Digital: earth Observation for Forest management. Focus on the ESA-ADB partnership and opportunities

ENVIRONMENT AND NATURE LEARNING WEEK 2025
8 October, Forest Session

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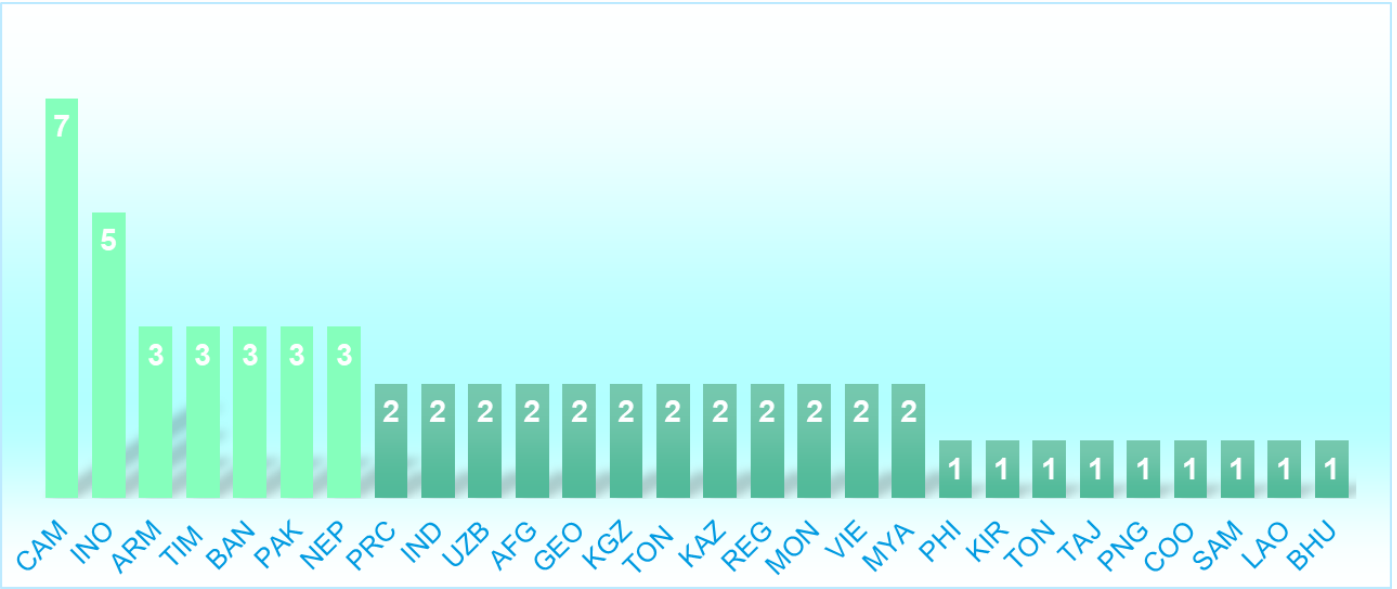
ADB – ESA partnership

- Collaborations initiated in 2010
- Secondees since 2017
- More than 50 projects supported in 30 countries.
- Multi/sectorial support



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ESA is committed to the peaceful exploration
and use of space for the benefit of people, society and our planet.

ESA UNCLASSIFIED – Releasable to the Public

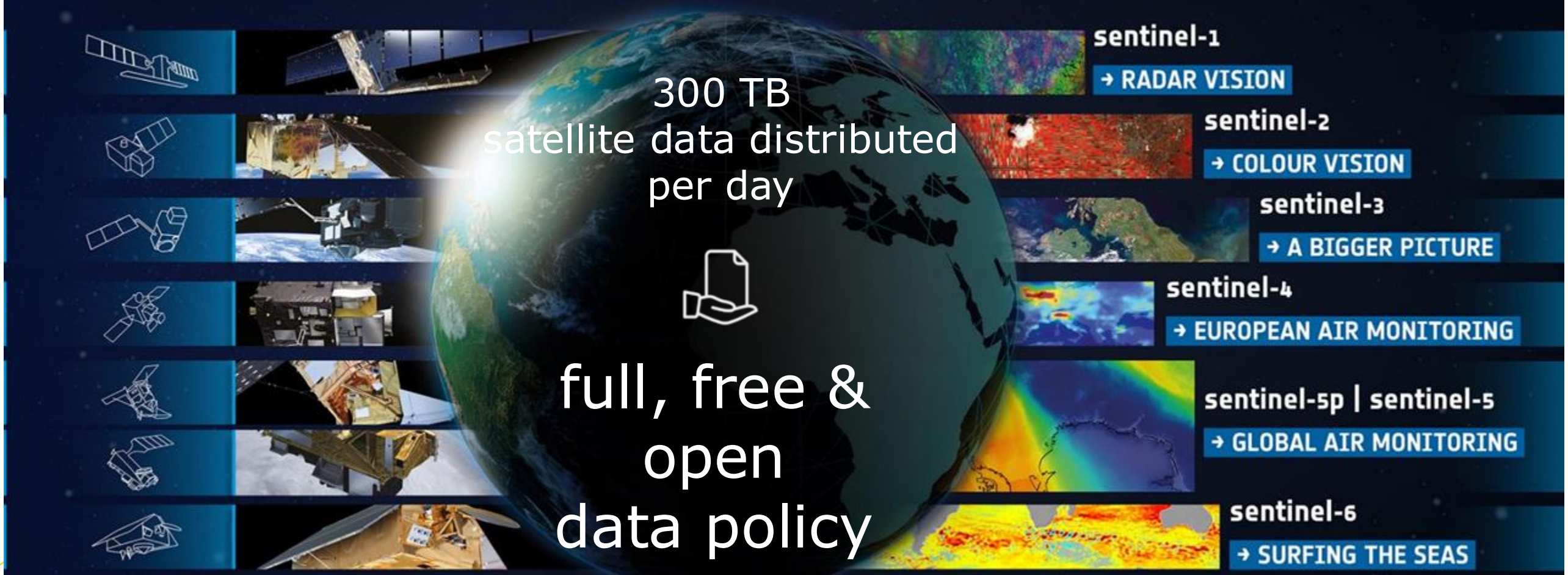
WHO	23 Member States, 2500+ staff members and total workforce of 6000+
WHY	For the peaceful use of space, benefiting all
WHERE	HQ in Paris, seven sites across Europe & Spaceport in Kourou
BUDGET	€7.79 billion = €15 (one cinema ticket) per European a year

ESA UNCLASSIFIED – Releasable to the Public

Copernicus Sentinels: Operational monitoring

PROGRAMME OF THE EUROPEAN UNION

esa

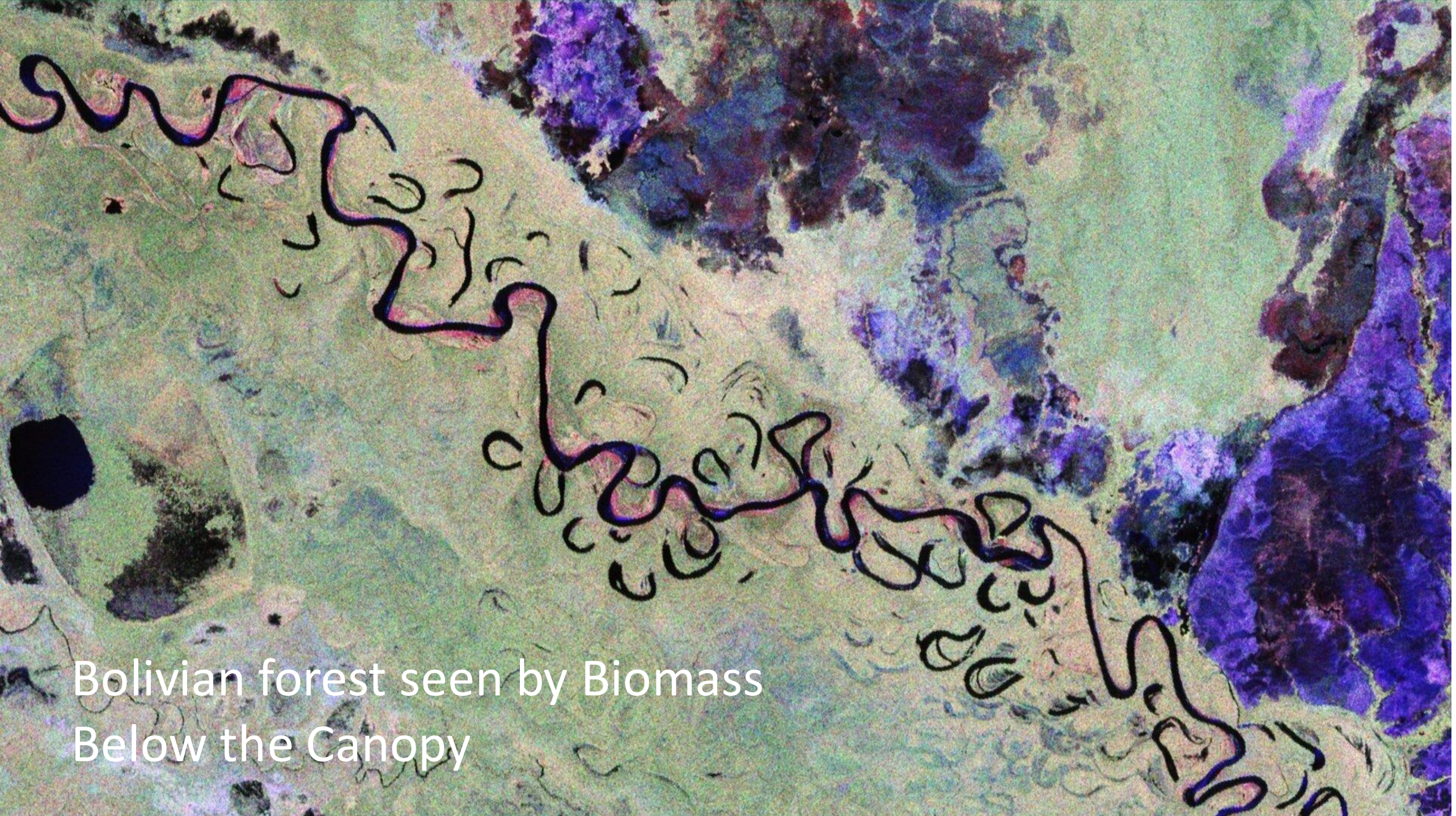


esa
esa
All global landmass is observed every 5 days at 10m resolution
0 days 00 hours 00 minutes
Sentinel-2 constellation:
summer solstice

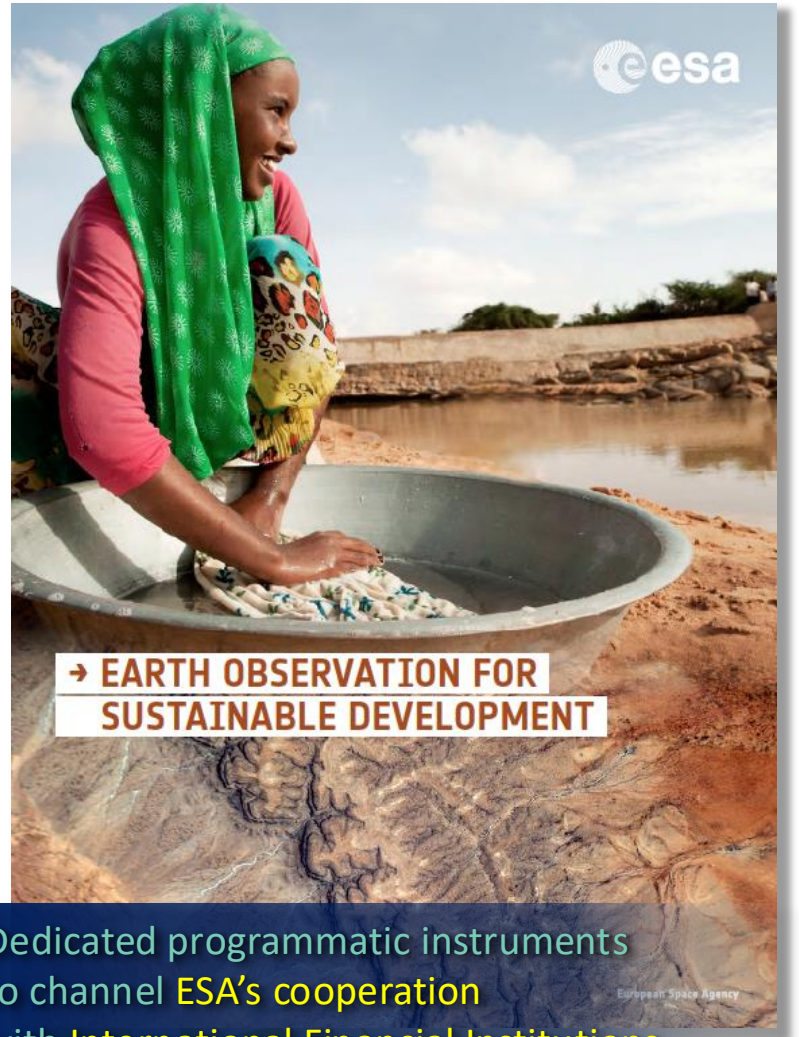
Deforestation monitoring

esa

Bolivian forest seen by Sentinel 2
Top of Canopy


Bolivian forest seen by Biomass
Below the Canopy

ESA EO programmes in support of Int.



Dedicated programmatic instruments
to channel ESA's cooperation
with International Financial Institutions

- **eoworld:** 2008-2015
  Small-scale demonstrations of EO services
  in support of IFI projects to **raise awareness**

- **EO4SD:** 2016-2024
  Consolidation of requirements and strategic engagement
  of development stakeholders to **build capacity** on EO services

- **GDA:** 2020-2027
  Mainstreaming of EO into development operations and financing,
  and **skills transfer** to IFI and client state stakeholders

- **GDA^{x}** within **Earth Action:** 2026 onwards

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Water Resources
KO Feb'23

Clean Energy
KO Dec'22

Transport & Infrastructure
KO Jan'24

Agriculture
KO Sep'22

Forest Management
KO Sep'24

Marine Env. & Blue Economy
KO Jun'22

Public Health
KO Sep'24

Urban Sustainability
KO Feb'22

Fragility, Conflict & Security
KO Jan'22

Climate Resilience
KO Dec'21

THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

ADB ASIAN DEVELOPMENT BANK

Disaster Resilience
KO Sep'21

IFAD

IDB

Climate Adaptation & Finance
KO Apr'25

GDA AID

Agile EO Information Development

in partnership with

WORLD BANK GROUP

ADB ASIAN DEVELOPMENT BANK

powered by esa

ESA Global Development Assistance

Accelerating Impact

EO for Forest Management – Use Cases

For ADB, GDA Forest

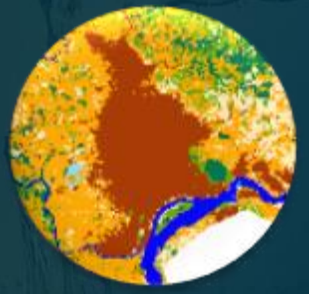
Implemented by: GAF AG | IGN-FI | ONF-I | unique | GISBOX | Caribou Space

GDA Forest Monitoring

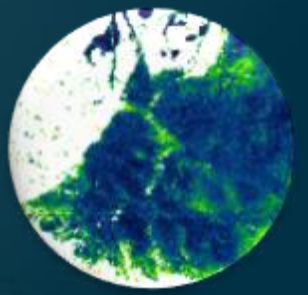
Started September 2024

Forest Monitoring, EO based Product Portfolio

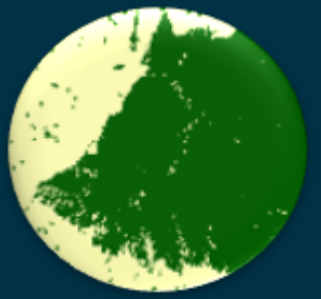
Portfolio of Verified Products



Land Use /Land Cover and Change



Tree Cover Density and Tree Cover Change



Forest Area and Change

Near Real Time Canopy Disturbance

Mangrove Area, Change and Recovery

Global Biomass, Global Landcover, WorldCover, WRI…

To support Forest Management

REDD+ for Tropical Forest Ecosystem	Protected Areas	Zero Deforestation EUDR	Forest Inventories	Coastal Ecosystems and Mangroves	Forest Landscape Restoration	Sustainable Forest Management

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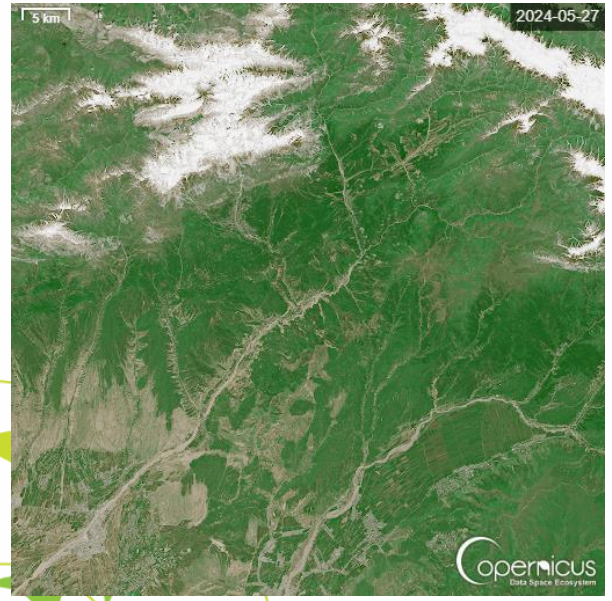
KGZ – Conservation and Afforestation

- Supporting Forest project preparation
  - Maps
  - Data
  - Analytics



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LAOS - Tree Cover Disturbance (WB project)

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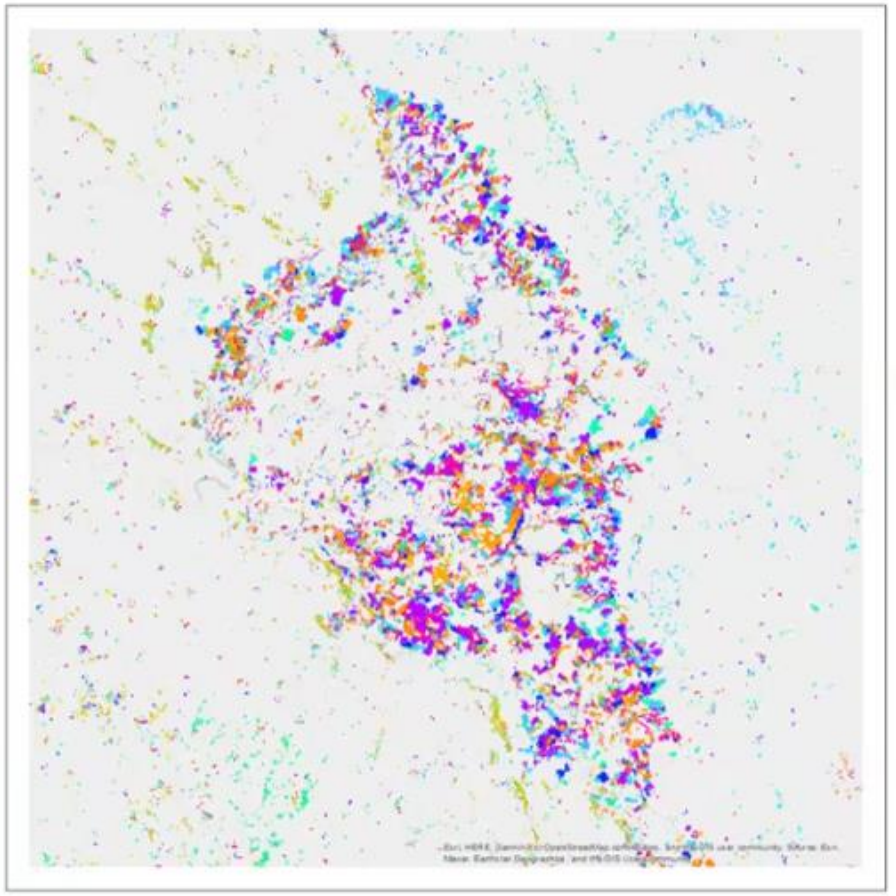

TCDM (values 1-163, reduced for map extend)

1	1. half of January 2018
45	1. half of November 2019
67	1. half of November 2020
68	2. half of November 2020
71	1. half of December 2020
106	2. half of Mai 2022
163	1. half of October 2022

N

0 400 800 1 200 1 600 2 000 km

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Other initiatives

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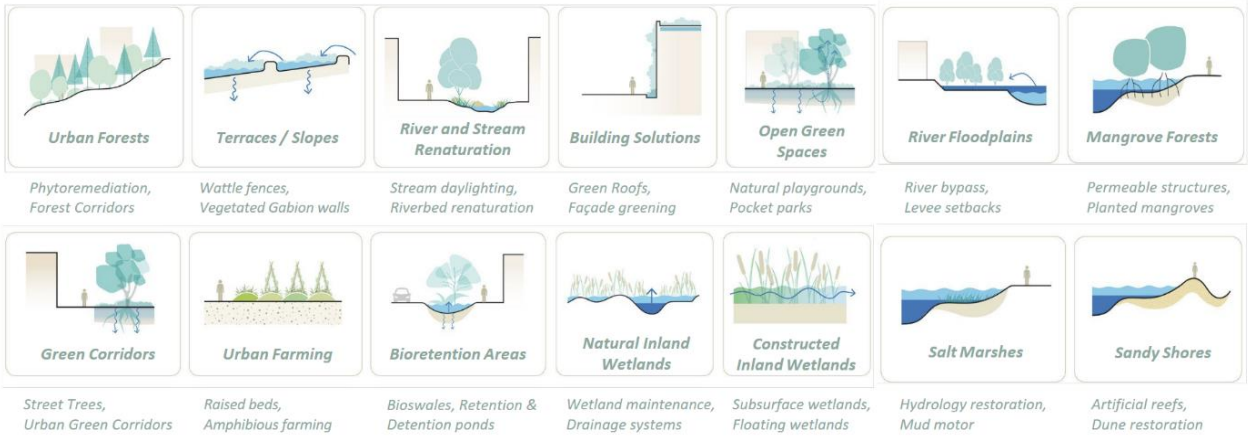
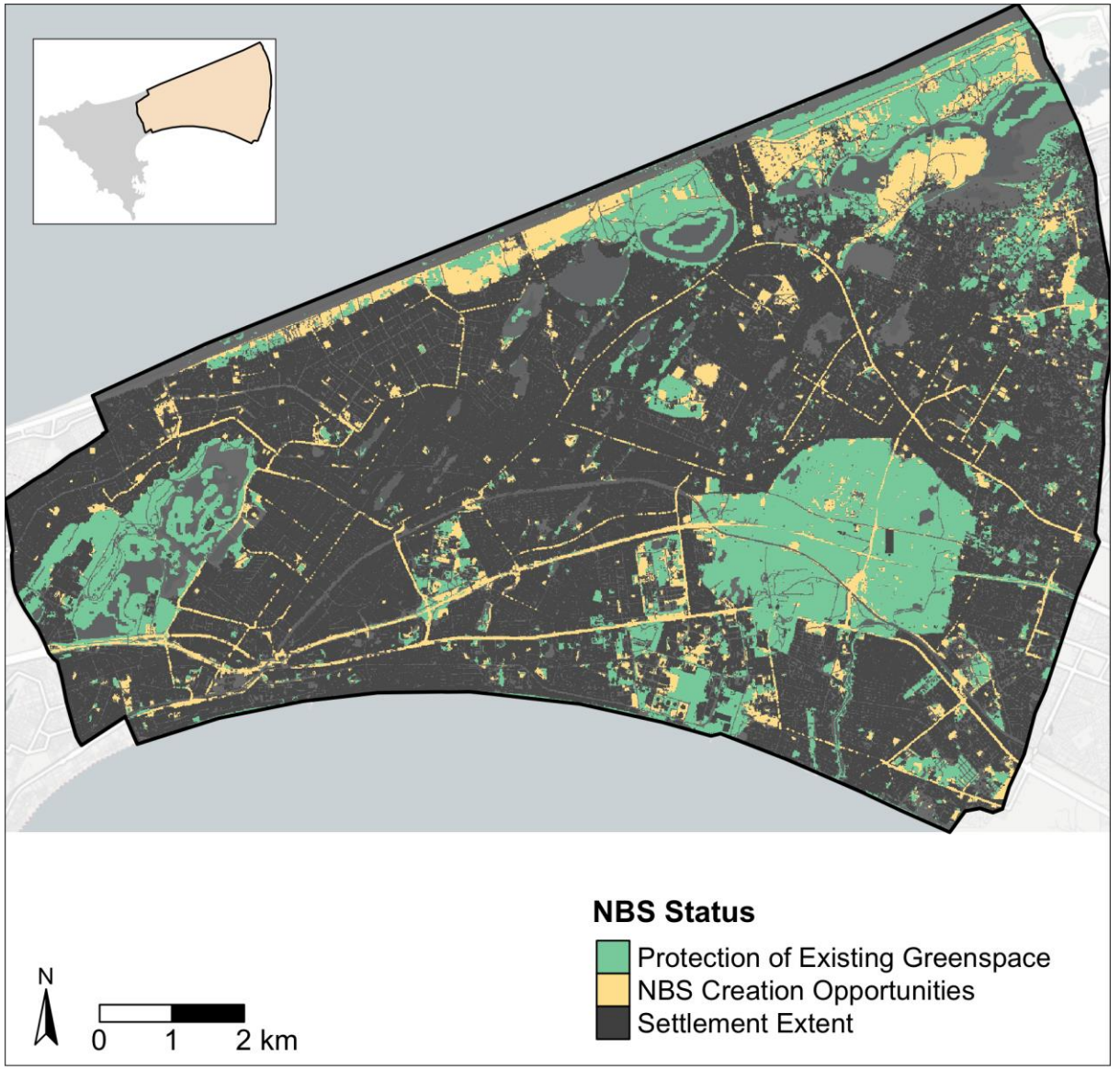
NBSOS - Nature-Based Solutions Opportunity Scan

- ESA, in partnership with WB will pilot the NBS Scan with ADB.
- 3 Cities selected already.





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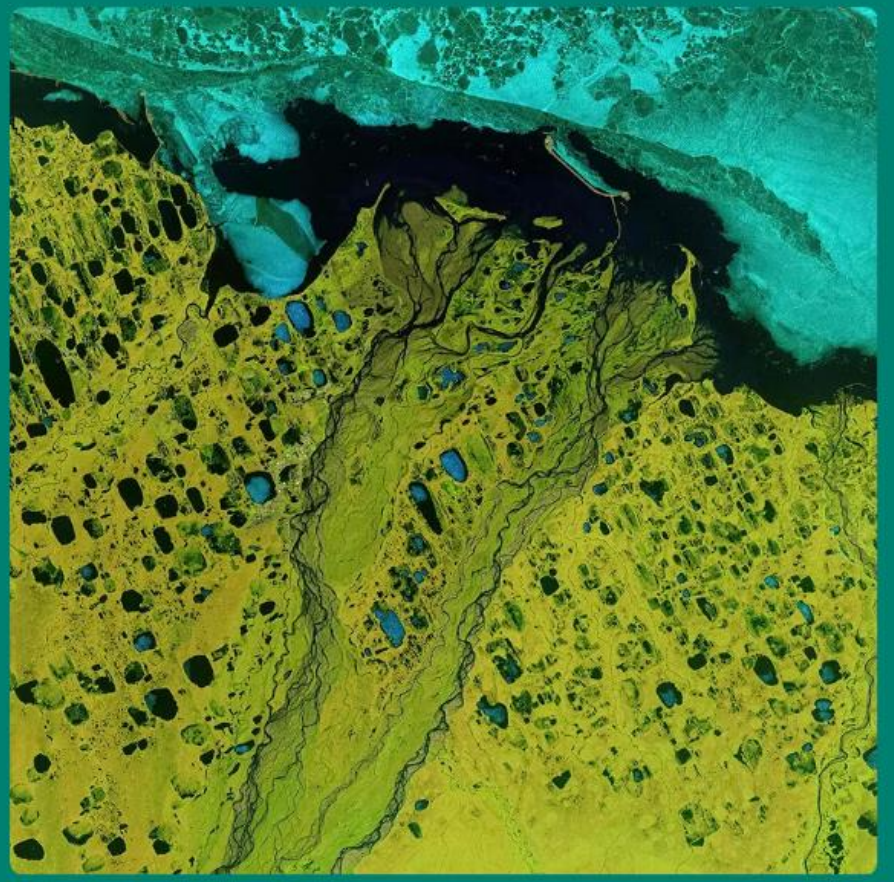
LEON
Leveraging Earth Observation for Nature Finance



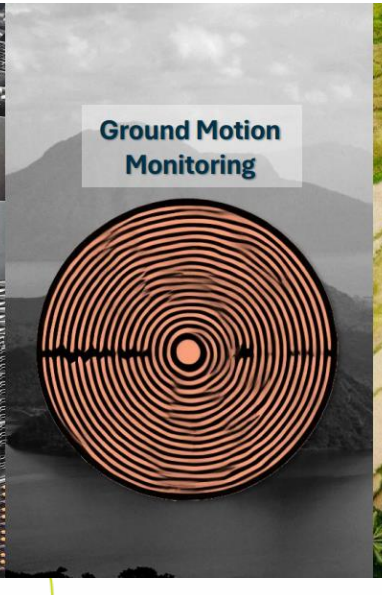
MISSION

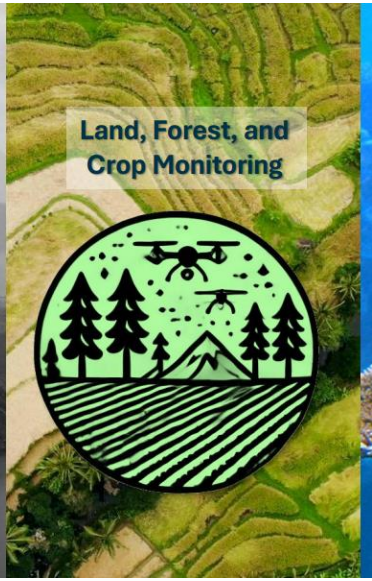
Explore how Earth Observation can support the upscaling of nature-positive activities.

Project LEON aims to enhance and facilitate finance for the benefit of nature by bridging data gaps and improving decision-making.

CopPhil – the first Copernicus Mirror

- CopPhil is managed by the **European Union Delegation** to the Philippines.
- It is implemented by the **European Space Agency (ESA)** in partnership with the
- **Philippines Space Agency (PhilSA)** and the Philippine Department of Science and Technology (DOST).





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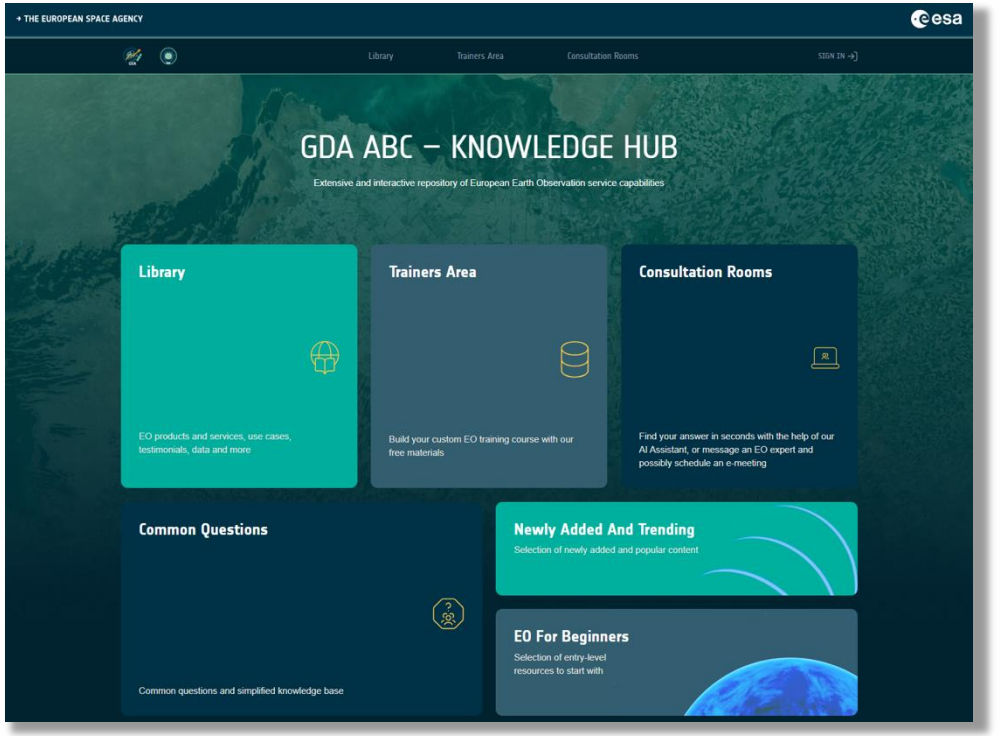
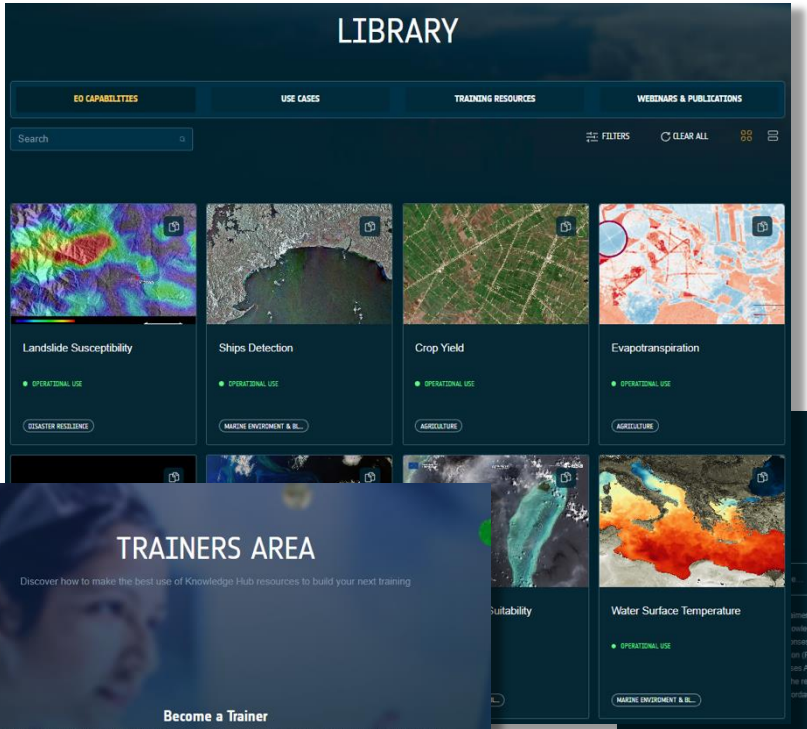
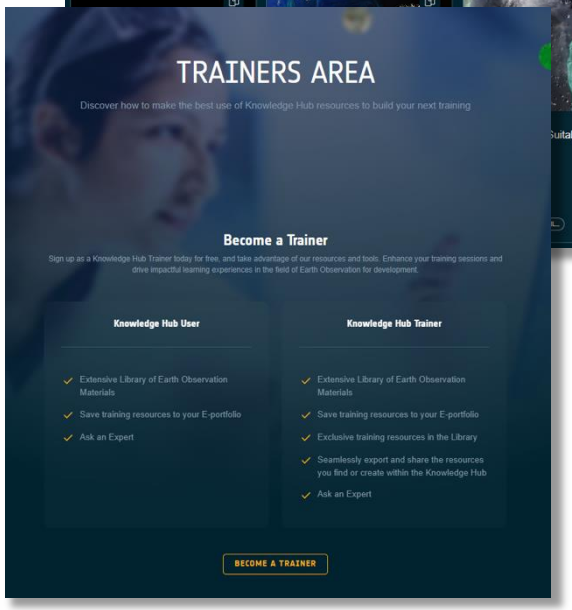
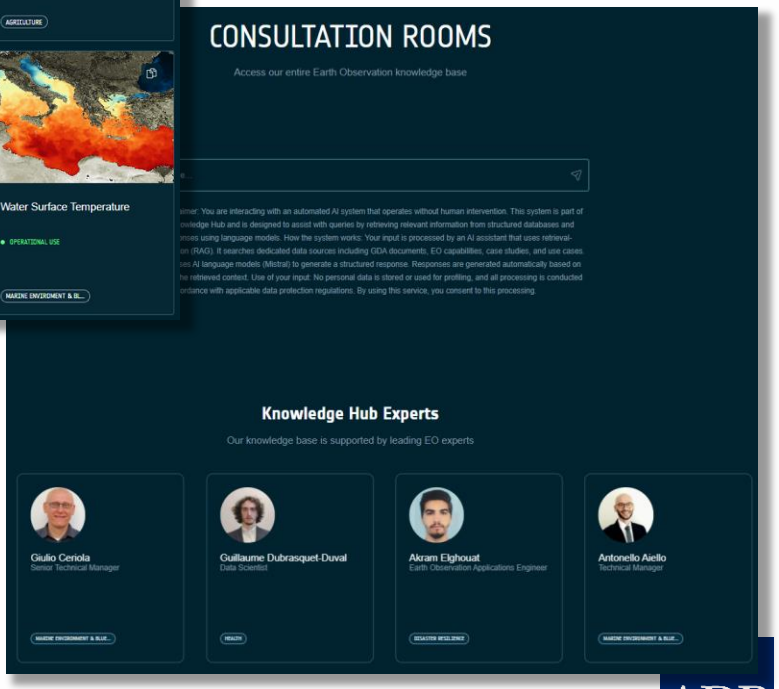
GDA Knowledge Hub









Learn about EO Capabilities through our ***Knowledge Hub***

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How to engage with DIG and ESA and benefit from the partnership.

Current opportunities in :

Forest Management

Climate Finance and Adaptation

Health

Transport

Get in touch: ybarthelemy@adb.org

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