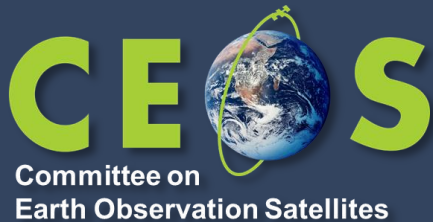


WGISS-61

Data Storage for the
GSNL and GVIEWERS

WGD initiatives



Stefano Salvi, GEO-GSNL
Agenda Item 5.5

WGISS-61 and WGDisaster-25
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The GEO-GSNL network



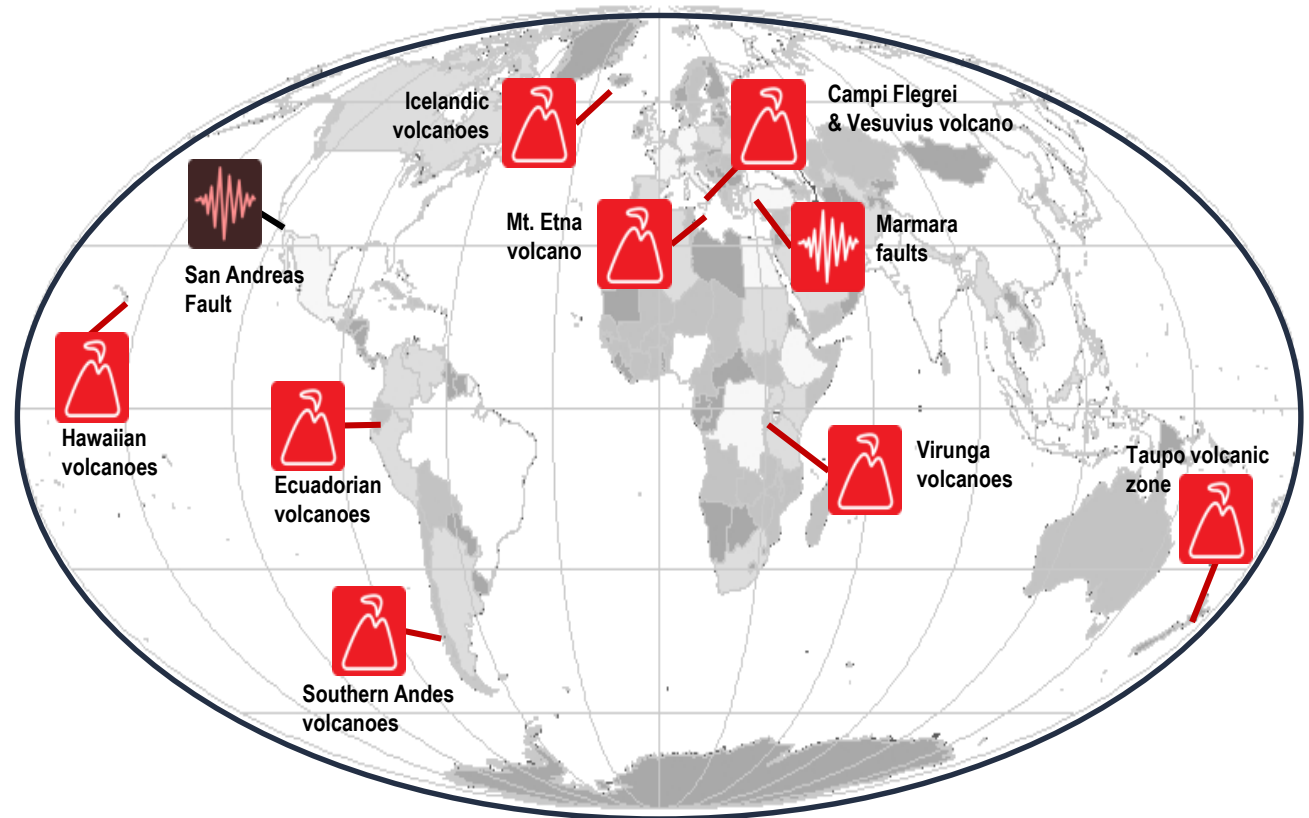
A network of

12 Supersites

and a

Natural

Laboratory



ASI, DLR, CONAE and CNES support the Supersites with:

Platform/data	Processing level	Present datasets (approx.)	Archived at	Accessible via API
CSK-CSG / Stripmap	Level 1	18,000	ASI FTP server	Possibly
TerraSAR X / Stripmap	Level 1	4,000	DLR Supersite Web Portal	Yes
SAOCOM / Stripmap (ASI over the ZoE)	Level 1	300	Supersites own servers	No
Pleiades (mainly PAN)	Level 1	200	Supersites own servers	No

We would need a single point of access to all the CEOS data:

a web-based **geographical interface** allowing a variety of data queries (spatial, temporal, etc.), **API download of data stacks**, constantly updated, with access monitoring, and **able to manage the licensing conditions** posed by the different space agencies.

A key factor is **sustainability**.

Our previous platform



ESA supported CSK and Pleiades data storage and distribution via the Geohazards TEP (GEP) until early 2025.

The screenshot shows the 'geohazards tep' web application. The header includes navigation links: 'Sign in', 'Register', 'Contact', 'EO data', 'EO-based products', 'Publications', and 'Community'. Below the header is a search bar labeled 'EO Free Text Search' and a map view. The map shows a satellite image of a coastal area with a red dashed bounding box and orange rectangles. Below the map is a timeline slider with dates '1992-09-19' and '2018-03-11'. The results panel displays 'Current search result' and 'Result for OpenSearch query over ty...'. It shows a list of data packages with IDs like 'CSKS3_RAW_B_HI_08_HH_RA_SF_20180311161156_20180311161203'. On the right, there is a 'Data Packages' section with filters and a list of packages: 'datapackageforcloudtoolbox', 'test5', and 'ENVISAT 1P over Marmara area'.

Until 2021 part of the Supersite SAR data were stored at UNAVCO, on behalf of the WInSAR university consortium.

In 2023 UNAVCO merged with IRIS (seismological data infrastructure) to form the EarthScope consortium which now holds all the WInSAR data collections. WInSAR as a consortium was disbanded as part of the merger.

In 2025 EarthScope was awarded the management of the US National Geophysical Facility by the NSF.

The SSARA platform



The Seamless SAR Archive (SSARA) is a set of tools and interfaces built and maintained by EarthScope and used by the US scientific community to access a variety of SAR data.

Presently SSARA can search the EarthScope archives (over 65,000 ERS1/2 and ENVISAT data, plus 40,000 Radarsat, ALOS-2, TSX, CSK, PAZ datasets), and NASA's Alaska Satellite Facility archives.

SSARA web services



Seamless SAR Archive tools (SSARA) for federated search and access to SAR data.

Developed with NASA support, now part of the NGF.

<https://web-services.unavco.org/brokered/ssara/>



Welcome to the Seamless SAR Archive (SSARA) Federated Web Service

Service	URL Endpoint	Description
Data Search and Access GUI	<code>/brokered/ssara/gui</code>	GUI map interface to construct federated data queries
SSARA SAR Service	<code>/brokered/ssara/api/sar/search</code>	Delivers SAR granule metadata meeting user specified criteria
SSARA InSAR Service	<code>/brokered/ssara/api/insar/search</code>	Delivers InSAR product granule metadata based on user specified criteria and QC parameters
Select Pairs Service	<code>/brokered/ssara/api/insar/selectpairs</code>	Provides every combination of interferometric pairs for a single InSAR stack base on query input

Please note that some SAR data in the EarthScope Geodetic Imaging archive were acquired through PI's proposals with various space agencies. To access these datasets, you will need to contact the relevant PI for authorization. Login with your EarthScope SAR account to view the complete list of [SAR data collections](#).

The plan is to make EarthScope's SSARA to become the reference point of access to all the EO data for the 14 GSNL Supersites.

Some of the data – CSK-CSG, TerraSAR X - will remain in the respective ASI and DLR's archives, while ERS 1/2, ENVISAT, SAOCOM may be stored locally (a cost analysis is under way). Even Pleiades optical data could be made available via SSARA.

Next step for EarthScope is to discuss technical aspects with ASI and DLR.

1) Metadata cataloging

- a) SSARA GSNL search would require ASI and DLR to provide an index/catalog/API adjacent to their data holdings.
- b) EarthScope will then index the data and enable search and download from the agencies' sites.

2) License management

Access would be restricted only to users authorized by the respective agencies. This part needs to be streamlined, since EarthScope lacks human resources to manually handle user licensing.

GVEWERS is a global volcano monitoring initiative of the WGD, covering several hundred of active volcanoes.

While presently there is not a large amount of data already acquired, the potential for growth is high.

A similar approach as the one under development for GSNL can be used for GVEWERS data, since the majority of the data volume (CSK-CSG and TerraSAR X) is in the same agencies' archives.

We want to express our sincere thanks to the following people and agencies:

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