



# Copernicus Publications

The Innovative Open Access Publisher

Open Access Publishing

Public Peer-Review

Two-Stage Publication Process

Worldwide Archiving + Indexing



# **Ensuring availability and quality of research data** through Open Access and public peer-review

Martin Rasmussen | Copernicus Publications

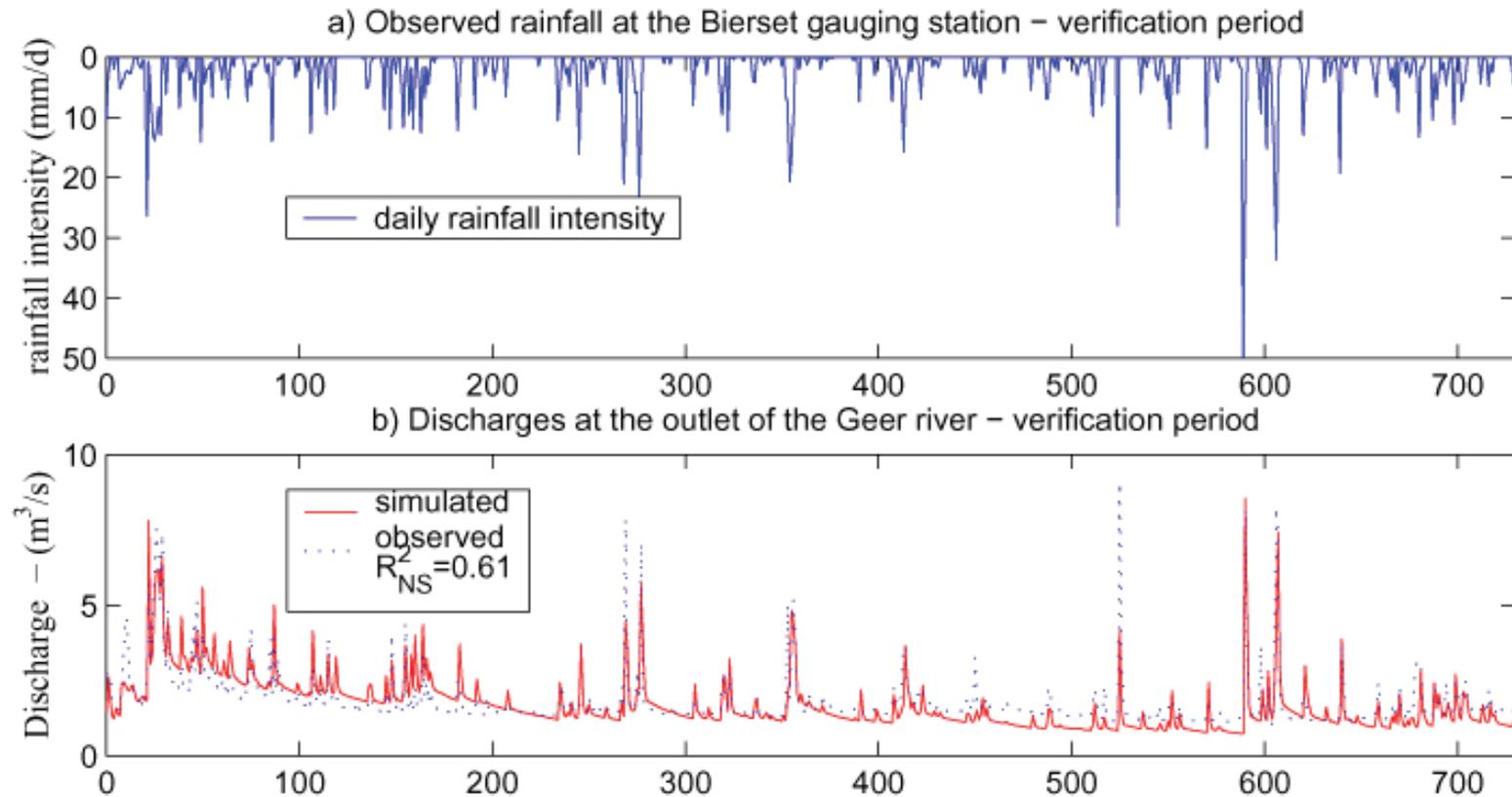
OAOD2010 | Cologne, Germany | 13 December 2010

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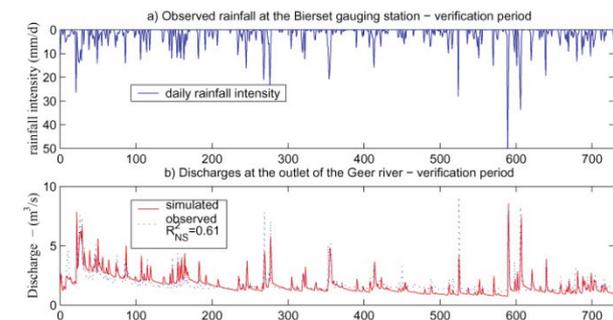


## Motivation – The Data Problem for Readers



## Motivation – The Data Problem for Readers

- Graph in the research paper – good modelling results!
- What is about the model scripts & routines?
- What is about the parameter files?
- What is about the underlying data sets?
  - Quality of original data sets & collection?
  - Quality of regionalization?
  - Are the results reproducible?



## Open Access & Review

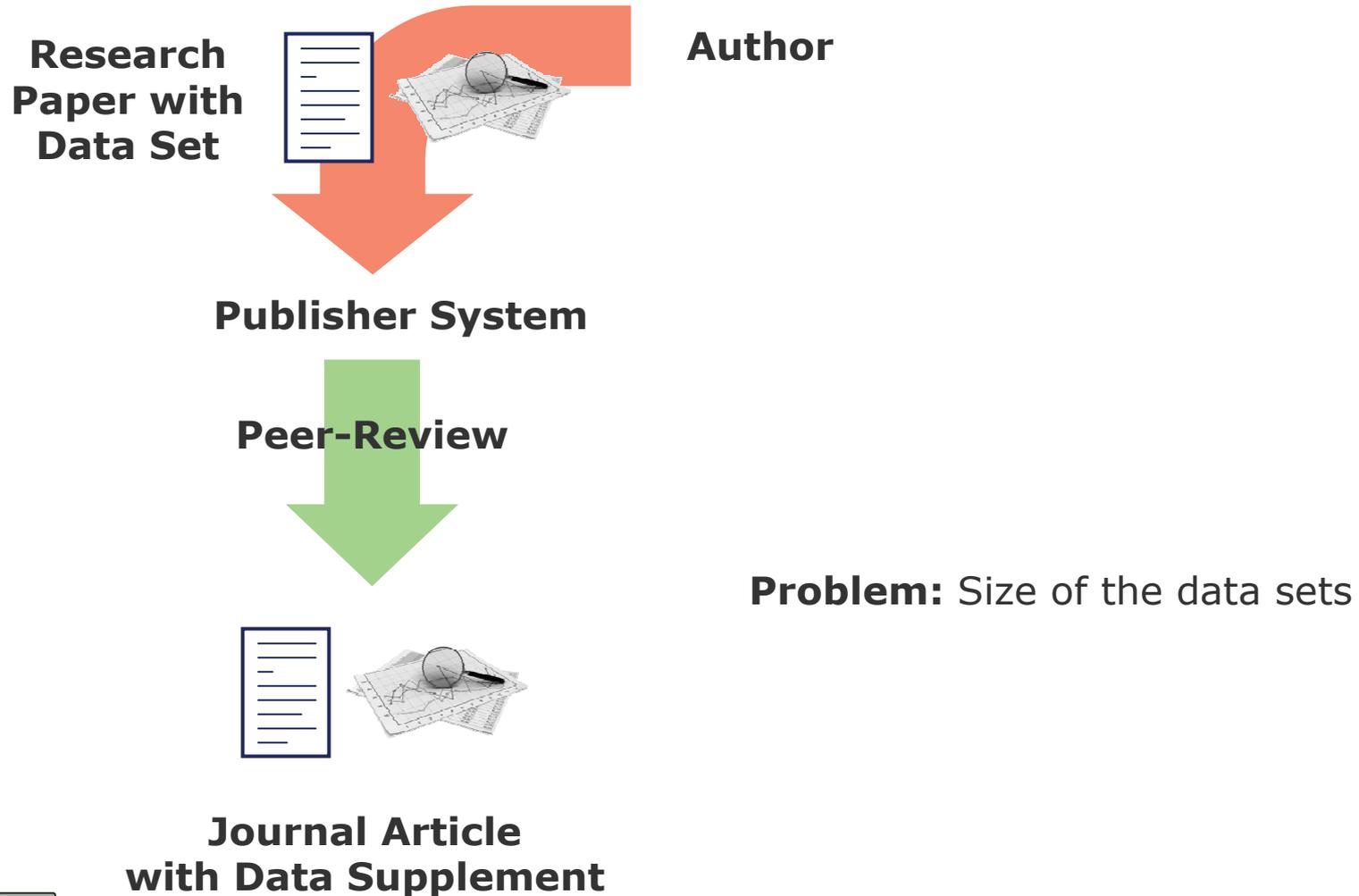
- Readers need access to data sets for reproduction & re-usage
- Reviewers need access to data sets during peer-review
- Research data is an integral part of the research paper
- Publisher's aim for quality & sustainability
  - Copyright & distribution license
  - Long-term availability of the publication & its data
  - Peer-review on data for quality assurance



# How can a publisher help realizing access & quality assurance?



## 1 – Data as a Supplement (in-house)





## Ocean Science

An Interactive Open Access Journal of the European Geosciences Union

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### Journal Metrics

IF 0.937

SCOPUS<sup>®</sup> SNIP 0.283

SCOPUS<sup>®</sup> SJR 0.079

Definitions

Ocean Sci., 6, 185-190, 2010  
www.ocean-sci.net/6/185/2010/  
doi:10.5194/os-6-185-2010

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## The gyre-scale circulation of the North Atlantic

P. L. Woodworth<sup>1</sup>, N. Pouvreau<sup>2</sup>, and G. Wöppelmann<sup>3</sup>

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<sup>2</sup>UMR 5566 LEGOS-CNES, 14 av. Edouard Belin, 31400 Toulouse,

<sup>3</sup>UMR 6250 LIENSs, Université de La Rochelle - CNRS, 2 rue Olympe

**Abstract.** The relationship between the gyre-scale circulation at the centre of the sub-tropical gyre, and sea level measured using records commencing in the middle of the 18th century, is compared with an earlier study of this relationship. Near-continuous values of air pressure fields for the eastern North Atlantic derived from satellite altimetry information, have been used to demonstrate that sea level changes at the centre of the gyre (subject to reservation of the records). These findings confirm the earlier conclusions that at least part of the century timescale accelerations in European sea level data. This finding has important implications for interpretation of European Atlantic coast, suggesting that redistribution of water volume change in ocean volume.

Final Revised Paper (PDF, 539 KB) Supplement (4 KB)

**Citation:** Woodworth, P. L., Pouvreau, N., and Wöppelmann, G.: Sea level at Brest, Ocean Sci., 6, 185-190, doi:10.5194/os-6-185-2010

XML

```
# Version: 19 Feb, 2007
```

```
# Read data from file
```

```
output
```

```
load s
```

```
[s, i]
```

```
sorted
```

```
x=sort
```

```
# Set
```

```
qsin =
```

```
cqs=1;
```

```
qrin =
```

```
cqr=1;
```

```
pqr=0;
```

```
# Set
```

```
qs=qs1
```

```
hbi =
```

```
hb=x(h
```

```
1764
```

```
if hb=
```

```
hli =
```

```
1767
```

```
if hbi
```

```
hl=x(h
```

```
1770
```

```
lambdas
```

```
1771
```

```
if lam
```

```
1772
```

```
1773
```

```
if lam
```

```
1774
```

```
1775
```

```
1776
```

```
# Broc
```

```
1777
```

```
disp (
```

```
1778
```

```
1779
```

```
x2 = x
```

```
1780
```

```
functi
```

```
1781
```

```
ret
```

```
1782
```

```
endfur
```

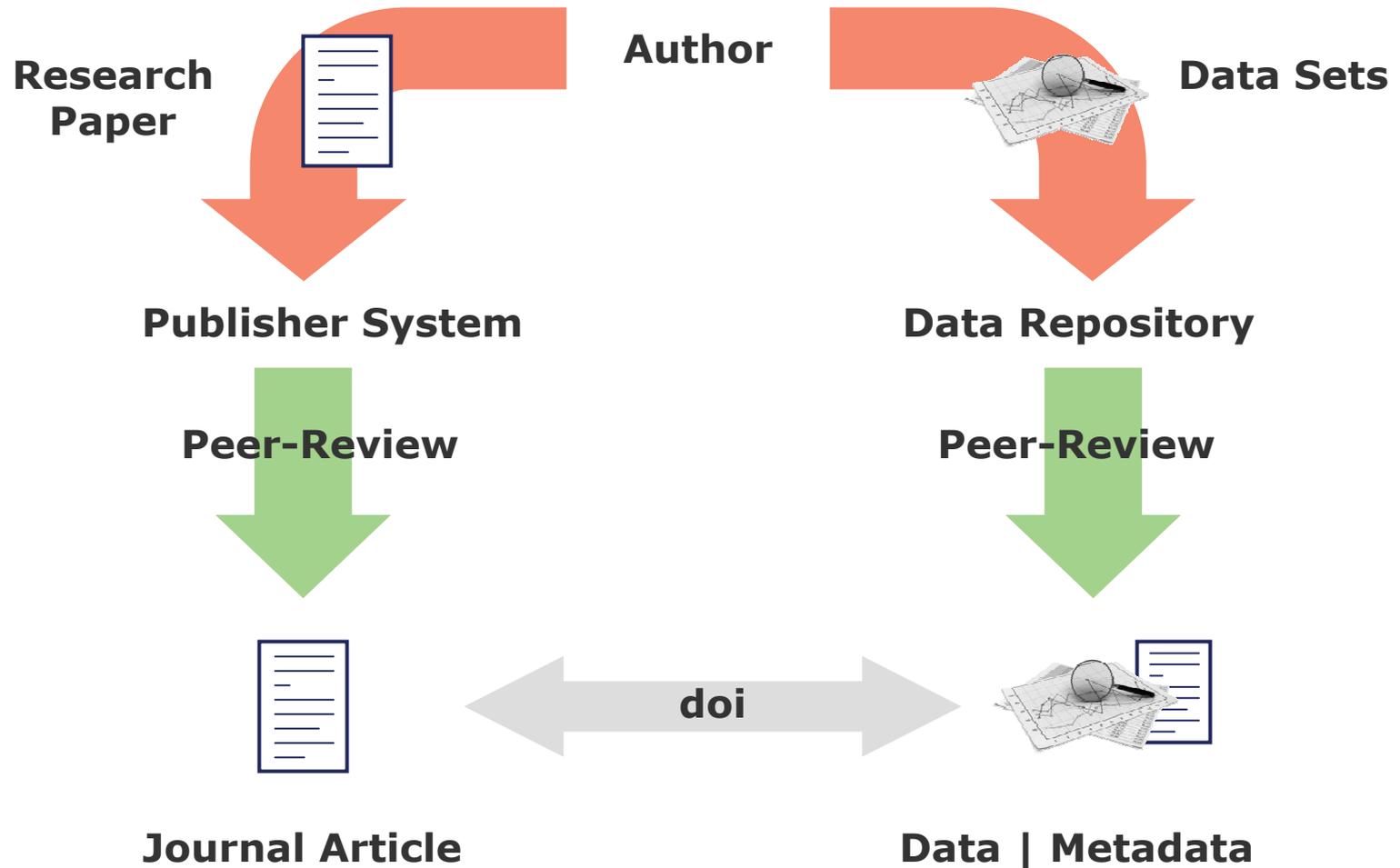
### 2009\_ts01.txt - Notepad

File Edit Format View Help

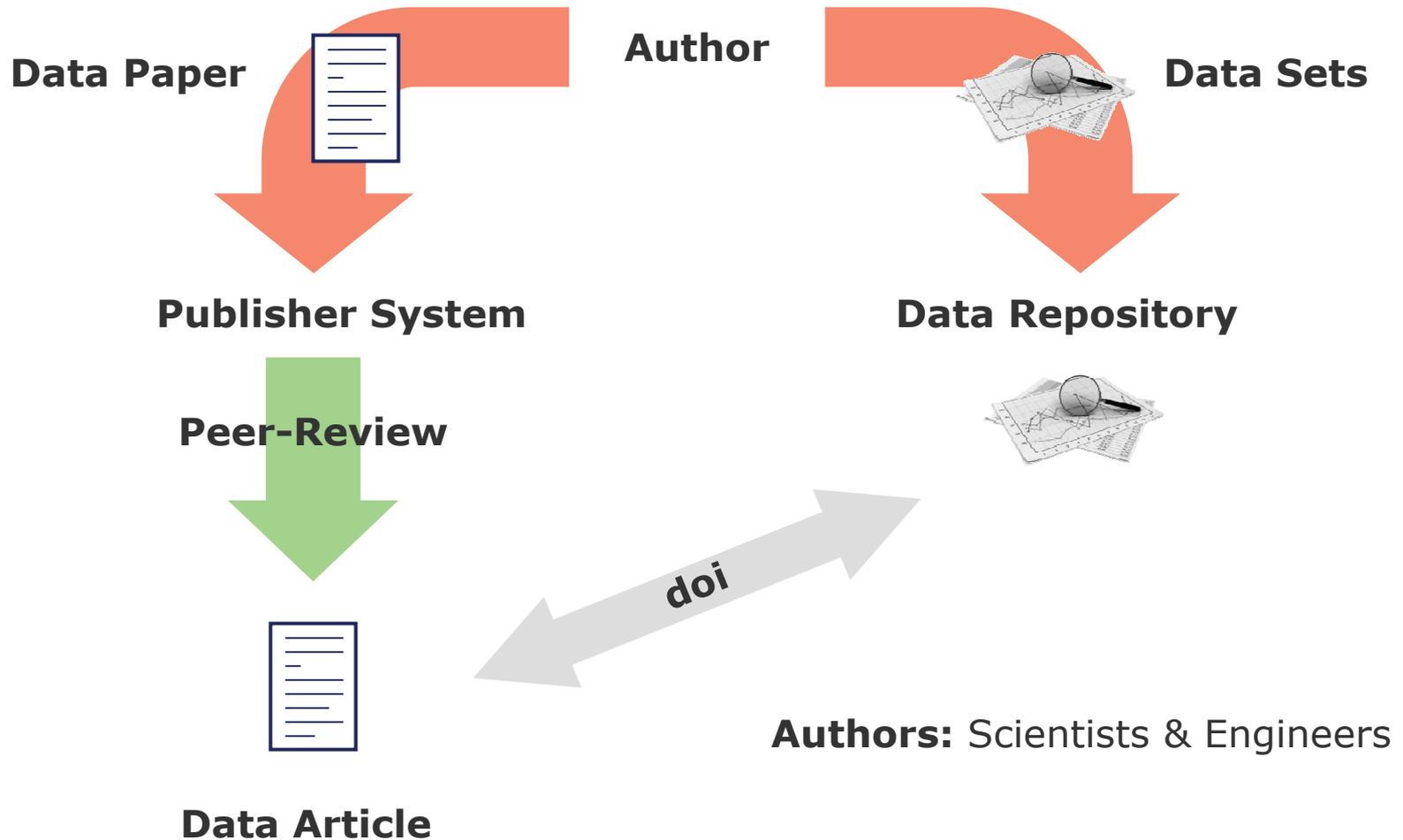
Column "Pred.", Annual mean of High waters predicted from the tidal constituents, in cm.  
Column "MHwr", Annual mean of residual High Water, in cm (Obs. minus Pred.).  
Column "days", Number of observed days in the year.

Year	Obs.	Pred.	MHwr	Days
1711	612.71	631.22	-18.51	198
1712	613.24	630.13	-16.89	340
1714	608.91	635.49	-26.58	315
1715	613.78	637.77	-23.99	363
1716	603.66	635.47	-31.81	272
1758	615.29	634.80	-19.51	361
1759	607.72	633.08	-25.36	363
1760	610.04	632.10	-22.06	352
1761	605.33	628.34	-23.01	359
1762	605.37	627.21	-21.84	333
1763	608.39	624.35	-15.96	322
1764	602.71	625.55	-22.84	366
1765	603.28	625.26	-21.98	365
1766	603.63	626.46	-22.83	364
1767	608.42	629.34	-20.92	365
1768	611.96	632.03	-20.07	365
1769	609.39	632.84	-23.45	365
1770	606.28	635.36	-29.08	365
1771	613.11	638.39	-25.28	365
1772	622.25	639.60	-17.35	354
1773	614.16	638.90	-24.74	365
1774	614.94	638.49	-23.55	364
1775	613.78	639.39	-25.61	365
1776	612.66	637.20	-24.54	366
1777	611.47	634.12	-22.65	360
1778	608.89	633.47	-24.58	334
1779	603.43	630.91	-27.48	364
1780	601.85	627.64	-25.79	366
1781	600.09	624.69	-24.60	362
1782	603.75	624.84	-21.09	365

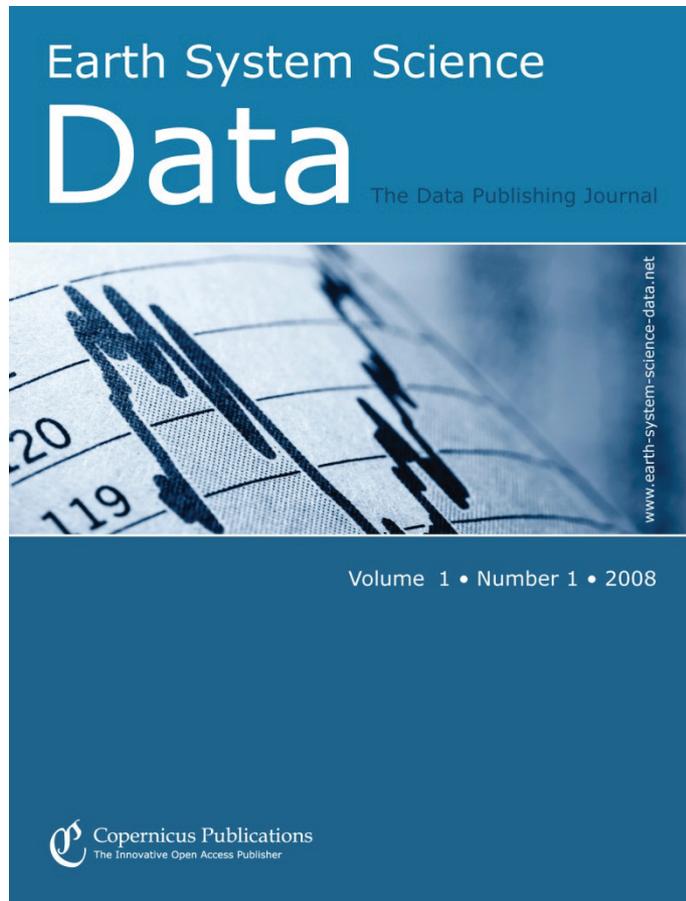
## 2 – Data as a Supplement (external)



### 3 – Data as a Publication



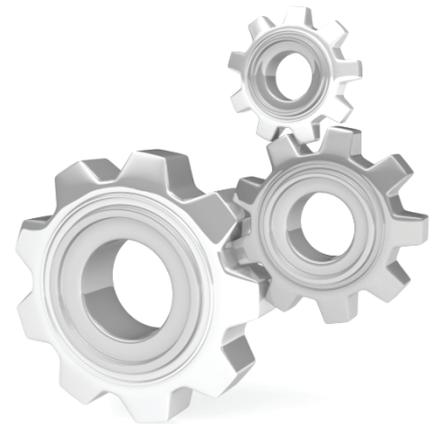
## The Data Publishing Journal ESSD



- Articles on original data sets
- Furthering re-use of high quality data
- Data section: planning, instrumentation, execution of data collection
- No interpretation
- Methods section: filter, normalize, convert raw data to primary
- No comparison to other methods
- **Started in 2009**, 27 articles
- Chief Editors: Dave Carlson (IPY), Hans Pfeiffenberger (AWI)
- Managing Editor: Sünje Dallmeier-Tiessen (CERN)

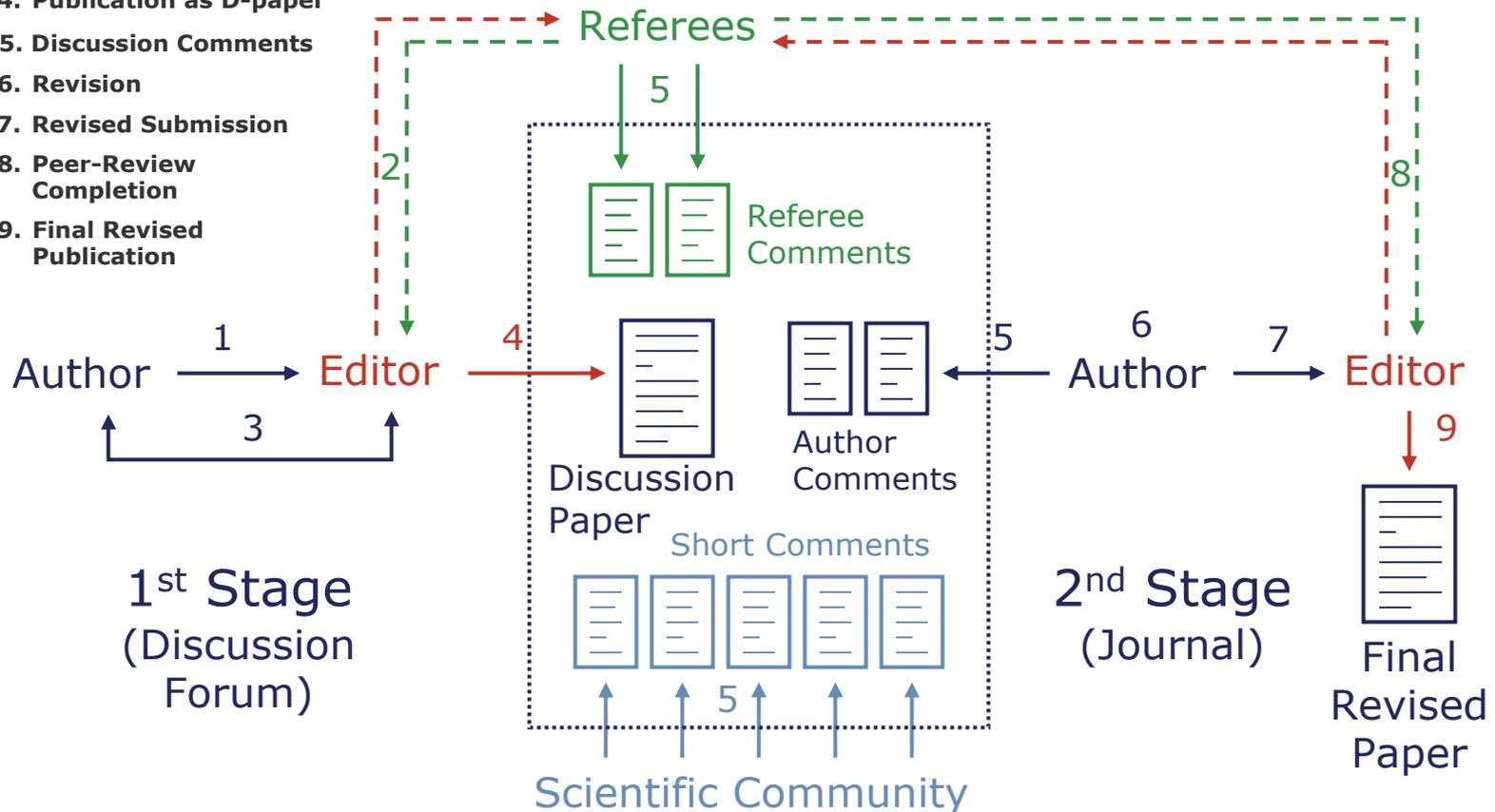
## ESSD's Manuscript Structure

- Abstract
- Data coverage & parameters measured
- Instrumentation & methods
- Data provenance & structure
- Data access
- References



## ESSD's Public Peer-Review

1. Submission
2. Access Review
3. Technical Corrections
4. Publication as D-paper
5. Discussion Comments
6. Revision
7. Revised Submission
8. Peer-Review Completion
9. Final Revised Publication



## ESSD's Public Peer-Review

Earth Syst. Sci. Data Discuss., 3, 259–279, 2010  
 www.earth-syst-sci-data-discuss.net/3/259/2010/  
 doi:10.5194/essdd-3-259-2010  
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Open Access  
 Earth System  
**Science  
 Data**  
 Discussions

This discussion paper is/has been under review for the journal Earth System Science Data (ESSD). Please refer to the corresponding final paper in ESSD if available.

### Polar baseline surface radiation measurements during the International Polar Year 2007–2009

C. Lanconelli<sup>1</sup>, M. Busetto<sup>1</sup>, E. G. Dutton<sup>2</sup>, G. König-Langlo<sup>3</sup>, M. Maturilli<sup>3</sup>, R. Sieger<sup>3</sup>, V. Vitale<sup>1</sup>, and T. Yamanouchi<sup>4</sup>

<sup>1</sup>Institute of Atmospheric Sciences and Climate, Bologna, Italy  
<sup>2</sup>National Oceanic and Atmospheric Administration, Boulder, Colorado, USA  
<sup>3</sup>Alfred Wegener Institute, Bremerhaven, Germany  
<sup>4</sup>National Institute of Polar Research, Tokyo, Japan

Received: 27 August 2010 – Accepted: 14 September 2010 – Published: 22 September 2010  
 Correspondence to: C. Lanconelli (c.lanconelli@isac.cnr.it)  
 Published by Copernicus Publications.

Discussion Paper | Discussion Paper | Discussion Paper | Discussion Paper | Discussion Paper

**ESSDD**  
 3, 259–279, 2010

**BSRN-IPY radiation measurements**  
 C. Lanconelli et al.

Title Page  
 Abstract Instruments  
 Data Provenance & Structure  
 Tables Figures

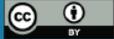
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Interactive Discussion





## ESSD's Review Criteria

- Originality
- Significance
  - Uniqueness – no replication on routine basis
  - Usefulness – usage for interpretation, comparison, verification
  - Completeness – re-usage in one context
- Data Quality – best practises, inconsistencies, implausible assertions
- Presentation Quality
- Repository Criteria
  - Persistent identifier
  - Open Access & liberal copyright
  - Long-term availability



## Conclusions

- Importance of accessibility **and** quality assurance
- Publisher's data publication models
- Data as a supplement (in-house)
  - Advantage internal peer-review
  - Advantage data publication alongside the research paper
  - Disadvantage size of data sets
- Data as a supplement (external)
  - Advantage external data repository capacities
  - Disadvantage external peer-review
- Data as a publication
  - Advantage external data repository capacities
  - Advantage internal peer-review dedicated to the data sets
- Data publication prior to the publication of the research paper

**Thank you very much**  
for your attention!

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