BioSpace25 - Biodiversity insight from Space
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EO conceptual approaches to improve biodiversity monitoring

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Session objectives

EO conceptual approaches to improve biodiversity monitoring

Earth Observation is experiencing a revolution:

- New missions and unparalleled amount / type of data available in the next 5-10 years
- Capacity to upscale analyses & monitoring tools
- Cloud infrastructures and new approaches: DL, foundation models

Objectives of the session:

- Provide perspectives & illustrations for federated & unified EO system,
- Highlight contribution of EO to improved knowledge on ecology & biodiversity
- Provide perspectives for the exploration and monitoring of the unknown

Main conclusions and recommendations

Role of space agencies as part of a federated system

- Each organization provides one or multiple components (data, tools, products…)
- Need for standardized interfaces
- Identify representative core sites, coordination of satellite acquisitions across space agencies.

How EO can contribute to sciences and knowledge

- Open science for in situ & EO activities
- Data standards, shared protocols, documentation & harmonization (within & among missions)
- Interoperability, reproducibility & inter-comparisons
- Products relevant or adaptable for all ecosystems
- User friendly workflows relevant to stakeholders.

How to prepare for forthcoming challenges

- New missions with additional capacities, and more data to handle: need to anticipate and define standards
- systems under increasing pressure: Tropical forests, North & South poles (*5th international polar year in 2032-33*)
- need to learn more from cross domain interactions
- find new areas of intersections
- pursue construction of climate relevant EBVs.