

GRUAN data usage hosting, serving and tracking (B4)

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Different options are under discussion with hope to have a final solution soon:

- **NCEI:** request submitted for a continued support to the GRUAN data publication and to enhance visibility in the NCEI webpage for the dataset.
- **PANGEA:** AWI offered support to the GRUAN data publication.
- **GRUAN website:** new features have been implemented and others are to be implemented for the data download, not currently considered for a massive data download.
- **Copernicus Climate Data Store (CDS)** offered the possibility to publish data in NRT, data reformatted.

This is to show how through C3S it is possible to track GRUAN data usage.

C3S applies DOI, this might be a use case to meet the GRUAN action.

Number and type of users are reported on the basis of users' access statistics provided by the CDS team in December 2023.

These data have been extracted for the 2023 using the “Monitoring and Statistics” service of the Copernicus Contractors “COPCO” space of the ECWMF platform.

The available information is structured in different fields, including: access date, downloaded product, user's country, sector (academic, private, public, NGO, other), number of requests from single users, volume of the requested data.

Tracking data usage

	GNSS	GRUAN	IGRA/RHARM	WOUDC	Tot
N. accesses	167	489	393	160	1209
N. requests	557	3345	6606	499	11007
Volume Mb	21.625,37	21.966,75	114.254,47	4.977,66	162.824,25
Average N. requests per user	3,34	6,84	16,72	3,12	9,09
n. Users	85	305	239	94	723

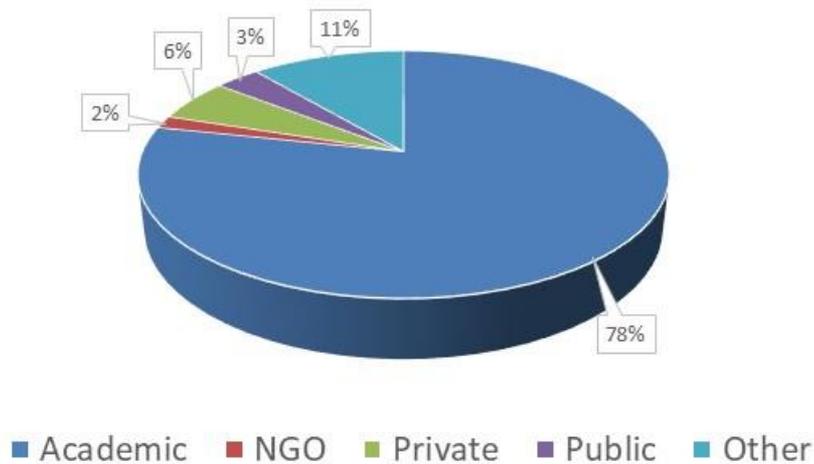
Datasets were published in CDS on 27/04/2020

Data available since February 2023.

Active users in 2023: 305

Tracking data usage

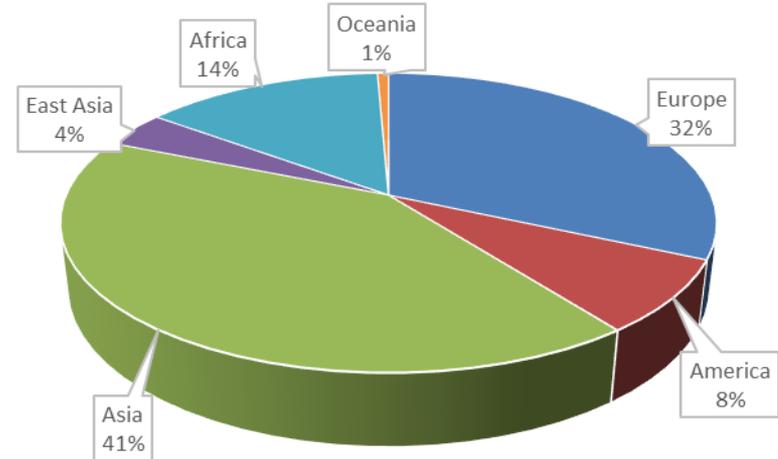
GRUAN users per sector



Distribution of GRUAN users per sector

Most of the users belong to the academic sector (78%), followed by other (11%), private (6%), public (3%) and finally by NGOs (2%)

GRUAN users per continental area



Distribution of GRUAN users per continental area

Most of users come from Asia, in particular from China (57% of the Asian users) and India (14% of the Asian users), followed by Europe, out of which most from Italy (21% of the EU users), France (15%) and UK (13%), from Africa (with a homogeneous territorial coverage), America, East Asia and Australia

Different solutions can be adopted – to be investigated

Possible options:

- **Prisma** - open-source database toolkit that provides Usage Metrics, such as information on queries executed, response times, error rates, and more. These metrics are used for monitoring the performance and efficiency of database interactions.
- **Google Analytics** - Google tool that tracks and reports on website traffic, performance, and collects insights about visitors' interactions with a website, including the number and origin of visitors, among other data.

Google Trends

Interest pattern over time (from 2010)



Index: «Interest over time»:

Data shows search interest relating to the highest point of the graph for the region (World) and period indicated (2010 to date).

Value 100 indicates the highest search frequency for the terms, 50 indicates half of the searches. 0 indicates not enough data was collected.