

# Satellite data for official statistics

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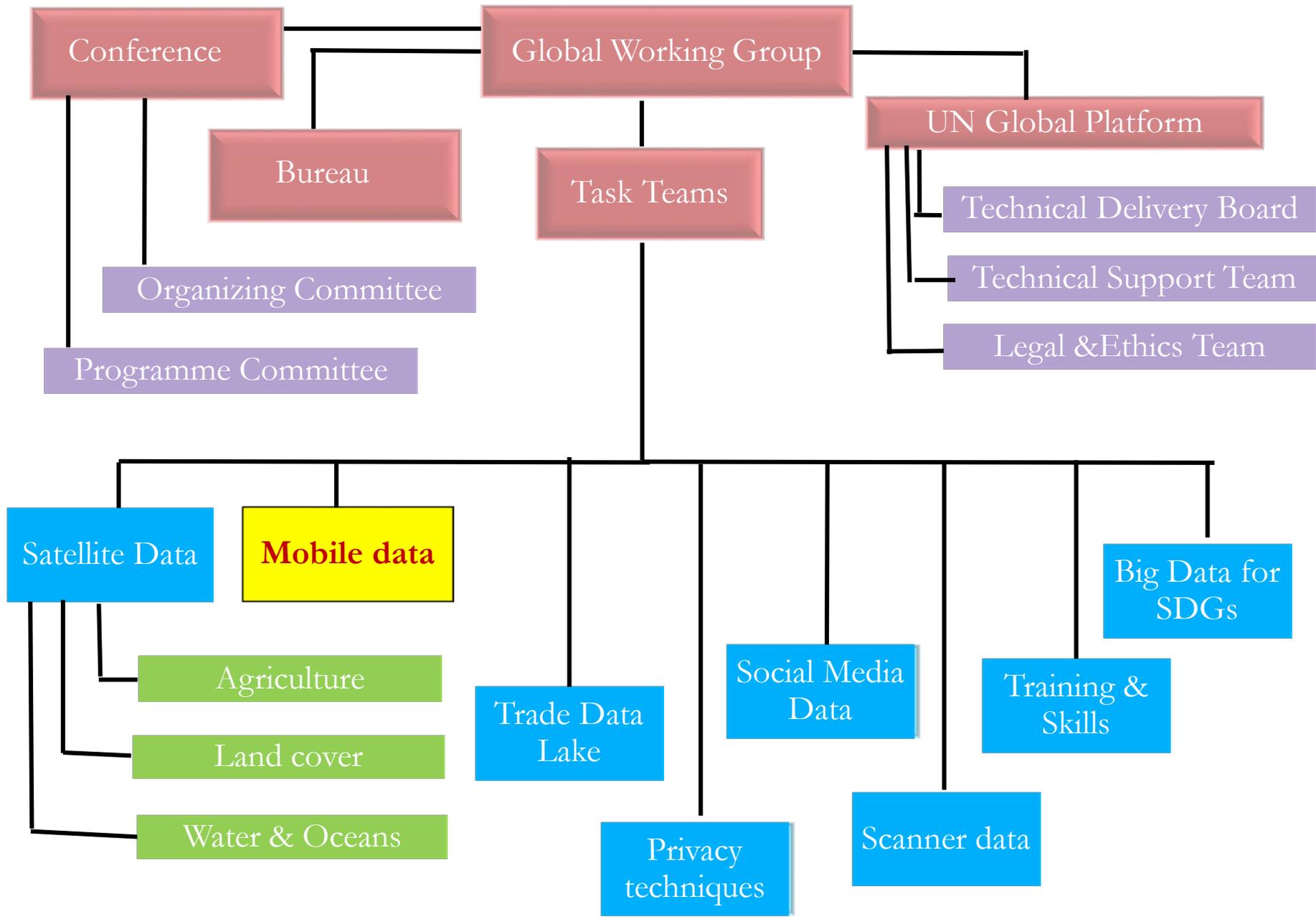
United Nations Statistics Division



# Big Data

## UN Global Working Group

- Created in March 2014 by the UN Statistical Commission
- Mandated to give direction to the use of Big Data for Official Statistics
- Consisting of 28 countries and 16 international organizations



**Task Team on  
the use of  
Satellite and  
remote sensing  
data for official  
statistics**

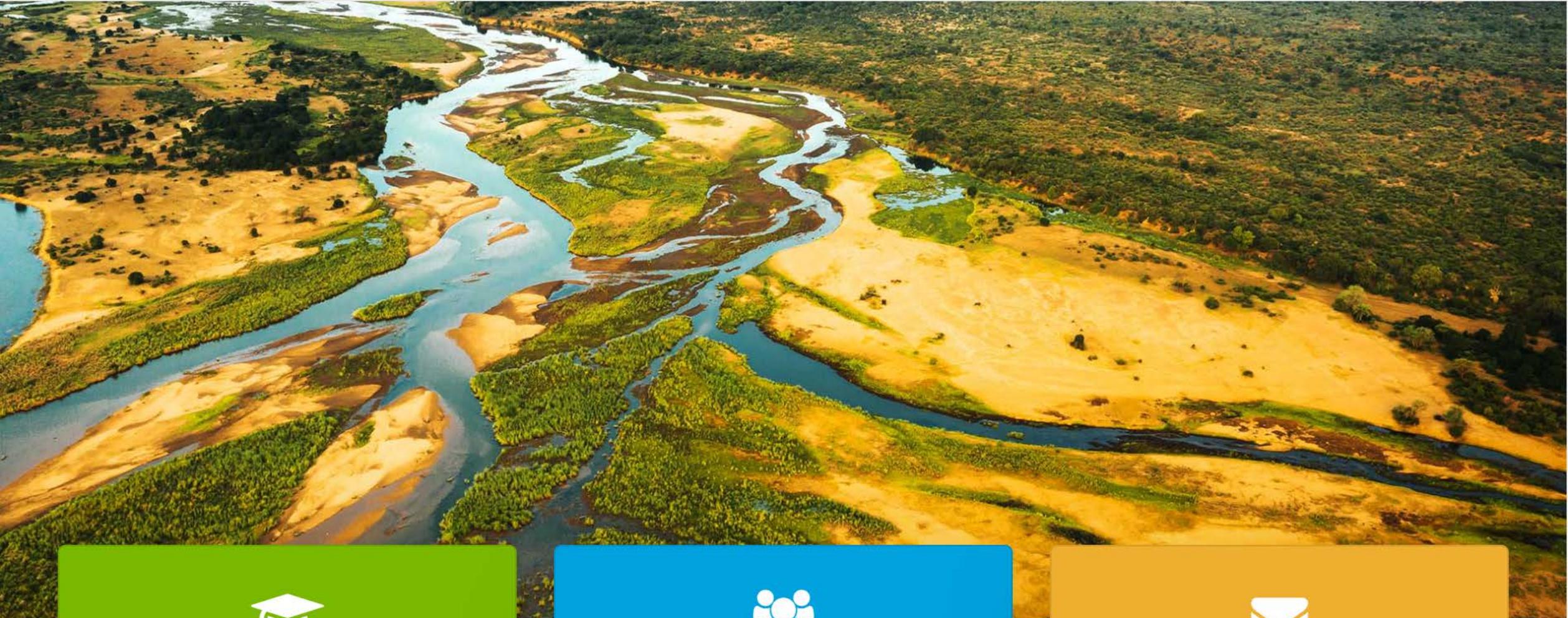


- **Accomplishments:**
  - Handbook on the use of Satellite data for official statistics
  - Workshops in Bogota and Bangkok
  - E-learning course
  - Algorithms and methods

Deliverable	Milestone	Due Date	Status
<b>Trusted Learning</b>	Material Finalised, learning Delivered and access to data sources to support learning	December 2019	On going
<b>Trusted Application</b>	Open source code available for review	December 2019	On going
<b>Trusted Methods</b>	Guidance material – short-term deliverables	December 2019	On going
<b>Determine scope of Phase 2</b>	Through consultation, determine priorities and deliverables for Phase 2	December 2019	

# Key Players in GWG Task Team

- Statistics Canada
- DANE Colombia
- INEGI Mexico
- Statistics Netherlands
- Statistics Poland
- NISR Rwanda
- Queensland University of Technology (Australia)
- FAO
- UNSD
- UNEP



## Learn

02/09/2020

The technology and what it means for policy



## Engage

United Nations Statistics Division

Participate and collaborate in upcoming events



## Support

Realising the benefits of decision ready



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2-4 November 2019 / Canberra, Australia

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# EO4SDGs

## Task Stream II: Application of satellite EO data for the SDG indicators

### Task II:

Document national experiences and good practices (case studies)

### Deliverables

- Primers and Technical guidelines, with national good practices, on the integration of EO data streams into the production of SDG indicators.
  - 6.3.1 (wastewater management)
  - 6.3.2 (ambient water quality)
  - 6.6.1 (spatial extent of water-related ecosystems)
  - 9.1.1 (rural population within 2 km distance from all-season roads)
  - 11.3.1 (land consumption per population growth)
  - 15.3.1 (proportion of degraded land per total land).

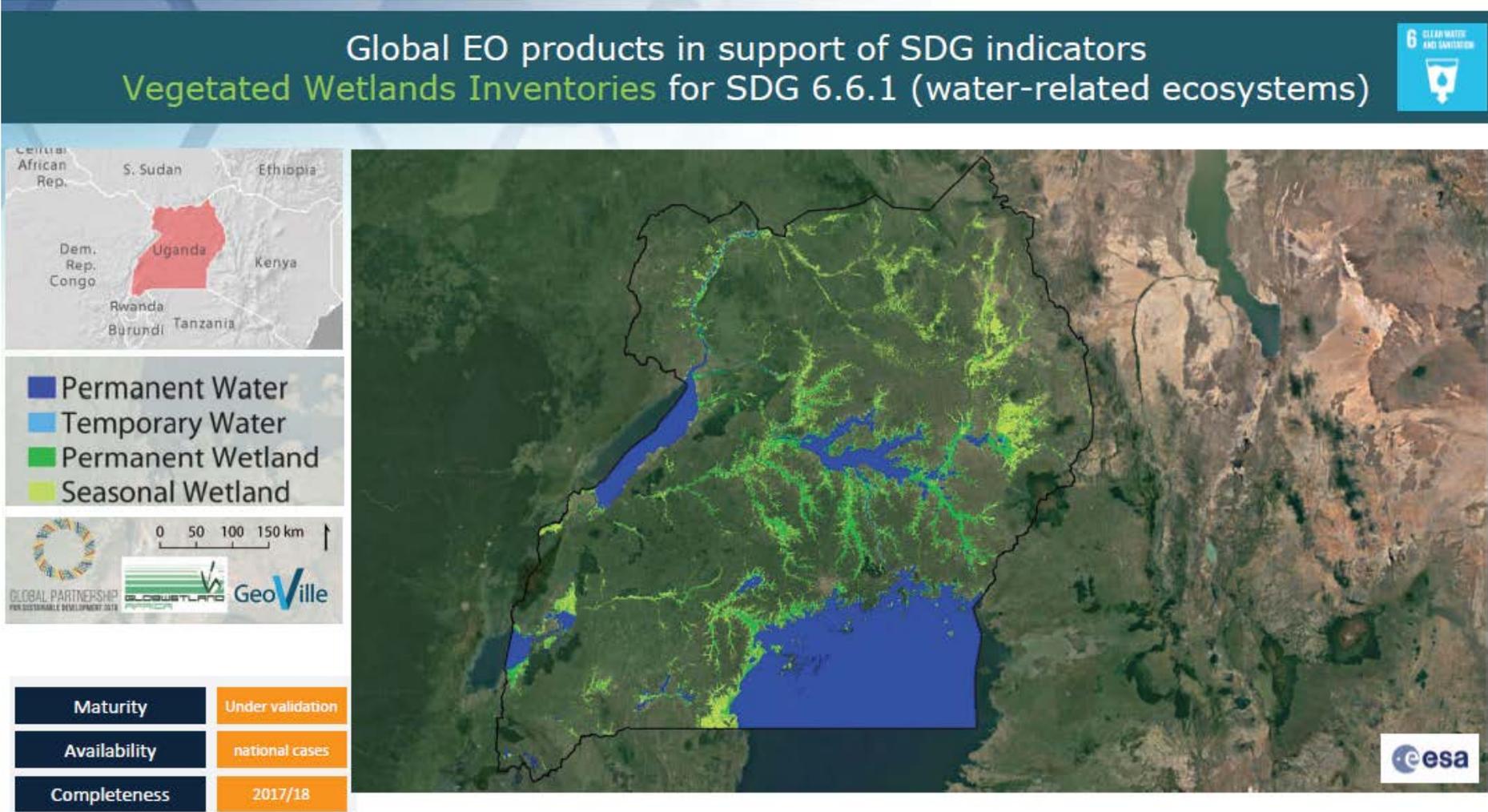


# EO4SDGs

## Global EO products in support of SDG indicators Global Surface Water Extent for SDG 6.6.1 (water-related ecosystems)



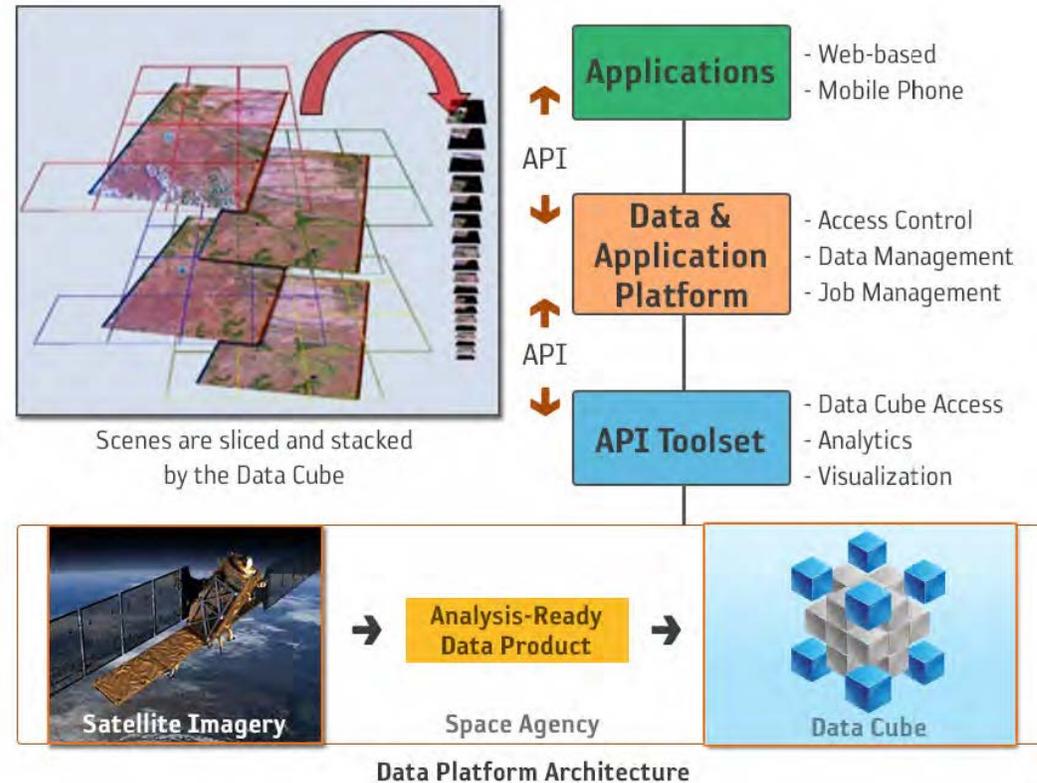
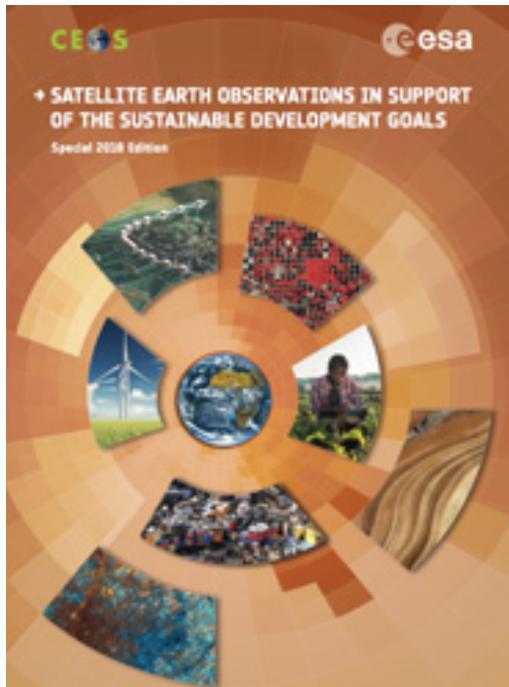
# EO4SDGs



# EO4SDGs

SDG 6.6.1			
<b>Custodian</b>	UN Environment, Ramsar	<b>Global Datasets</b>	<ul style="list-style-type: none"> <li>• Global Surface Water Explorer (GSWE), EC/JRC</li> <li>• Global Mangrove Watch (GMW), JAXA</li> <li>• Copernicus Global Land Service, Lake Water Quality, EC</li> </ul>
<b>Indicators</b>	Change in extent of water-related ecosystems over time	<b>EO good practice examples</b>	<ul style="list-style-type: none"> <li>• Examples from SWOS (EC), GW Africa (ESA), EO4SD Water (ESA), other projects</li> <li>• GPSSD project in Uganda (wetlands)</li> <li>• NASA pilot projects</li> </ul>
<b>Sub-Indicators</b>	<ul style="list-style-type: none"> <li>• Spatial extent of open water bodies</li> <li>• Spatial extent of vegetated wetlands</li> <li>• Lake Water Quality</li> <li>• <i>Other not relevant for EO</i></li> </ul>	<b>Platforms (with data analytics)</b>	<ul style="list-style-type: none"> <li>• GSWE (<a href="http://global-surface-water.appspot.com">global-surface-water.appspot.com</a>)</li> <li>• ESA TEP Hydro (<a href="http://hydrology-tep.eo.esa.int">hydrology-tep.eo.esa.int</a>)</li> </ul>
<b>Custodian's expert group</b>	ESA, NASA, EC/JRC (GSWE), JAXA (GMW)	<b>S/W Toolbox</b>	<ul style="list-style-type: none"> <li>• Open Data Cube (free, open source)</li> <li>• SWOS Toolbox (free)</li> <li>• GlobWetland Africa Toolbox (free, open source)</li> </ul>
<b>EO in Custodian guidelines</b>	Level 1 includes 2 Sub-Indicators based on EO global data from which will be validated by countries against their own methodologies and datasets.	<b>GEO Initiative</b>	<ul style="list-style-type: none"> <li>• GEO Wetlands</li> </ul>
<b>EO products</b>	<ul style="list-style-type: none"> <li>• Dynamics of surface waters</li> <li>• Vegetated Wetland inventory (with high level classification)</li> <li>• Surface Water quality (Chl-a /Trophic State Index, TSM / Turbidity)</li> </ul>	<b>Knowledge Hub</b>	<ul style="list-style-type: none"> <li>• GEO Wetlands Portal (<b>in construction</b>) <a href="http://portal.swos-service.eu/mapviewer/">http://portal.swos-service.eu/mapviewer/</a></li> </ul>
<b>Source of EO</b>	<ul style="list-style-type: none"> <li>• Landsat, Sentinel 1, Sentinel 2, ALOS-2 Palsar-2 (ScanSAR)</li> <li>• Palsar-2, Landsat-8, S1, S2</li> <li>• MODIS, VIIRS, S3 OLCI &amp; S2 + L8</li> </ul>	<b>National Experience</b>	<ul style="list-style-type: none"> <li>• Colombia</li> <li>• Australia</li> <li>• <b>Others?</b></li> </ul>

# CEOS Earth Observation Handbook presents the main capabilities of satellite observations and their applications



# Thank you