
powered by esa in partnership with ADB
GDA
esa
Achieving EO mainstreaming in international development projects
→ THE EUROPEAN SPACE AGENCY

Applications of Frontier Earth Observation & AI

for Disaster Risk Management, Climate Change Resilience & Sustainable Development

- Agriculture: monitoring productivity, food security, sustainable resource management

- Environment: Deforestation, degradation and biodiversity loss, wildfire management/monitoring

- Disasters: Situation awareness for disasters and ongoing monitoring/targeted response, inputs for early warning systems and risk assessments (which can inform both preparedness, and access to disaster risk financing

- Climate Change: Monitoring climate change indicators, and essential climate variables

- Urbanization: Monitoring urban expansion (land use/land cover change), critical infrastructure, and inform spatial planning

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Space for Development Paradigm

- **21 African countries** have a Space Agency or a space programme
- Strong demand for more **accessible and frequent data**
- Focus on **tackling environmental challenges and building skills**

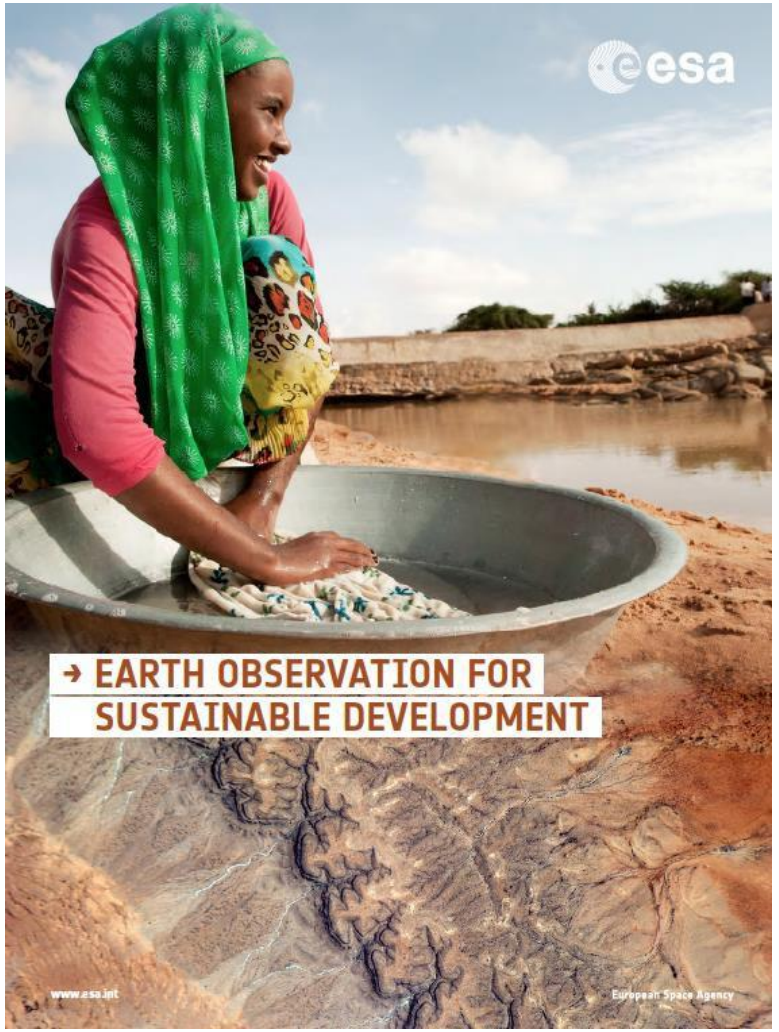
opernicus
Europe's eyes on Earth

eoworld
Earth Observation for Development

eo4sd
earth observation for sustainable development

GDA

ESA EO programs in support of Intl. Development



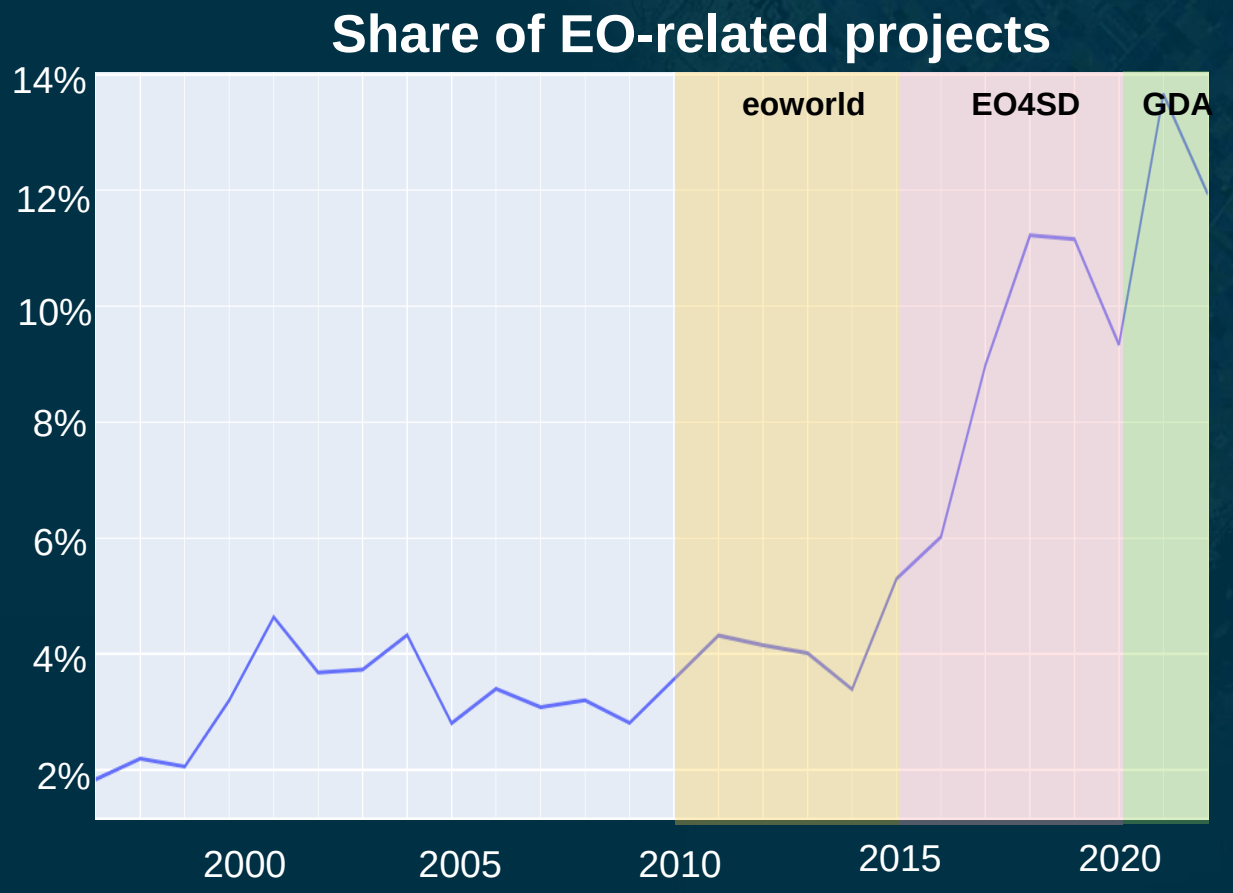
- **eoworld:** 2008-2015 | €10m
  Raise awareness through small-scale demonstrations of EO services in support of IFI projects

- **EO4SD:** 2016-2023 | €25m
  Consolidate requirements, engage stakeholders
  (IFIs & client states) via regional demonstrations of EO

- **GDA:** 2020-2025 | €38m
  Mainstream & transfer EO into operational working processes & financing of ODA/development aid as ‘best-practice’ source of geo-information

The ESA-WB partnership

- Since 2008, ESA has been providing technical support to the World Bank with the objective of fostering the **integration of Earth observation technologies**.
- Through the current phase of the partnership, for which ESA has mobilized 38 million euros, **61 World Bank projects** are receiving technical support.
- This support is provided through more than **100 institutions/companies** from more than 20 different countries



Global Development Assistance: Stakeholders

GDA

esa

14 Participating States

- Austria
- Belgium
- Czech Republic
- Finland
- France
- Germany
- Ireland
- Italy
- Luxembourg
- Portugal
- Romania
- Spain
- Switzerland
- UK

ESA member and associate states

Non ESA member states

GDA participating states

Water Resources
KO Feb'23

Clean Energy
KO Dec'22

Transport & Infrastructure

Agriculture
KO Sep'22

Forest Management

Marine Env. & Blue Economy
KO Jun'22

Health

Urban Sustainability
KO Feb'22

80+ projects supported…

Fragility, Conflict & Security
KO Jan'22

Climate Resilience
KO Dec'21

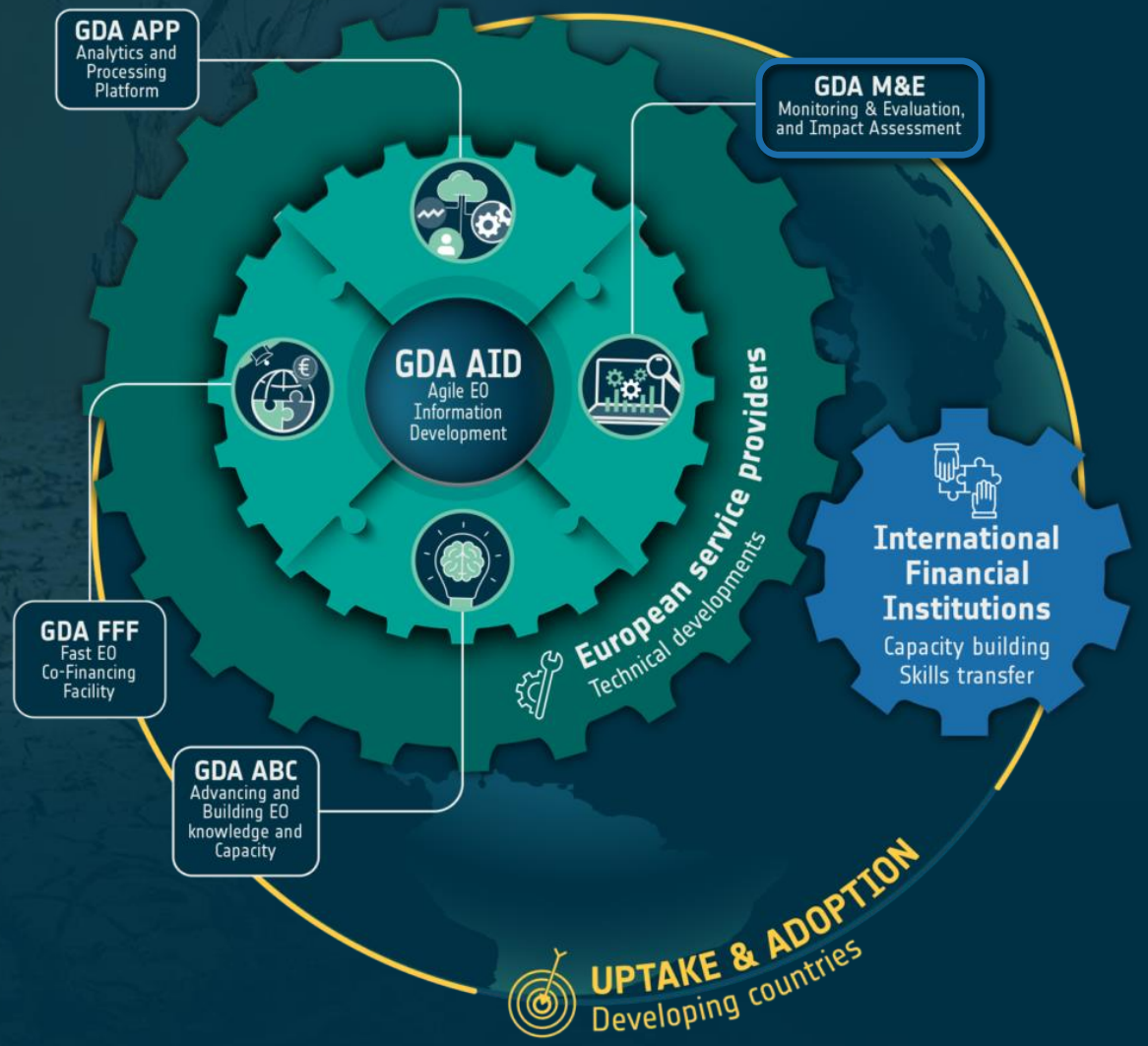
*…in **50+** countries*

Disaster Resilience
KO Sep'21

GDA AID

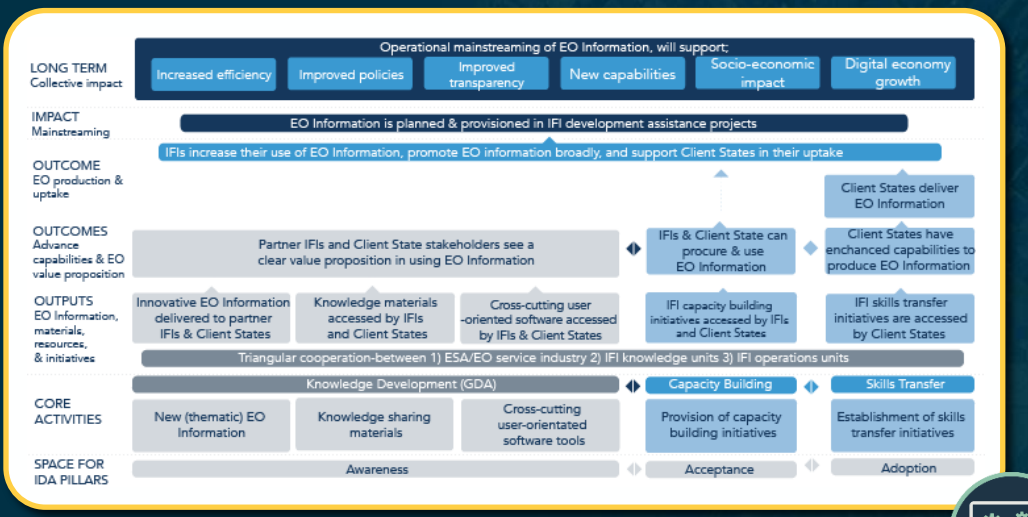
Agile EO Information Development

GDA Global Development Assistance



GDA motto

#AcceleratingImpact



Theory of Change & Impact Pathway

powered by esa in partnership with ADB

GDA Programmatic Cooperation Framework

Powering the **Space for IDA** cooperation framework, GDA has **mobilized >100€ million** from both **space and development finance** resources, incl. commitments for >70$ million dedicated to **capacity-building** associated with and in support of core GDA **technical developments**

- **Dedicated programmatic structures** are being put in place by WB & ADB to **facilitate coordination** and **resource mobilization**, following a holistic approach to development finance

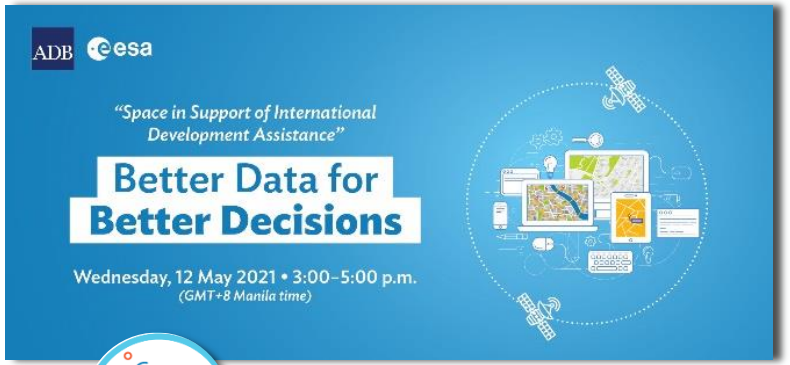
THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

Digital Earth Partnership

Partnerships Expansion

IDB · AFRICAN DEVELOPMENT BANK · IFAD · GREEN CLIMATE FUND · gef

- Programmatic alignment
- Development operations
- MDTF



ADB ASIAN DEVELOPMENT BANK

EO for Development & Digital Transformation

South Sudan Climate Resilient Flood Management Project

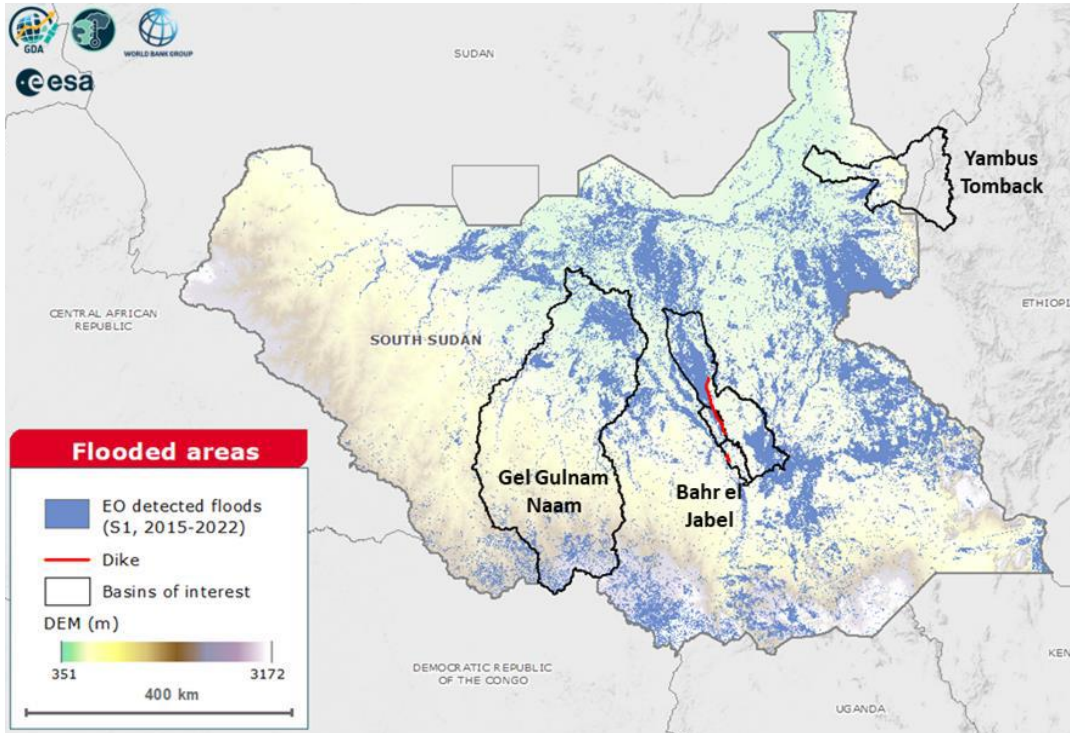
ESA

Analysis of flood trends, hazards and nature-based solutions to improve resilient flood management

WB

Develop capacity and information for risk-informed water infrastructure planning and management

Aggregated flood inundation areas based on EO (2015-2022)



Balochistan Water Security and Productivity Project

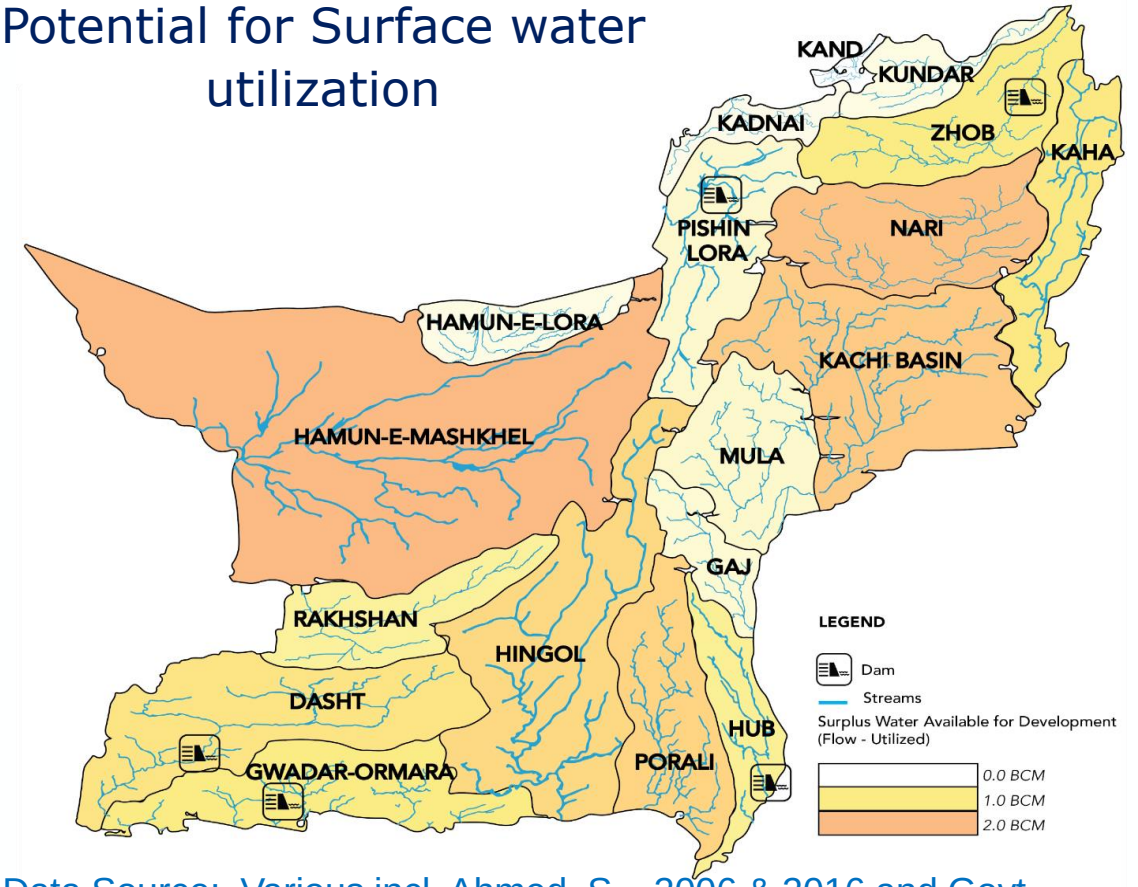
ESA

Agricultural drought and sedimentation assessment to improve water resources management

WB

Development and transfer of decision support system to improve the resilience of irrigation and flood protection infrastructure

Potential for Surface water utilization



Data Source: Various incl. Ahmed, S, , 2006 & 2016 and Govt. of Balochistan, Irrigation Dept. (PES and Cameos Consultant) 2018

Next generation MRV for land use ER Programs

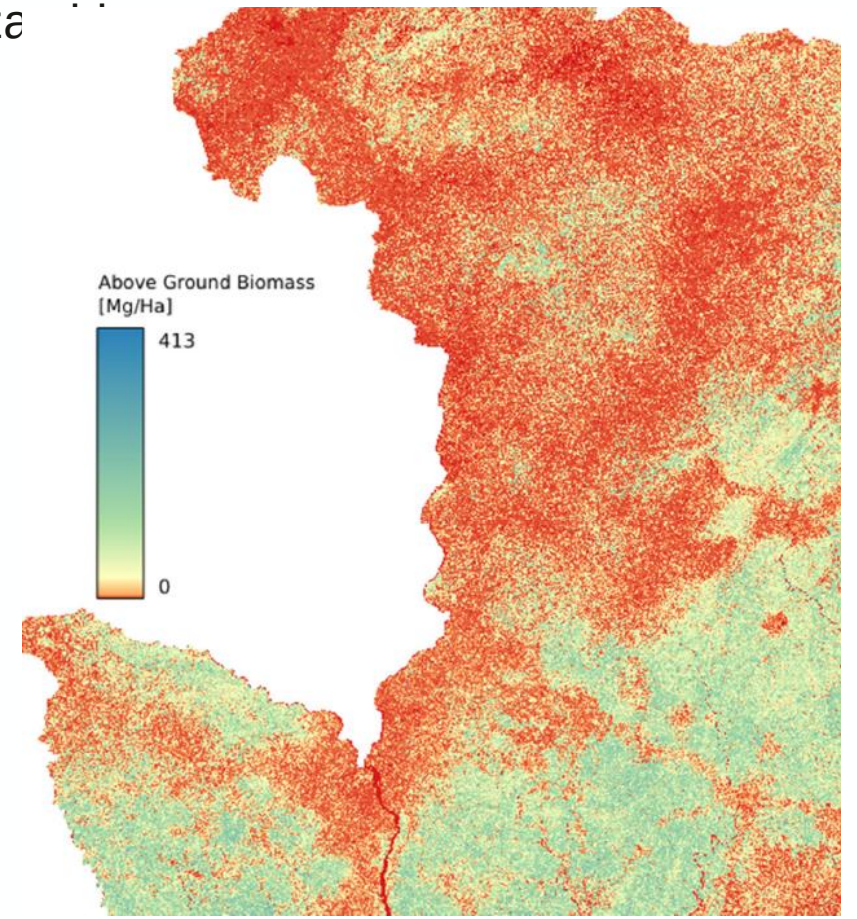
ESA

Development of cutting-edge Earth Observation **model** to assess forest **biomass**

WB

Implementation of **MRV system** for land-use related GHG emission reduction programs to **increase the efficiency of results-based carbon finance transactions.**

Visual overview of the Above Ground Biomass [Mg/ha] map of the Zambezia region, Moza



Kinshasa Nature Based Solutions project

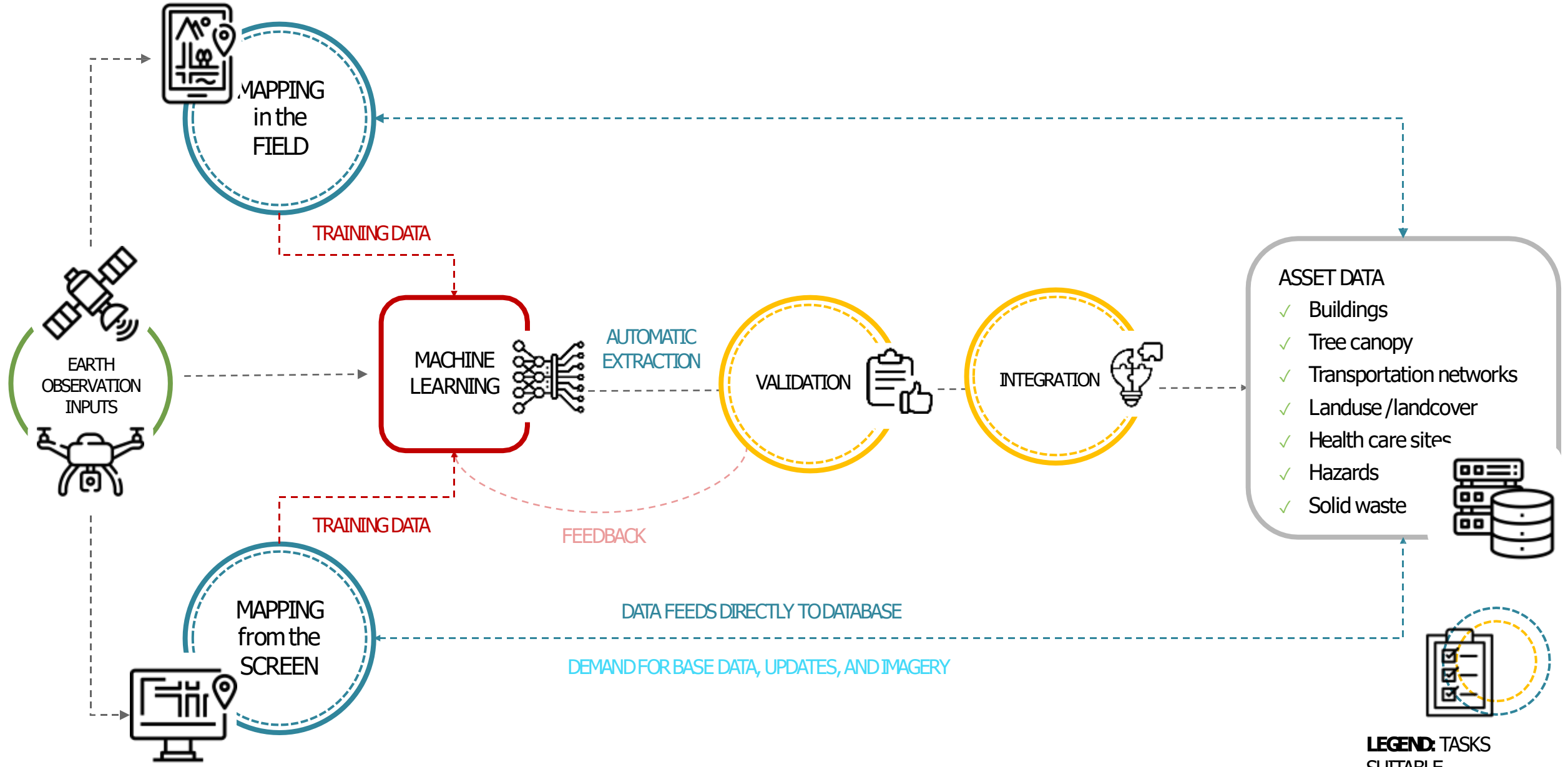
ESA

Support to design and suitability of Natural Based Solutions using **green infrastructure mapping**

WB

Implementation of **citizen science and microtasking** based approaches to ensure **accuracy** of analysis and foster **skills transfer**

Kinshasa Nature Based Solutions project



BLENDED APPROACH FOR MAXIMUM IMPACT

LOCAL PARTICIPATION

- context
- calibration
- training

EARTH OBSERVATION

- independence
- trust
- cost effective at scale

ARTIFICIAL INTELLIGENCE

- customization
- cost reduction
- analysis potential