

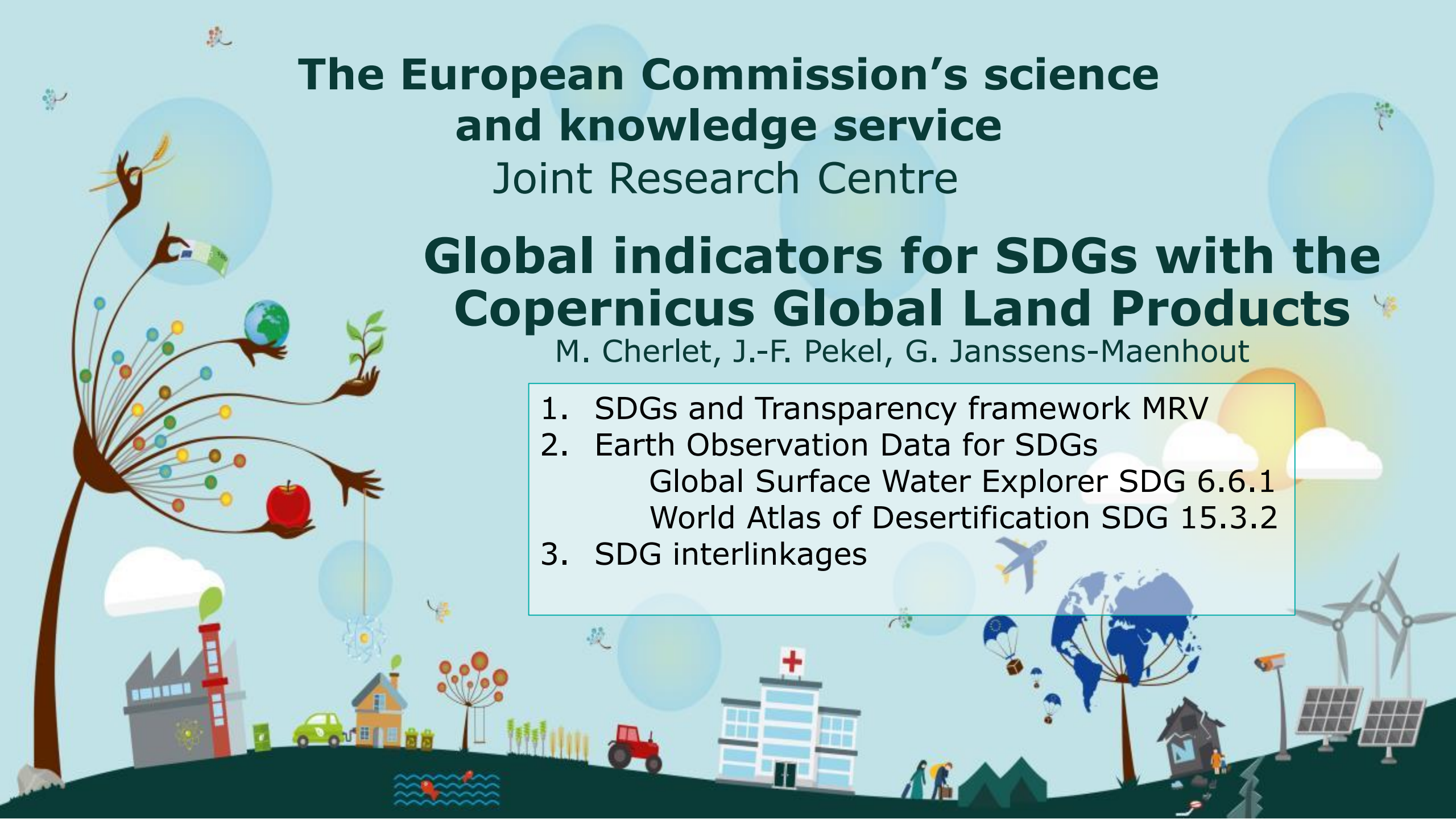
# The European Commission's science and knowledge service

Joint Research Centre

## Global indicators for SDGs with the Copernicus Global Land Products

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1. SDGs and Transparency framework MRV
2. Earth Observation Data for SDGs
  - Global Surface Water Explorer SDG 6.6.1
  - World Atlas of Desertification SDG 15.3.2
3. SDG interlinkages



# 1. SDGs into EU-policy and into post-2020 strategy



A life of dignity for all within the planet's limits that reconciles **economic** prosperity and efficiency, peaceful **societies**, social inclusion and **environmental** responsibility

Under the current Commission sustainable development is mainstreamed in key cross-cutting projects as well as in sectoral policies and initiatives

The EU is fully committed to be a frontrunner in implementing the 2030 Agenda and the SDGs, together with its Member States, in line with the principle of subsidiarity

# 1. How the EU will take forward the 2030 Agenda?



**1. Governance:** a holistic and cross-sector policy approach to ensure that economic, social and environmental challenges are addressed together

**2. Financing:** the Commission will explore how EU budgets and future financial programmes can best contribute to the delivery of the 2030 Agenda

**3. Measuring progress:** the Commission will contribute by monitoring, reporting and reviewing progress towards the Sustainable Development Goals

**4. Shared responsibility:** Implementation needs to be taken forward in partnership with all; a multi-stakeholder Platform will bring stakeholders together

# 1. Transparency with monitoring & verification

UN: 2030 Agenda for Sustainable Development

UNFCCC: Paris Agreement

2015

2018

2021

2023

2026

2028

2030

1<sup>st</sup> Global Stocktake

2<sup>nd</sup> Global Stocktake

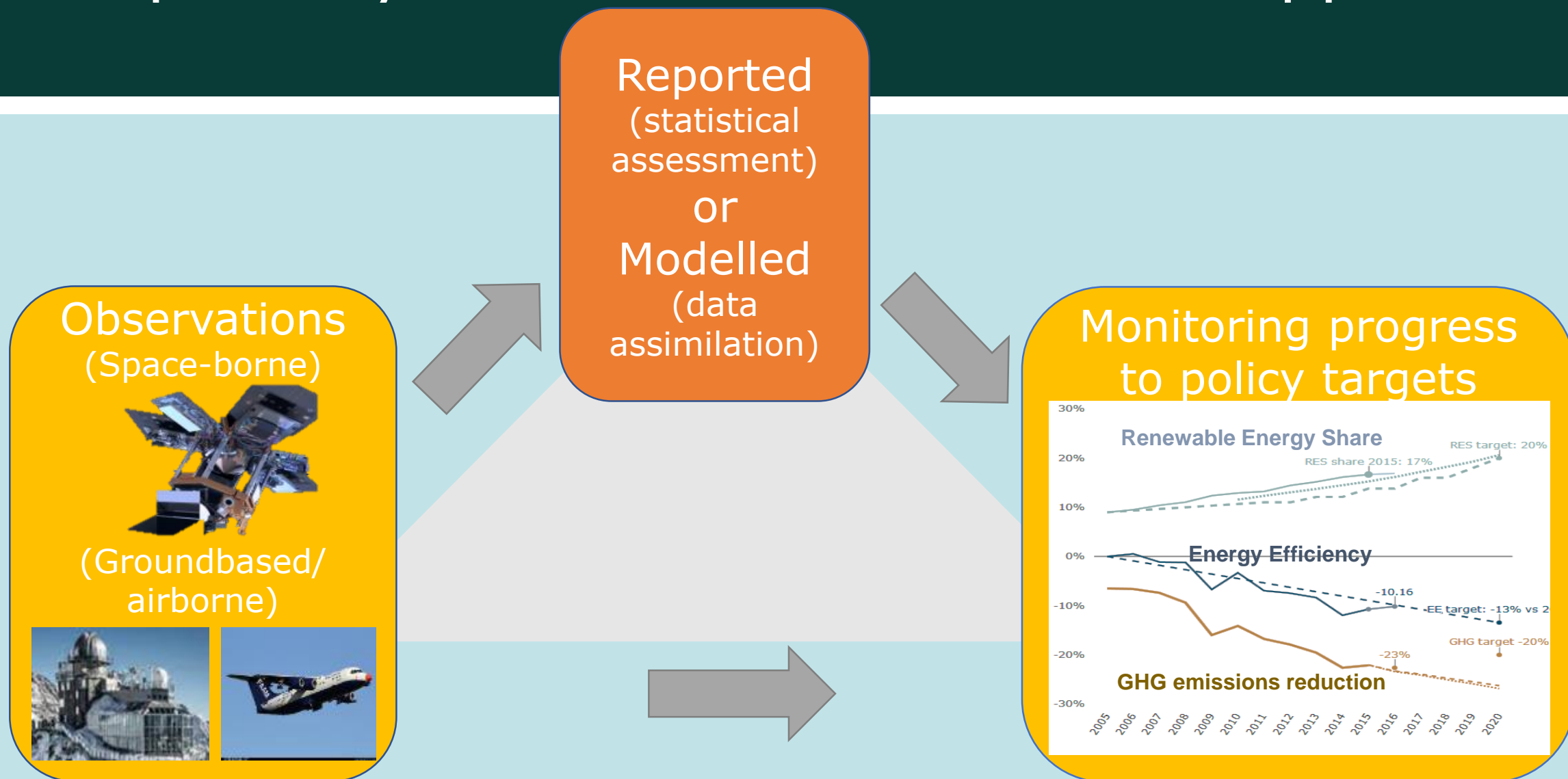
Enhanced transparency framework: Measuring-Reporting-Verifying (MRV)

SDG targets

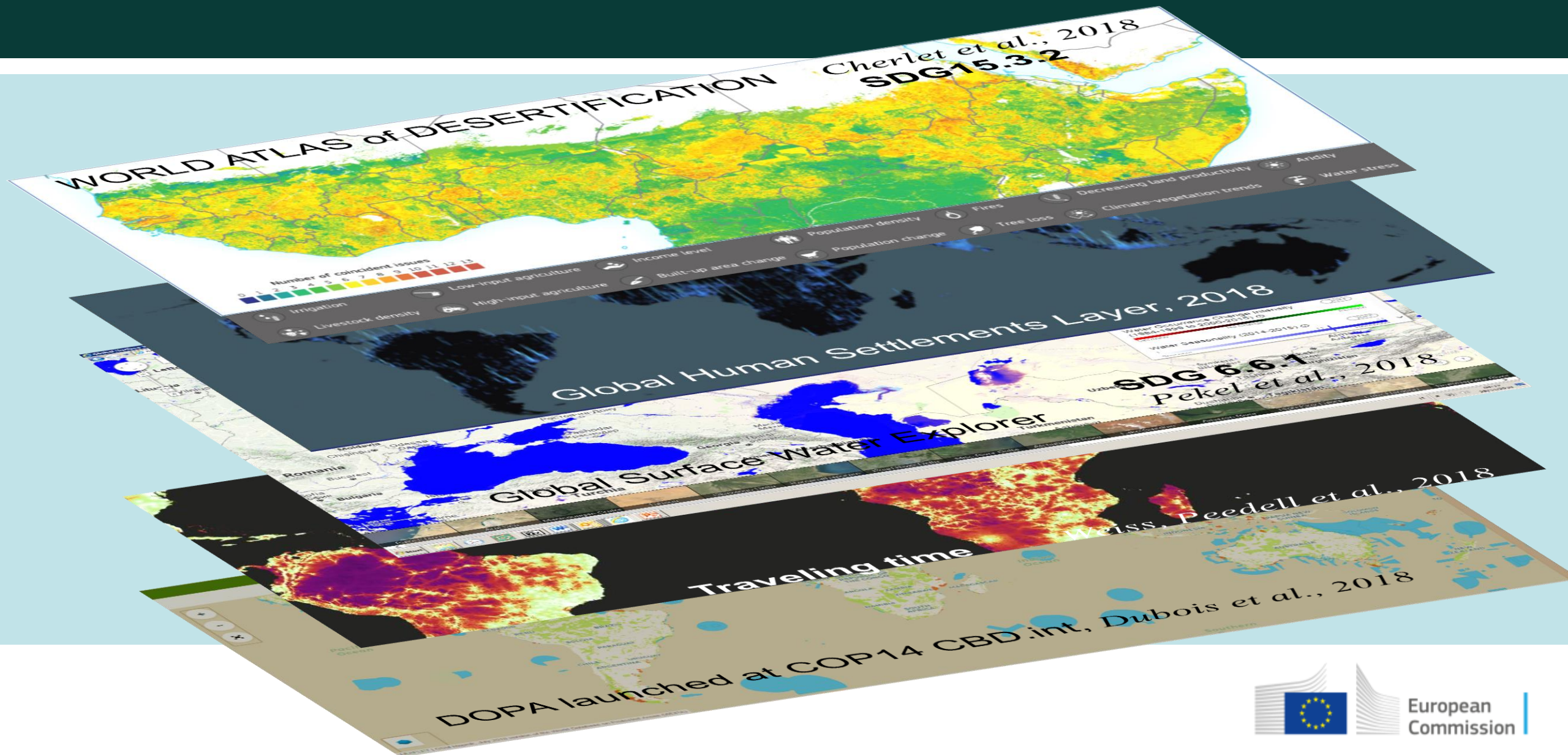
Transparent monitoring: Sustainable Development Goal indicators



# 1. Transparency: Earth Observations to support MRV

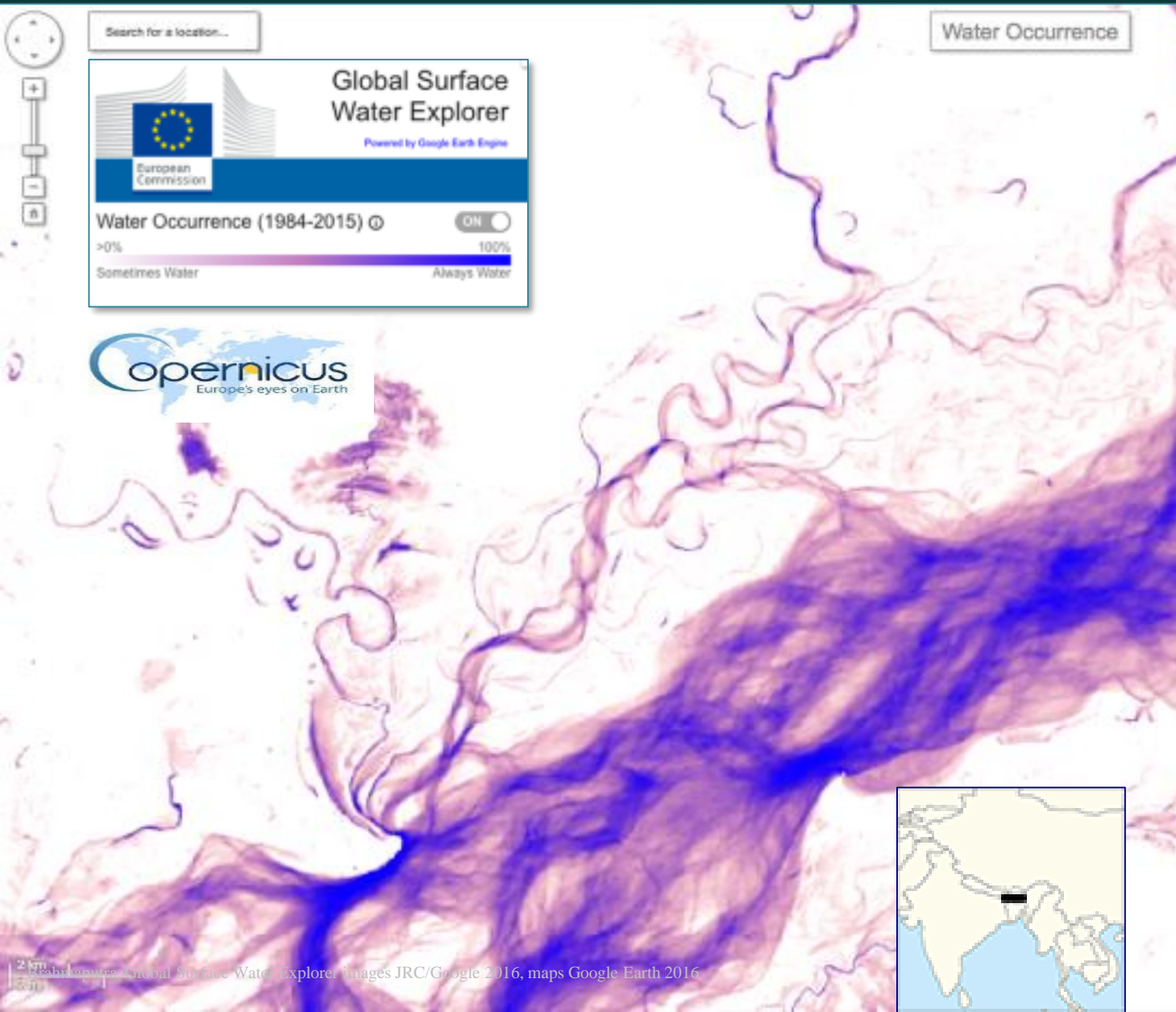


## 2. Earth Observation products: input for SDGs





# 2a. Global Surface Water Explorer



**Measuring progress:**  
**The Global Surface Water Explorer**  
<https://global-surface-water.appspot.com/>

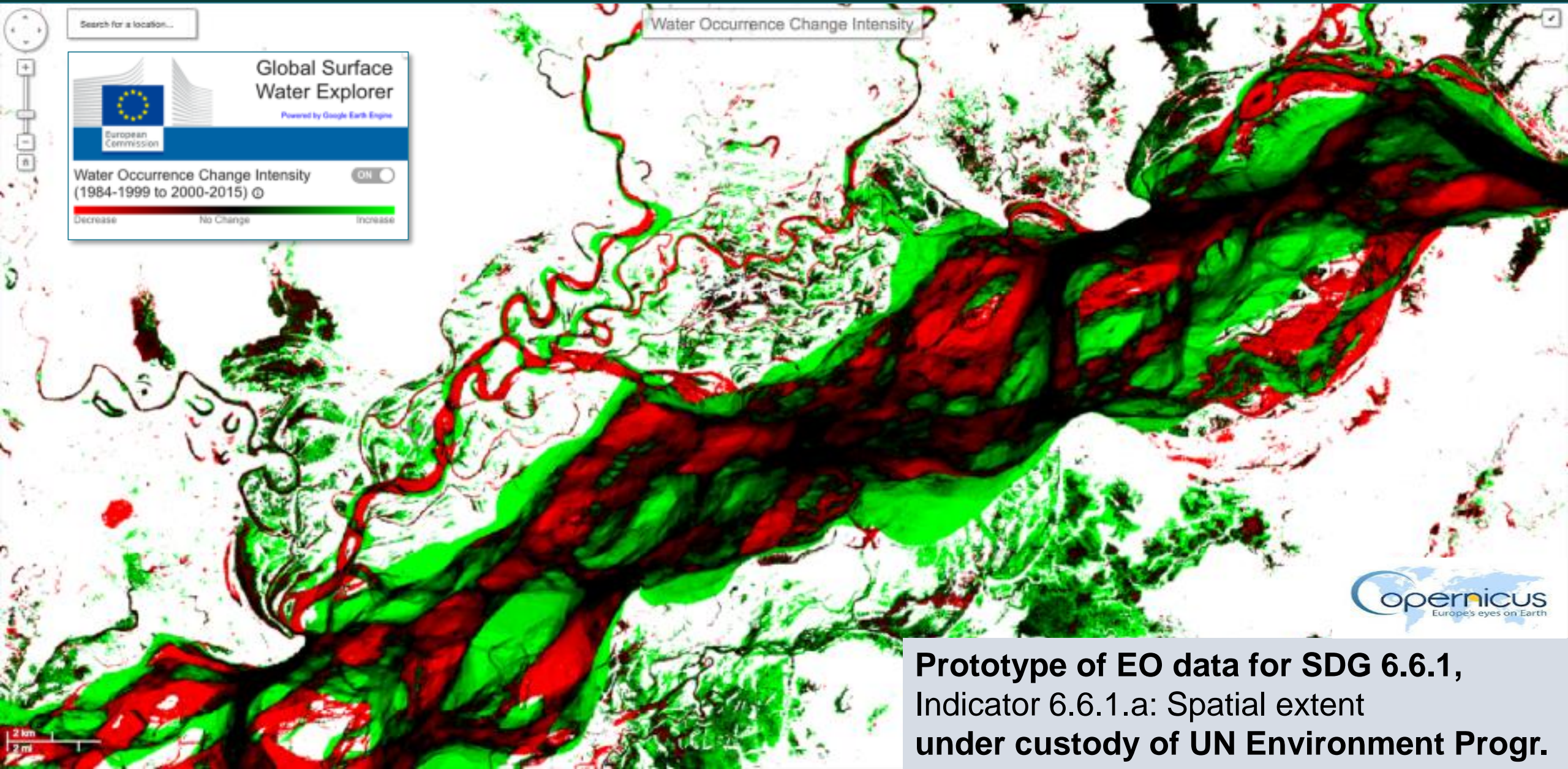
Target 6.6: By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, *aquifers* and lakes

Indicator 6.6.1: Change over time in water-related ecosystems extent

GSWE maps and statistics are fully validated and have been distributed to over 180 countries by UN Environment for consideration as reporting against



# 2a. Global Surface Water Explorer as SDG 6.6.1



**Prototype of EO data for SDG 6.6.1,  
Indicator 6.6.1.a: Spatial extent  
under custody of UN Environment Progr.**

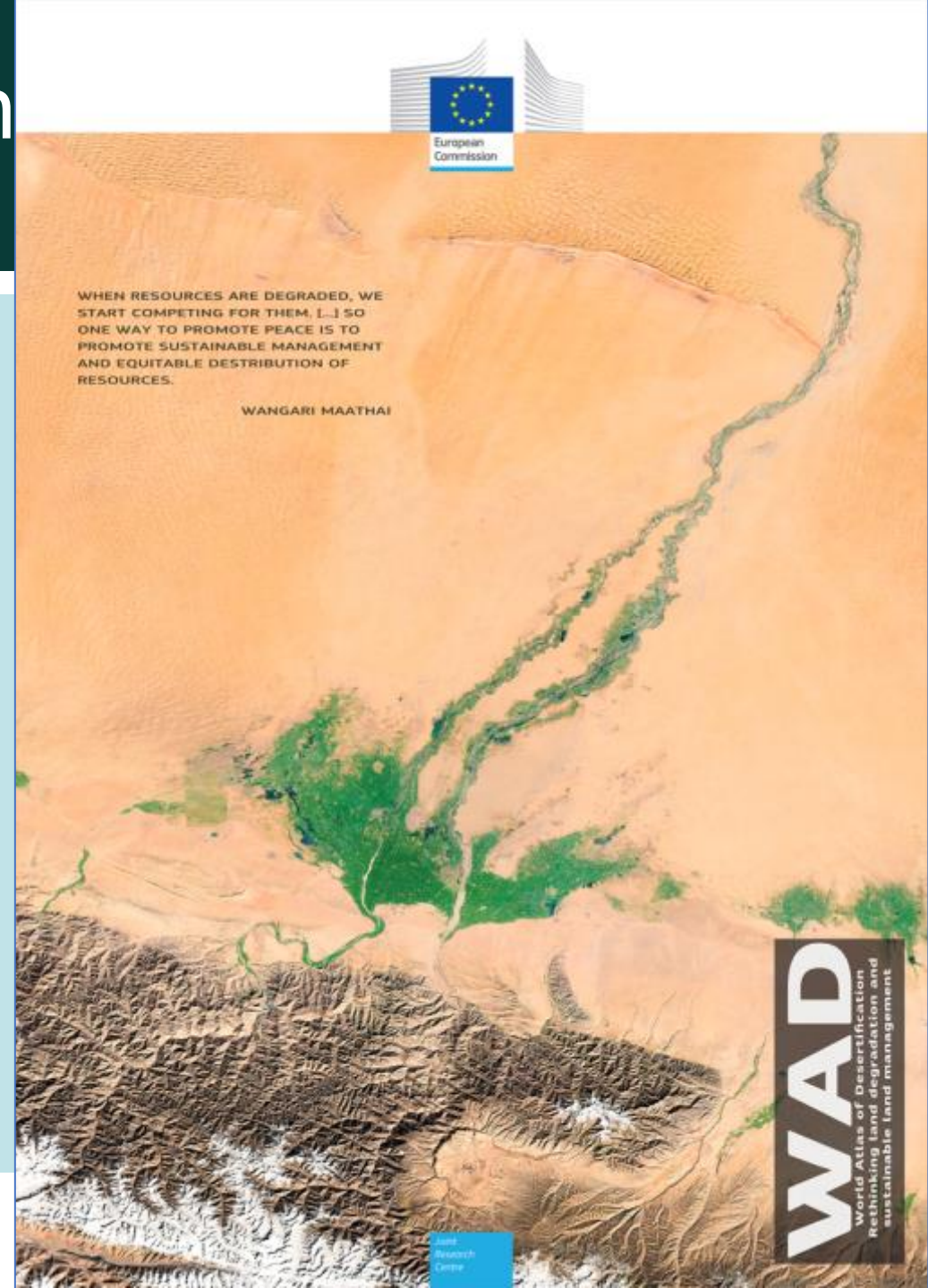


# 2b. World Atlas of Desertification

- WAD = living data platform providing a global framework
- Can be used for facts, forecasts, scenarios
- Operates at scales from global to local
- Adopted by UNCCD in the context of SDG 15.3
- Is an ongoing process – framework is fixed, list of variables is not
- Solution-oriented - local impacts, local decisions

Freely available

<http://wad.jrc.ec.europa.eu>

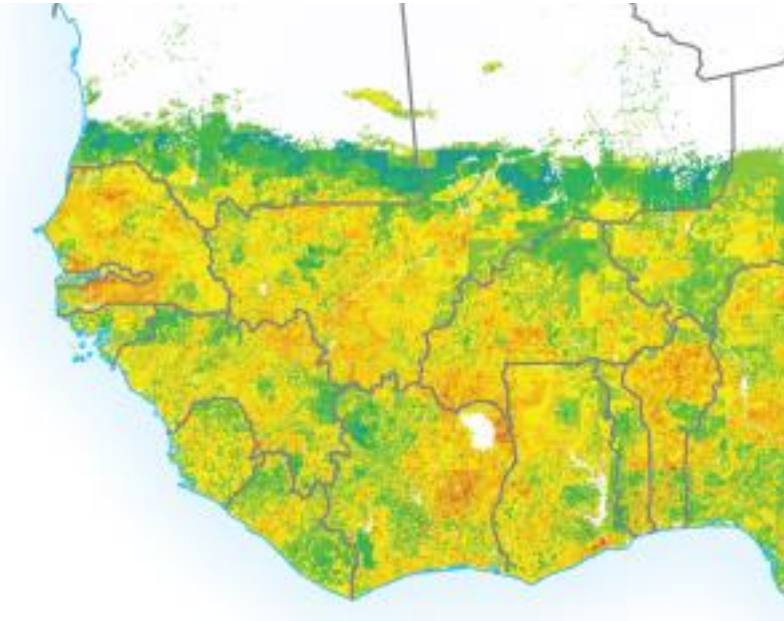


# 2b. World Atlas of desertification: proof of concept

Source: JRC from World Atlas of Desertification, 3<sup>rd</sup> Edition, JRC/UNEP

## The Sahel and Eastern Africa

Yield gaps, decreased productivity and chronic low-income



## Europe (and North America)

Urban expansion is consuming land resources and high-intensive agriculture requires large, continuous inputs of nutrients



**There is fierce competition for land use.  
What are consequences for policy strategies?**

Convergence of Evidence

Number of coincident issues



Irrigation



Low-input agriculture



Income level



Population density



Fires



Decreasing land productivity



Aridity



Livestock density



High-input agriculture



Built-up area change



Population change



Tree loss



Climate-vegetation trends

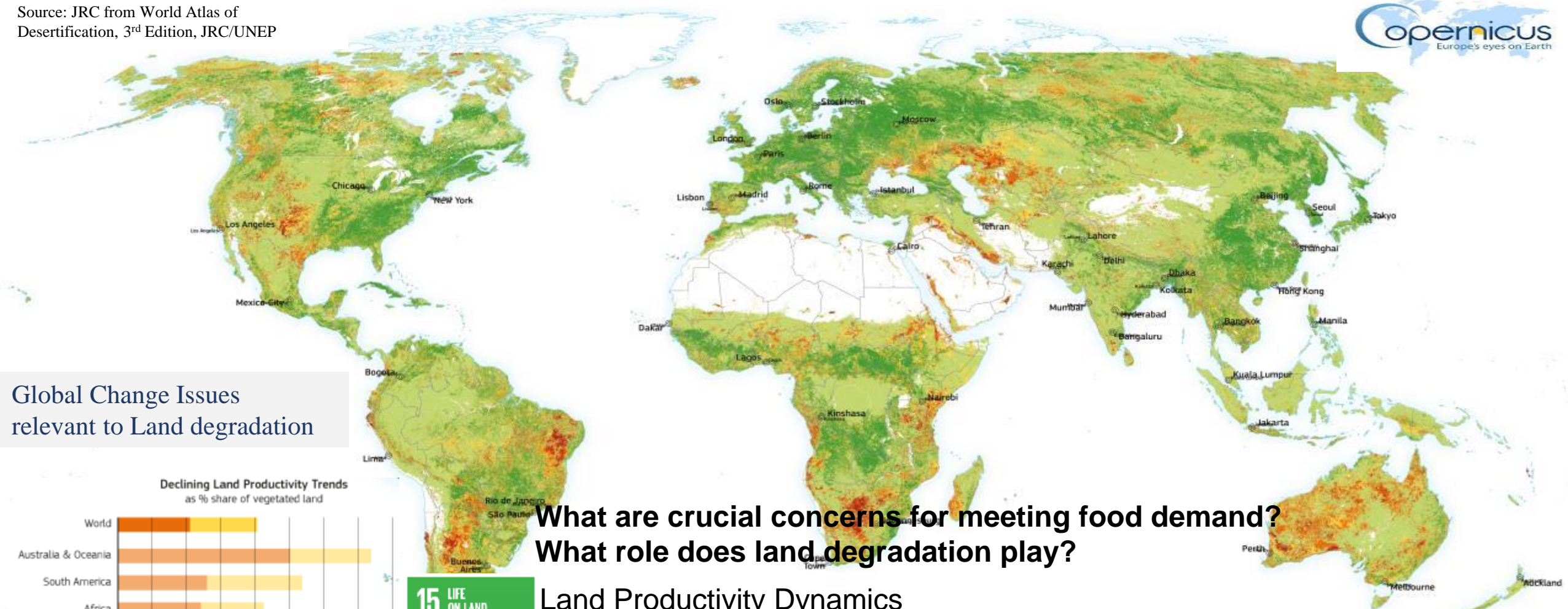


Water stress



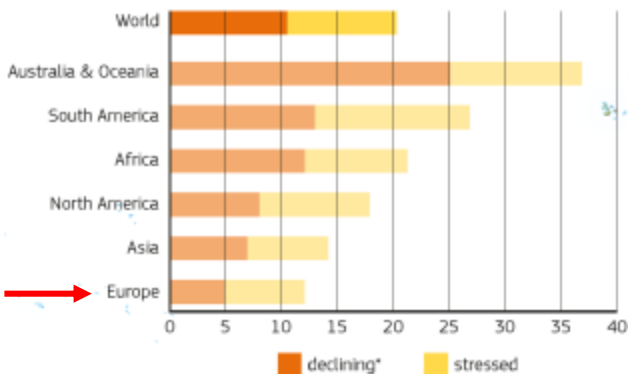
# 2b.Land Productivity Dynamics as SDG 15.3.2

Source: JRC from World Atlas of Desertification, 3<sup>rd</sup> Edition, JRC/UNEP



Global Change Issues  
relevant to Land degradation

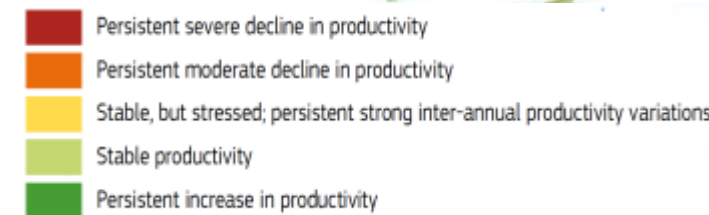
Declining Land Productivity Trends  
as % share of vegetated land



**What are crucial concerns for meeting food demand?**  
**What role does land degradation play?**

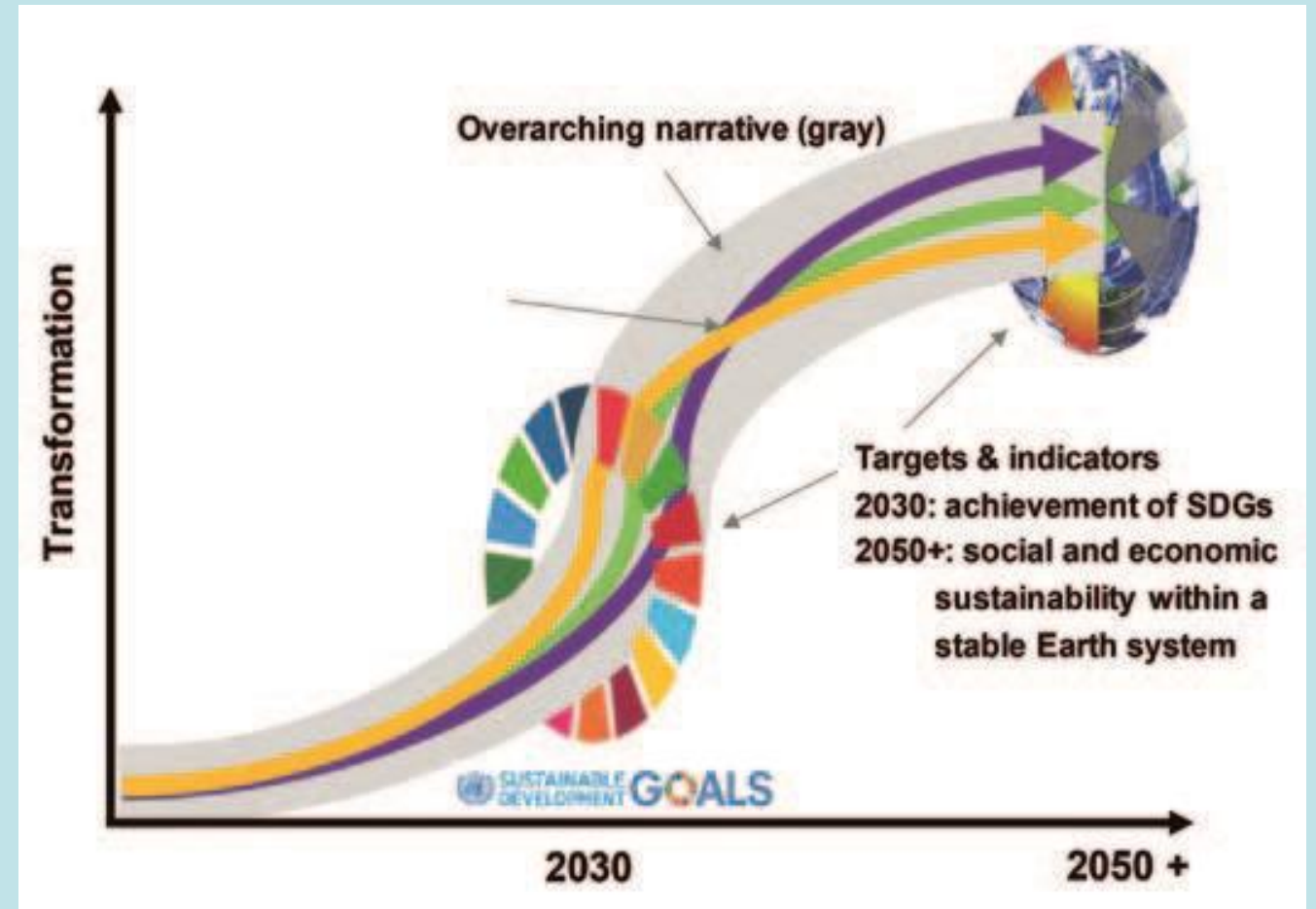
## Land Productivity Dynamics

12% of vegetated land shows declining productivity  
21% of vegetated land shows declining and stressed productivity





# 3. Assessment & interlinkages of SDG indicators



Interlinkages among the 17 SDGs : Harmonization, aggregation & visualization of interlinkages established in the literature



# 3. Sharing responsibilities/ Combining data



**Building synergies at regional level**, to facilitate uptake by regional and local stakeholders by improving connection between research and policy making (e.g. Union for the Mediterranean, African Union NEPAD, UN and EC initiatives)

- ♣ **Understanding baseline conditions**, to document the trends and variability in supply and demand of resources
- ♣ **From baselines to solutions**, to explore trade-offs between costs of measures, impacts of energy production and agriculture for the delivery of multiple benefits



# Conclusion

- The appreciation for Earth Observation data shifted from checking on country's activities to a monitoring aid for achieving targets
- EC-policy is significantly increasing the uptake of Earth Observation data for tracking progress to 2030.
- UN Environment Programme accepted the global surface water explorer for SDG 6.6.1 as default data and helps amplifying its use by its 193 Member States