

# Global Cooperation and Partnerships for policies and development.

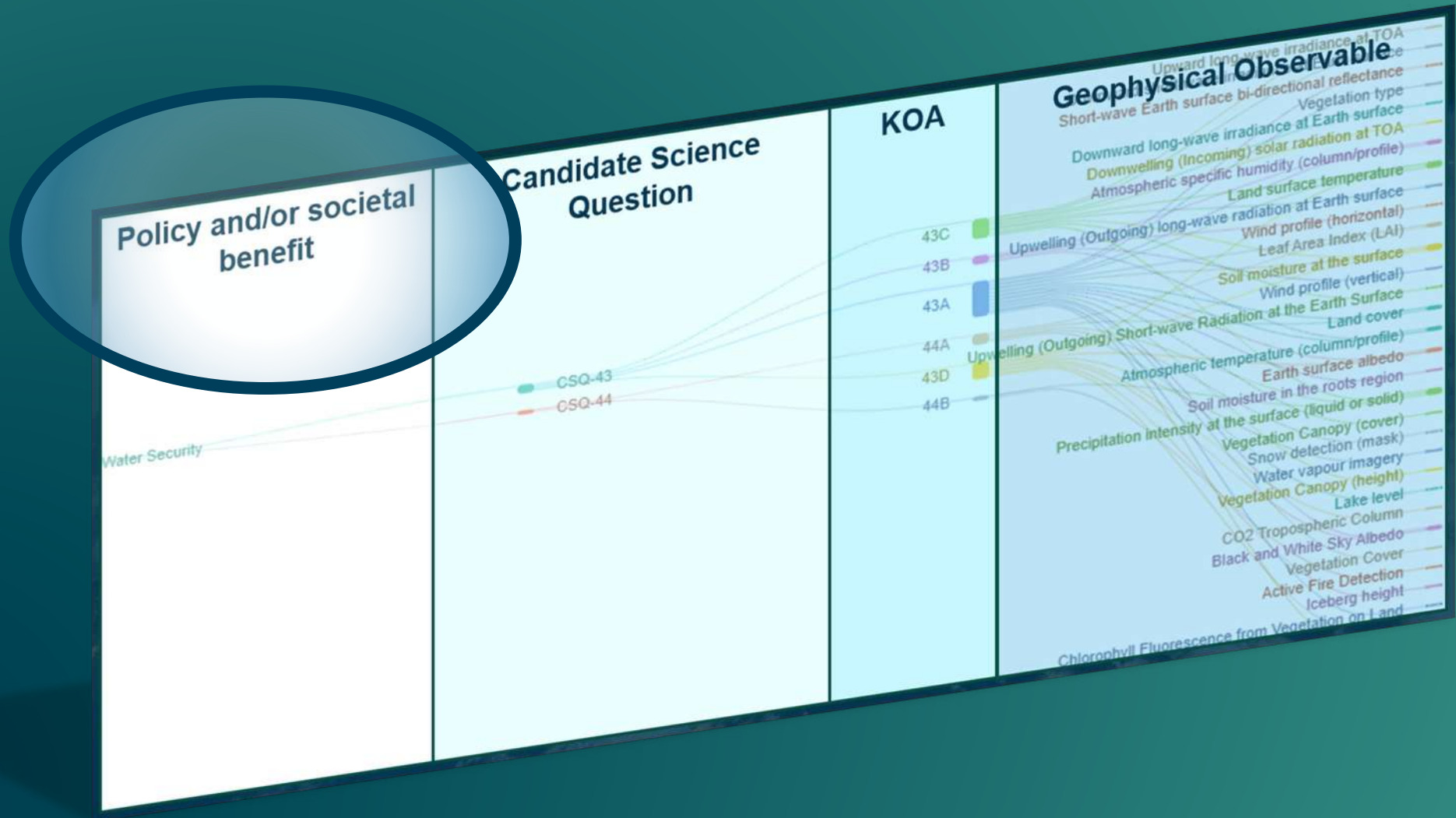
Giuseppe Ottavianelli, Benjamin Koetz

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# Enhancing the societal benefit



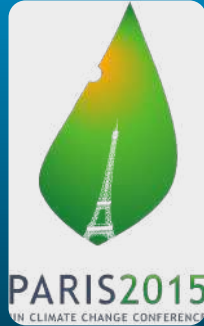
# From Knowledge to Action

## Science-based solutions to global challenges

# EO to enable International and European Policy Frameworks



## UN Resolutions, Treaties & Int. Conventions



7 GLOBAL TARGETS	Reduce	Increase
	<b>Mortality/</b> global population 2020-2030 Average << 2005-2015 Average	<b>Countries with national &amp; local DRR strategies</b> 2020 Value >> 2015 Value
	<b>Affected people/</b> global population 2020-2030 Average << 2005-2015 Average	<b>International cooperation</b> to developing countries 2030 Value >> 2015 Value
	<b>Economic loss/</b> global GDP 2030 Ratio << 2015 Ratio	<b>Availability and access</b> to multi-hazard early warning systems & disaster risk information and assessments 2030 Values >> 2015 Values
	<b>Damage to critical infrastructure &amp; disruption of basic services</b> 2030 Values << 2015 Values	



## European Regulations, Directive and Strategies



# Stakeholders

Communities' recommendations, roadmap and projects definition, creation of Advisory Boards



# Policies

...Environmental Agenda, Sustainable Development, Africa 2063



Feedback to policy



## Direct Engagement of Stakeholders and End-Users



Users' needs and pro-active engagement



integration of developed solutions



## Excellence in EO innovation with Industry and Academia

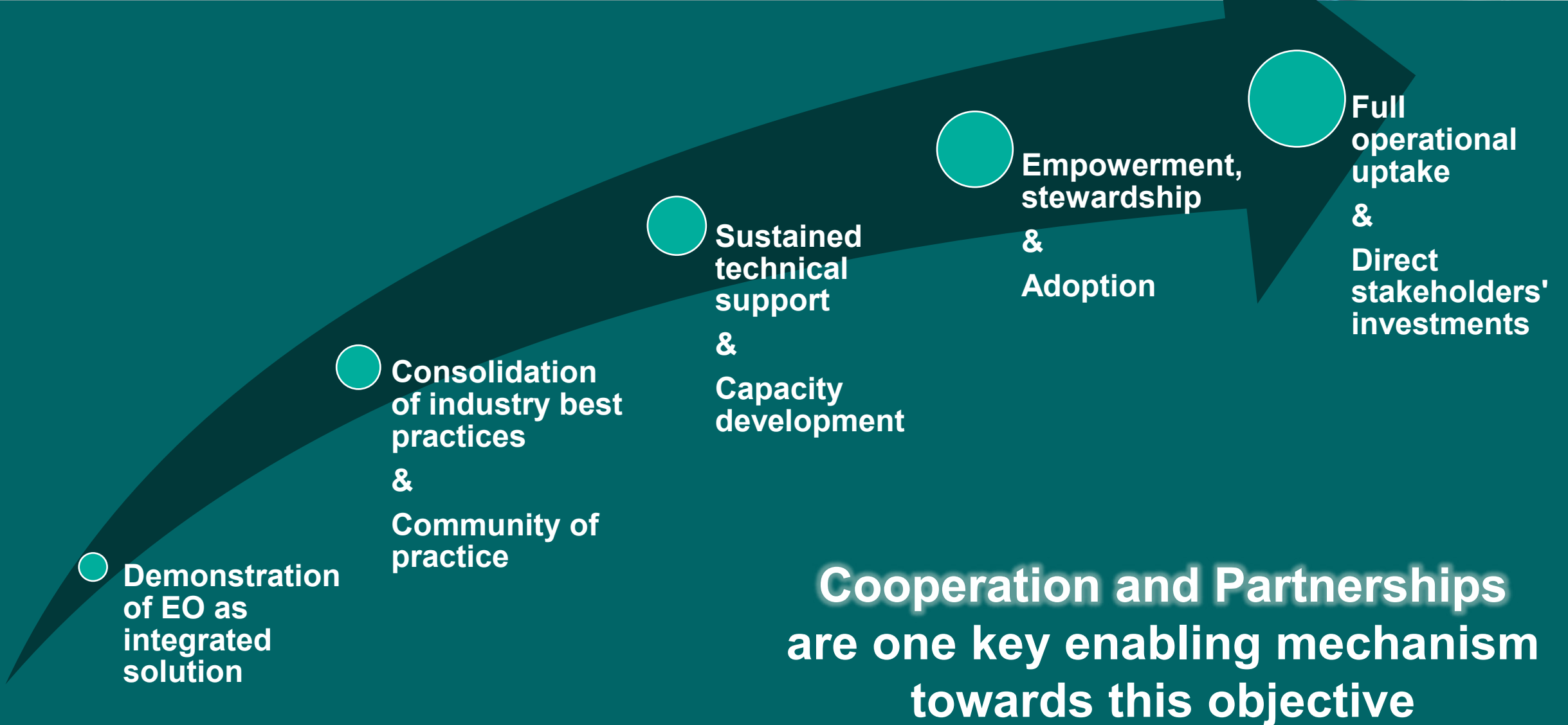


- Building on Science element
- Multi-mission & inter-disciplinary

Leveraging on cutting-edge ICT for rapid development & amplification of users



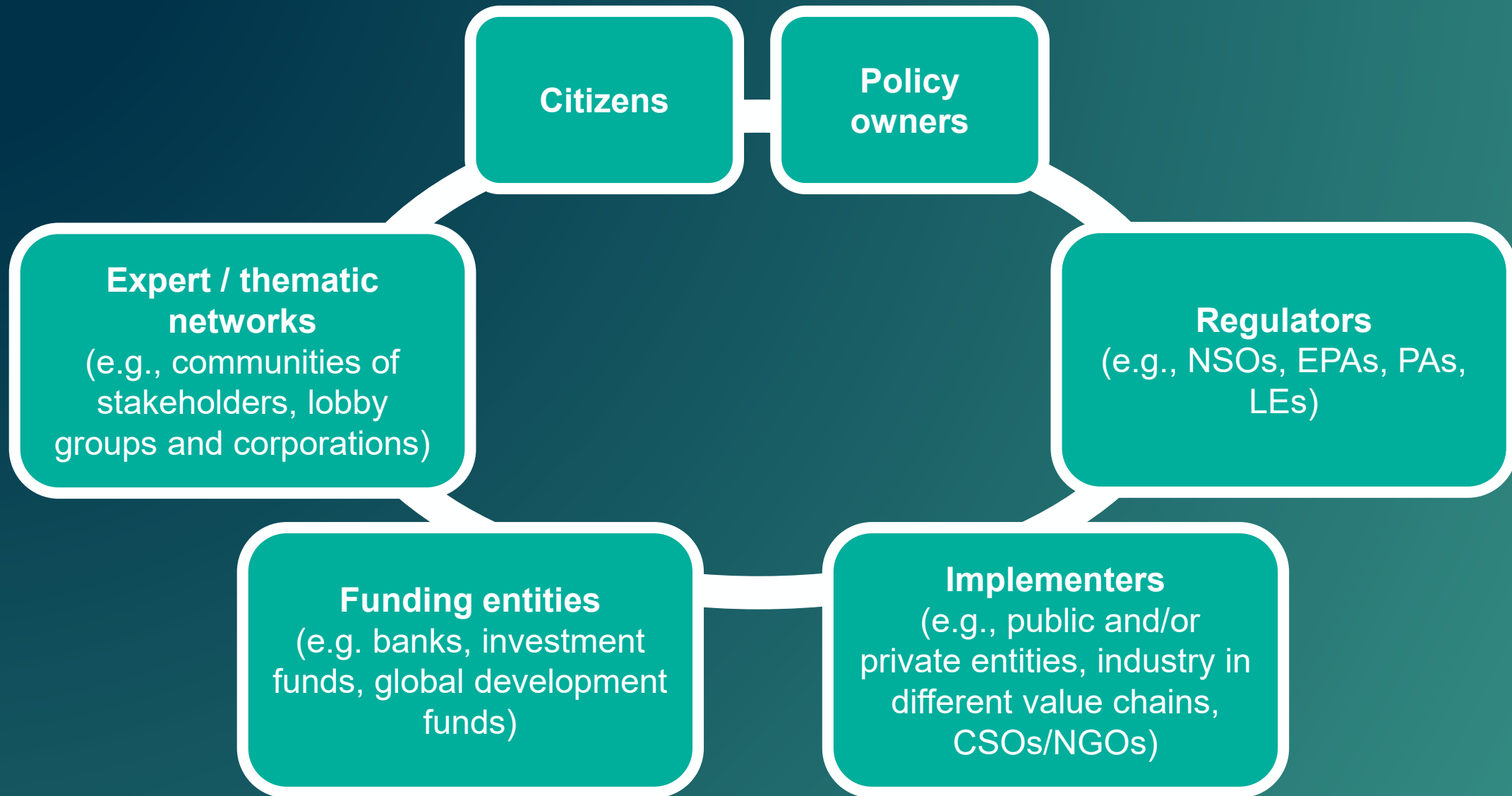
# Empowerment path and uptake of solutions



# To amplify the impact and scale



# Heterogenous stakeholders' and end-users' needs





# Stakeholders consultation

(e.g., EO for Carbon Markets Forum, 2023)



# Example for Biodiversity and Ecosystems Accounting

## Partners and collaborations



MoU with UNEP, on environment protection and restoration, Dec 2023.



MoU with FAO, April 2021 and continuous evolutions.



MOI with WWF, June 2023 with constant exchange.

### Other partnerships and collaborations with:



System of Environmental Economic Accounting



Major EU collaborations with DG ENV, JRC, AGRI, ESTAT and European Environment Agency.

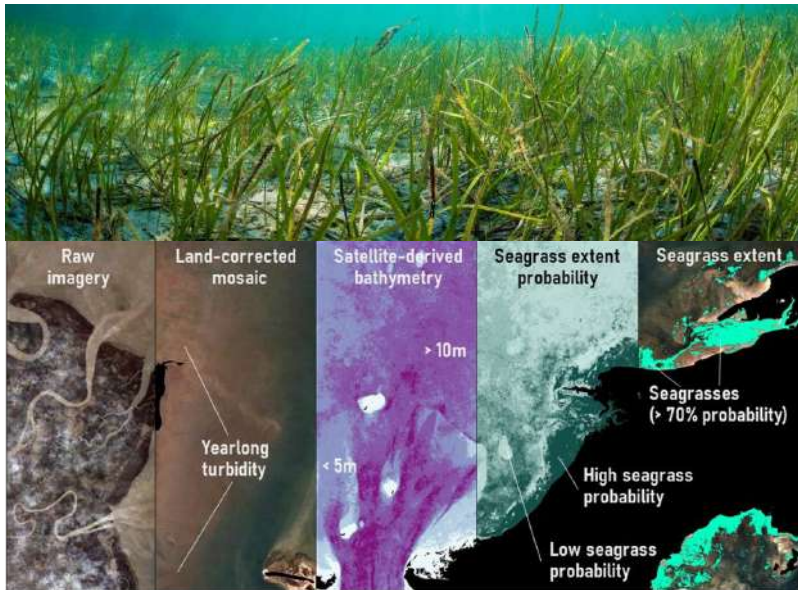


# Example for Biodiversity and Ecosystems Accounting

## ESA Biodiversity Precursors – Results examples

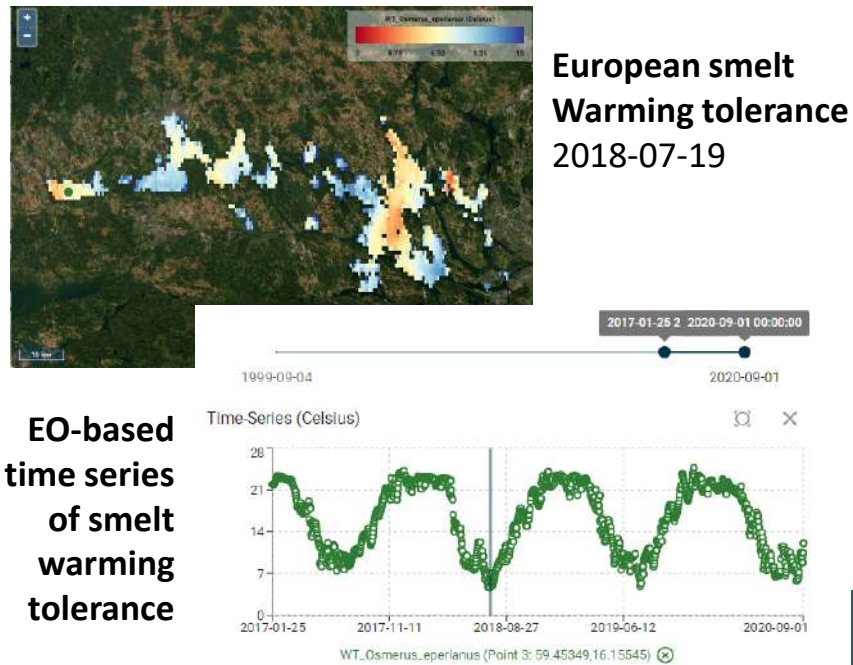


### Coastal – Subtidal ecosystems



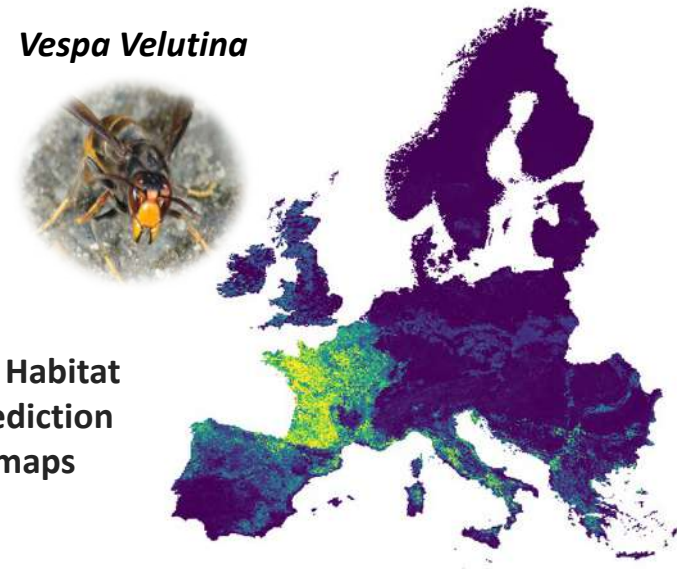
Extent of seagrass meadows  
Assessment of seagrass changes over time

### Freshwater – Climate Change Lake Surface Temperature



Impact of water temperature increase on freshwater fish diversity

### Land – Invasive Alien Species (IAS) Modelling



Integrate advances in Deep Learning architectures & EO data within Species Distribution Models (SDM)  
Estimate potential distribution of invasive species

# Example for Biodiversity and Ecosystems Accounting

## Upcoming projects and event



<p><b>World Ecosystem Extent Dynamics</b></p>	<p>In partnership with UN Statistics Division, IUCN, EUROSTAT, EEA, DG JRC, DG ENV, GEO : Development and demonstration of a globally applicable EO solution for mapping the extent of ecosystems and monitoring their changes (Ecosystems Extent Dynamics), with demonstrations at European and global levels.</p>
<p><b>EO for EBVs &amp; GBF indicators</b></p>	<p>In partnership with GEO BON : Development of state-of-the-art EO solutions for the production of a number of EBVs in terrestrial, freshwater or marine ecosystems, addressing different EBV classes, and their integration in the GBF monitoring framework (e.g., headline indicators).</p>
<p><b>Ecosystem Conservation : action with CSOs/NGOs</b></p>	<p>In partnership with IUCN and WWF : Development a set of harmonised EO blueprint procedures on high-priority Ecosystem Conservation and Restoration targets. E.g., procedures for already existing protected areas and nature-positive solutions, and processes to enable the GBF Target 3 “30x30”.</p>
<p><b>EO for Nature-Finance</b></p>	<p>In partnership with TNFD, IMF, UNEO-FI, DG ENV : Development of EO data and tools in support to Nature Finance: a ) quantify and monitor dependencies and impacts on nature of end-to-end supply value-chains ,b ) specific finance and economic scenarios such as, nature-debt swap mechanisms; integration of NCV in GDP reporting; financial nature-risk indicators; nature-/bio-credits.</p>

Bringing partners together

**BioSpace 2025**

*Biodiversity Insight from Space*

**ESRIN, 10-14 February 2025**



## Partnerships, Knowledge & Finance for Sustainable Uptake of Earth Observation

- Develop co-designed & co-governed **Partnerships on Space** for:
  - **Impact** on Earth Action and socio-economic decision-making
  - **Scale** to global and trans-sectoral level
  - Enabling long-term & inclusive EO uptake beyond ESA scope
    - Globally – beyond Europe
    - Non-space sectors – beyond space

# Strategic Partnerships for EO Uptake



## Development Finance



Optimize Development Investments

Access to Climate Finance

Inform “Loss & Damage”

Nature Based Solutions

Mainstream EO into

IFI loans & grants

## Development Cooperation



Invest in Space for Digitilization &  
Green Transition

Export European EO Expertise

Build international networks &  
geopolitical relations





Water Resources

Clean Energy

Transport & Infrastructure

Agriculture

Forest Management

Marine Env. & Blue Economy

Health

Urban Sustainability

Climate Adaptation & Finance

Fragility, Conflict & Security

Climate Resilience

Disaster Resilience

67 countries - 66 projects - 103 products (\*Q4/23)

GDA AID

Agile EO Information Development



# GDA Partnership & Alignment



## Knowledge Development



Production of materials (i.e., new information products, user-oriented analytics tools) that allow a better **understanding** of EO information, applications and benefits of its use → thereby addressing **Awareness**

## Capacity Building



Training for development stakeholders, (incl. IFIs, NDAs, and client country beneficiaries), in order to put them in a position to **use** EO based information in their daily jobs → thereby addressing **Acceptance**

*GDA mobilized >70M\$ in alignment*

## Skills Transfer



Transfer of existing European capabilities so that a local capacity is established in developing countries to **produce & deliver** diverse types of environmental information from satellite EO data in a reliable and operational way, and support local users in its uptake → thereby addressing **Adoption**





# Science to **impact**: Agricultural Statistics



**Initial capacity building activities** and expansion of pilot through a GDA-incentivized **IFI\* grant**.

**IFI loan** to government covering the **deployment and operationalization of Sen4Stat system**.

**Deployment and operationalization of**



**Sen4Stat**  
Sentinels for Agricultural Statistics

**UCLouvain**

**3M EUR**

**100k EUR**

**50k EUR**

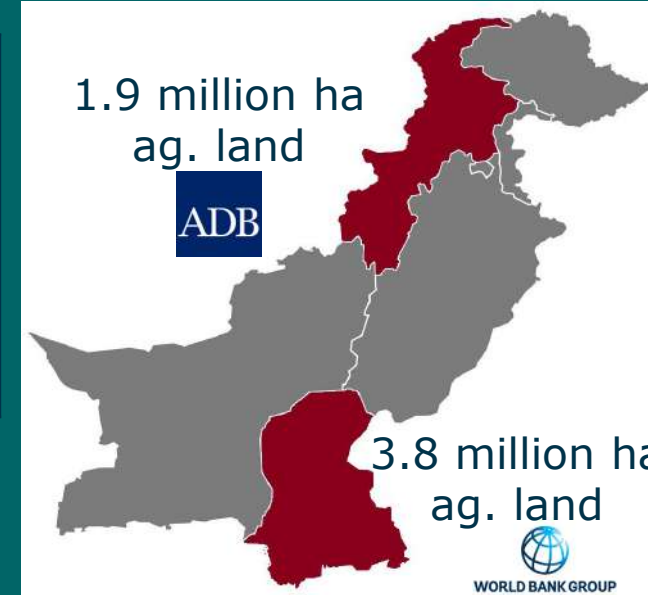
**Implemented by Government of Pakistan** with financing of

**GDA coordinated co-implementation**



1.9 million ha ag. land

**ADB**



3.8 million ha ag. land



**Pilot and feasibility study** in a district selected by the local gov. (co-funded by GDA and IFIs\*).

\*IFI= International Financial Institution



# Space to mobilise climate finance



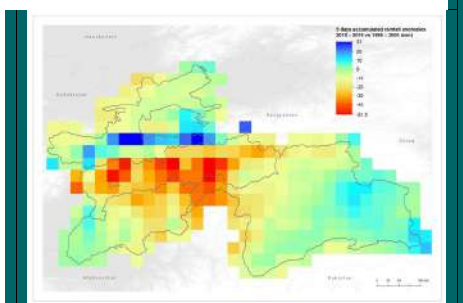
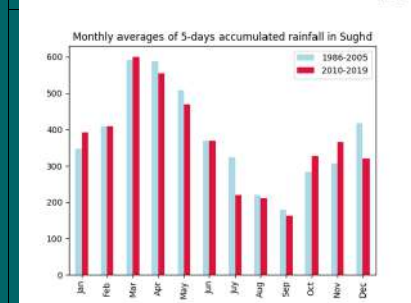
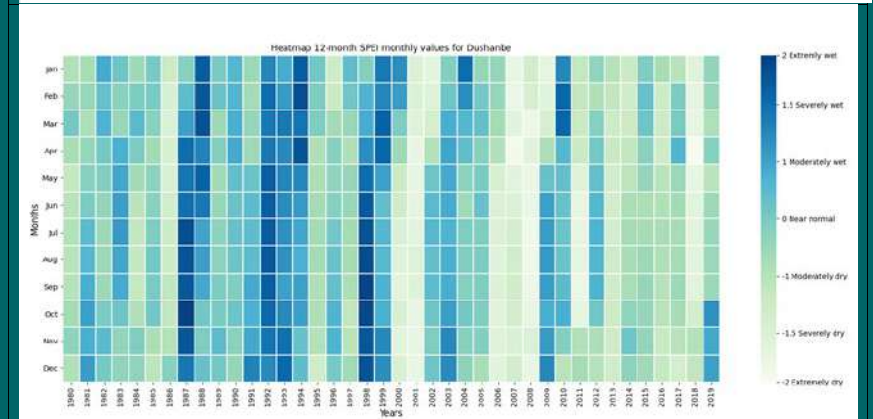
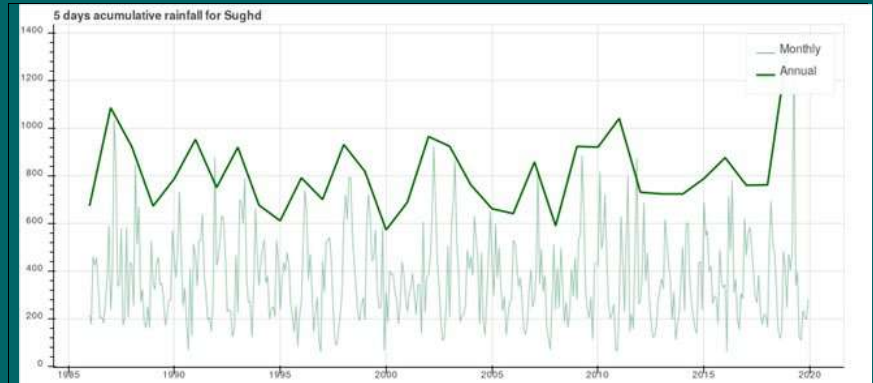
EO data used to help build the rationale for **climate resilience investments** and improve access to climate finance

IFAD *Community-Based Agricultural Support Project, Tajikistan: Stimulate inclusive economic growth and poverty reduction* in poor rural communities leading to sustainable agricultural production.



EO data can **highlight patterns and trends** of climate variables at national scale, as well as **highlight exposure** to climate hazards

This information helps to **prioritise areas** with the greatest potential to benefit from climate resilience investments (supported climate rationale to solicit GCF co-funding)





## Cooperation with DG International Partnerships (INTPA)

- Intensify ESA-EC partnership through additional Contribution Agreements (ESA 2025 Agenda)
- Take global action on Disaster risks & Climate Resilience outside Europe building partnerships with non-EU countries
- Export Copernicus and European EO skills developing new markets
- Contribution to **Global Gateway** strategy
  - Supports digitalization & green transition
  - Strengthens Education & Research
  - Aims to mobilise up to €300 billion
- Space is a new cross-cutting priority in DG INTPA



**Global Gateway**

# INTPA – Development Cooperation at Global Scale



**EU-LAC PARTNERSHIP**

REPUBLICA DE PANAMÁ  
GOBIERNO NACIONAL

MINISTERIO DE RELACIONES EXTERIORES

**12 M€**  
**5 years**

**7.3 M€**  
**3 years**

Republic of the Philippines  
Office of the President  
**PhilSA**  
Philippine Space Agency

**ASEAN**

Ursula von der Leyen, Manila July 2023  
*“The European Union is also supporting your fight against climate change and extreme weather events with its so-called ‘eyes in the sky’. This is the Copernicus satellites.”*



**African Union**

**45 M€**  
**4 years**



# Africa-Europe EO partnership & ecosystem



# Space as a common societal good

