

News from the GGOS DOI Working Group

Kirsten Elger  and the [GGOS Working Group on DOIs for Geodetic Data Sets](#)

kirsten.elger@gfz-potsdam.de / GFZ German Research Centre for Geosciences

In October 2019, the International Association of Geodesy's (IAG) **Global Geodetic Observing System (GGOS)** has established a **Working Group on “Digital Object Identifiers (DOIs) for Geodetic Data Sets”**.

Group members are representatives of IAG Services and geodetic data centres that are involved with or interested in assigning DOIs to geodetic data (c. 40 members and associated members).

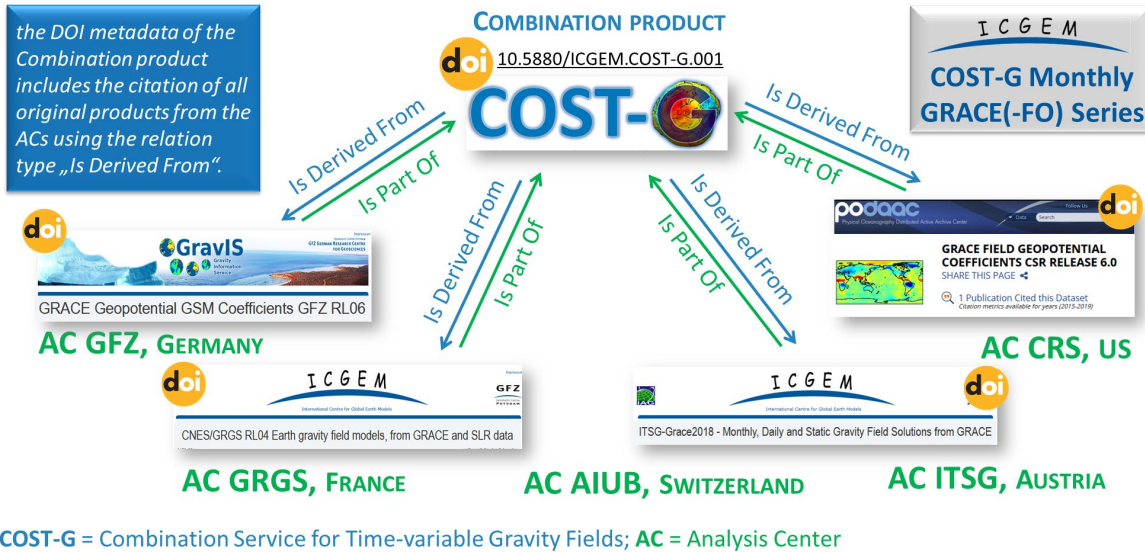
The Working Group is designated to establish best practices and advocate for the consistent implementation of DOIs across all IAG Services and in the greater geodetic community.

Group Activities and Strategy

- Discussions on **DOI-related topics** during regular video conferences: granularity, hierarchical DOIs, DOIs for products, FAIR, PID, metadata, ...
- Presentation of outcomes during EGU, GGOS Days, AGU, IAG GA, IVS GM, UAW, ...
- The group was established perfectly at the right time!
 - **There is a large interest in using DOIs for data across the geodetic community (FAIR principles, need for credit)**
 - **Increasing DOI-related activities internationally**
- **We cannot provide a single one-fits-all solution.** Different data may require different solutions

Outcomes

Concept for DOI for Hierarchical Data Products



New DOI Service for ISG Geoid Models (2020)

- Collaboration **ISG/GFZ Data Services**
- DOIs for geoid models in ISG 2.0 Format
- **Cross-links** between **GFZ Data Services** (DOI Landing Page) and the **ISG Geoid Repository**

ISG Geoid Repository
Services - Geoid Repository
Regional Models
Colorado - USA (CoIWLSC2020)

GFZ Data Services
Data Catalogue
Search
Spatial Filter
Filter geoid data
Current Selection (Link)

DOI Landing Page
Files
Model download
Model ISG Website
License: CC BY 4.0

45 DOIs registered

DOI: <https://doi.org/10.5880/isg.2020.001> (quasi-geoid in ISG format)
<https://doi.org/10.5880/isg.2020.002> (geoid in ISG format)

Retrieve quasi-geoid
Retrieve geoid
Retrieve quasi-geoid ISG format
Retrieve geoid ISG format

Recommendations for using DOI for rapid and ultra-rapid products

See more at: <https://ggos.org/about/org/co/dois-geodetic-data-sets/>

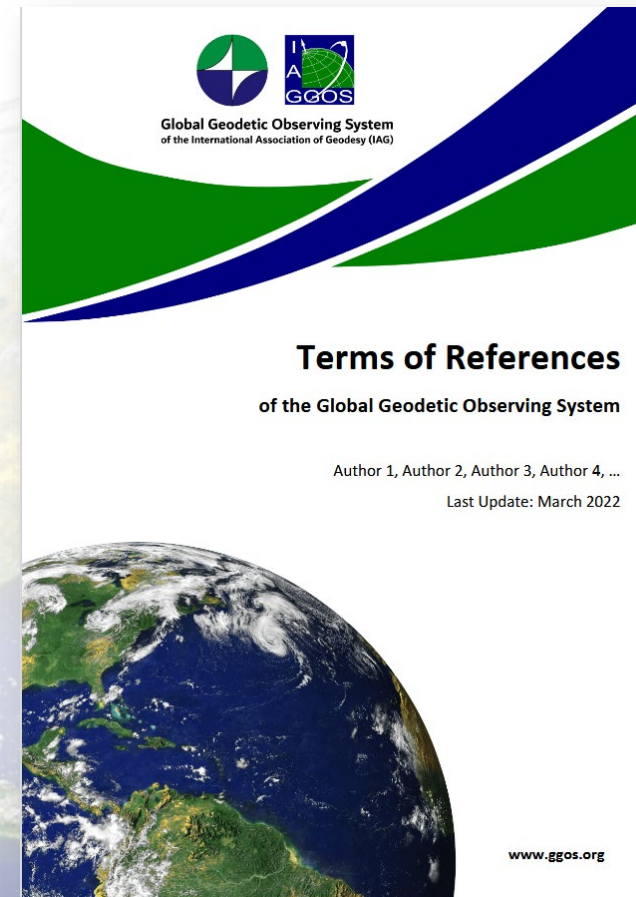
New: DOIs for GGOS (Text) Publications

DOI assignment to GGOS Documents

- „**GGOS Strategic Plan**“
- „**GGOS Implementation Plan**“
- Possibly: „**GGOS Terms of References**“
(with reference to the Geodesist’s Handbook)

IAG Documents

- Travaux – General and Technical Reports
- Chapters of the Geodesist’s Handbook
(to be discussed with Springer-Nature)
- Rinex format description?



- Uniform layout
→ **GGOS Report Series**
- Collaboration between
GGOS/ IAG
(publisher) &
GFZ Data Services
(distributor)

Complexity of GNSS Data with respect to networks



Project (2021-2022)

coordinator: C. Bruyninx, ROB

- A GNSS network may be managed by one agency, but not all agencies organise their GNSS stations as networks
- Some networks have different licenses for their stations
- Some networks are only making parts of the data available
- Some stations are part of several networks
- ...



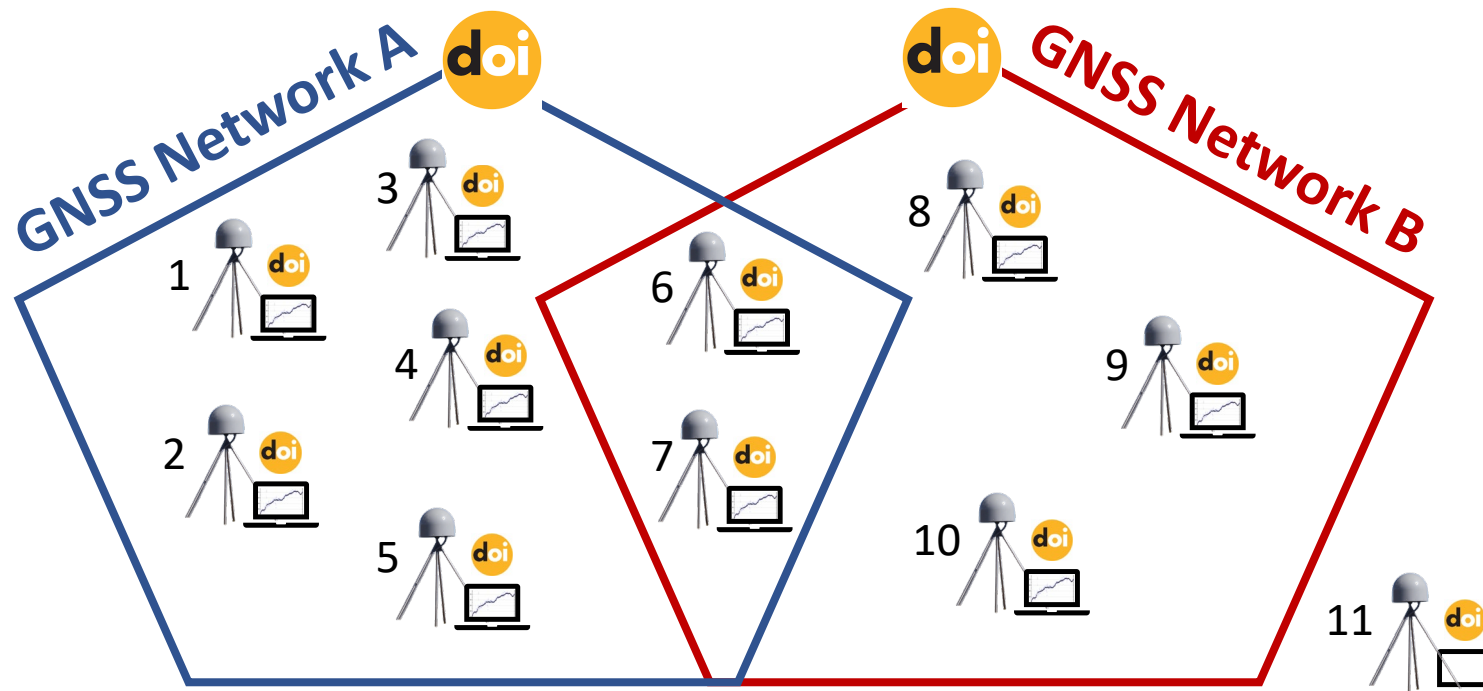
GNSS Data: Proposed Solution

- One **DOI** for the ongoing **data measured with one GNSS station**
- Different data products derived from the station may have different DOIs (with individual licences)



Proposed Solution

1. DOIs are assigned to the data of GNSS stations (resourceType = dataset)
2. GNSS stations are part of networks (relatedIdentifier IsPartOf, HasPart)



Relations in DOI metadata:

Stations 1-7 are part of **Network A**

Stations 7-10 are part of **Network B**

Stations 6-7 are part of
Network A and Network B

Network A has 7 parts

Network B has 5 parts

Station 11 is not part of any network

Development of Metadata recommendations for GNSS Data

Strategy: (1) Initial discussions with **FAIR GNSS project** and members of the the **GGOS Infrastructure WG** that are currently further developing GeodesyML;
(2) discuss results with GGOS DOI WG

- The **FAIR Principles** (Findable, Accessible, Interoperable, Reusable) are **key guidelines**
- Retrieve as much metadata from site logs or **GeodesyML**
- Include **PIDs** (ROR, ORCID, DOI) in DataCite Metadata and in **GeodesyML** and define relation types
- Develop recommendations of content for specific DataCite fields that can be also used beyond GNSS data (e.g. **repository = publisher, agency = creator, local partners = contributors**)
- Expected output: **Document describing the recommendations**



GGOS Working Group for Digital Object Identifiers (DOIs) for Geodetic Data Sets

Thank you for your attention!!

Members:

Markus Bradke

Pierre Fridez

Yehuda Bock



Jim Riley

Yusuke Yokota



Carine Bruyninx

Daniela Thaller



Glenda Coetzer

Detlef Angermann

Laurent Soudarin



Mirko Reguzzoni

Elizabeth Bradshaw



Daniela Carrion

Elmas Sinem Ince



Sylvain Bonvalot



Vicente Navarro



Chair: Kirsten Elger (GFZ)

Philippe Lamothe

Dan Roman



Associate Members: Godfred Amponsah, Sandra Blevins, Roelf Botha, Francine Coloma, Allison Craddock, Michael Craymer, Theresa Damiani, Basara Miyahara, Patrick Michael, Mike Pearlman, Nacho Romero, Christian Schwatke, Martin Sehnal, Ira Sellars, Lori Tyahla, Elisabetta d'Anastasio