

# 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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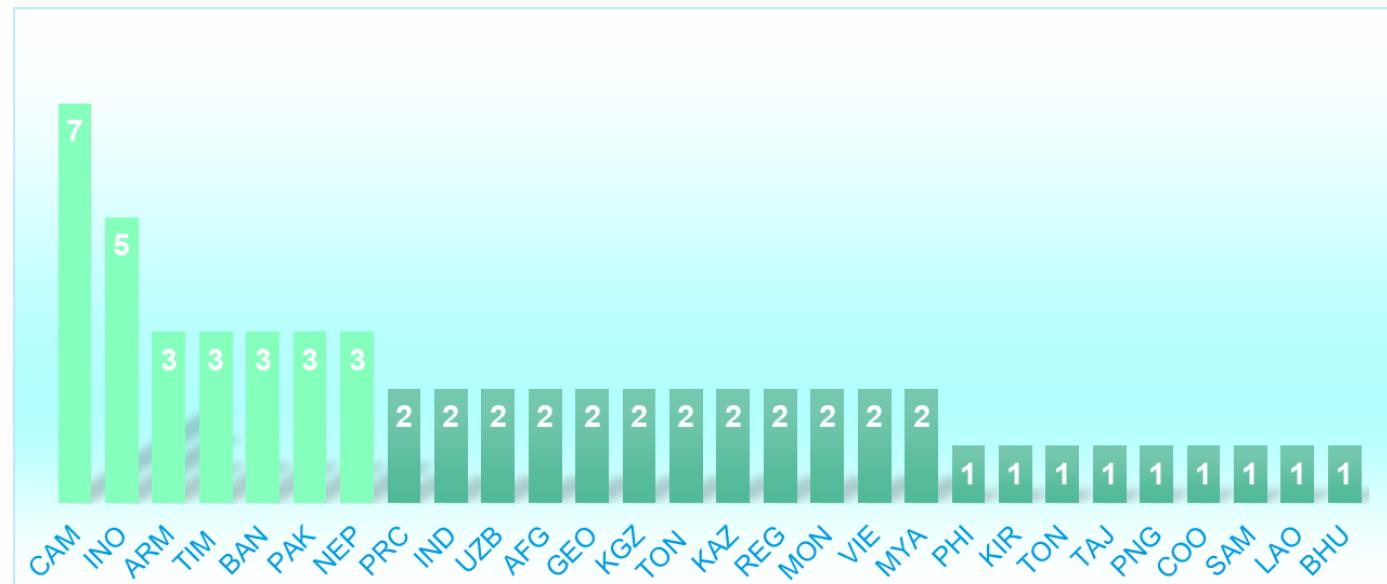
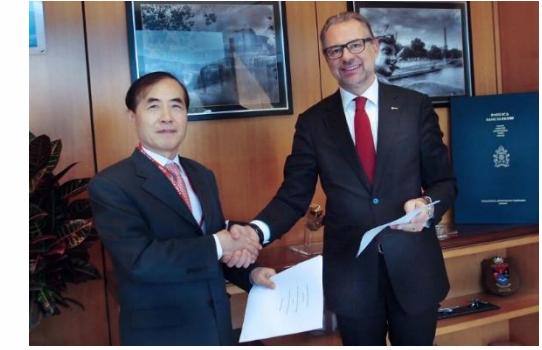
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# ADB – ESA partnership

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



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



**WHO**

23 Member States, 2500+ staff members and total workforce of 6000+

**WHY**

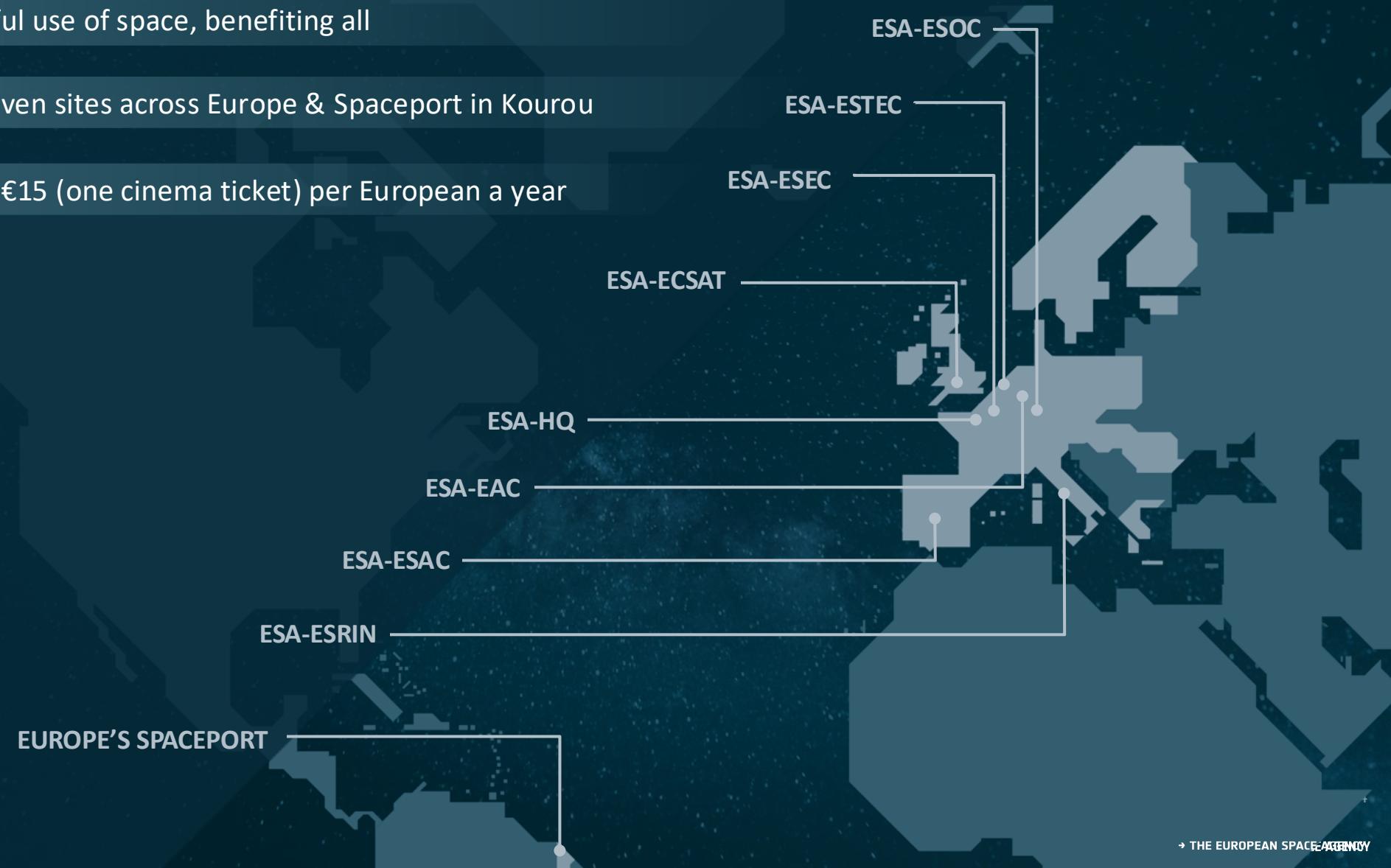
For the peaceful use of space, benefiting all

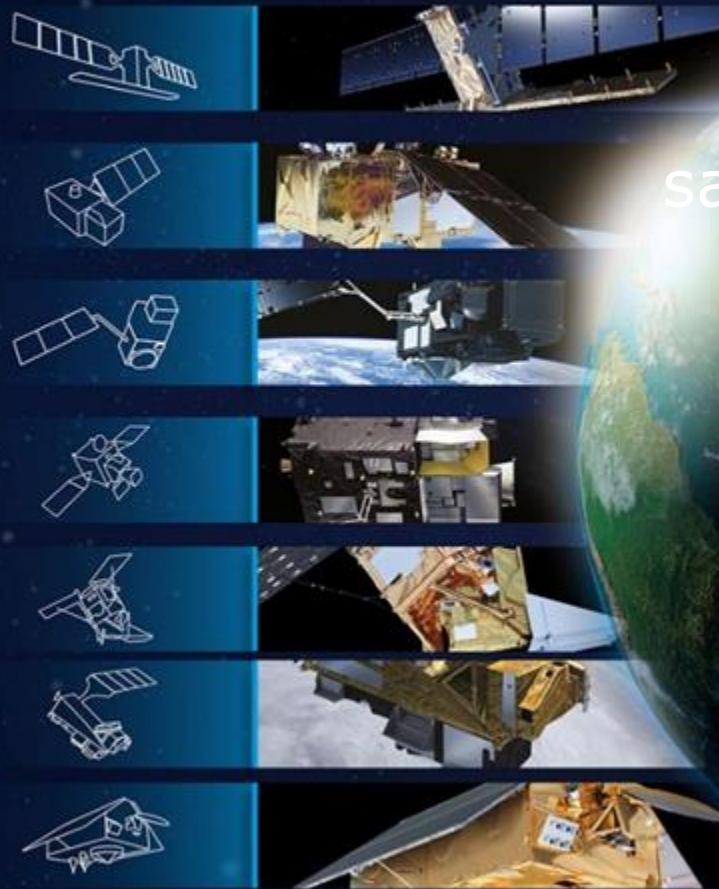
**WHERE**

HQ in Paris, seven sites across Europe & Spaceport in Kourou

**BUDGET**

€7.79 billion = €15 (one cinema ticket) per European a year





300 TB  
satellite data distributed  
per day



full, free &  
open  
data policy

**sentinel-1**

→ RADAR VISION

**sentinel-2**

→ COLOUR VISION

**sentinel-3**

→ A BIGGER PICTURE

**sentinel-4**

→ EUROPEAN AIR MONITORING

**sentinel-5p | sentinel-5**

→ GLOBAL AIR MONITORING

**sentinel-6**

→ SURFING THE SEAS

All global landmass is observed every 5 days at 10m resolution



0 days 00 hours 00 minutes  
Sentinel-2 constellation:  
summer solstice

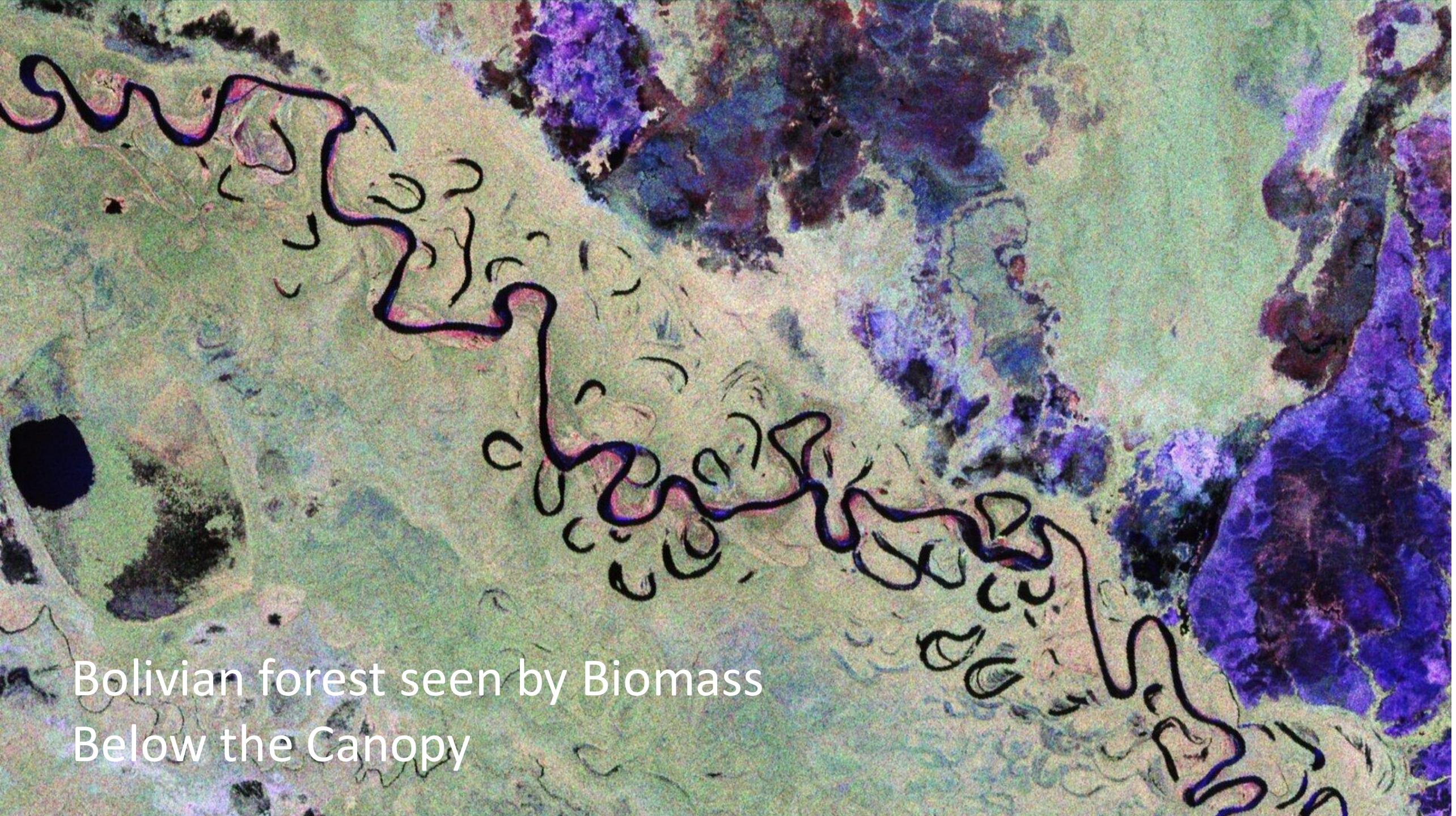
# Deforestation monitoring





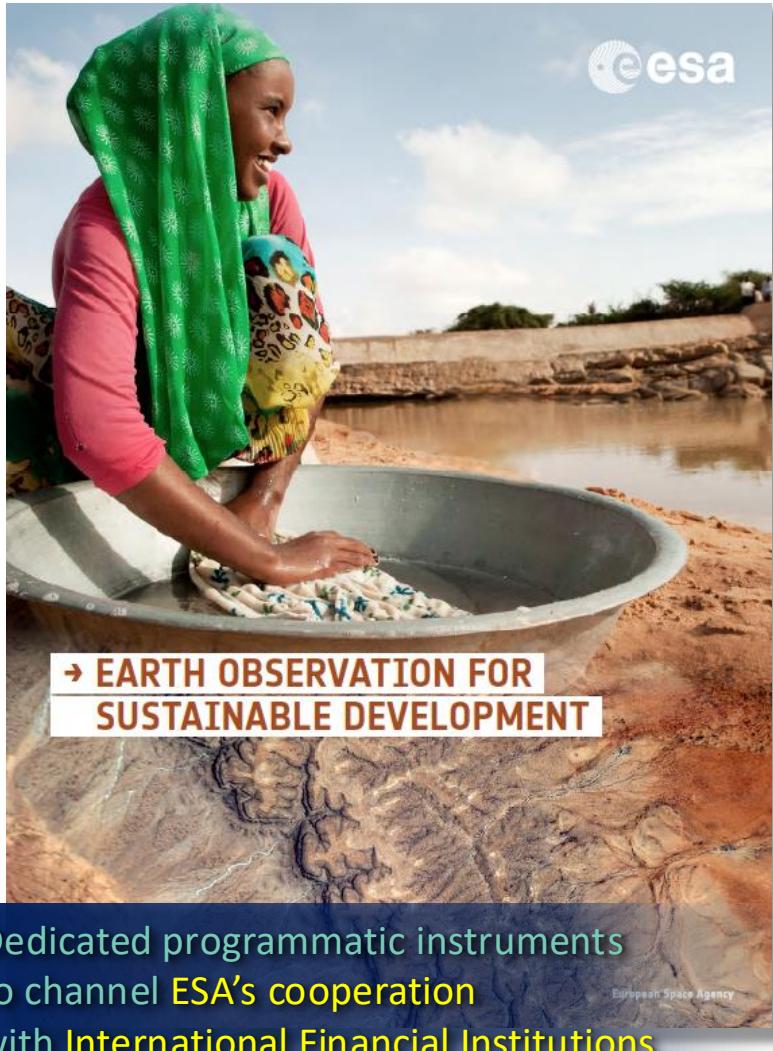


Bolivian forest seen by Sentinel 2  
Top of Canopy



Bolivian forest seen by Biomass  
Below the Canopy

# ESA EO programmes in support of Int.



- **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<sup>x</sup> within Earth Action:** 2026 onwards



## Clean Energy

KO Dec'22

## Marine Env. & Blue Economy

KO Jun'22

## Urban Sustainability

KO Feb'22

## Fragility, Conflict & Security

KO Jan'22

## Climate Resilience

KO Dec'21

## Disaster Resilience

KO Sep'21

## Water Resources

KO Feb'23

## Agriculture

KO Sep'22

## Transport & Infrastructure

KO Jan'24

## Forest Management

KO Sep'24

## Public Health

KO Sep'24



## Climate Adaptation & Finance

KO Apr'25

# GDA AID

Agile EO Information Development



in partnership with



powered by  
**e esa**

# ESA Global Development Assistance

Accelerating Impact

## EO for Forest Management – Use Cases

For ADB, GDA Forest

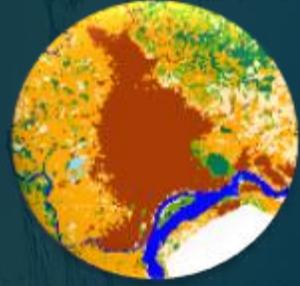
Implemented by: GAF AG | IGN-FI | ONF-I | unique | GISBOX | Caribou Space

GDA Forest Monitoring  
Started September 2024

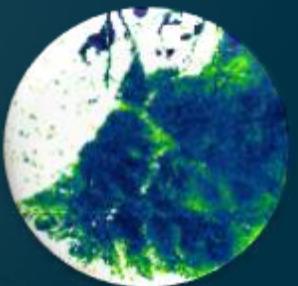


→ THE EUROPEAN SPACE AGENCY

## 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

# KGZ – Conservation and Afforestation

- Supporting Forest project preparation
  - Maps
  - Data
  - Analytics



The slide is a presentation slide for Global Development Assistance (GDA). It features a dark blue background with a large green arrow pointing upwards and to the right. The GDA logo is in the top left, and the text "in partnership with" is followed by the logos of the World Bank Group and the Asian Development Bank. The main title "Global Development Assistance" is in orange, with "Accelerating Impact" in white below it. A sub-section "Forest Management" is shown with a small icon. The central text "Showcases of potential approaches and tools" is in white, followed by "Support ADB's preparation of the project" and "‘Conservation and Afforestation for Resilient Ecosystems (CARE)’ in Kyrgyzstan". The bottom right corner contains the text "June 2025" and "Contact: [patricia.holter@unique-landuse.de](mailto:patricia.holter@unique-landuse.de)". The slide is "powered by" the European Space Agency (esa).

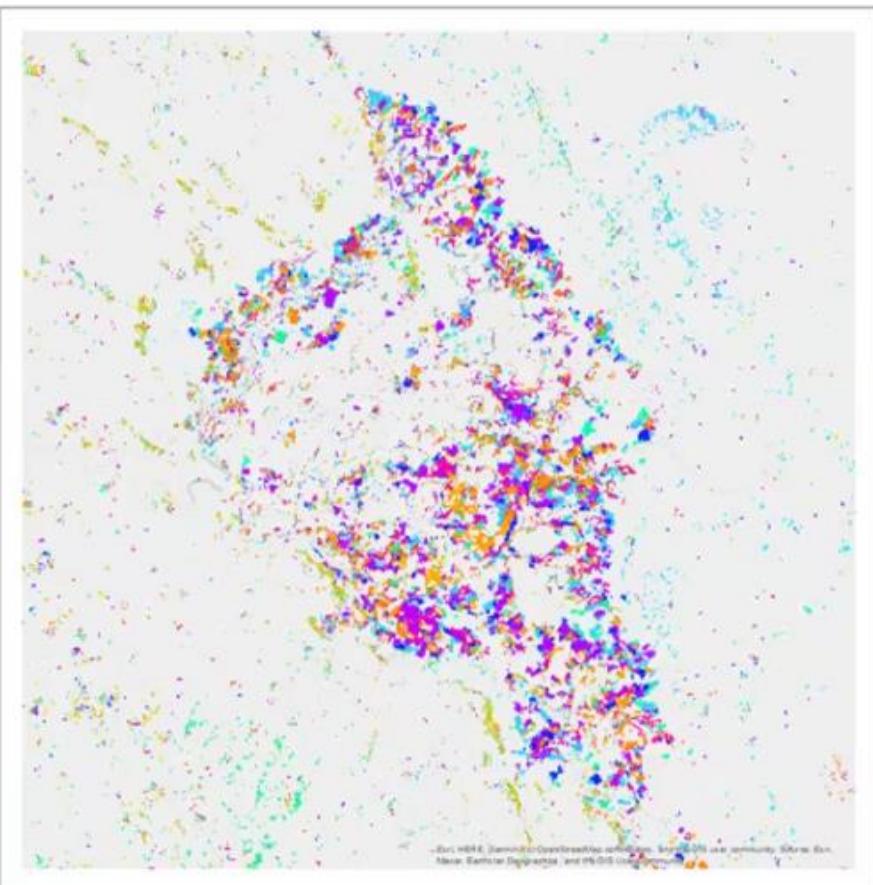
# LAOS - Tree Cover Disturbance (WB project)



**GAFAG**  
an e-GEOS (ASI / Telespazio) Company

ADB

# LAOS - Tree Cover Disturbance (WB project)



**TCMD (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

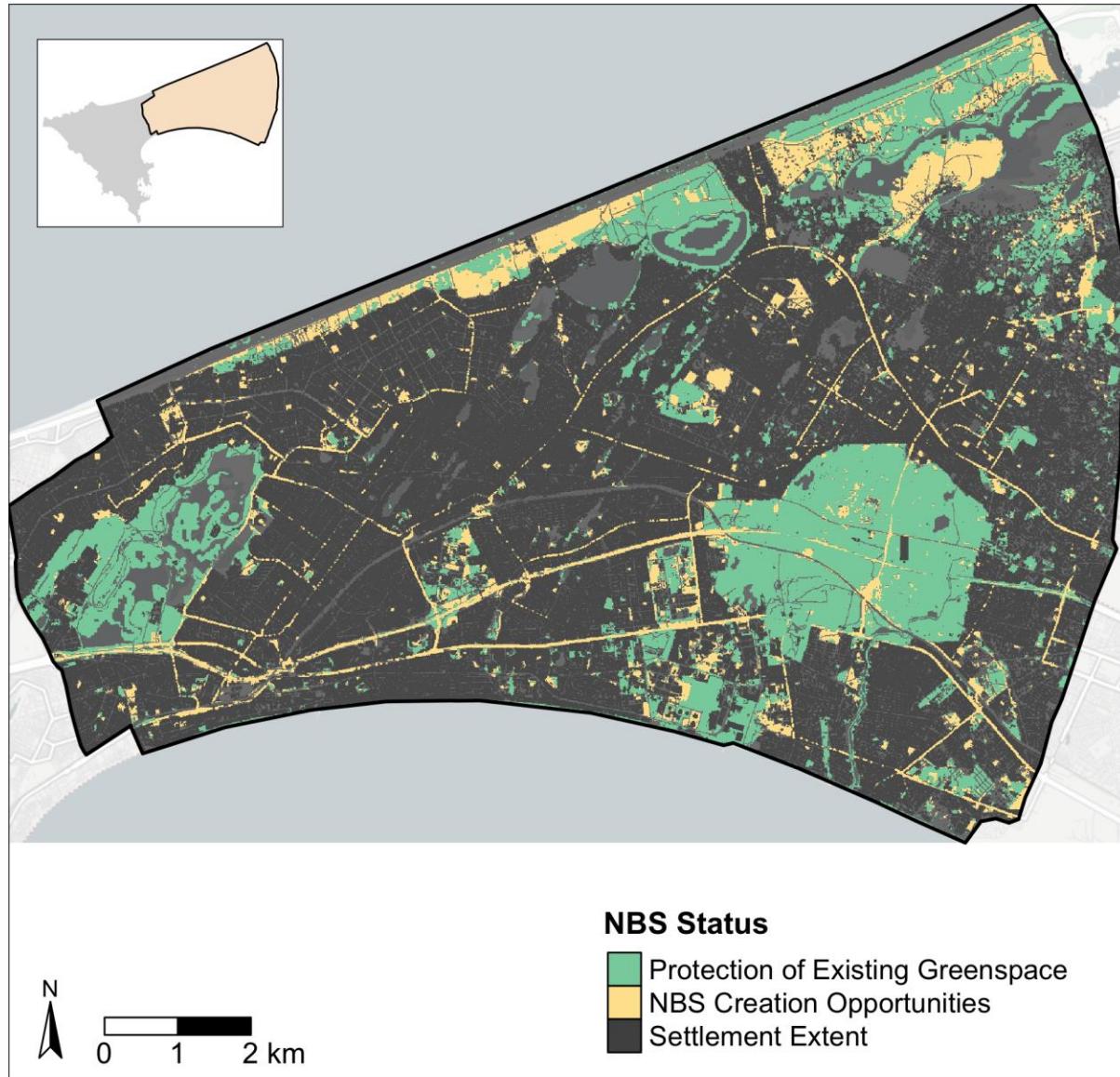
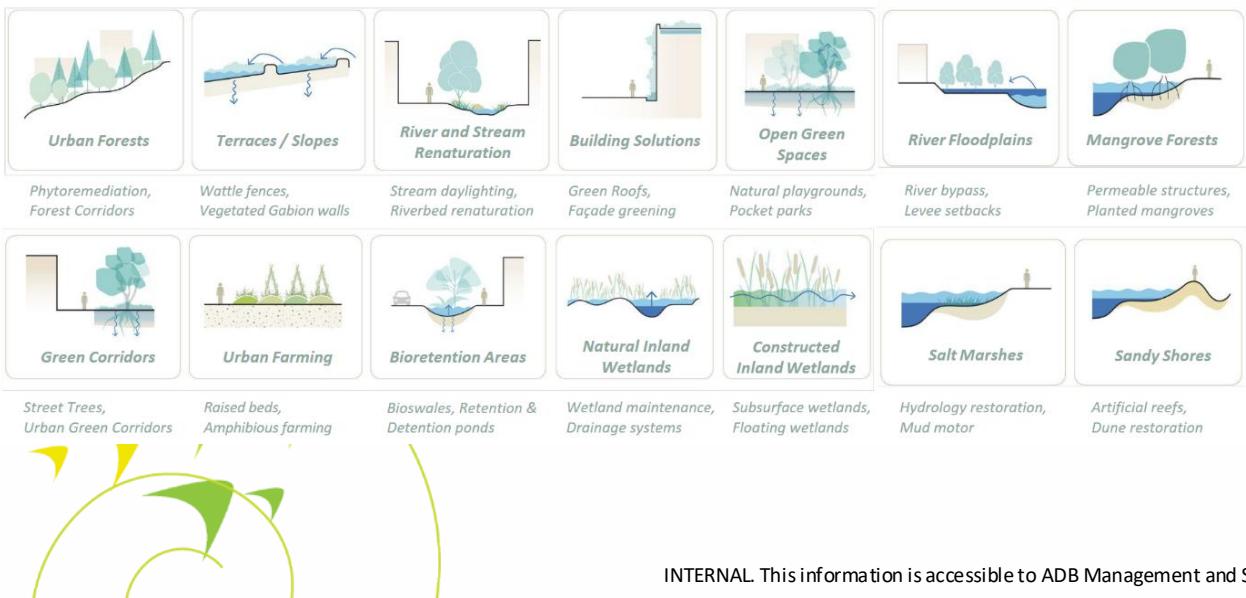


# Other initiatives



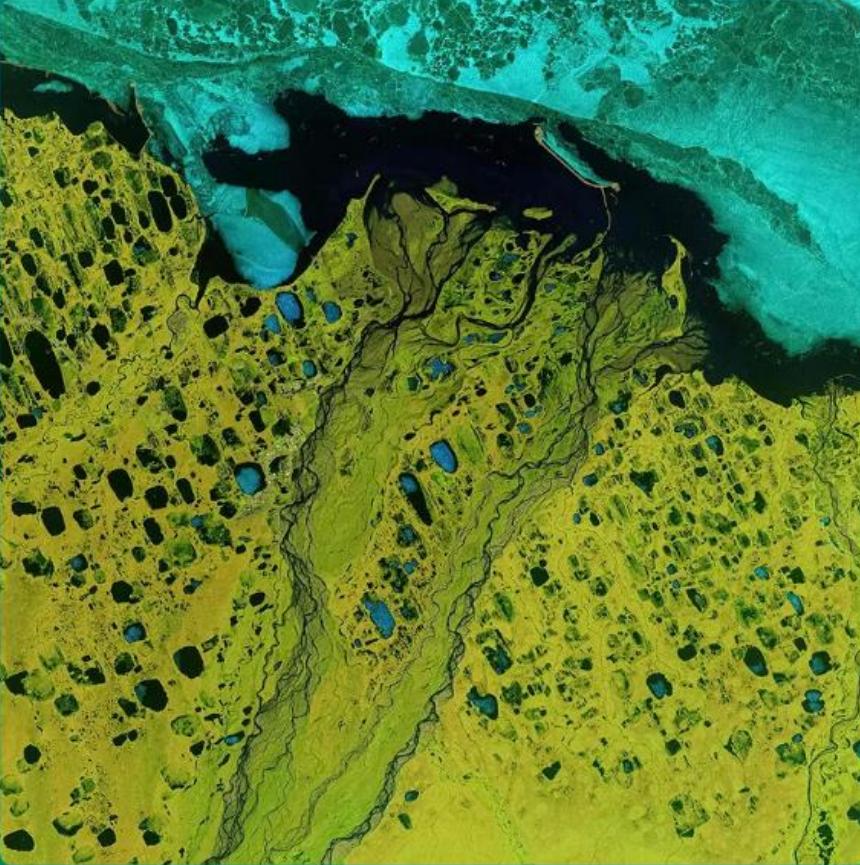
# NBSOS - Nature-Based Solutions Opportunity Scan

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



# 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).



THE EUROPEAN SPACE AGENCY 

Library Trainers Area Consultation Rooms SIGN IN 

**GDA ABC – KNOWLEDGE HUB**  
Extensive and interactive repository of European Earth Observation service capabilities

**Library**  
EO products and services, use cases, testimonials, data and more 

**Trainers Area**  
Build your custom EO training course with our free materials 

**Consultation Rooms**  
Find your answer in seconds with the help of our AI Assistant, or message an EO expert and possibly schedule an e-meeting 

**Common Questions**  
Common questions and simplified knowledge base 

**Newly Added And Trending**  
Selection of newly added and popular content 

**EO For Beginners**  
Selection of entry-level resources to start with 

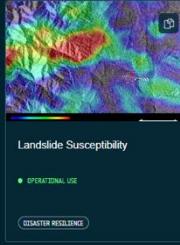
Learn about EO Capabilities through our **Knowledge Hub**



**LIBRARY**

ED CAPABILITIES USE CASES TRAINING RESOURCES WEBINARS & PUBLICATIONS

Search  FILTERS CLEAR ALL

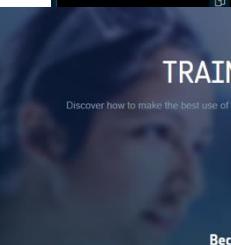
**Landslide Susceptibility**  
OPERATIONAL USE DISASTER RESILIENCE 

**Ships Detection**  
OPERATIONAL USE MARINE ENVIRONMENT & BLUE 

**Crop Yield**  
OPERATIONAL USE AGRICULTURE 

**Evapotranspiration**  
OPERATIONAL USE AGRICULTURE 

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**CONSULTATION ROOMS**

Access our entire Earth Observation knowledge base 

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Our knowledge base is supported by leading EO experts

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Senior Technical Manager  **Guillaume Dubrasquet-Duval**  
Data Scientist  **Akram Elghouat**  
Earth Observation Applications Engineer  **Antonello Aiello**  
Technical Manager

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

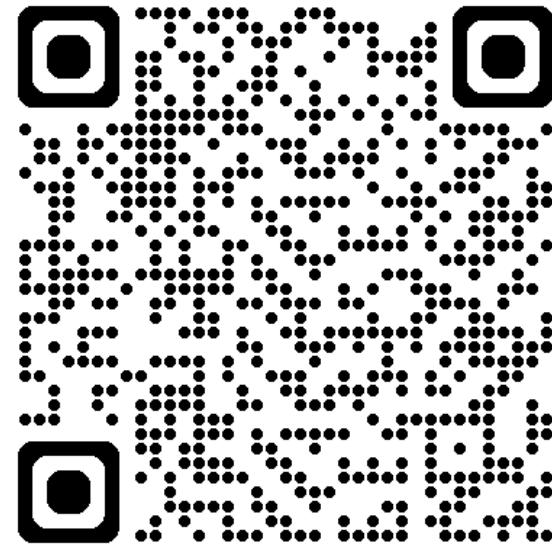
Current opportunities in :

[Forest Management](#)

[Climate Finance and Adaptation](#)

[Health](#)

[Transport](#)



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