

Building national capacities leveraging EO data for addressing crimes that affect the environment



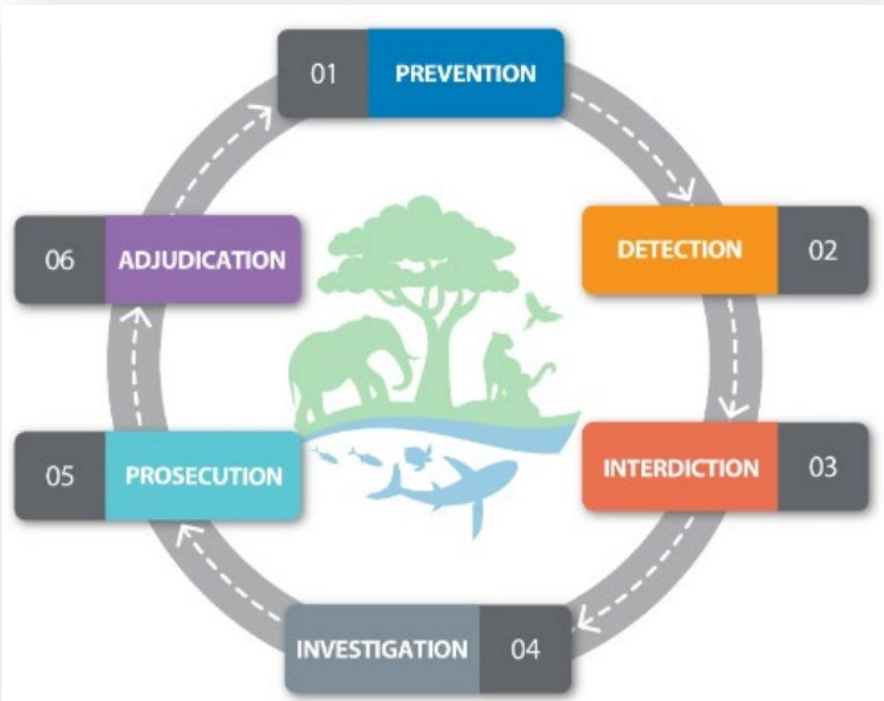
FRASCATI – SEPTEMBER 2026

What?

Norms and standards



Operations



Research



Why?

UNODC's policy guidance: conventions and resolutions related to crimes that affect the environment

- UNTOC** Conference of the Parties to UNTOC Resolution 10/6 (2020) Calls for Member States to prevent and combat crimes that affect the environment falling within the scope of the UNTOC.
- UNCAC** Res 8/12 2019 Calls for Member States to prevent and combat corruption as it relates to crimes that have an impact on the environment.
- ECOSOC** Res 8/12 2019 to combat transnational organized crime and its links to trafficking in precious metals and illegal mining, including by enhancing the security of supply chains of precious metals.
GA OCR. 2020 adopting necessary legislation .
Expresses concern about the substantial increase in the volume and range of criminal offences related to trafficking in precious metals



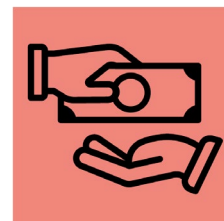
How?

Research for policy development & evaluation

- Monitoring of illegal mineral mines and the impact on the environment
- Monitoring of drug cultivation and related illegal activities (deforestation, pollution)

In support of law enforcement/anti-corruption programmes

- Crimes that affect the environment
 - IUU fishing/maritime crime
 - Illegal logging/deforestation
- Verification of illicit crop eradication
- Drug production sites/trafficking routes



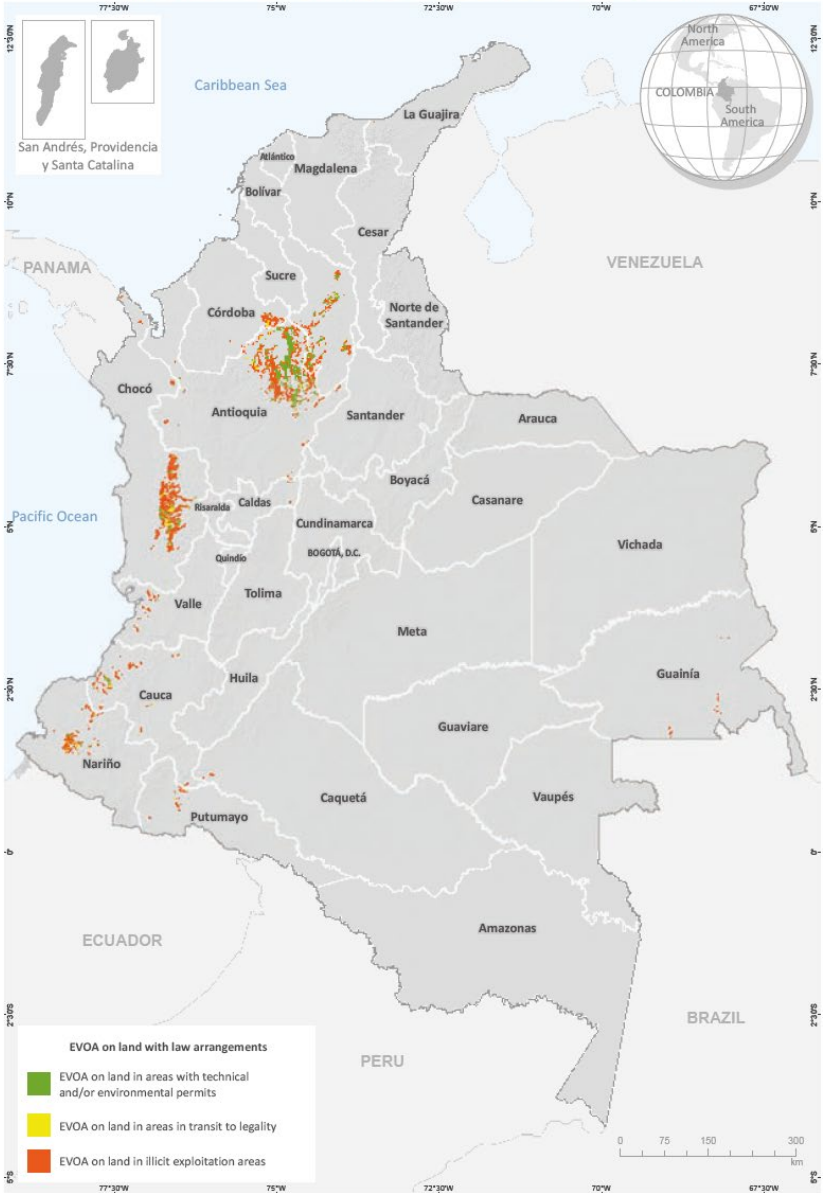
Where?



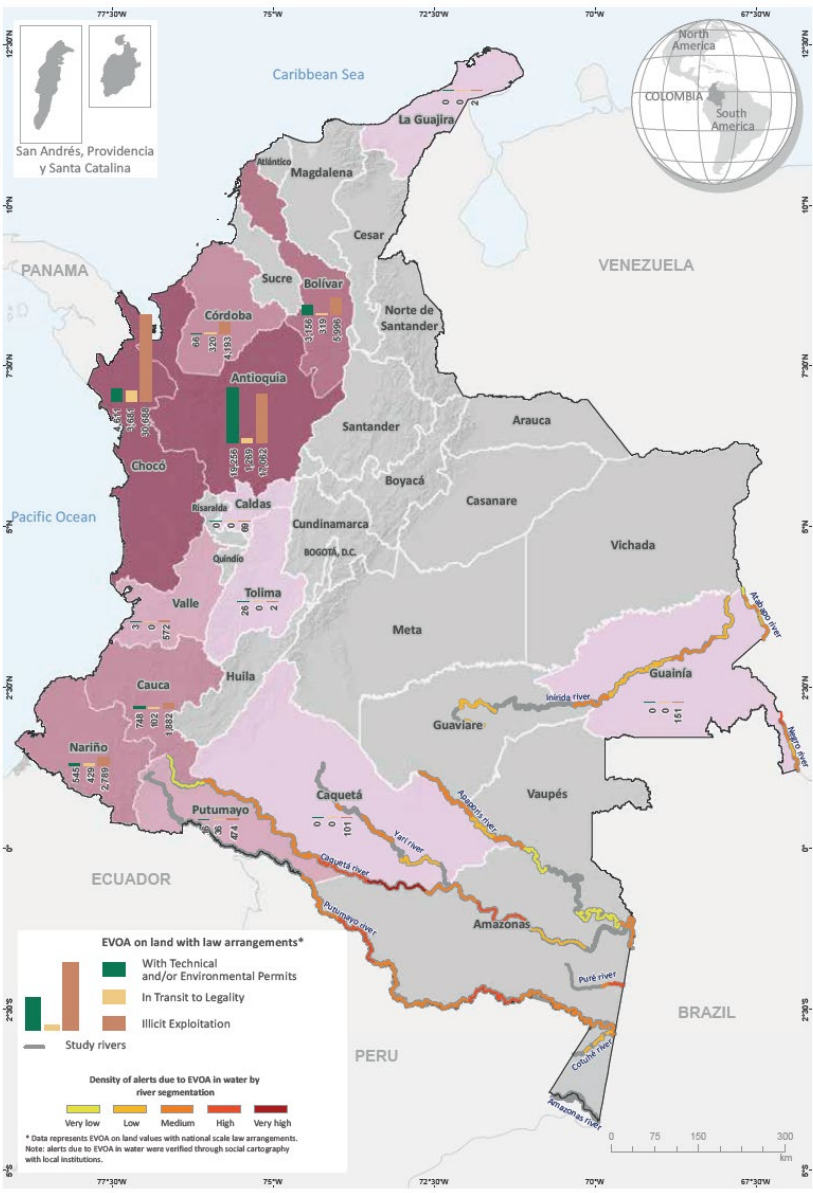
Illegal mining monitoring in Colombia



Map 2. Provincial distribution of EVOA on land and law arrangements.

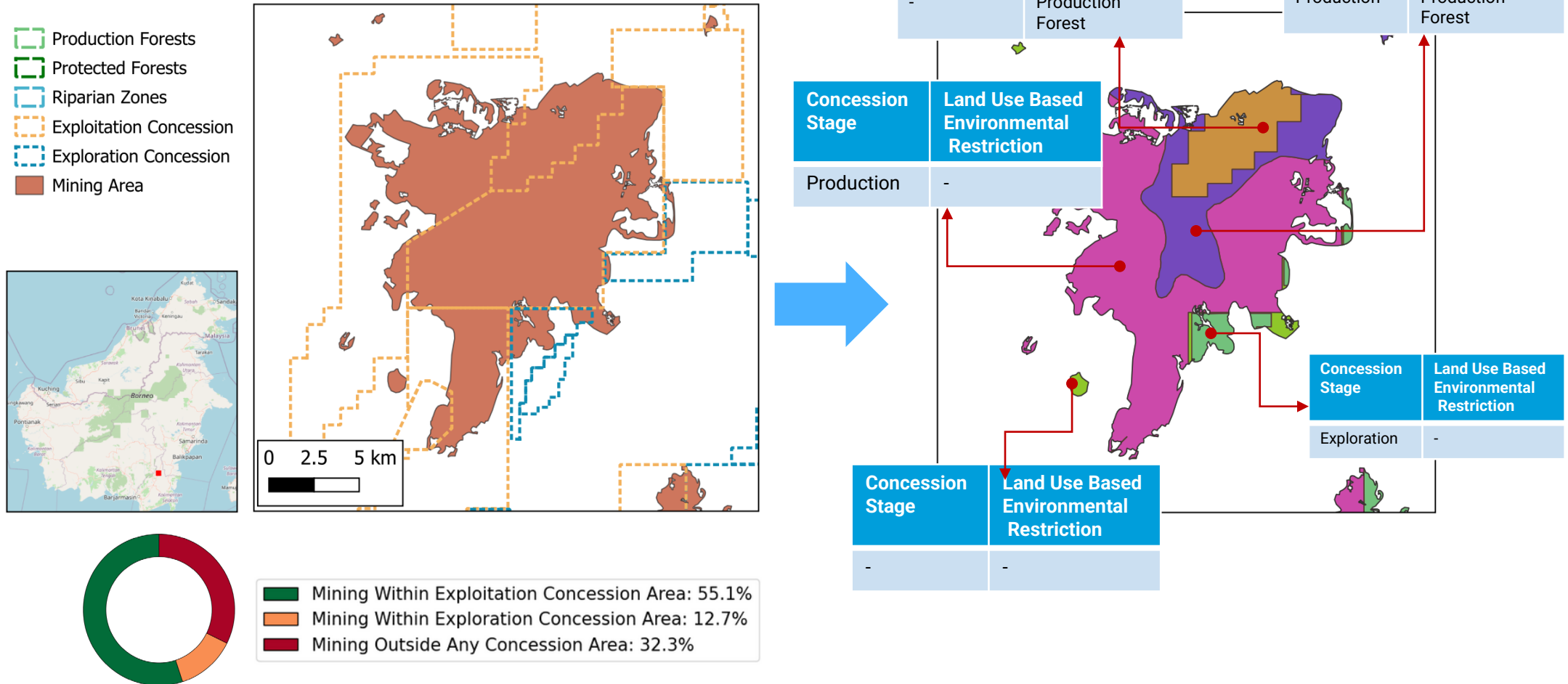


Map 3. Distribution of EVOA in categories of law arrangements.



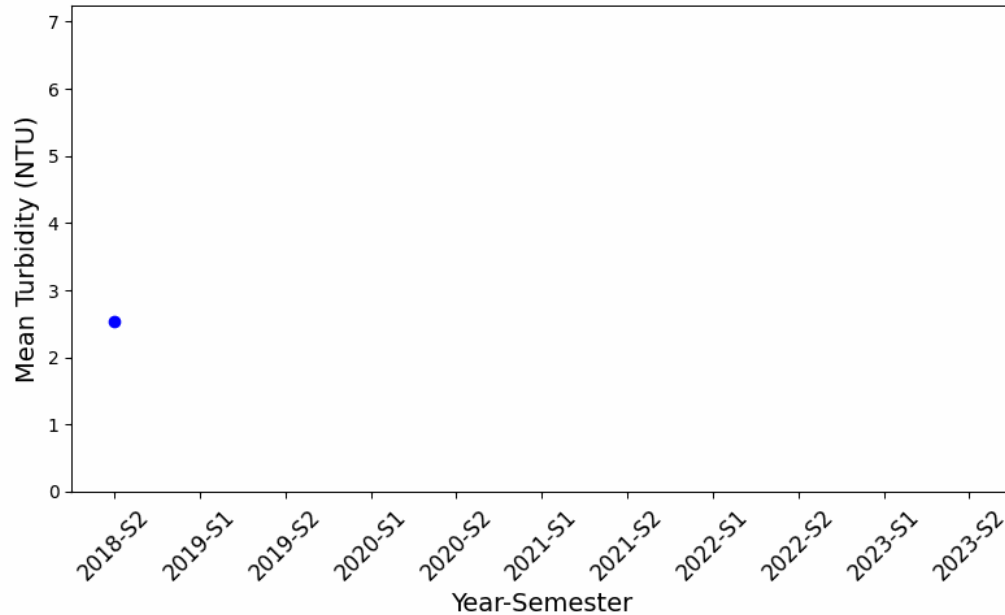
Assessing mining illegality in Indonesia

Analysis with concession data, environmental restrictions.

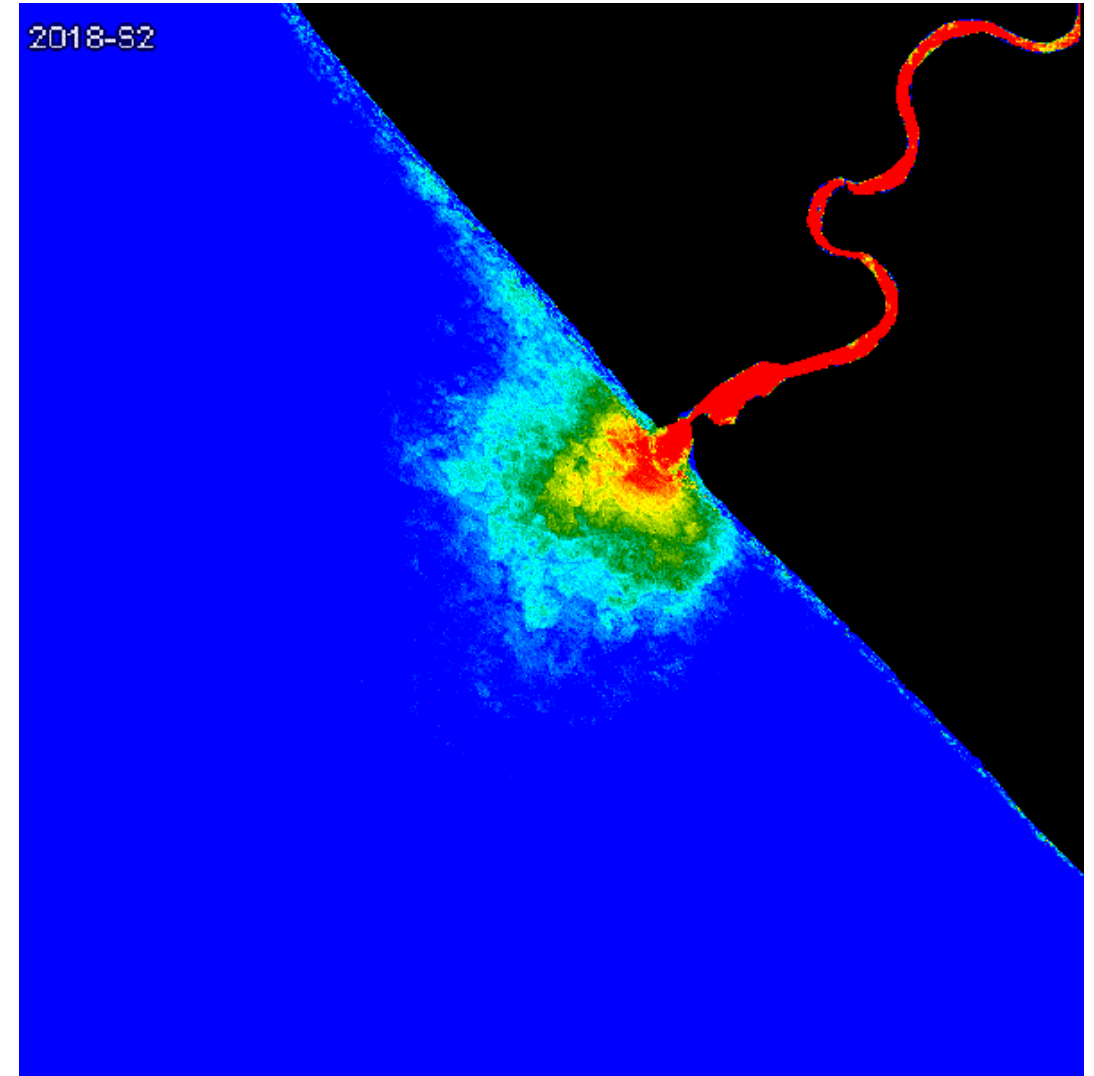


Turbidity analysis down streams of illegal mining areas

Aceh Indonesia



- Timeseries analysis of Sentinel-2
- Empirical Model of *Nephelometric Turbidity Unit* (NTU)



Building National Capacity in Indonesia

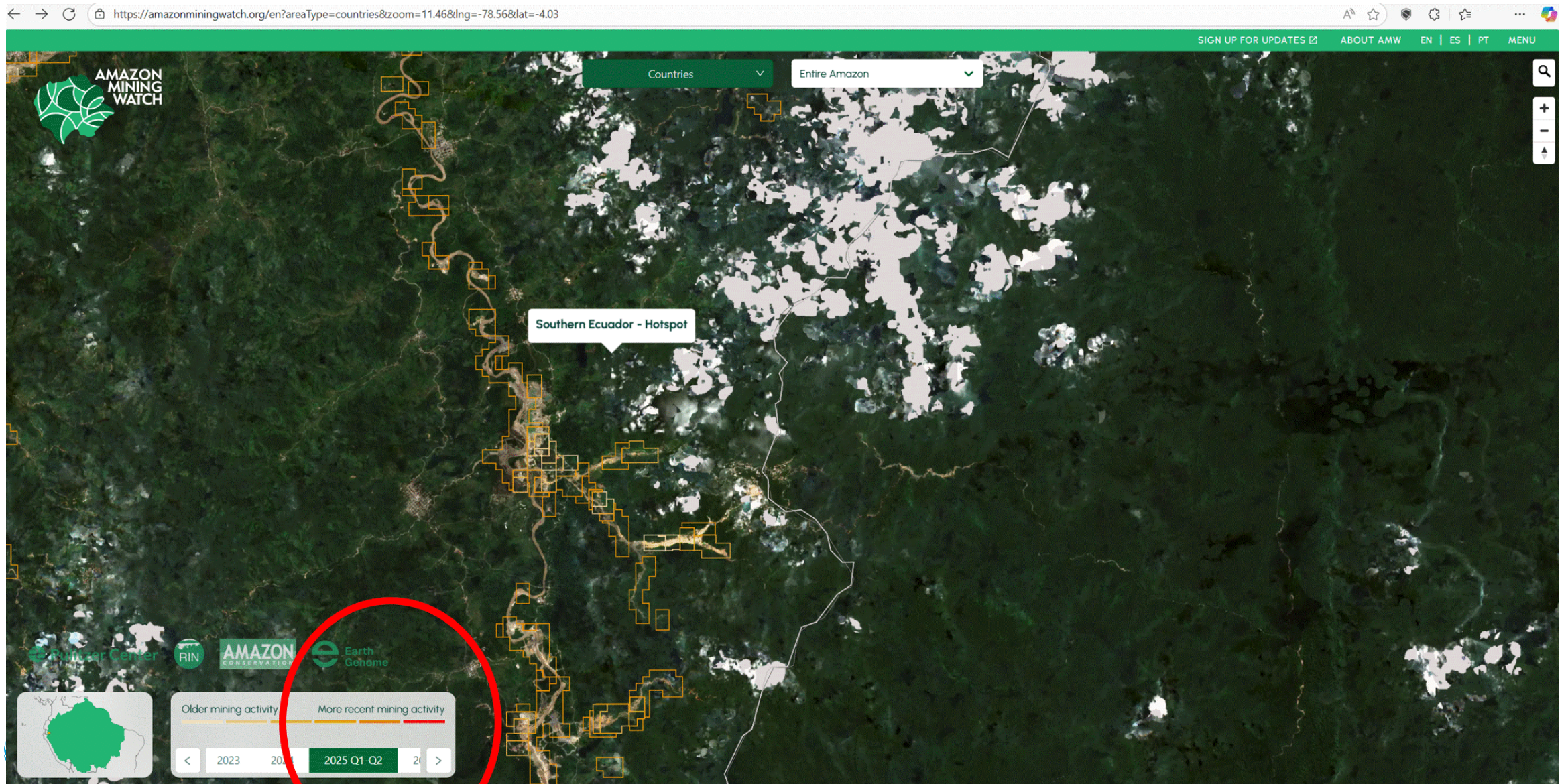
Participants from Indonesian ministries of mining, statistics, cartography, forestry and environment

Case studies:

- Monitoring mining expansion
- Early detection of unregulated mining
- Environmental, economic and social impact

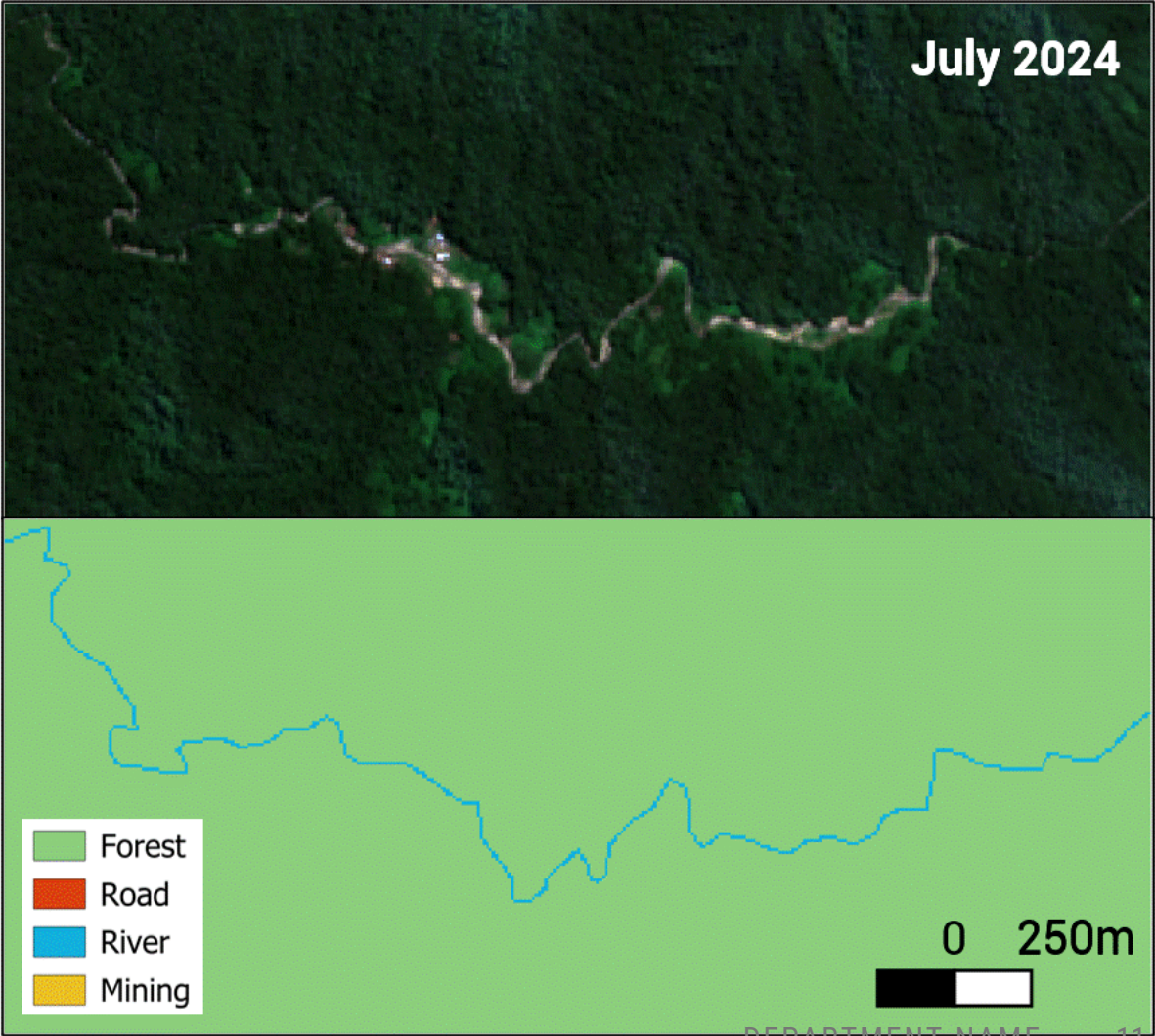
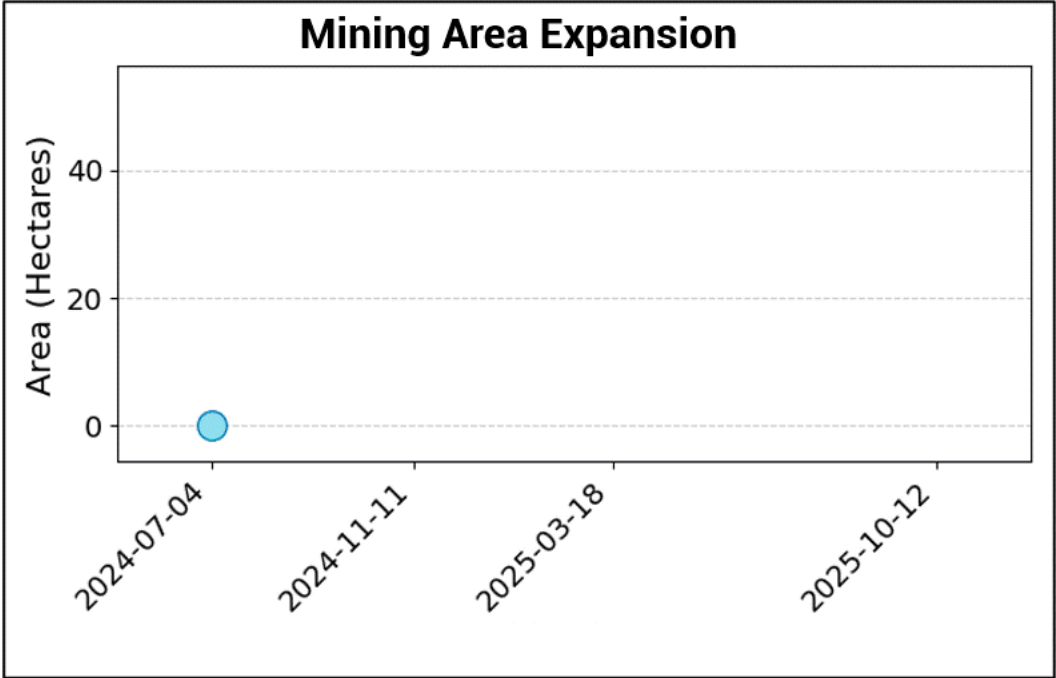


The role of existing earth observation platforms



Additional analysis

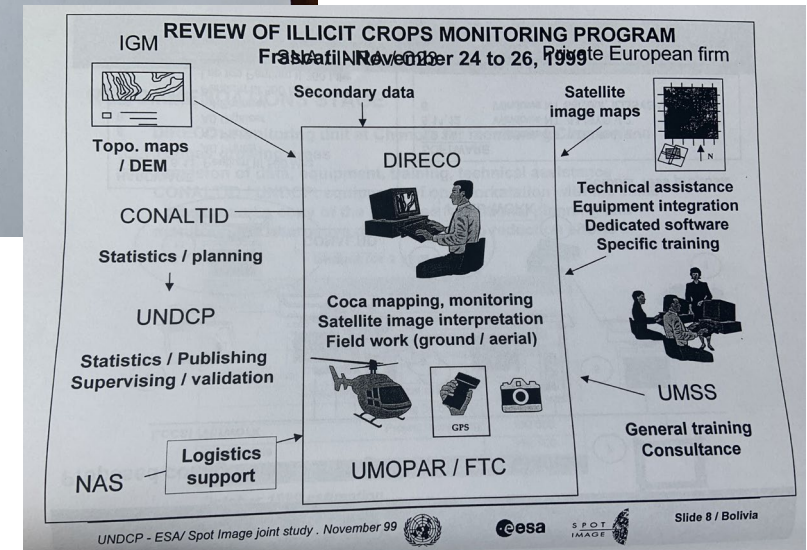
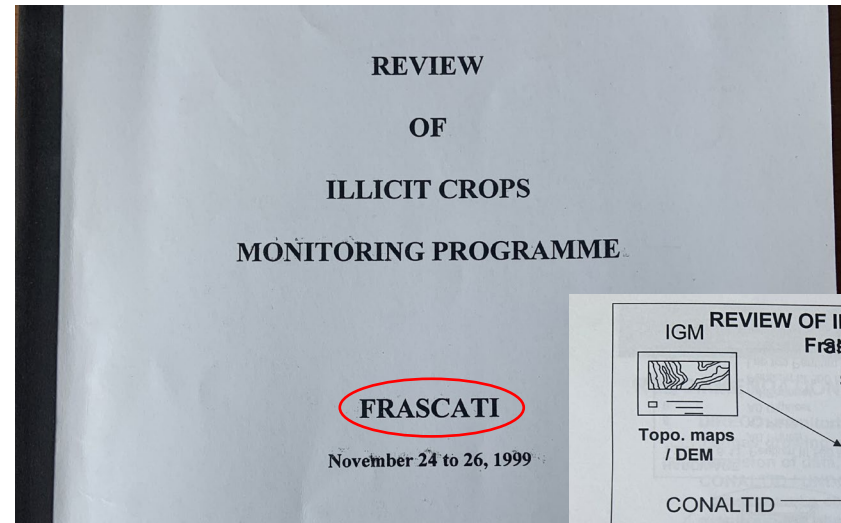
New mining area at border Peru-Ecuador



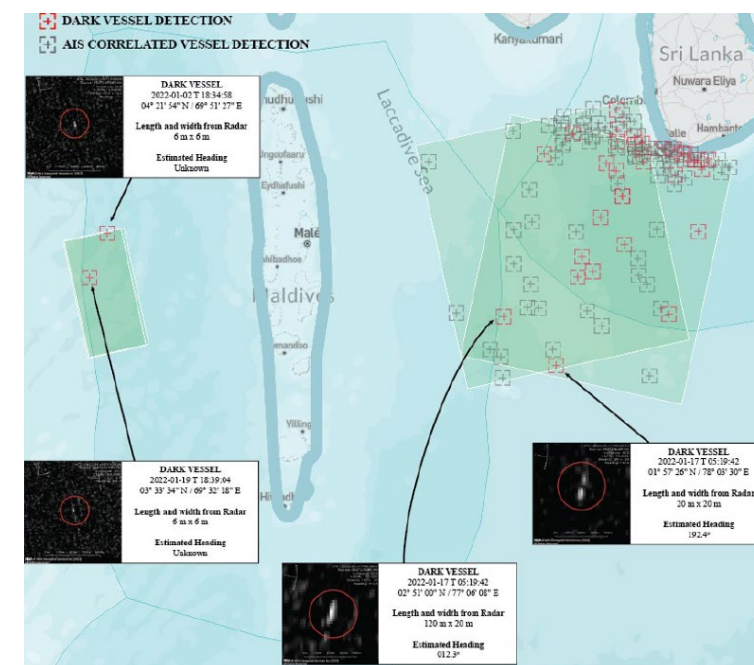
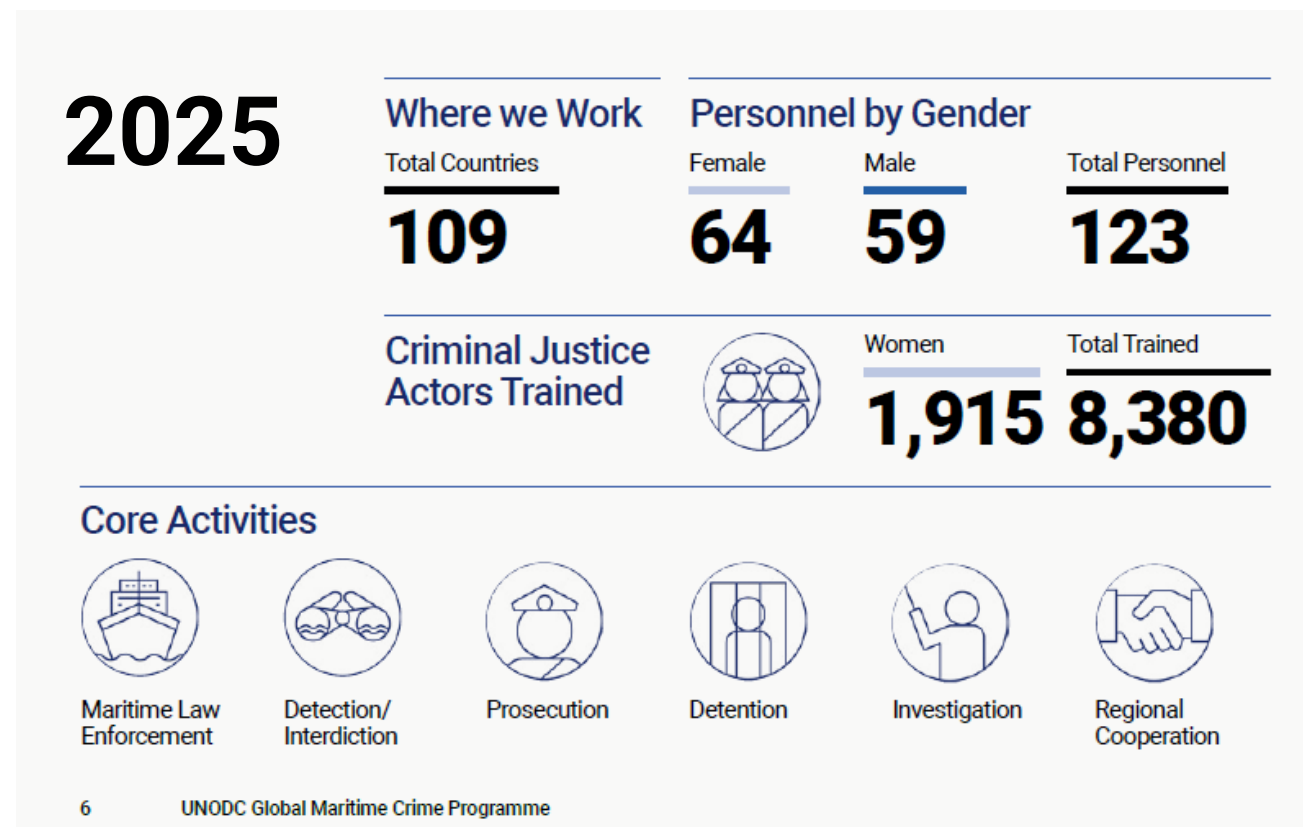
DEPARTMENT NAME

Partnerships for capacity building on EO research

- National agencies
- ESA
- UN agencies
 - OOSA, FAO, ITU, UNDP
- Private sector:
 - eGeos, Hensoldt, GAF, Janes
- Academia/research centres
 - University of Maryland, Bochum University, Cranfield University, VITO



Global Maritime Crime Programme: building vessel monitoring capacities



Partnerships with Skylight, European Maritime Safety Agency and the Copernicus programme

LEAP: Law Enforcement Assistance Programme to Reduce Illegal Deforestation

Partners:

- INTERPOL
- UNODC:
 - Container Control Programme (CCP)
 - Global Programme against Money Laundering (GPML)
 - Global Maritime Crime Programme (GMCP)

Supported by:

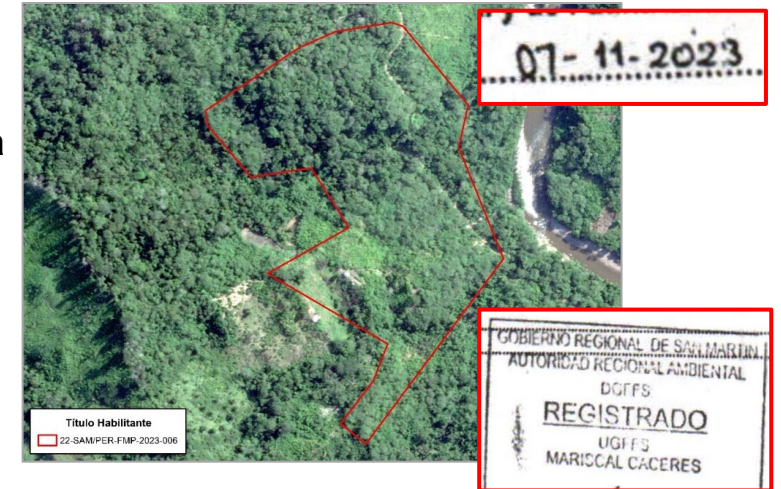
- Norway's International Climate and Forest Initiative (NICFI)

Countries:

- Asia-Pacific: Indonesia, Papua New Guinea
- Latin America: Brazil, Ecuador, Peru



Verifying data
with permits



Tracking
suspicious
vessels in the
ocean



Key elements of UNODC's EO capacity-building approach

Sustainable: Building national capacities and local ownership.

Collaborative: Connecting agencies, countries, and partners.

Accessible: Using open-source tools and free EO data.

Evidence-driven: Combining EO, OSINT, and VHR imagery.

Scalable: Applying standardized protocols across regions.

Innovative: Advancing methods through strategic partnerships.





United Nations
Office on Drugs and Crime

Thank you!

[Publications on crimes that affect the environment](#)



[UNODC Monitoring of illegal mining with remote sensing and geospatial tools](#)



[Law Enforcement Assistance Programme for the Reduction of Illegal Deforestation](#)



[Global Maritime Crime Programme](#)



Coen Bussink
coen.bussink@un.org