Simplifying Access to Geodetic Datasets using Digital Object Identifiers (DOI)

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Overview

1. DOI characteristics and benefits (users view)
2. DOI infrastructure and components (data providers view)
3. GGOS working group on DOI

DOI basics

DOI = digital identifier for objects (digital, analogue, abstract)

Object = content or data (≠ location, URL)

DOI implements an **additional abstraction layer** between content (data) and location (URL)

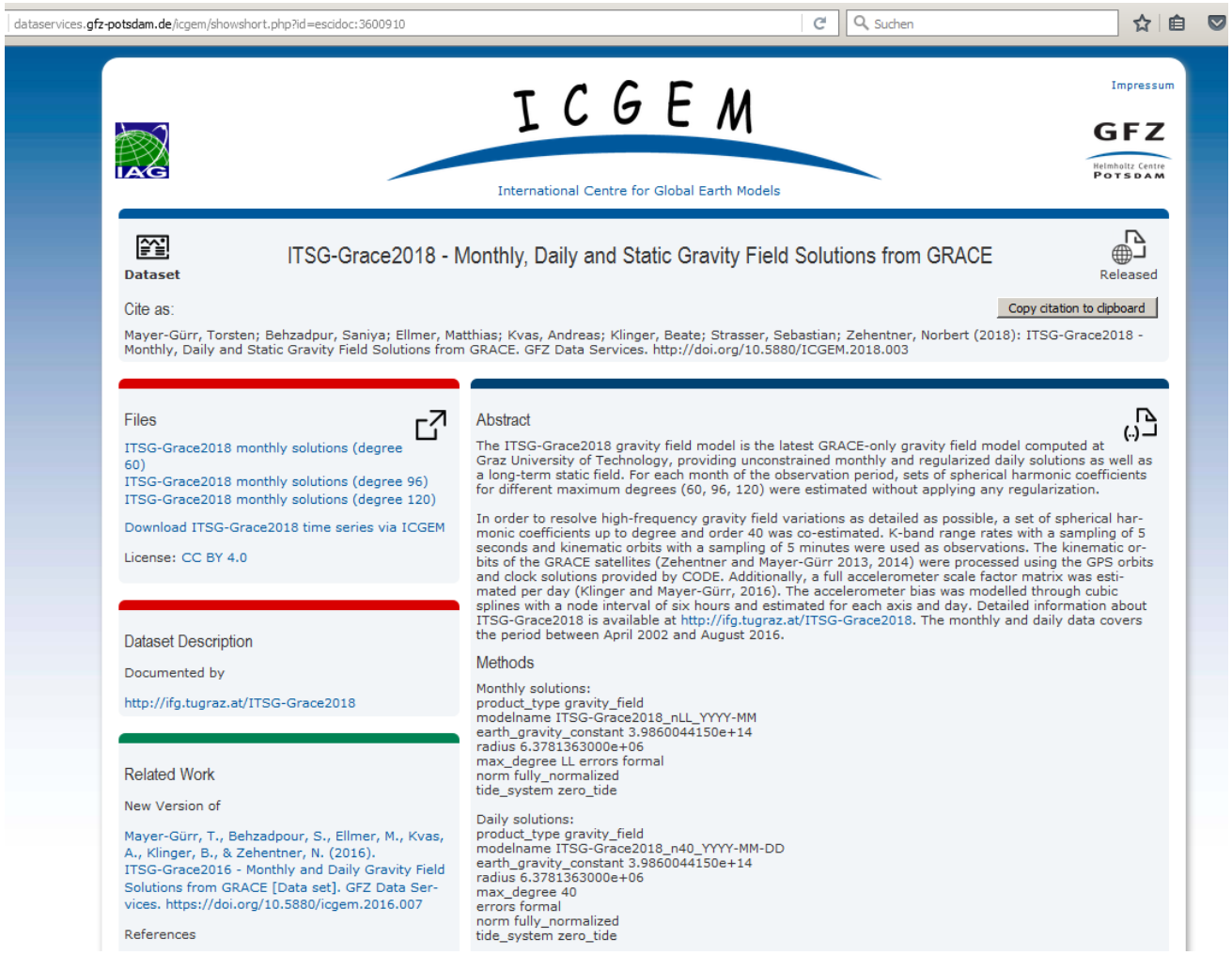
Resolving the DOI leads to the URL of a **landing page** with additional information about the dataset and how to get it

Resolving a DOI – example (1)

ICGEM – International Centre for Global Earth Models

Mayer-Gürr, Torsten; Behzadpur, Saniya; Ellmer, Matthias; Kvas, Andreas; Klinger, Beate; Strasser, Sebastian; Zehentner, Norbert (2018): ITSG-Grace2018 - Monthly, Daily and Static Gravity Field Solutions from GRACE. GFZ Data Services.
http://doi.org/10.5880/ICGEM.2018.003

Resolving a DOI – example (2)



Landing Page

Title
Citation + DOI
Abstract
Creator
Contributors
Keywords

Data files
License info
Dataset documentation

Version Info
References

http://doi.org/10.5880/ICGEM.2018.003

DOI characteristics and benefits

- Globally unique
- Persistent
- Actionable (= resolvable and executable)

- **Citable** (in journal articles or on websites)
- **Discoverable** (search engines)
- Enable **Re-use of scientific data**
- **Long term availability** (archiving)

- Different levels of granularity (data series, collections of data)
- Versioning
- Licenses

DOI system

Is a rather complex, distributed infrastructure for

- Assigning DOIs to objects
- Resolving DOI names to webpages (landing pages) or metadata of an object
- Searching for datasets

International DOI Foundation (IDF)
- Registration Authority
- ISO 26324 Digital Object Identification System
- DOI resolver service

Registration Agencies (RA)
- Provide domain specific identifiers
- DataCite (scientific datasets)
- Maintain metadata database

Data Provider (Registrant)
- Submit information to RA

Data provider responsibilities

- Registration Agency (e.g. DataCite)
  - Register
  - Receive a registrant code
- Define **DOI names**
  - According to his own schema for **creating unique identifiers**
  - Granularity (series of datasets, collections of data)
  - Versioning
- Provide **metadata for data discovery** in standardised metadata formats (XML, DataCite, ISO19115, …)
  - Mandatory (creator, title, abstract, publication year, keywords)
  - Additional required data fields
- Implement and maintain the **landing pages**
- Guarantee of **long term availability** and **archiving** of data

New DOI Working Group - proposed aims

- Analyses of **existing DOI solutions** of IAG Services
- Identification of **products and datasets** for which DOIs should be assigned
  - Granularity
- Discussion of **infrastructure requirements**
  - Possibility to share resources or to establish common services
- Discussion of **metadata formats** for data discovery and required data fields
- Definition of **landing page** recommendations
- Showing of **use cases**
- Definition of **best practices** for implementing DOI for products and data, e.g. of the IAG Services
- Development of **guidelines** for DOI strategies

New GGOS Working Group on DOI

- Setup of the WG is in progress
- Members will be IAG services data center representatives, DOI experts and other interested colleagues
- WG chair will be elected by the WG members

Interested in joining the WG?

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