

NFDI₄Earth

1st NFDI₄Earth Plenary Meeting, June 9 & 10 2022, Dresden

Future NFDI₄Earth Interest Group:

Metadata Standards for Geochemical Data

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Motivation

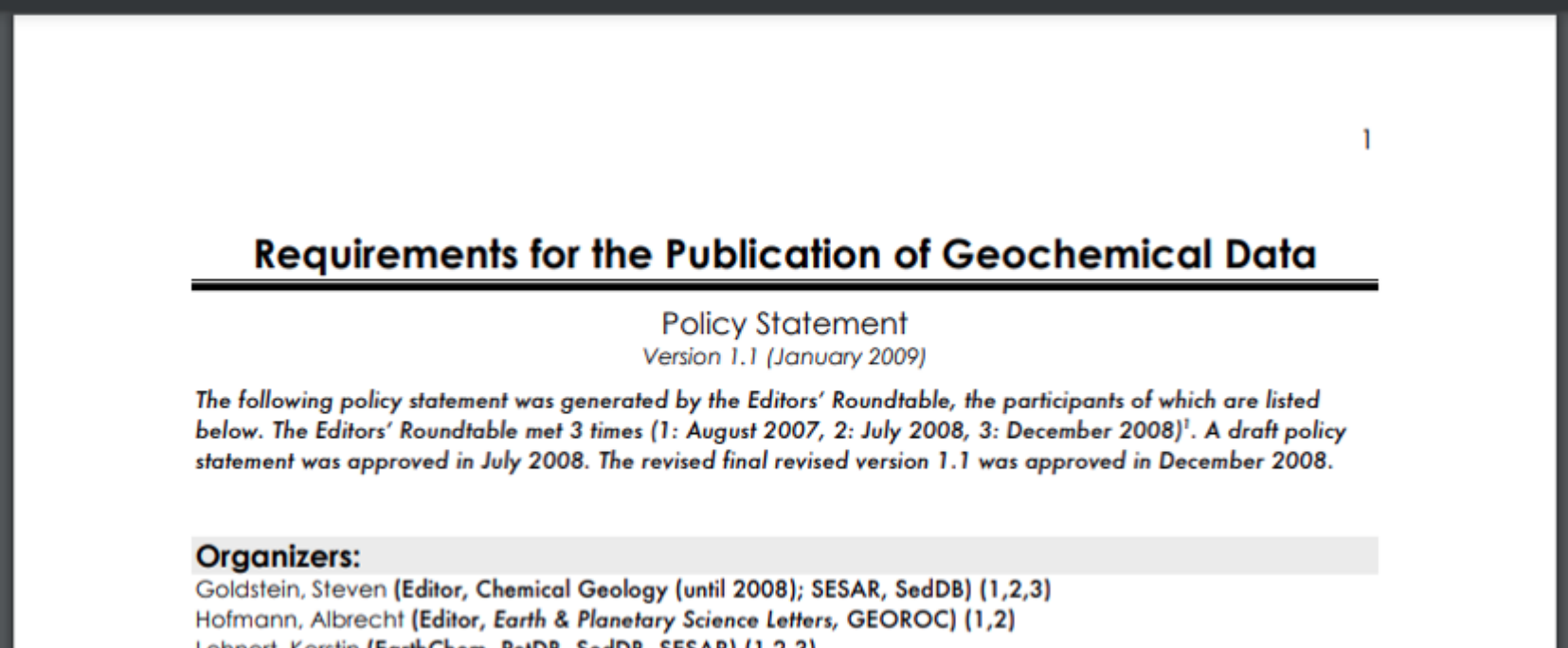
2009:

Goldstein et al.

(Editor's Roundtable,
<https://doi.org/10.1594/IEDA/100426>,

[94/IEDA/100426](https://doi.org/10.1594/IEDA/100426),

2009 und 2014):



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Requirements for the Publication of Geochemical Data

Policy Statement
Version 1.1 (January 2009)

The following policy statement was generated by the Editors' Roundtable, the participants of which are listed below. The Editors' Roundtable met 3 times (1: August 2007, 2: July 2008, 3: December 2008)¹. A draft policy statement was approved in July 2008. The revised final revised version 1.1 was approved in December 2008.

Organizers:

Goldstein, Steven (Editor, *Chemical Geology* (until 2008); SESAR, SedDB) (1,2,3)
Hofmann, Albrecht (Editor, *Earth & Planetary Science Letters*, GEOROC) (1,2)
Lehner, Kerstin (EarthChem, BGD, SedDB, SESAR) (1,2,3)

Since 2000:

Significant advances in analytical methods requires

⇒ extending metadata standards in various areas of geochemistry to meet requirements of scientific journals and repositories

- Scientific journals & funding agencies require **archiving of data in open repositories**
- Repositories=> **metadata**: description of data and their quality
- **Metadata standards** defined by professional communities
- **FAIR** Principles
 - Reuse of existing data
 - Data produced in different areas of science can be combined into new data products

NFDI₄Earth Interest Group:

Metadata standards for geochemical data

Problem:

Advancing metadata standards for *analytical data of geomaterials* that are relevant in various areas of geoscience (and elsewhere).

Past activities, discussions, participants

Sept 2021- April 2022 : Lectures on management of **geochemical data in various research areas**, projects by participants from various institutions

- Examples of **databases and repositories and metadata descriptions of various earth science materials**:
Magmatic and metamorphic rocks (GeoRoc/DIGIS), speleothemes (SISAL), water bodies (GEMSTAT, GNIP), archaeological artifacts (GLOBALID), meteorites (Metbase)
- Different analytical methods **require different metadata** information (i.e., high-precision isotope analysis, in situ analytical methods, element mapping...)
- **Ontologies** of methods
- **Metadata software** (GeoValML)

Goal and Format of the IG

- **Establishing** and **advancing** mutual **metadata standards** and **ontologies** for geochemical data (in collaboration with international partners)
- Use of **identifiers to link metadata** to instruments, methods and samples (i.e. PIDINST, IGSN)
- Establish topical **working groups** (relevant scientific fields or methods)
- **Networking** with initiatives
 - National: NFDI₄Earth, NFDI₄Objects, NFDI₄Earth IG research software
 - International: OneGeochemistry Initiative, RDA, Copdess

Status:

Interest group initiative

Future actions:

- May/June 2022: work on IG proposal
- July 2022: submit IG proposal



Thank You !

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