UN-GGIM Europe webinar series

The contribution of Earth Observation to SDG 6.6.1 indicator

Dr Flore Lafaye de Micheaux, Secretariat of the Convention on Wetlands

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Mapping the future: the Convention on Wetlands´ role in monitoring water-related ecosystems (SDG indicator 6.6.1)

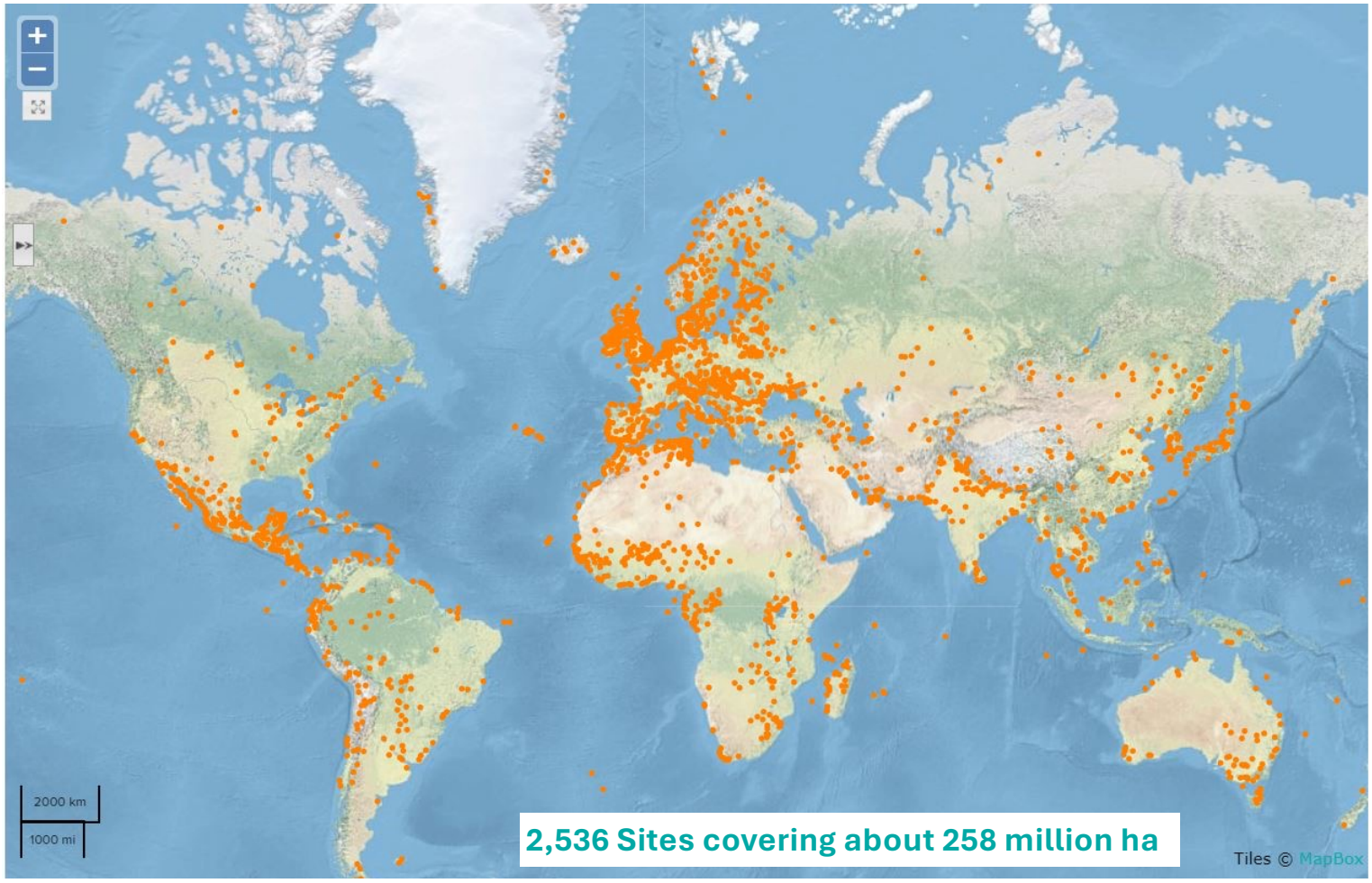
Dr Flore Lafaye de Micheaux

Ramsar Convention on Wetlands

Intergovernmental treaty on wetlands

- First modern global environmental agreement adopted on 2 February 1971
- 173 Contracting Parties
- Provides the framework for the conservation and wise use of wetlands

Wetlands of International Importance
‘Ramsar Sites’



What are wetlands?

Land areas that are flooded with water, either seasonally or permanently

Inland wetlands: marshes, ponds, lakes, fens, rivers, flood plains and swamps

Coastal wetlands: mangroves, saltwater marshes, estuaries, lagoons - even coral reefs

Man-made wetlands include fish ponds, saltpans, rice paddies

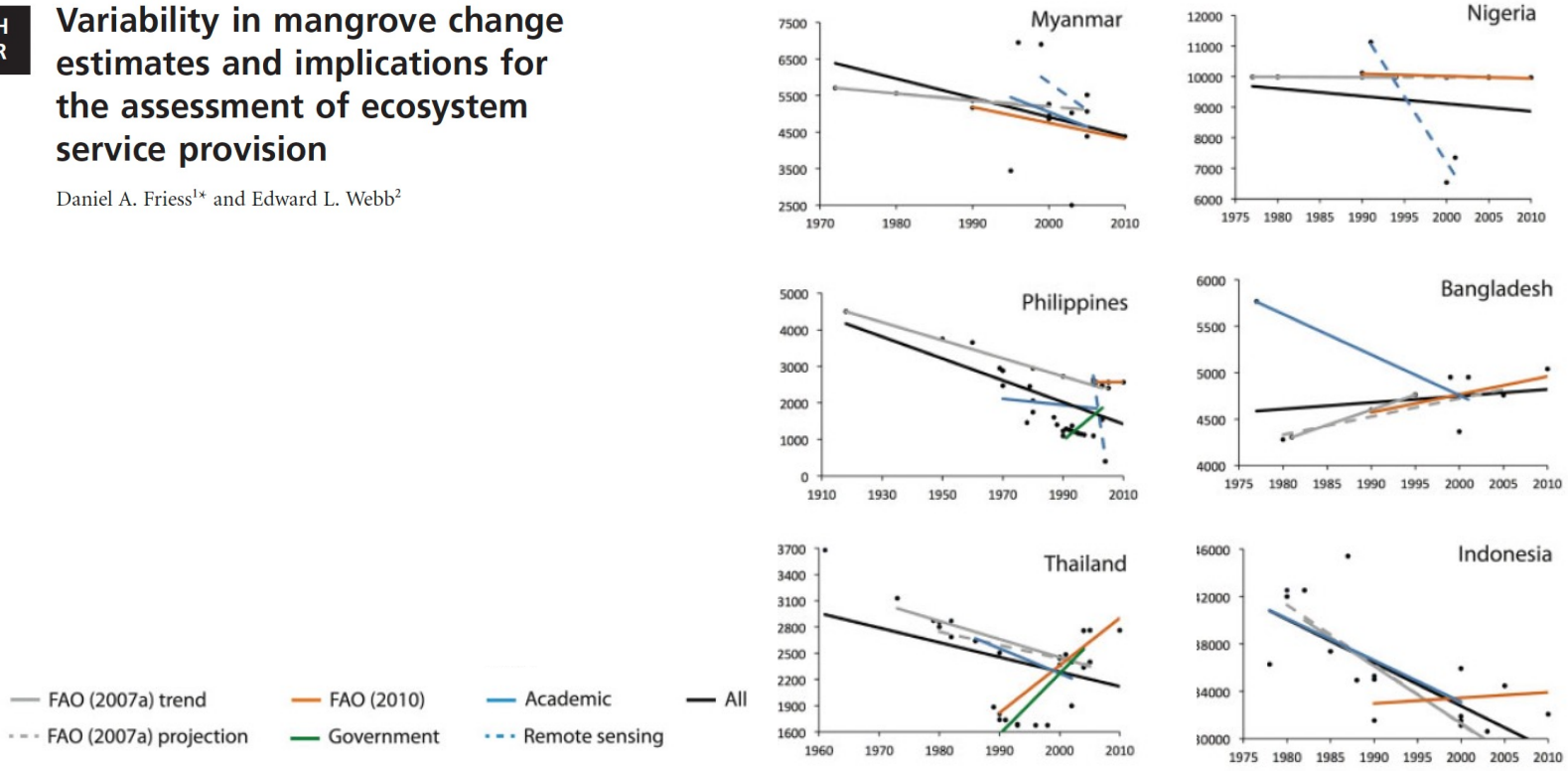
Issues of uncertainty over wetland extent

Global Ecology and Biogeography, (Global Ecol. Biogeogr.) (2014) **23**, 715–725

RESEARCH PAPER

Variability in mangrove change estimates and implications for the assessment of ecosystem service provision

Daniel A. Friess[1]* and Edward L. Webb[2]



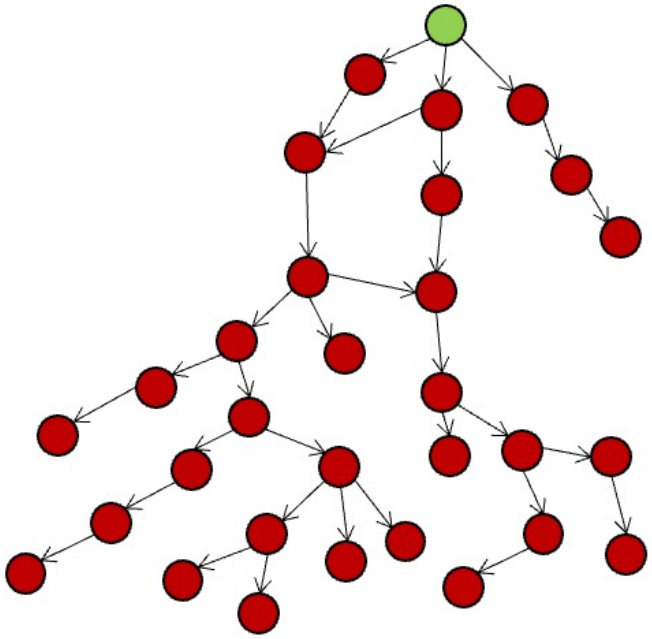
Friess & Webb 2014. **Global Ecology and Biogeography** 23, 715-725.

Why so much uncertainty?

1. lack of robust methodology
- how derived? Remote sensing? Best guess? Transparent? Repeatable?

2. traceability of secondary info
- poor referencing, poor citations, grey literature

3. propagation of erroneous info



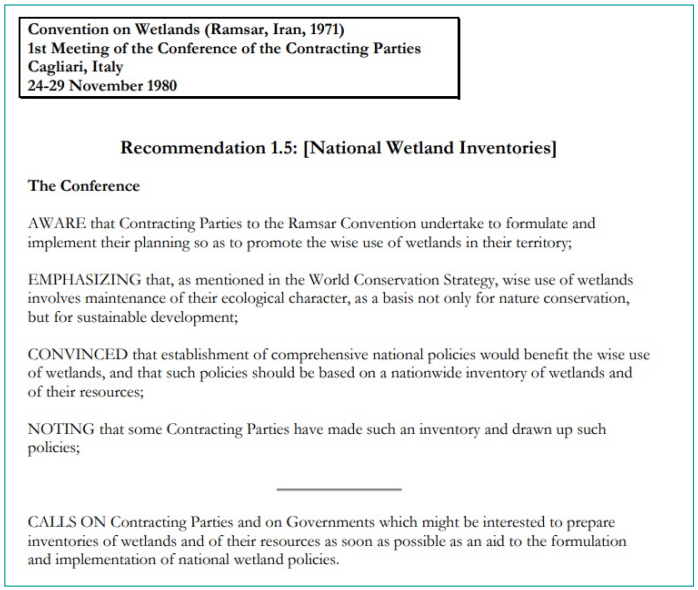
Without a clear framework, there is lots of uncertainty in estimates of wetland extent

=> Big implications for how we determine trends and assess status

=> A National Wetland Inventory will allow for transparent, traceable and repeatable monitoring of wetland extent over time

Borrowed from Friess, 2024, Introduction to NWI Module 1)

National Wetland Inventories
A long-standing priority for the Convention



Convention on Wetlands (Ramsar, Iran, 1971)
1st Meeting of the Conference of the Contracting Parties
Cagliari, Italy
24-29 November 1980

Recommendation 1.5: [National Wetland Inventories]

The Conference

AWARE that Contracting Parties to the Ramsar Convention undertake to formulate and implement their planning so as to promote the wise use of wetlands in their territory;

EMPHASIZING that, as mentioned in the World Conservation Strategy, wise use of wetlands involves maintenance of their ecological character, as a basis not only for nature conservation, but for sustainable development;

CONVINCED that establishment of comprehensive national policies would benefit the wise use of wetlands, and that such policies should be based on a nationwide inventory of wetlands and of their resources;

NOTING that some Contracting Parties have made such an inventory and drawn up such policies;

CALLS ON Contracting Parties and on Governments which might be interested to prepare inventories of wetlands and of their resources as soon as possible as an aid to the formulation and implementation of national wetland policies.

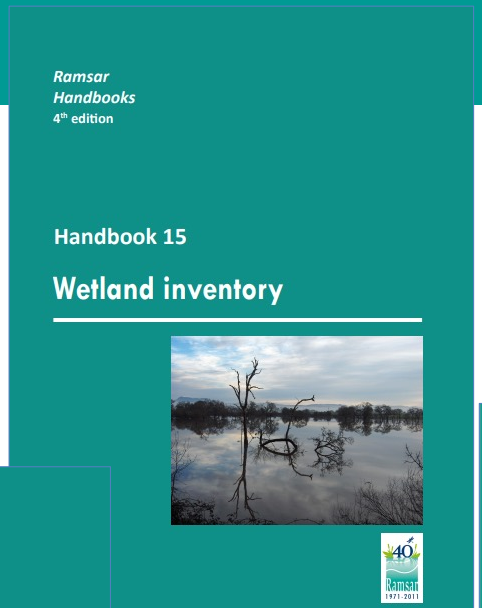
Resolution 1.5 (1980) on 'National wetland inventories' = "the establishment of comprehensive national policies would benefit the wise use of wetlands, and […] such policies should be based on a nationwide inventory of wetlands and of their resources"

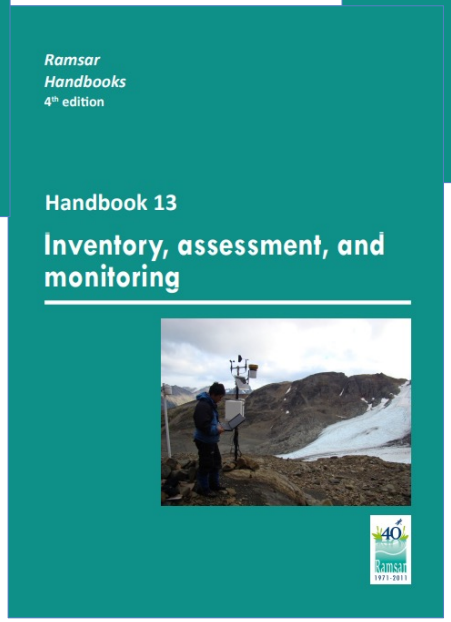
1st Convention's Strategic Plan 1997-2002 encompasses a priority area of focus on NWI. Same in 4th Strategic Plan.

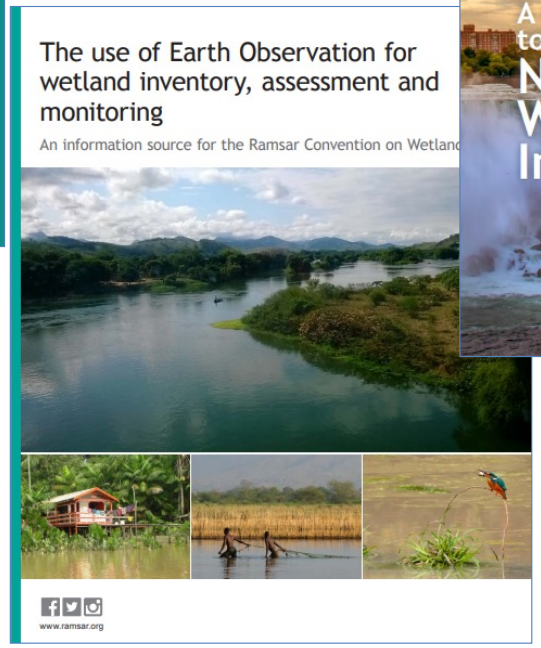
Resolution VII.20 (1999) = importance of comprehensive national inventory as the vital basis to achieve the wise use of wetlands

Resolution VIII.6 (2002) = adoption of a 'Framework for Wetland Inventory' prepared by STRP. See Handbook 15.

Convention's publications and guidance documents







What's new?

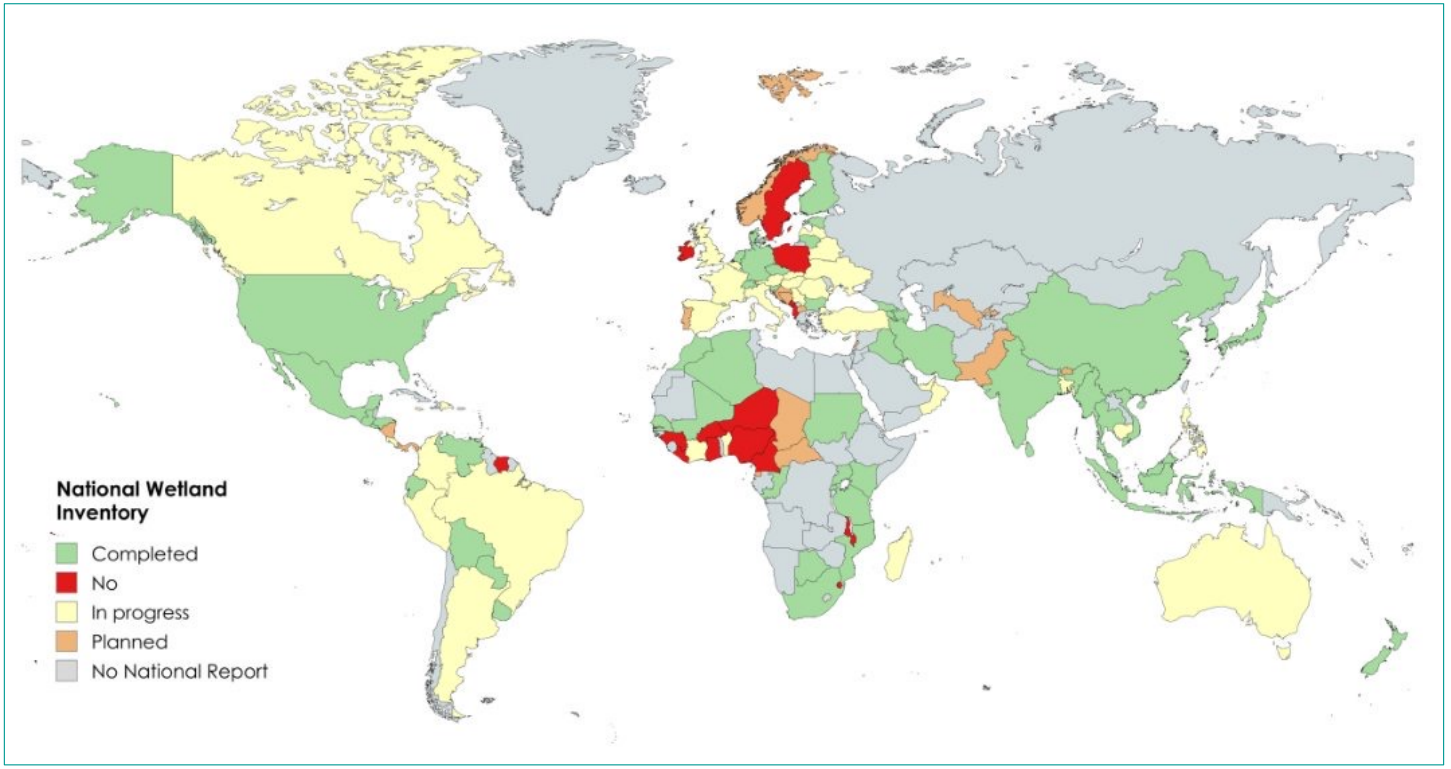
Fast evolution of EO techniques and data analysis

Enhanced professionalisation of national teams and environmental institutions across all regions

Increasing demand for national reporting towards global targets in fields adjacent to wetland issues (climate, biodiversity, land degradation neutrality targets, etc.)

Increasing threats on wetlands due to human activities (e.g. plastics pollution) and climate change

Lack of progress in NWI implementation (STRP25)



Reports to Convention on Wetlands COP14 (2022):

46% of Contracting Parties reporting to COP14 had completed an NWI.

This finding was very similar to those for COP13 (44%) and COP12 (47%).

52% of the Parties provided data on wetland extent (SDG Indicator 6.6.1) for COP14.

Why Earth Observation for NWIs?

1. **Scalable and cost-effective**
   - EO enables large-scale wetland mapping, even in remote or inaccessible areas.

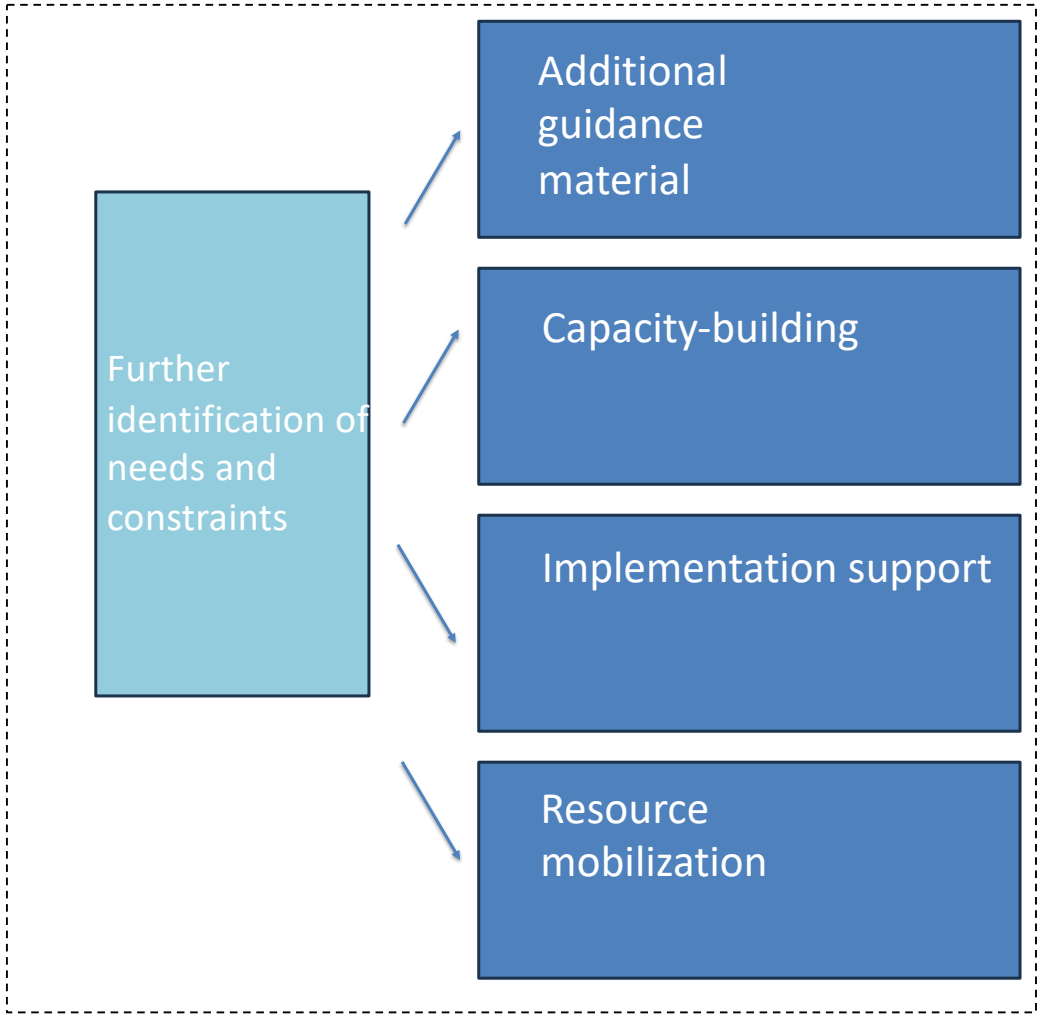
2. **Addressing data gaps**
   - Offers consistent datasets for tracking wetland extent and progress on SDG 6.6.1 and KM-GBF targets.

3. **Enhanced precision**
   - Combines satellite imagery, LIDAR, and ground-truthing for accurate monitoring.

4. **Harmonization and reporting**
   - Facilitates harmonized protocols for regional and global data sharing.

5. **Informed decisions**
   - Supports conservation, restoration, and sustainable wetland management.

Convention on Wetlands develops a National wetland inventory support mechanism to Contracting Parties



Decision SC62-34

Table 1. Programmatic NWI support mechanism – estimation of funding requirements for 2025 to 2029

SC63 Doc.10

Our ambition

Avoid unnecessary complexity by gradually refining NWI products along a NWI structured process

Clear definition of the objectives assigned to each product, clear repartition of roles and responsibilities for scientifically-robust approaches and methods

Tapping into existing databases and accessible technologies

Breaking silos = integration of global climate, biodiversity and land degradation neutrality targets in NWI process

Investing in “institutional” learning process = requires long-term engagement!

Structure of the module 1
Introduction to National Wetland Inventories

Day 1 : An action-oriented data process

Day 2 : Achieving scientifically robust and accessible methodologies

Day 3 : Focusing on inland wetlands

Day 4 : Focusing on coastal wetlands

Day 5 : Focusing on human-made wetlands
+ overview of the post-training work

Earth Observation Day

Earth Observation Day

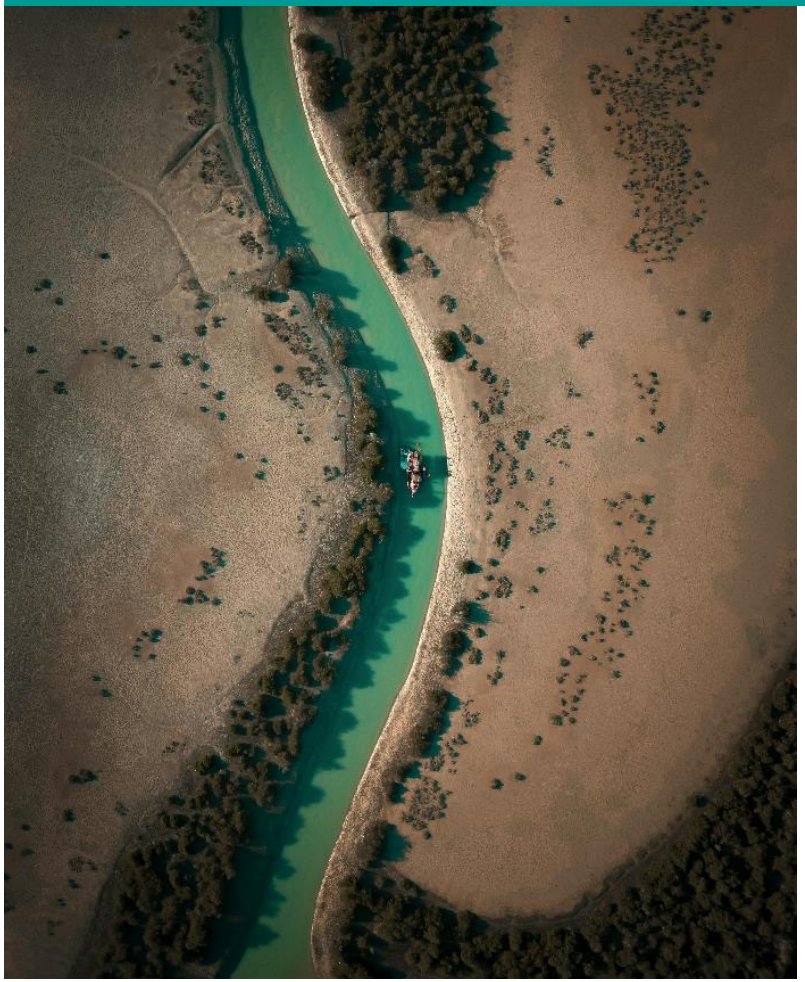
Earth Observation Day took place on 6 December 2024, in Gland, Switzerland, as part of efforts to integrate Earth observation technologies into wetland inventory, assessment, monitoring, and conservation. The event highlighted the growing importance of leveraging innovative technologies to support wetland management and sustainability initiatives.

Organised back-to-back with the 27th meeting of the Scientific and Technical Review Panel (STRP27), this day-long event brought together experts from the Earth observation community, STRP Members, and National Focal Points for a comprehensive consultation on the role of Earth Observation in advancing wetland monitoring. The event fostered valuable discussions, insights, and collaborations to enhance the integration of innovative technologies in wetland monitoring, conservation and wise-use.

More information on the consultation can be found in the Earth Observation Consultation Note. The working programme for the Earth Observation Day can also be found below.

Presentations

Outputs from the EO community consultation



- Provide recommendations on further developing EO-based initiatives within the framework of the Convention for the following objectives:
  - Enhancing the capacity of Contracting Parties to implement EO solutions in wetland inventory, monitoring and management,
  - Fostering long-term partnerships with the EO community,
- Identify scientific and technical needs that may be addressed in the STRP 2026-2028 work plan.

Source: SC64_inf2_earth_observation_consultation_e.pdf

Thanks for your attention

Any questions?