The International Soil Moisture Network (ISMN) in support of Satellite Soil Moisture Validation

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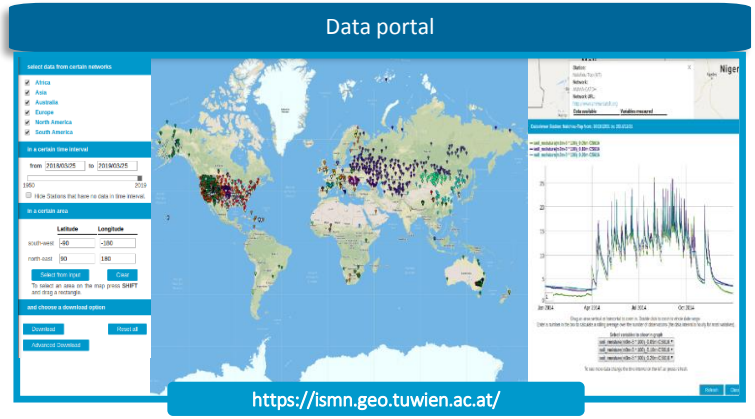


Figure: *available stations in ISMN Data viewer*

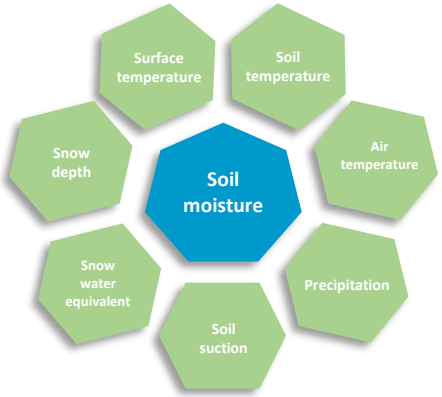
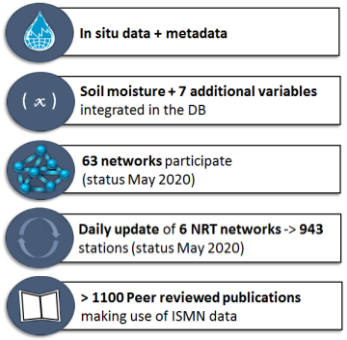
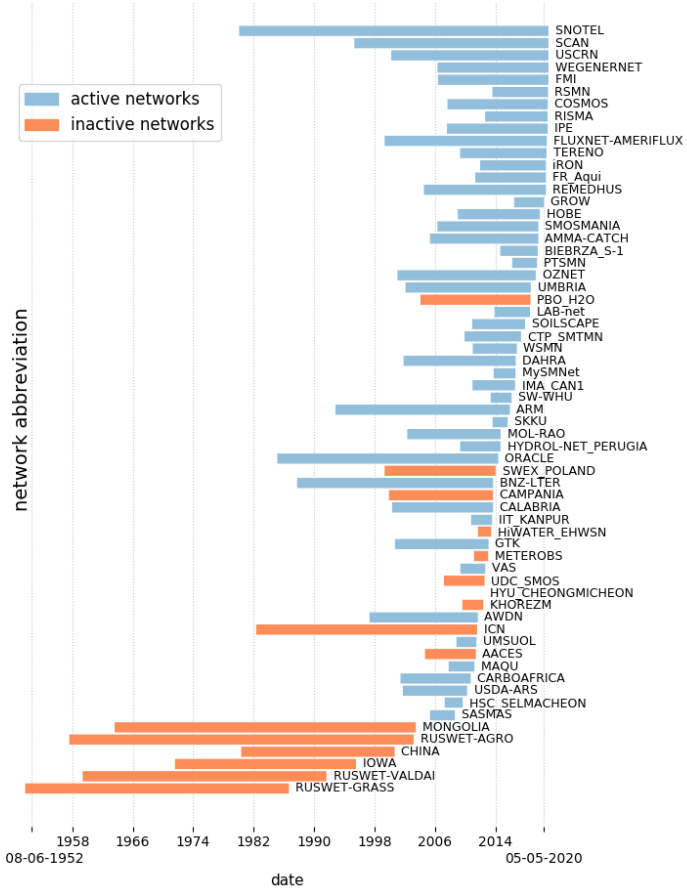


Figure: *Additional variables at ISMN*

- The ISMN **collects in situ soil moisture data**
- **harmonizes** the data (units and sampling rates)
- applies **advanced quality controls**
- **stores** the processed data and
- **distributes** the data for **FREE**





Graph: *Temporal coverage of all 63 contributing networks*

We thank all data providers who kindly share their data with the ISMN!

Data Collection → Data Harmonization → Quality Control → Database Storage → Data Portal

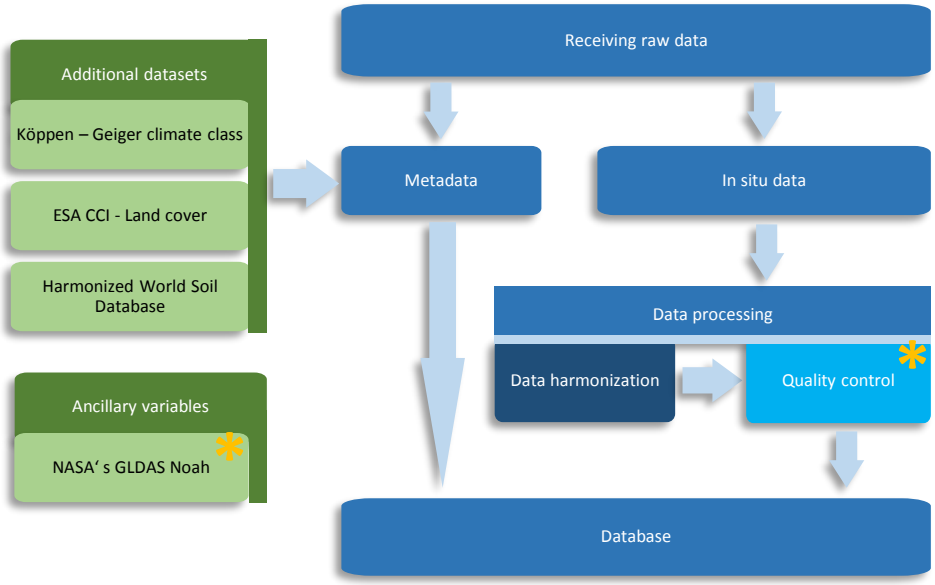
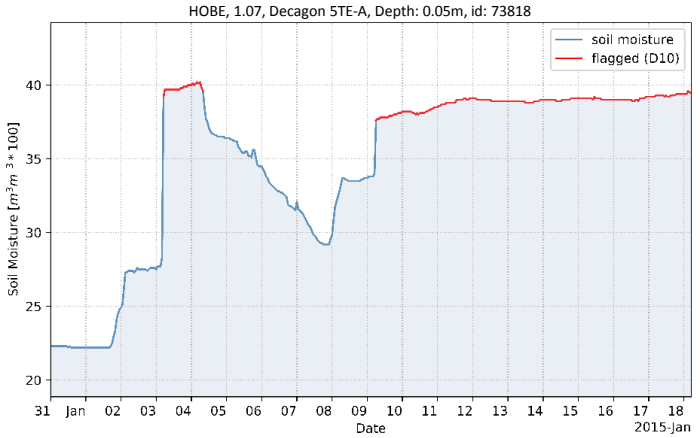


Figure: *ISMN processing – from raw data to database storage*

- unified data format
- hourly data
- UTC
- Same units

Quality control

Flag D10 – Saturated Plateau



Plot: *Suspicious values on plateau flagged with value "D10"*

Flag category	Flag values	Definition
C	C01 - C03	Threshold based flags for all variables used in the ISMN (soil moisture, soil temperature, temperature air, etc.)
D	D01 - D10	Questionable /dubious
M		Parameter value missing OR derived parameter can not be computed
G		Good

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Applications/Products using ISMN data

ESA CCI Soil Moisture

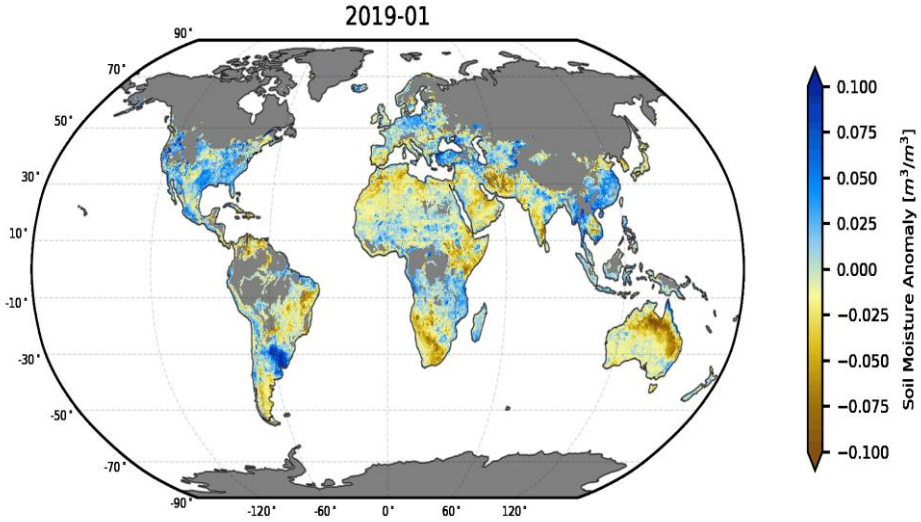
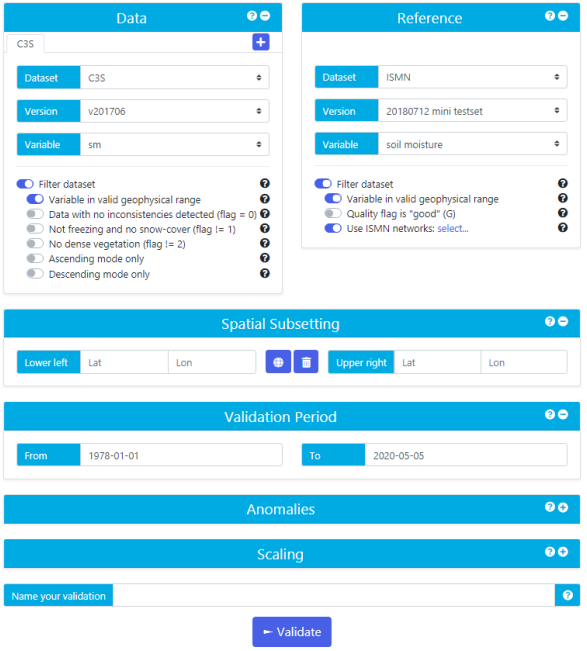


Figure: *ESA CCI Soil Moisture Product (v04.7)*

https://www.esa-soilmoisture-cci.org/

Quality Assurance for Soil Moisture



https://qa4sm.eodc.eu/

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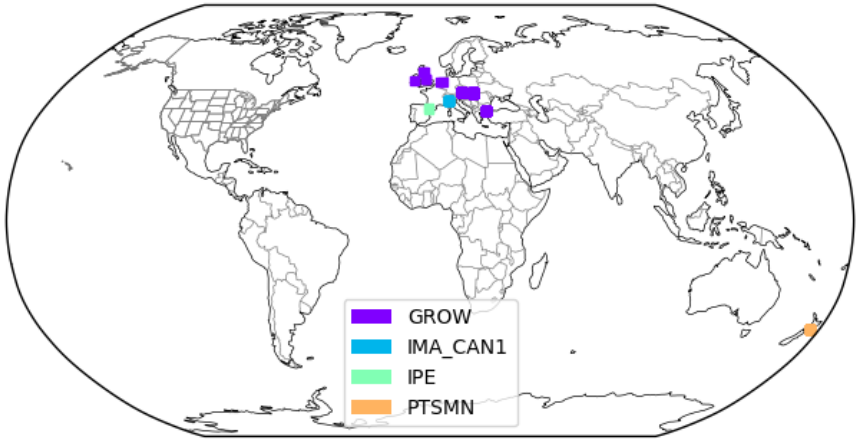
Please share your in situ data with us

Welcome to our newest contributors!



Plot: *Stations of new networks mapped with ISMN data reader*

[ISMN - https://ismn.geo.tuwien.ac.at/](https://ismn.geo.tuwien.ac.at/)
[ISMN data reader - https://github.com/TUW-GEO/ismn](https://github.com/TUW-GEO/ismn)
[contact - ismn@geo.tuwien.ac.at](mailto:ismn@geo.tuwien.ac.at)

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