EUROGEO WORKSHOP 2023

G-reqs: A tool to support the in-situ data requirements gathering process in GEO

G-reqs: Geospatial REQuirementS

G-reqs is a database tool and **standard methodology** designed to **collect requirements** for in-situ data emerging from the **GEO Work Program** activities and know how the requirements are met, if the required data exists, exists partially, there are barriers to the proper use or need to be created.

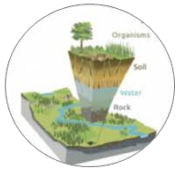
User approach

G-reqs focus on finding out a user's **need** and guiding the user into specifying detailed **requirements** expressed in a set of metadata properties

Selecting a Need

- Cal/Val of Remote Sensing products,
- Cal/Val of other in-situ data,
- Input and assessment for a numerical model,
- Demonstrate a scientific hypothesis,
- Preparation of a harmonized EV product or matrix,
- Deploy a sharing data system or service,
- Provision of a commercial service or product,
- Calculate a policy monitoring indicator,
- Assist in a decision-making process.

Documenting requirements

Topic	Area	Quality	Time	Barriers	Specifics
					
• Essential Variables classes and names	• Geographic scope and specific area	• Thematic uncertainty • Spatial resolution	• Update frequency • Timeliness • Historical data	• Data access • Privacy	• Even distribution • Coordinated measures • Representatibity radius

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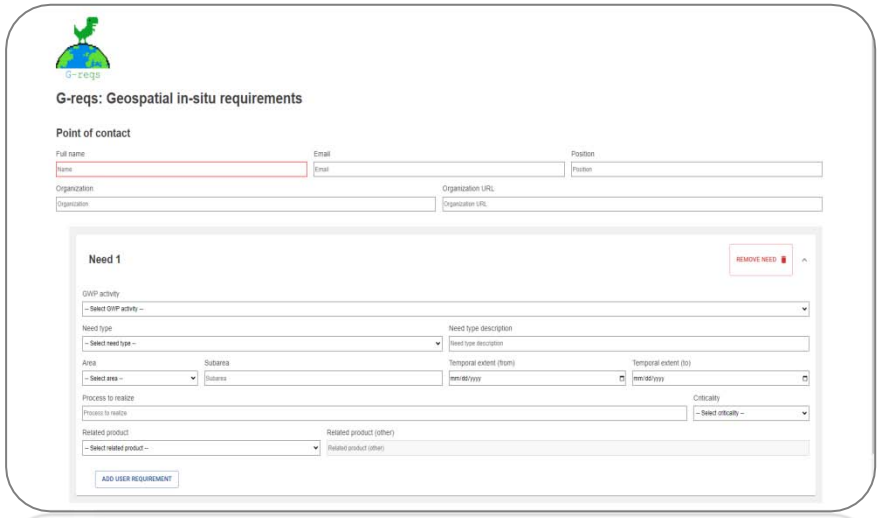
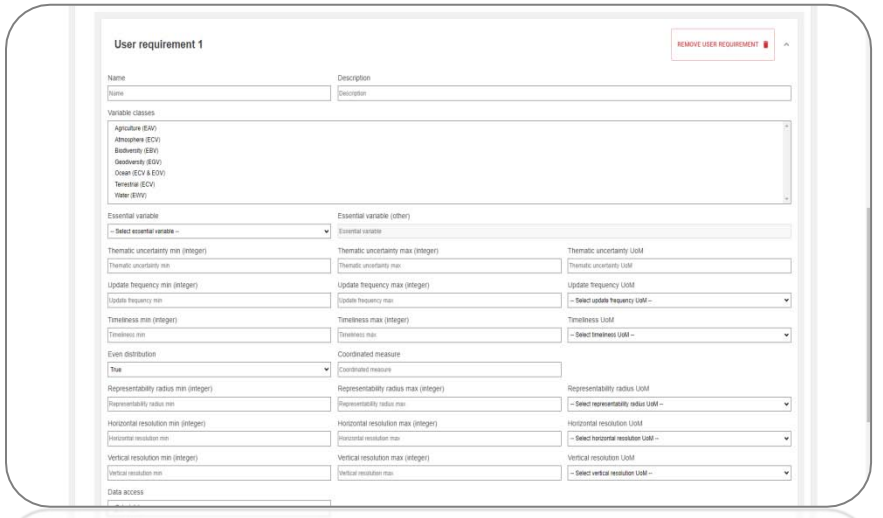
This work is done from the InCASE project, funded under the European Environment Agency – European Commission (RTD) Service Level Agreement on "Mainstreaming GEOSS Data Sharing and Management Principles in support of Europe's Environment".

G-reqs GUI (beta version)

- G-reqs has been initially implemented in a set of **questions in a Google forms** available on the G-reqs landing page at: https://www.g-reqs.grumets.cat/
- Currently, a **new web application** is being developed with a more convenient GUI for the users. The beta version can be accessed at: https://maps.eea.europa.eu/EuroGEO/dev/





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Promoting more in-situ data fulfilling user needs

1 User has a need

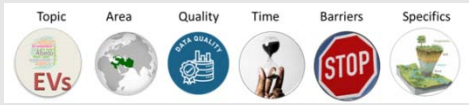
Identifies the process to realize the need

2 Looks for necessary in-situ data

Checks for available data in GEO portal

Lack of appropriate data

3 Provides precise requirements



4 G-reqs contacts in-situ data providers that could know about this kind of data

5 Providers respond with the existing data, barriers and instructions if available or ways to produce it

6 GEO aggregates requirements

Addresses barriers and makes FAIR recommendation

Promotes to create more data

New

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Scientific Paper in MDPI Remote Sensing

- If you want to know more about this work:
  - DOI: https://doi.org/10.3390/rs15061589

remote sensing

MDPI

Article

G-reqs, a New Model Proposal for Capturing and Managing In Situ Data Requirements: First Results in the Context of the Group on Earth Observations

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Abstract: In the field of Earth observation, the importance of in situ data was recognized by the Group on Earth Observations (GEO) in the Canberra Declaration in 2019. The GEO community focuses on three global priority engagement areas: the United Nations 2030 Agenda for Sustainable Development, the Paris Agreement, and the Sendai Framework for Disaster Risk Reduction. While efforts have been made by GEO to open and disseminate in situ data, GEO did not have a general way to capture in situ data user requirements and drive the data provider efforts to meet the goals of its three global priorities. We present a requirements data model that first formalizes the collection of user requirements motivated by user-driven needs. Then, the user requirements can be grouped by essential variable and an analysis can derive product requirements and parameters for new or existing products. The work was inspired by thematic initiatives, such as OSCAR, from WMO, OSAAP (formerly COURL and NOSA) from NOAA, and the Copernicus In Situ Component Information System. The presented solution focuses on requirements for all applications of Earth observation in situ data. We present initial developments and testing of the data model and discuss the steps that GEO should take to implement a requirements database that is connected to actual data in the GEOSS platform and propose some recommendations on how to articulate it.

Keywords: in situ; requirements; datasets; Earth observations; Group on Earth Observations

check for updates

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Thank you!
Grazie!

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