

Geospatial Intelligence for Environmental Compliance Assurance

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94%

OF THE EUROPEANS SAY THAT
PROTECTING THE
ENVIRONMENT IS
**IMPORTANT TO
THEM PERSONALLY**



EUROPEANS WANT **MORE TO BE DONE** TO PROTECT THE ENVIRONMENT

The majority think that **not enough is being done** by:



big companies
and industry
80%



their national
government
72%



the European
Union
68%

“OFTEN, WHEN ISSUES COME TO THE FORE -CAR EMISSION TESTING, WATER POLLUTION, ILLEGAL LANDFILLS [...]-



“OFTEN, WHEN ISSUES COME TO THE FORE
-CAR EMISSION TESTING, WATER POLLUTION, ILLEGAL LANDFILLS [...]”

THE PROBLEM IS
NOT THE LACK OF EU LEGISLATION

BUT RATHER THAT

EU LAW IS NOT APPLIED EFFECTIVELY

The European Green Deal

“IN ADDITION TO LAUNCHING
NEW INITIATIVES...

von der Leyen Commission

#EUGreenDeal

“...THE COMMISSION WILL WORK [...] TO
STEP UP [...] EFFORTS TO
ENSURE THAT CURRENT
LEGISLATION AND POLICIES
RELEVANT TO THE **GREEN DEAL**
ARE ENFORCED AND
EFFECTIVELY IMPLEMENTED.”

ENVIRONMENTAL COMPLIANCE ASSURANCE (ECA)

PROMOTION

MONITORING

ENFORCEMENT

Analyzing officially reported geospatial data

Providing detail beyond official reports

Monitoring between official reports

Validating information sources

What is Geospatial Intelligence?

ACTIONABLE KNOWLEDGE

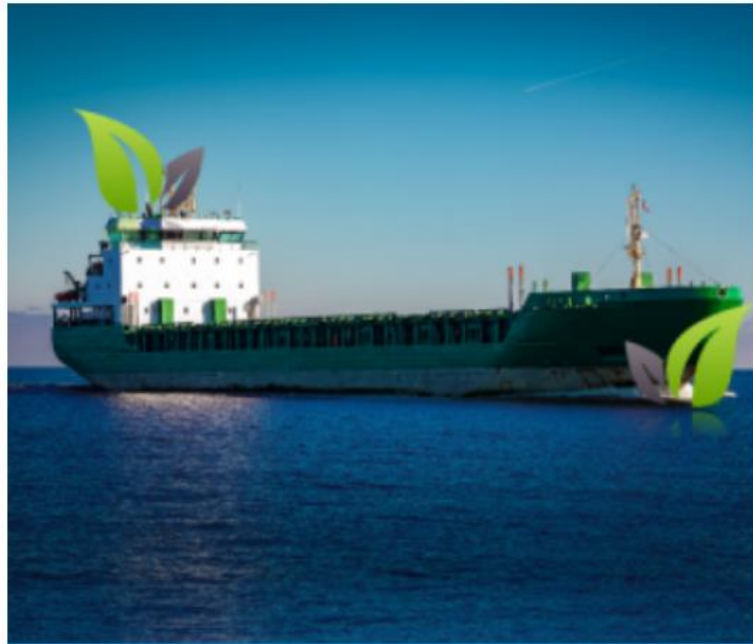
CREATED BY IDENTIFYING, COLLECTING, AND

CRITICALLY ANALYZING GEOSPATIAL DATA,

AND PRESENTING IT TO

THE DECISION-MAKING ENVIRONMENT

Latest News



Update on Potential of Biofuels for Shipping

06.10.2022



Potential of Ammonia as Fuel in Shipping

06.10.2022



EMSA sniffer drone supports French authorities to monitor ship emissions on Mediterranean Sea coast

06.10.2022

EU funding for biodiversity and climate change in EU forests: positive but limited results

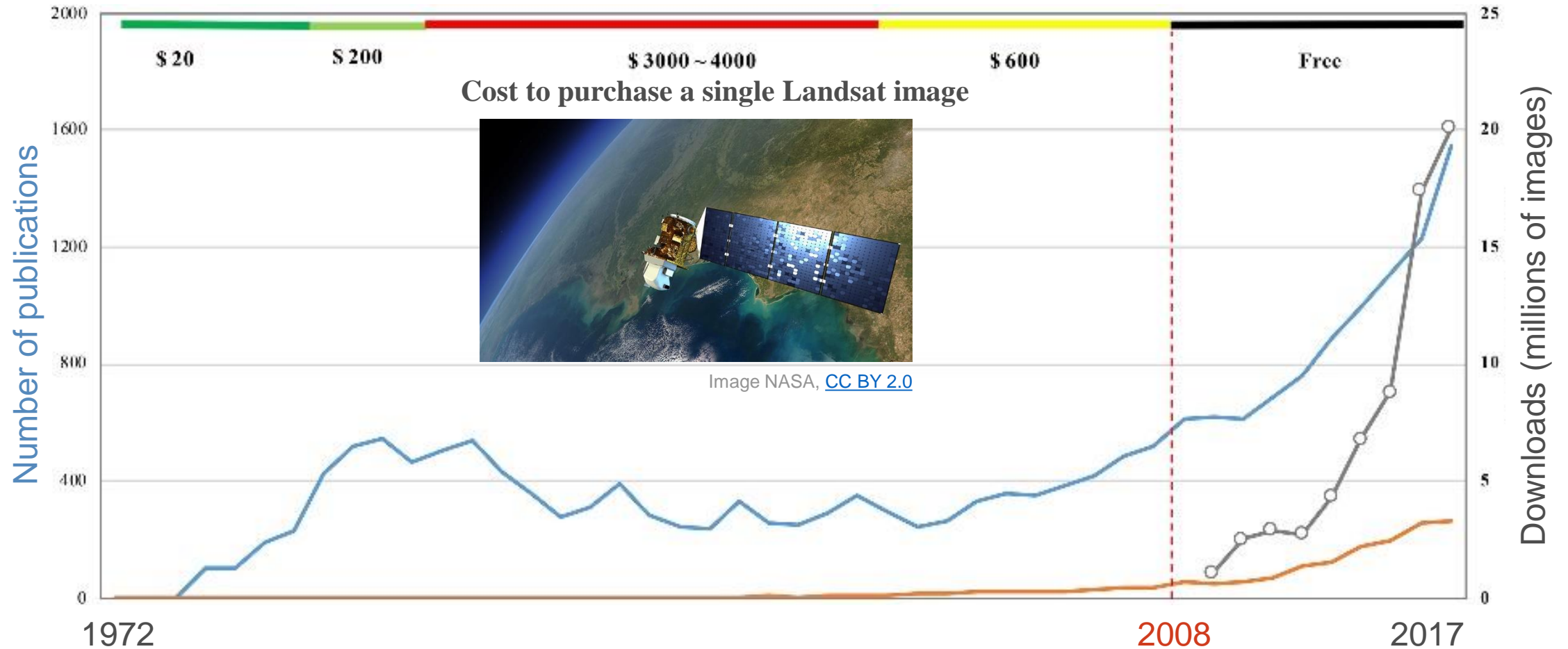


Recommendation 2 – Strengthening the fight against illegal logging

The Commission should:

- (a) assess the potential for making legislative proposals with the aim of strengthening its review of Member State checks on the Timber Regulation;
- (b) extend the Commission's use of, and promote Member States' use of, geospatial intelligence including remote sensing techniques to better assure compliance with EU requirements concerning forest management and illegal logging.

A golden age for Remote Sensing



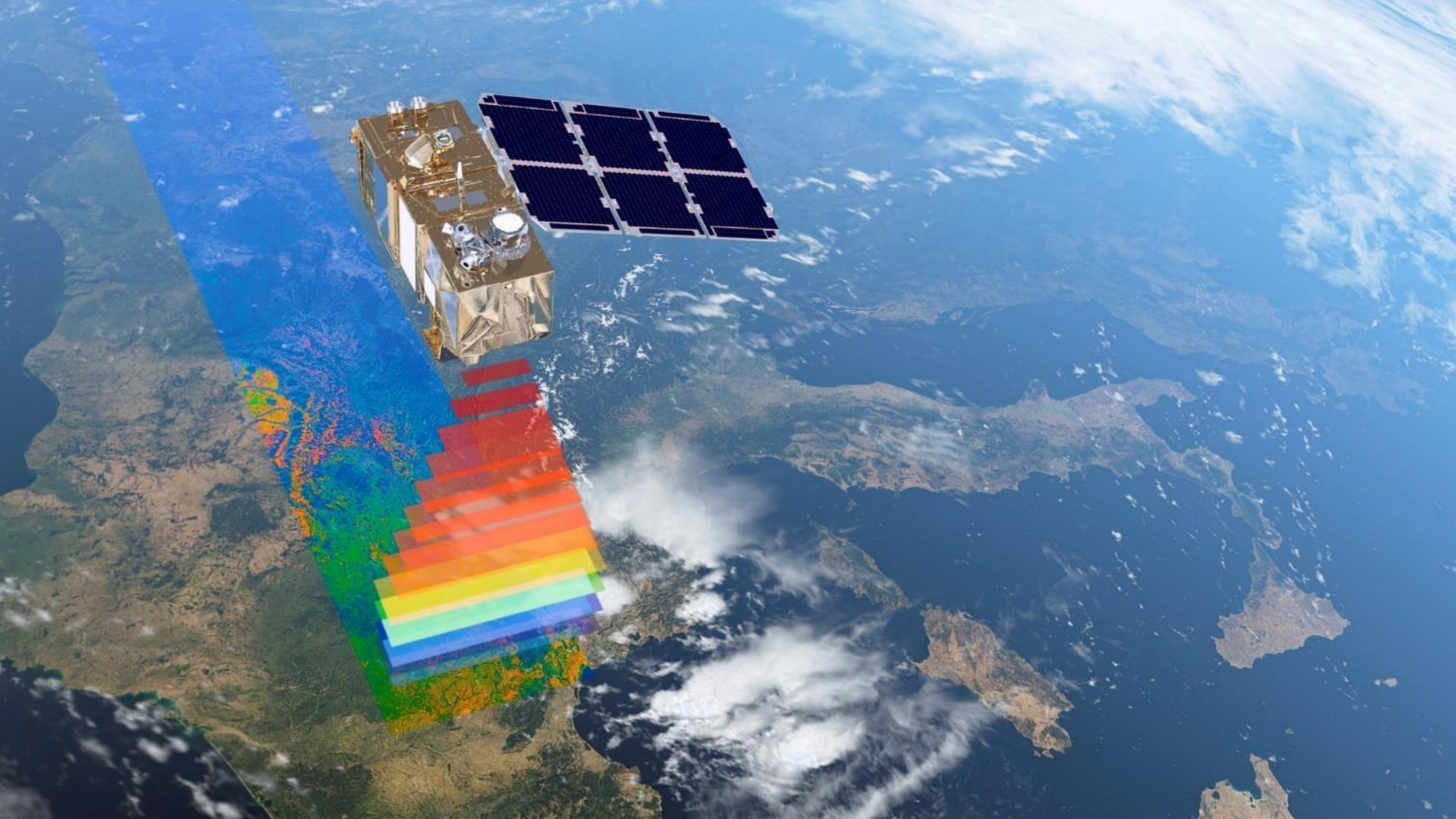




photo: ESA-M. Pedoussaut
P. Zarco-Tejada



<https://esa-worldcover.org/en>



Handling uncertainty

- Geospatial data are not perfect
- Depending on the degree of modelling involved and the underlying assumptions, uncertainty may be considerable

ECA in an Environmental Risk Analysis Framework

Hazard detection

Early warning based on monitoring

Risk assessment

Alerts for hazards that may threaten compliance

Risk evaluation

Quantifying potential impacts to respond proportionally

Risk management

Decide on actions in regulatory context

Risk communication

with duty holders, authorities responsible for verification or enforcement



Systematically assessing compliance with GEOINT


Analysts & Experts


Geospatial information
& big data access


Official database

**Assess
compliance**

Alert & warning systems

Gather observations
(e.g. reported monitoring,
independent data from
satellites, other geodata)

Compliance promotion
by facilitating data
access

Select spatial entities
(e.g. designated areas)

Concluding notes

- We live in a golden age for remote sensing (satellite and drone data, geotagged photos etc). Like all data, they come with varying degrees of uncertainty
- Developing GEOINT in a risk analysis framework facilitates its use for compliance promotion, monitoring, and enforcement
- Generating GEOINT from geodata to support environmental compliance assurance requires that technical expertise is applied in a specific legal setting. Having legal and technical experts at the same table is critical!
- Not all environmental legislation is equally suited to leverage GEOINT

Thank you



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