GEO Work Programme
Activities Data Practices and Needs Analysis Report

PB-25: 7-8 Feb 2023
Geneva, Switzerland

Data Working Group, GEOSS
Platform Team, GEO Secretariat

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Background

- **Data Working Group, GEOSS Platform Team** and **GEO Secretariat** joint efforts to understand the practices and needs of the GWP activities, focusing on technical aspects (data, outputs, services).
- Survey (launched at the end of 2021) + individual calls (throughout 2022) allowed to consult 28 distinct GWP activities.
- Focus on in situ data, GEO Data Sharing and Data Management principles, law & policy, GEOSS Platform and GEO Knowledge Hub.
Consulted GWP activities

1. ARCTIC-GEOSS
2. DE-AFRICA
3. DE-PACIFIC
4. EO4HEALTH
5. ATLANTIC-EO
6. AFRICULTURES
7. GEO-TREES
8. GEOGLOWS
9. GEO-LDN
10. GEO-VENER
11. AGRI-DROUGHT
12. CROP-PET
13. GDIS
14. GEOARC
15. GEO-MOUNTAINS
16. GOS4M
17. GWIS
18. IN-SITU-ESC
19. NIGHT-LIGHT
20. SPACE-SECURITY
21. TIGGE
22. UHCO
23. GEOGLAM
24. AQUAWATCH
25. BLUE-PLANET
26. GOS4POPS
27. GFOI
28. GSNL
**Input data**

**Most cited providers**: Copernicus & NASA (widely used by all GWP activities)

**Critical thematic areas** where in situ data is still missing:
1. Meteorological data (atmospheric, temperature, precipitation, hydrology)
2. Biodiversity data from field observations
3. Terrestrial observations (land use/land cover, agriculture, biomass, forestry)
Input in situ data:

In Situ: Is the input data made available as open data?
- Yes
- No
- I don't know
- N/A

In Situ: Does the input data have a DOI?
- N/A
- Has a DOI
Input in situ data:

**In Situ: Is the input data discoverable through the GEOSS Platform?**

- Yes
- No
- I don't know
- N/A

**In Situ: Is the input data accessible through the GEOSS Platform?**

- Yes
- No
- I don't know
- N/A
Output data

Is the output data made available as open data?

Yes
No
I don't know
N/A

Is the output data accessible through the GEOSS Platform?

Yes
No
I don't know
N/A
Output services

Is the output service discoverable?
- Yes
- No
- I don't know
- N/A

Is the output service freely accessible?
- Yes
- No
GEO Data Sharing and Management Principles

How familiar are you with the GEO DS & DMP?

- 1 (4.5%)
- 3 (54.5%)
- 4 (31.8%)
- 5 (9.1%)

Are the output datasets aligned with the GEO DSP?

- I do not know (22.7%)
- Yes (fully/to a certain extent) (77.3%)

Have you ever conducted an assessment of compliance with the principles (GEO, FAIR, CARE, TRUST)?

- No (63.6%)
- Yes (27.3%)

Does your activity need support to implement/improve adoption of the GEO DSP & DMP?

- No (27.3%)
- I do not know (18.2%)
- Yes (54.5%)
Infrastructure

GEOSS Platform: Would your activity benefit from a community portal?

- No 9.09%
- I do not know 36.36%
- Yes 54.55%

Are you interested in contributing to the GEO Knowledge Hub?

- Yes 95.45%

+ Need technical support for sharing products, storage of in situ data & funding to support heavy harmonization processes.

→ Example of good practice: “Data sharing of in-situ measurements following GEO and FAIR principles in the solar energy sector” (EuroGEO Workshop 2022)
Feedback from GWP activities

• “Our products and services would strongly benefit from denser coverage of ground stations”

• “Active and sustainably funded ground networks is essential to validate/calibrate remote sensing data, and costs only a tiny fraction compared to what satellite missions cost.”

• “Implication of the in situ community in design of satellite mission for ground requirements and funding could be a great achievement.”

• “We need support to disseminate our results for them to be aligned with the GEO Data Sharing and Data Management Principles”
Recommendations

A. Account for high-level advocacy on open data implementation

B. Strengthen national coordination

• GEO needs commitment from its Member States on opening datasets that are useful for the GWP activities. In particular, meteorological, biodiversity, land use/land cover observations are seen as critical.

• More participation of underrepresented regions is essential.

→ Open up discussion to highlight contributions from the PB & ExCom members on new datasets being shared.

→ Organize sessions at Regional GEO’s events where putting the GEO DSP&DMP in practice could be addressed.
Recommendations

C. Reinforce technical support to GWP
D. Increase technical knowledge sharing for the benefit of GWP activities

• Both on the infrastructure side and for available tools, knowledge sharing between GWP activities and members of the community needs to be strengthened.

→ Promote tools available to help GWP activities manage data and knowledge. Develop new ones where necessary.

→ Drive future developments of GEOSS to respond to the GWP needs.
Recommendations

E. Connect GWP activities with data providers
F. Events around Open Data and Open Knowledge

• Dialogue must be reinforced between activities working on separate projects and networks providing useful data. Discussions about interoperability, sustainability of observations, ways of accessing data are critical.

→ The Open Data and Open Knowledge (ODOK) workshop (15\textsuperscript{th} and 16\textsuperscript{th} June 2023) will gather the technical community for the first time since 2019.

→ Topics covered include space and in situ-based data, open applications, open knowledge, infrastructure, hands-on sessions. (concept for ODK presented at PB-25)
Support material & tools

• **GEO DSP & DMP Knowledge Package** (in the GKH) includes:
  • Dialogue series recordings *(presented at PB-25)*
  • Data management self assessment tool
  • Revised GEO Data Sharing and Data Management Principles
  • GEO Data Management Principles Implementation Guidelines

• **Data Licensing Guidance** *(presented at PB-25)*

• **G-reqs: Geospatial in-situ requirements** *(InCASE project funded by EEA, under development)*
Thank you!

• Thanks to all **GWP activities** who contributed to the survey and participated in the individual calls.

• Thanks to the **DWG members and GEOSS Platform team** who were involved in all steps.

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