



SUMMARY OF THE OPEN INFORMATION AND CONSULTATION PROCESS FOR CSOS/NGOS ABOUT EO FOR ECOSYSTEM CONSERVATION AND RESTORATION.

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1. INTRODUCTION

The [Sixth IPCC Assessment Report](#) highlighted that the rise in weather and climate extremes has led to some irreversible impacts as natural and human systems are being pushed beyond their ability to adapt. Restoration of degraded ecosystems is key to mitigate the impacts of climate change, and furthermore healthy and resilient ecosystems are essential to our well-being, prosperity and security also beyond the climate action. Recognizing this principle, also brought up by the [UN Decade on Ecosystem Restoration](#), the European Commission proposed in 2022 a new [EU Regulation on Nature Restoration](#) to restore nature and reverse biodiversity loss across the EU territory.

EO products and services may be instrumental to assess the conditions of ecosystems and to support restoration plans and reports. Pioneering new Earth Observation information products and applications, the ESA EO Science4Society element enables international responses to global societal challenges in consultation with stakeholders.

The main purpose of the open Information Day and Consultation Process was to address Civil Society Organisations (CSOs)/ Non-Governmental Organizations (NGOs) with ESA presentations on the potential of EO in support to ecosystems restoration and conservation. Around 60 CSOs/NGOs have attended the open day, confirming the strong interest in use of EO data for Conservation and Restoration activities.

Following the Information Day, a questionnaire was circulated to participants to initiate the Consultation Process to capture their priorities in terms of:

- High-priority ecosystems for conservation / restoration actions.
- Monitoring of specific ecosystem degradation drivers.
- High-priority aspects linked to biodiversity, specifically on habitats and species.
- Needs in relation to enabling the financing mechanisms for nature restoration and nature capital valuation.
- Needs for capacity building in the organizations on specific EO topics
- Capture in an open way, recommendations and needs from CSOs/NGOs.

This report presents the results of the consultation process.

2. HIGH-PRIORITY TOPICS AND RECOMMENDATIONS

2.1 High-priority topics

Representatives of NGOs have identified high-priority ecosystems and monitoring practices in support to which they would need more information:

- **Forests** for deforestation monitoring and focusing on forests with high capacity of carbon capture. Among forests, particular importance has been raised on old and virgin forests, as for lowland and dry forests.
- **Wetlands** for degradation monitoring and allowing early warning processes. These include peatlands, flooded forests, mangroves, seagrass, swamps and intertidal flats.
- **Rivers and streams** for water and habitat monitoring, as for species connectivity and biodiversity monitoring
- **Croplands** for land use monitoring and detection of land stress, as can be caused by e.g., monocultures, pesticides and poor agricultural practices.
- **Rangelands and grasslands** for land pressure and vegetation status monitoring, with a focus on semi-arid regions.
- **Coasts** for the monitoring of coastal degradation, changes in coastal ecosystem land use, biodiversity conservation and of blue carbon ecosystems

A particular attention has been raised on agroecology and agroforestry as very effective practices for conserving and promoting biodiversity even where there is need of agricultural land use.

For what concerns habitats and species, NGOs have indicated the need of monitoring large carnivores and large herbivores, wildlife and invasive species.

The importance of identifying and monitoring bio-corridors to ensure connectivity of biodiversity hotspots has also emerged, specifically of stepping-stones which allow viability for species' migration. This is the case, for example, of wetlands for waterbirds who migrate from the Arctic to Southern Africa.

2.2 Recommendations

The consultation process led to the following needs and recommendations:

A. Conservation & Restoration

NGOs have raised the importance:

- i. to develop EO-based tools to monitor ecosystems under conservation and restoration actions, such as **already established protected areas**, to assess best practises by quantifying the positive impacts of the implemented activities. Through an interactive consultation with stakeholders working in the field, such as national authorities (e.g., environment agencies) and NGOs, EO assets can serve for developing harmonised protocols, and soft standards, for the monitoring of protected ecosystems' conditions and evolution.
- ii. to develop clear processes for **detecting critical ecosystems** and **identifying high-priority sites** for Conservation and Restoration actions for the preservation of biodiversity and wildlife. EO assets can serve for defining areas suitability and urgency, supporting the identification of critical ecosystems which need to be protected, sustainably managed and/or restored. The development of these processes would provide essential information in reaching the 30x30 Kunming-Montreal Global Biodiversity Framework (GBF) target. It was highlighted how different approaches would be needed in different socio-economic situations.

B. Nature capital related activities

NGOs have raised the importance:

- i. to develop EO methodologies which allow to quantify and monitor dependencies and impact on nature along **full supply/value chains** of industries, also assessing the value of ecosystems and of the services they deliver. NGOs have highlighted how EO products can serve as an important tool for monitoring the best practices on ecosystems, also measuring the public and private entities' compliance with their commitments, verifying and reporting on the progress of activities.

- ii. to develop clear biodiversity indicators within the Kunming Montreal GBF, which could potentially be used as **biodiversity/nature credit/debit systems**. NGOs have highlighted that EO products can represent an important tool for supporting more transparent financing mechanisms which clearly consider a measurable biodiversity compensation system.

C. Capacity building & stakeholders' engagement

- i. A common aspect to all NGO participants is the weak knowledge of EO data/information products, related processes and tools, which evidences an existing gap for exploiting full potential of EO within their activities. In addition, all NGOs have expressed the interest in growing their internal capabilities regarding EO products usage and/or strengthen external collaborations with this objective, highlighting how these activities would certainly benefit to their organisations' mission. This leads to identify **capacity development** as a key activity to raise knowledge and actionable usage of EO assets for Ecosystem Conservation and Restoration.
- ii. All NGOs participants have raised the need of strengthening **dialogue and collaboration with stakeholders** who can enhance the positive impact to Ecosystem Conservation and Restoration actions with a deeper knowledge of EO usage. These are local administrations, governmental entities (e.g., environment agencies), and international entities, but also across NGOs and CSOs, local communities and citizens, together with commodity producers, corporates, financial entities. The suggestion is also to have different stakeholders to work more in connection one with the other, enabling knowledge sharing and catalysing the multiple initiatives, hence maximising the positive impacts of actions.