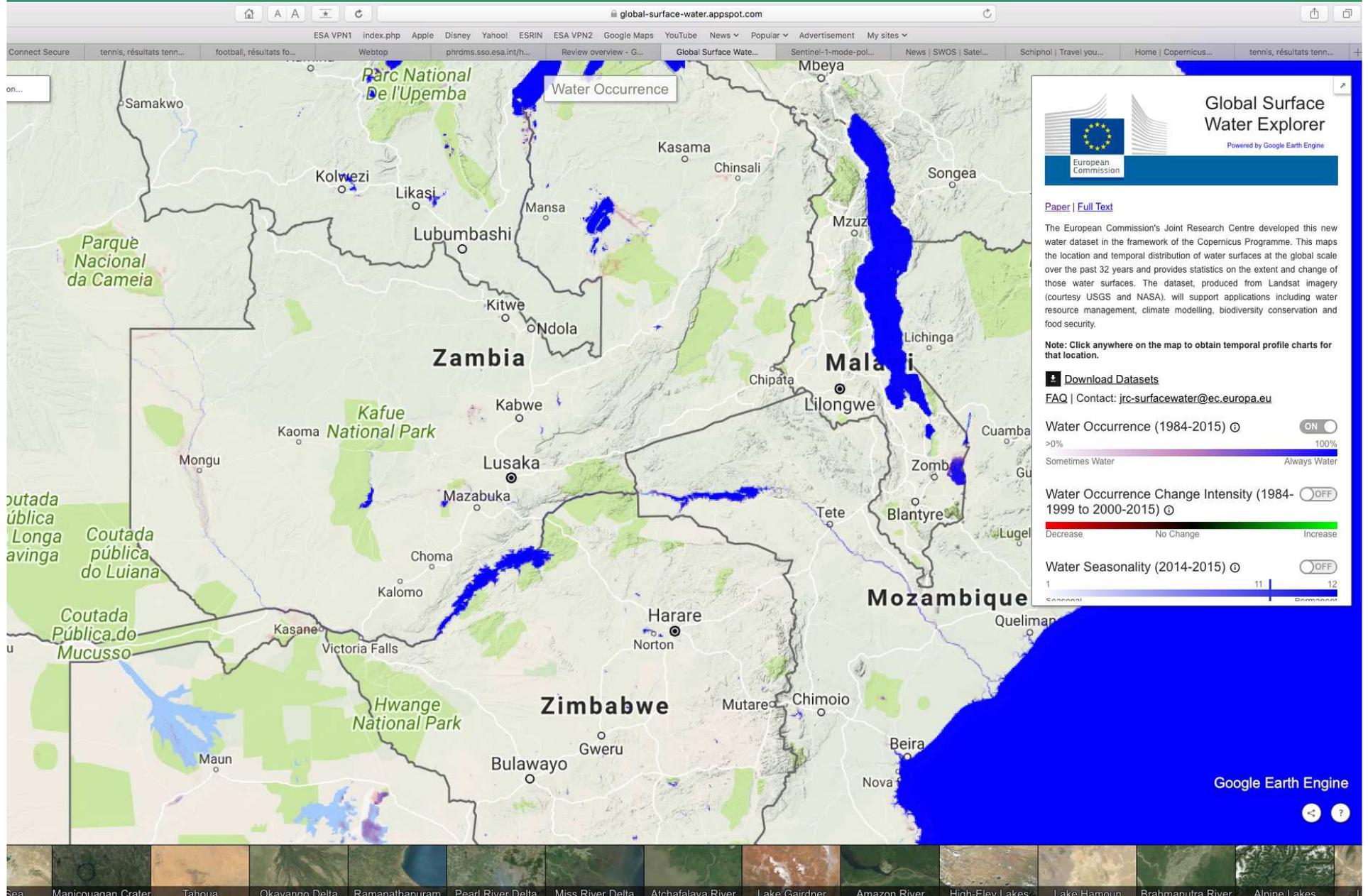
Develop sustained global approaches to wetland inventory, mapping and assessment

- National wetland inventory for reporting on SDG indicator 6.6.1 (maps, indicators, statistics)
- Collaboration with national ministries, statistical offices & agencies
- Capacity building to ensure national ownership

Supporting:



High quality Global Data Set on spatial extent of inland water bodies (1984-2015, full Landsat archive, 30m, JRC supported by GEE)





Next Steps

- Revise 6.6.1 step-by-step methodology and further develop standards
- Elicit country feedback and enhance uptake of EO methods and results
- Develop free-of-charge and open-source EO software toolboxes
- Develop user-friendly tools for EO product quality assessment and validation
- Provide means for other countries to replicate and adapt EO methods to meet their needs
- Update 6.6.1 indicator to Tier II

Challenges

- Provide countries with Analysis Ready Data
- Optimization of trainings on EO data processing and analytics
- Resources to enable country adoption
- User-based, global guidance on which EO products can be used for which purposes
- Fragmentation of activities
- Country ownership of SDGs



Collaborating with United Nations Convention to Combat Desertification on SDG Indicator 15.3.1: *Proportion of land that is degraded over total land area*



■ Countries setting LDN targets

Disclaimer: Country names or borders shown on the map do not necessarily represent the UNCCD's official position. The map shown is simply for display purposes. It does not work to imply views or opinions of the UNCCD, regarding the legal status of any territory or country.

Left: Status of implementation: Out of the 113 countries that have committed to set Land Degradation Neutrality targets, 64 countries have already established a baseline.

- **Scientific conceptual framework** for Land Degradation Neutrality (endorsed in Sep 2017)
- **Good Practice Guidance** (full alignment between UNCCD and 15.3.1 reporting)
- **External review and consultation** with the IAEG-SDGs WGGI, GEO & CEOS, NSOs/ countries, and other stakeholders.
- **New GEO initiative** on Land Degradation Neutrality with a focus on standards development and capacity building



Collaboration with UNCCD on SDG indicator 15.3.1: Next Steps



- Engage in standard setting process for land degradation indicators
- Integrate LDN efforts in development of free-of-charge and open-source EO software toolboxes (QGIS workflows and Data cubes) for country uptake.
- Participate in UNCCD organized regional workshops for UN Members
- Develop online tools for easy EO access, visualization, processing and analytics (including disaggregation)
- Provide means for other countries to replicate and integrate with existing LDN activities and initiatives
- Identify success stories for integration of LDN data in policy at community and national level



Collaboration with UNCCD on SDG indicator 15.3.1: Challenges

- Data still large and complex: lack of required expertise, particularly in developing countries.
- Upgraded to Tier II – still a lot to be done on method improvement on LPD and SOC
- Need for higher resolution datasets (10-30m), especially in mountainous regions, small island states and highly fragmented landscapes
- Assist countries with the tools necessary for development of Analysis Ready Data
- Optimize trainings on LDN Earth observations data processing and analytics (including disaggregation and service delivery).
- Identify resources to enable wide country adoption.



Conclusions

Observations

- Custodian agencies provide an entry point to countries and can help enhance national uptake and scalability of EO /GI methods and data
- Custodian agency- organized capacity building activities provide advice, tools and training to build national capacities
- Custodian agencies can provide opportunities for working beyond indicator and country level

Suggestions for WGGI

- Support collaboration between member countries and custodian agencies, taking into account variations per agency / country / indicator and facilitating data flows and validation process
- WGGI steps for indicator tier advancement and checklist for tracking progress
- Work on 5 examples (compelling used cases) of successful country-custodian agency collaboration in 2018



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THANK YOU

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