Argo DOIs status
Tracing DOI usage beginnings

Justin Buck (juck@bodc.ac.uk), BODC, UK

Thierry Carval, Frederic Merceur, Ifremer, France

Kenneth Casey, NODC, USA

Introduction

Push from publishers and scientists for data citation:

- Publishers want to link journal articles to the data
- Scientists want credit for data set creation and usage

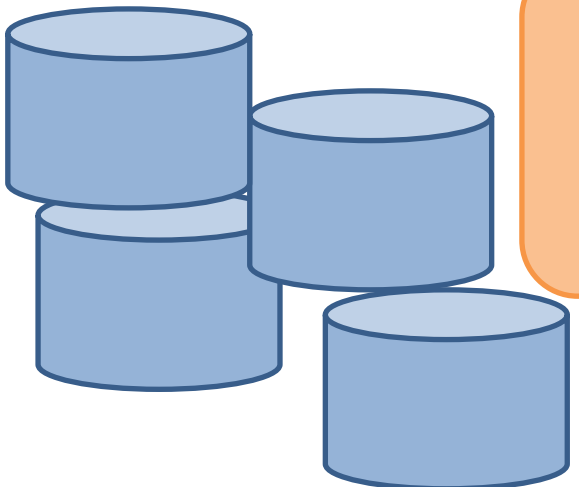
Adopted approach for Argo is to use:

Digital Object Identifiers (DOI)

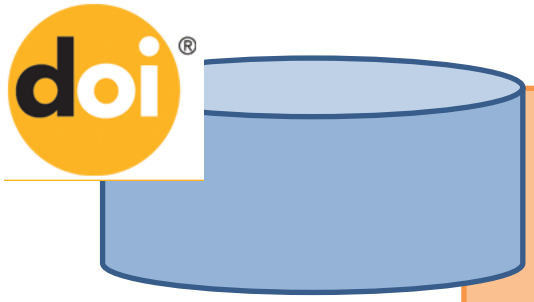
In particular DataCite DOIs as defined in:
http://schema.datacite.org/meta/kernel-3/doc/DataCite-MetadataKernel_v3.0.pdf

This enables reproducible research and ensures trust in scientific research arising from Argo data (see chapter by Adam Leadbetter in Collaborative Knowledge in Scientific Research Networks. DOI: 10.4018/978-1-4666-6567-5)

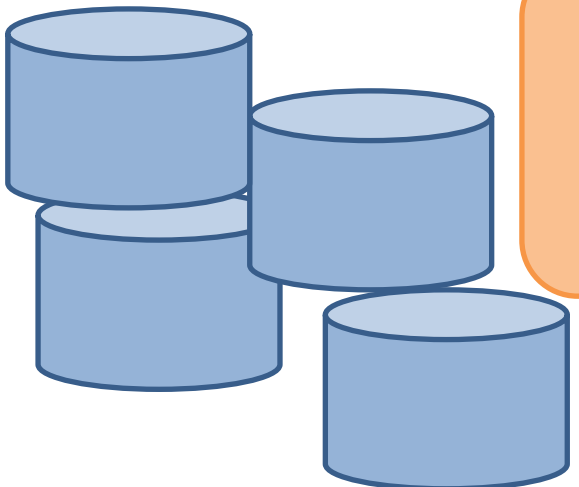
Data publication terminology



0. Serving of datasets



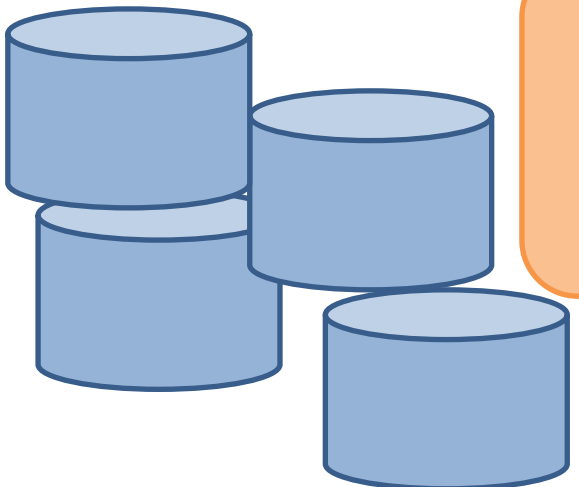
1. Dataset citation



0. Serving of datasets

2. “P”ublication of datasets

1. Dataset citation



0. Serving of datasets

2. “P”ublication of datasets

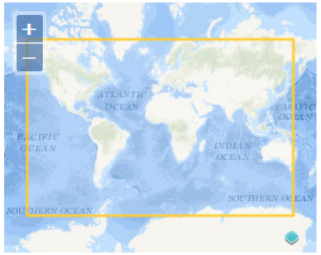
Argo part of the integrated global observation strategy

Argo floats data and metadata from Global Data Assembly Centre (Argo GDAC)

Click to download the data

DATA

Date(s)	2000-09-12 (Publication)
Author(s):	ARGO
Publisher(s):	Ifremer
DOI	10.12770/1282383d-9b35-4eaa-a9d6-4b0c24c0cfc9
Abstract	Argo is a global array of 3,000 free-drifting profiling floats that measures the temperature and salinity of the upper 2000 m of the ocean. This allows, for the first time, continuous monitoring of the temperature, salinity, and velocity of the upper ocean, with all data being relayed and made publicly available within hours after collection. The array provides 100,000 temperature/salinity profiles and velocity measurements per year distributed over the global oceans at an average of 3-degree spacing. Some floats provide additional bio-geo parameters such as oxygen or chlorophyll. All data collected by Argo floats are publically available in near real-time via the Global Data Assembly Centers (GDACs) in Brest (France) and Monterey (California) after an automated quality control (QC), and in scientifically quality controlled form, delayed mode data, via the GDACs within six months of collection.
Keywords	float, ARGO, global ocean observing system, ocean circulation, in-situ, ocean pressure, sea water salinity, sea water temperature, multi-year, weather climate and seasonal observation, global-ocean, Installations de suivi environnemental
Lineage	http://www.argodatamgt.org/Documentation
Utilisation	A user of Argo data is expected to read and understand this manual and the documentation about the data contained in the "attributes" of the NetCDF data files, as these contain essential information about data quality and accuracy.



Related page(s)

ARGO (2015). Argo floats data and metadata from Global Data Assembly Centre (Argo GDAC) - Snapshot of Argo GDAC as of March, 8th 2015. Ifremer.

ARGO (2015). Argo floats data and metadata from Global Data

How to cite

ARGO (2000). Argo floats data and metadata from Global Data Assembly Centre (Argo GDAC). Ifremer. http://dx.doi.org/10.12770/1282383d-9b35-4eaa-a9d6-4b0c24c0cfc9

Is cited by

Maze Guillaume, Cabanes Cecile, Carval Thierry, Coatanoan Christine, D'Ortenzio Fabrizio, Lebreton Nathanaelle, Le Reste Serge, Le Traon Pierre-Yves, Pouliquen Sylvie, Thierry-Theetten Virginie (2015). French National Report on Argo - 2014. Present status and future plans.

Schmechtig Catherine, Claustre Herve, Poteau Antoine, D'Ortenzio Fabrizio (2014). Bio-Argo quality control manual for the Chlorophyll-A concentration.

STATUS

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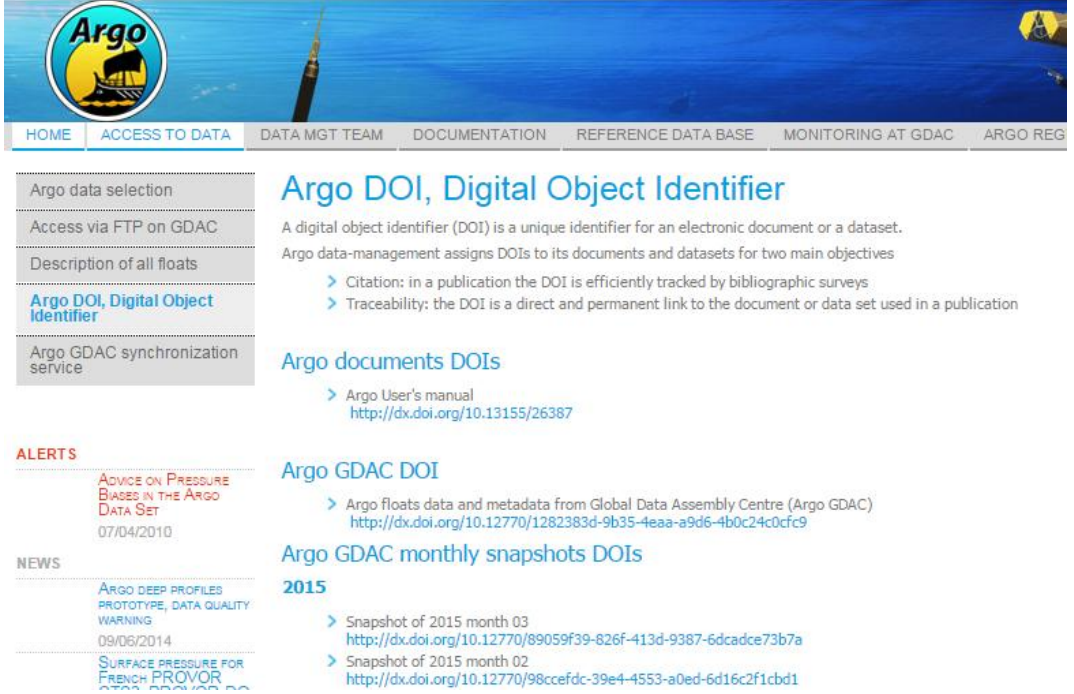
Argo DOIs



Ifremer:

- Documentation
  - User manual
  - Quality control manual
  - Trajectory DAC cookbook
- DOI for the GDAC (grows and mutates)
- 20 monthly snapshots (enable reproducibility)

http://www.argodatamgt.org/Access-to-data/Argo-DOI-Digital-Object-Identifier

Current DOI implementation

Monthly snapshots minted and hosted at Ifremer

Argo part of the integrated global observation strategy

Argo floats data and metadata from Global Data Assembly Centre (Argo GDAC)

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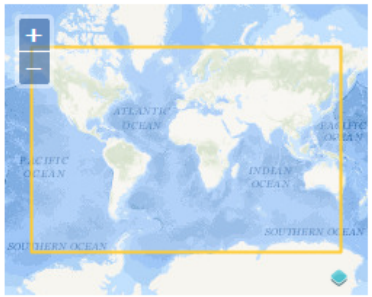
Click to download the data

DATA



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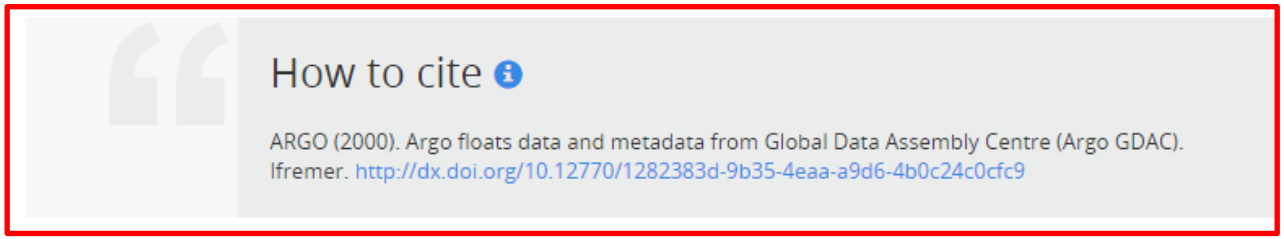
ARGO (2015). Argo floats data and metadata from Global Data Assembly Centre (Argo GDAC) -

Current DOI implementation

New design and sections on Ifremer pages:

- How to cite
- Is cited by
- Short DOIs



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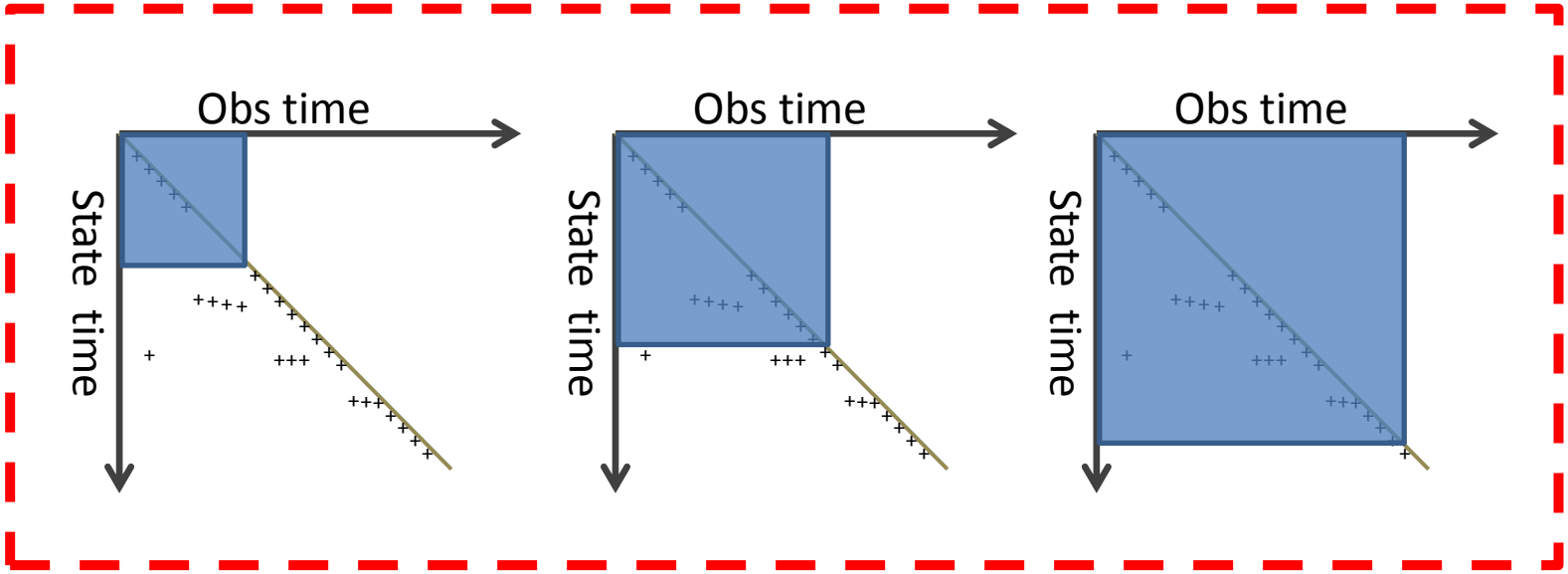
http://dx.doi.org/10.12770/1282383d-9b35-4eaa-a9d6-4b0c24c0cfc9

Proposed single DOI for NODC Argo Accession (0042682)?

NODC Archive (collection of snapshots/granules)



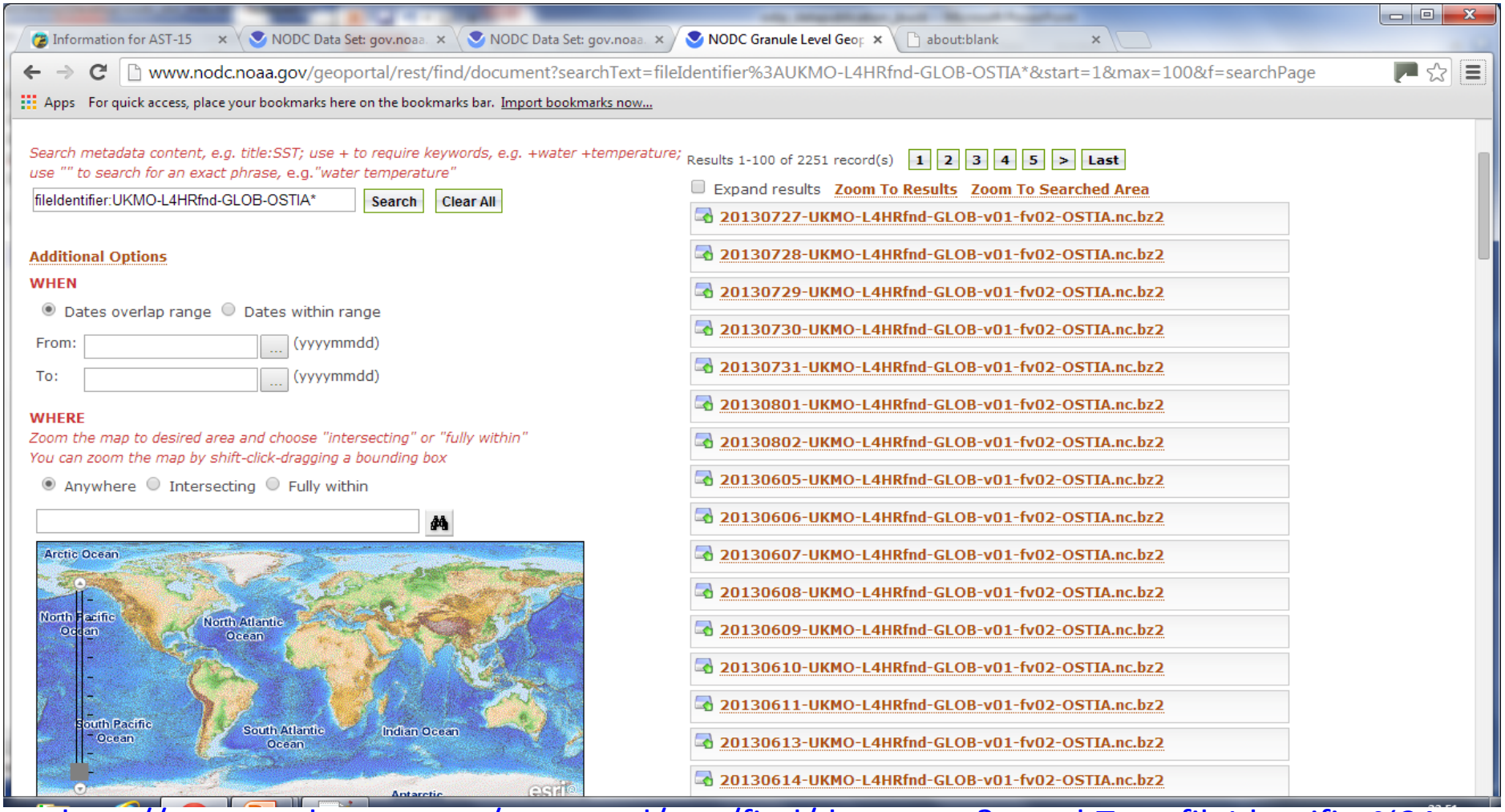
To cite a particular snapshot one can potentially cite a <u>time slice</u> of the NODC archive i.e. the snapshot at a given point in time.

How to cite NODC Argo Accession (0042682)?

http://dx.doi.org/10.[NODC_REF]/[Argo_accession_DOI]/[time_slice _information]

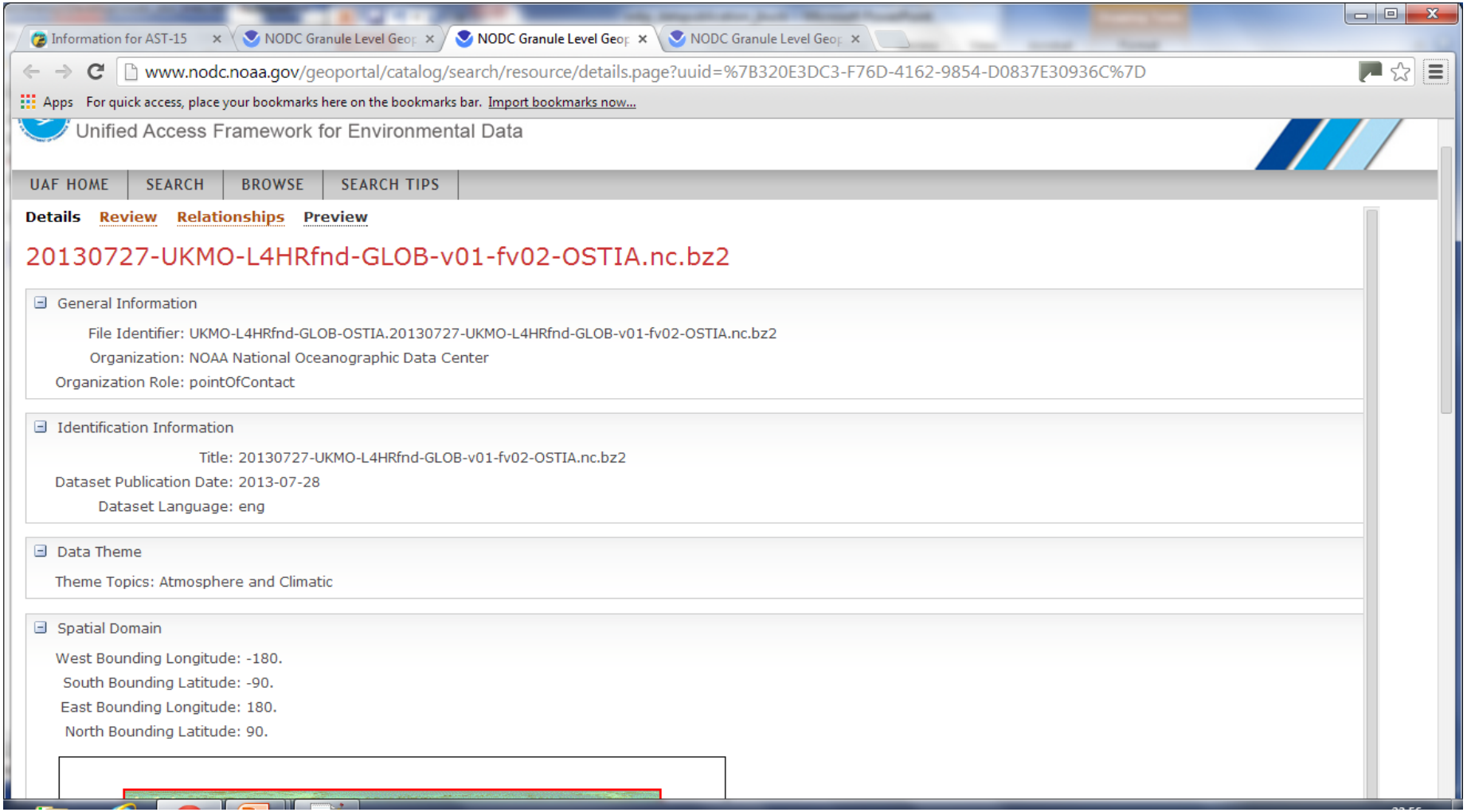
To cite a particular snapshot one can potentially cite a time slice of the NODC archive i.e. the snapshot at a given point in time.

Citing individual granules within single DOI (akin to GLOB OSTIA dataset access at NODC)



http://www.nodc.noaa.gov/geoportal/rest/find/document?searchText=fileIdentifier%3AUKMO-L4HRfnd-GLOB-OSTIA*&start=1&max=100&f=searchPage

Citing individual granules within single DOI (akin to GLOB OSTIA dataset access at NODC)



http://www.nodc.noaa.gov/geoportal/catalog/search/resource/details.page?uuid=%7B320E3DC3-F76D-4162-9854-D0837E30936C%7D

Status of single DOI

- Method presented three times at RDA workshop in San Diego last week
- Verbally agreed with publishers
- Awaiting NODC resource to mint DOI and expose snapshots (hopefully this US fiscal year)
  - Resolving a particular snapshot via citation method is additional work

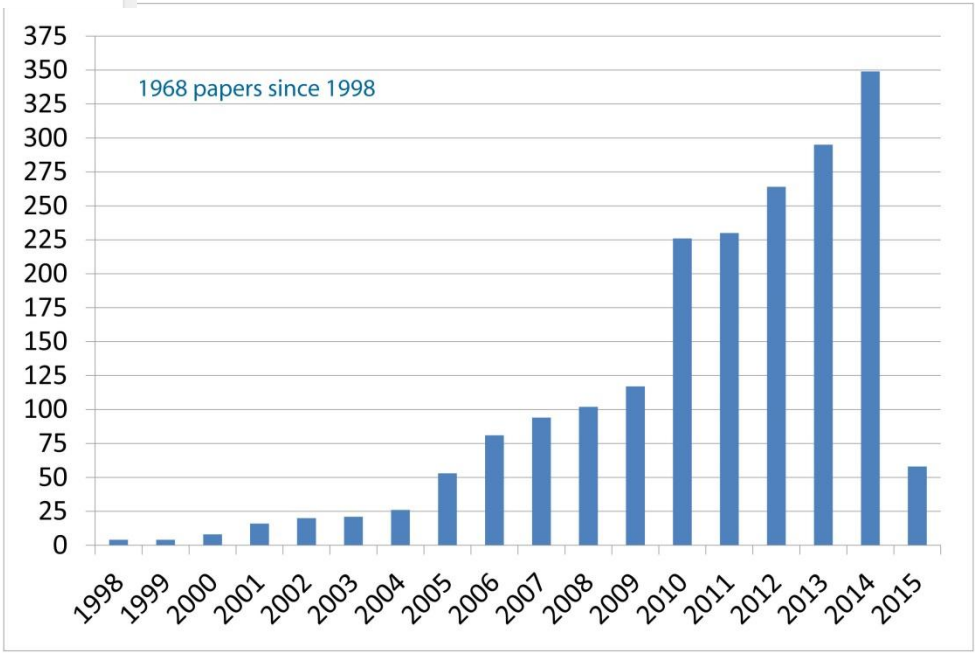
NATURE CLIMATE CHANGE DOI: 10.1038/NCLIMATE251

Argo data are archived by Argo's Global Data Assembly Center as monthly full data set snapshots with a digital object identifier (DOI) assigned to each.

For the OI analysis, this includes Argo data to July 2014: http://dx.doi.org/10.12770/a9acdd12-9d1b-4961-87ae-b935c4bdcb89.

For the RSOI and RPF analyses, this includes Argo data to December 2013: http://dx.doi.org/10.12770/c1f5c810-a4b8-4f12-9531-3452fbaeb206.

TRACING DOIS



Dialogue with publishing houses

On-going discussions with:

- ★ Springer (currently assimilating NPG)
- Elsevier
- ★ Royal Society
- Wiley

<u>All houses unanimous is saying we need to get Argo data into a data paper</u>

Royal Society

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Joseph D. Majkut, Brendan R. Carter, Thomas L. Frölicher, Carolina O. Dufour, Keith B. Rodgers and Jorge L. Sarmiento

Phil. Trans. R. Soc. A 2014 **372**, 20130046, published 2 June 2014

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Type any phrase that appears within article body, title or abstract

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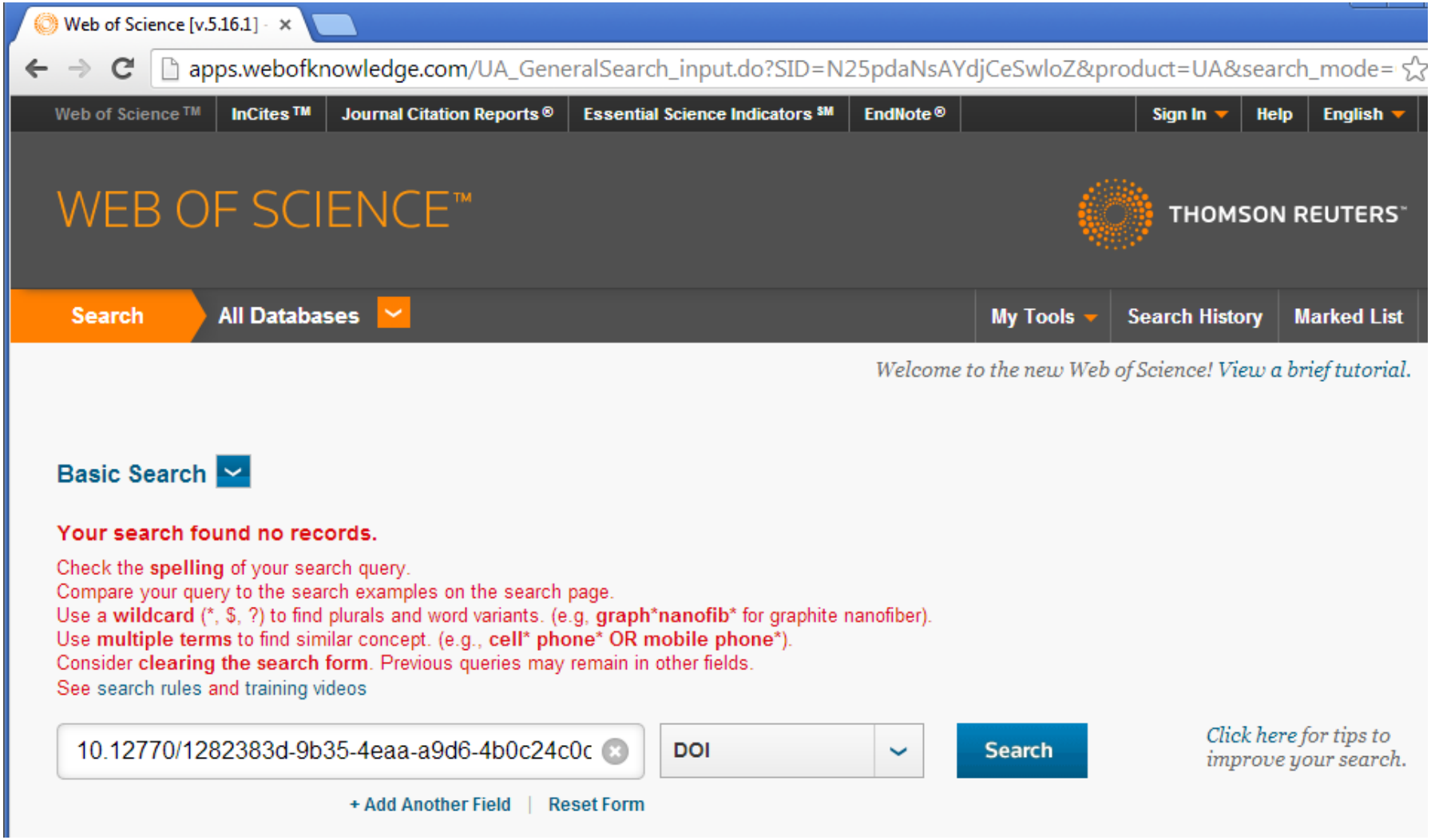
Discussion
E. Frajka-Williams
Phil Trans R Soc A. 2014 372 2025 20130335; doi: 10.1
Sustaining observations of the unsteady ocean circula
Full Text(PDF) Abstract Full Text

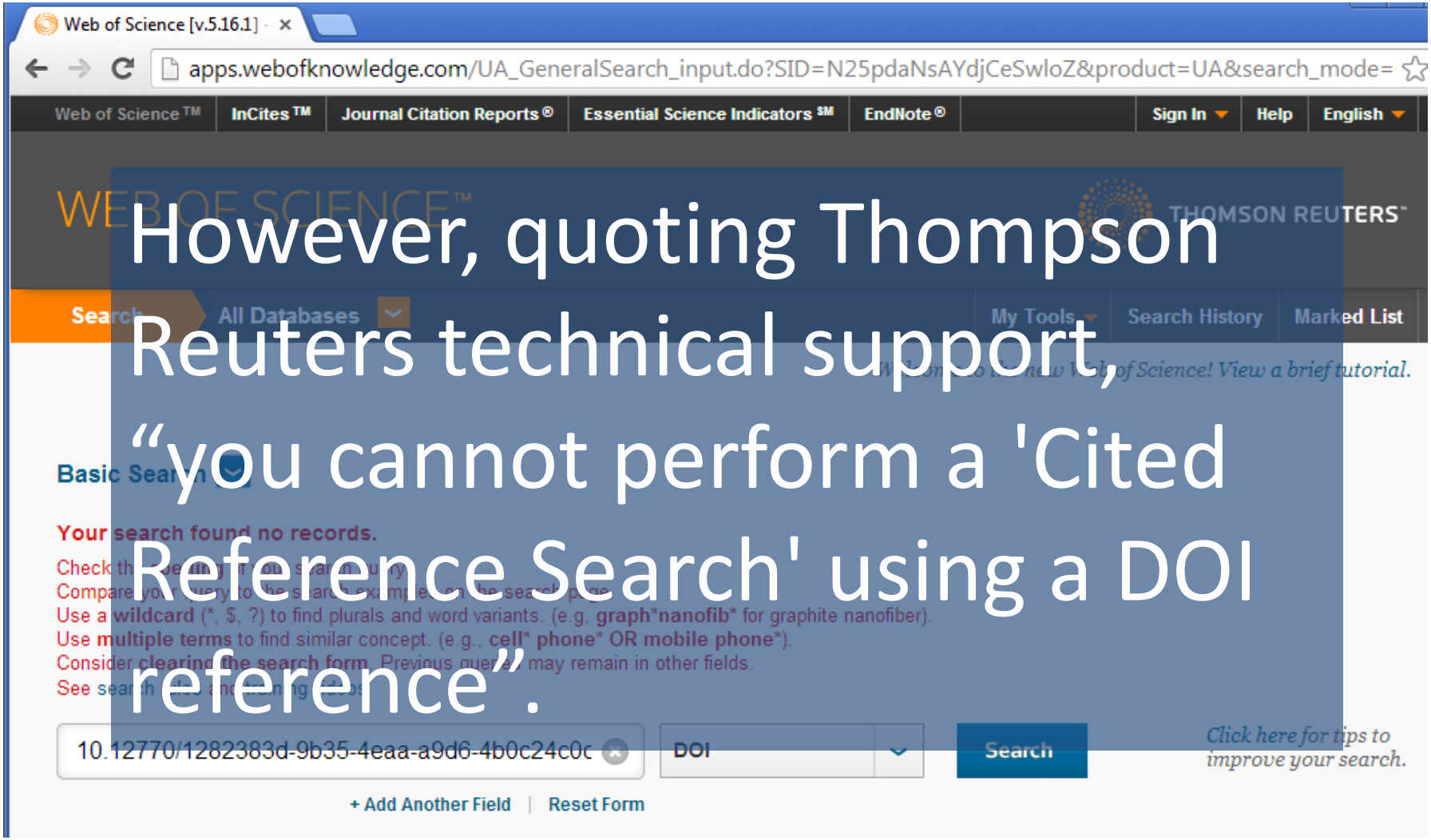
13. Roemmich D, Johnson GC, Riser S, Davis R, Gilson J, Owens WB, Garzoli SL, Schmid C, Ignaszewski M. 2009 The Argo program: observing the global ocean with profiling floats. *Oceanography* **22**, 34–43. (doi:10.5670/oceanog.2009.36)

Web of Science



Attempted Argo GDAC DOI and a cited snapshot

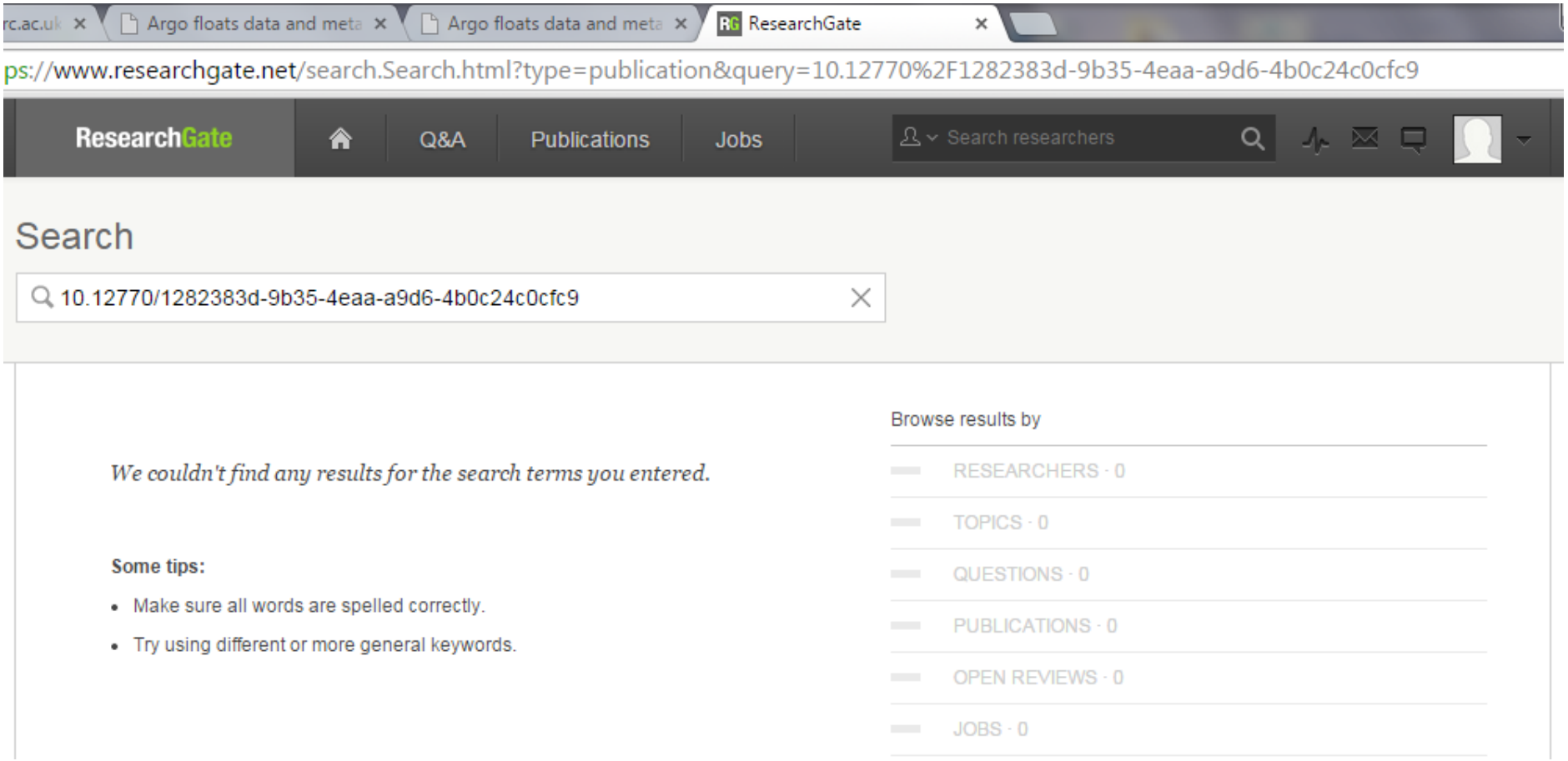
Web of Science



However, quoting Thompson Reuters technical support, “you cannot perform a 'Cited Reference Search' using a DOI reference”.

Attempted Argo GDAC DOI and a cited snapshot

ResearchGate



- Fusion of social media and Web of Knowledge
- Scientists effectively building additional linkages

Google

Google

http://dx.doi.org/10.12770/a9acdd12-9d1b-4961-87ae-b935c4bdcb89

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3 results (0.86 seconds)

Argo DOI, Digital Object Identifier - Argo Data Management
www.argodatamgt.org/Access-to.../Argo-DOI-Digital-Object-Identifier
27 Nov 2013 - ... Snapshot of 2014 month 07 **http://dx.doi.org/10.12770/a9acdd12-9d1b-4961-87ae-b935c4bdcb89**; Snapshot of 2014 month 06

Argo floats data and metadata from Global Data Assembly ...
sextant.ifremer.fr/record/a9acdd12-9d1b-4961-87ae-b935c4bdcb89/
8 Jul 2014 - Keywords: float, ARGO, global ocean observing system, ocean circulation, in-situ, ocean pressure, sea water salinity, sea water temperature, ...

Unabated planetary warming and its ocean structure since ...
www.nature.com/nclimate/journal/v5/n3/full/nclimate2513.html?WT...
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2009, *Oceanography* 22(2):34–43, http://dx.doi.org/10.5670/oceanog.2009.36

The Argo Program:
Observing the Global Ocean with Profili

Authors | Abstract | Full Article | Citation | Referenc

Authors

Dean Roemmich | Scripps Institution of Oceanography,
Jolla, CA, USA

Gregory C. Johnson | Ocean Climate Research Divisio
National Oceanic and Atmospheric Administration (NO

Google

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22-2 Roemmich et al. - The Oceanography Society
www.tos.org › Oceanography › Issues › Archive › Volume 22, Number 2
by D Roemmich - 2009 - Cited by 100 - Related articles
2009, **Oceanography** 22(2):34–43, http://dx.**doi**.org/**10.5670/oceanog.2009.36**. The Argo Program: Observing the Global Ocean with Profiling Floats. Authors ...

Volume 22, Number 2 - The Oceanography Society
www.tos.org › Oceanography › Issues › Archive
Oceanography 22(2):34–43, http://dx.**doi**.org/**10.5670/oceanog.2009.36**. Economic Considerations in the Design of Ocean Observing Systems H.L. Kite-Powell.

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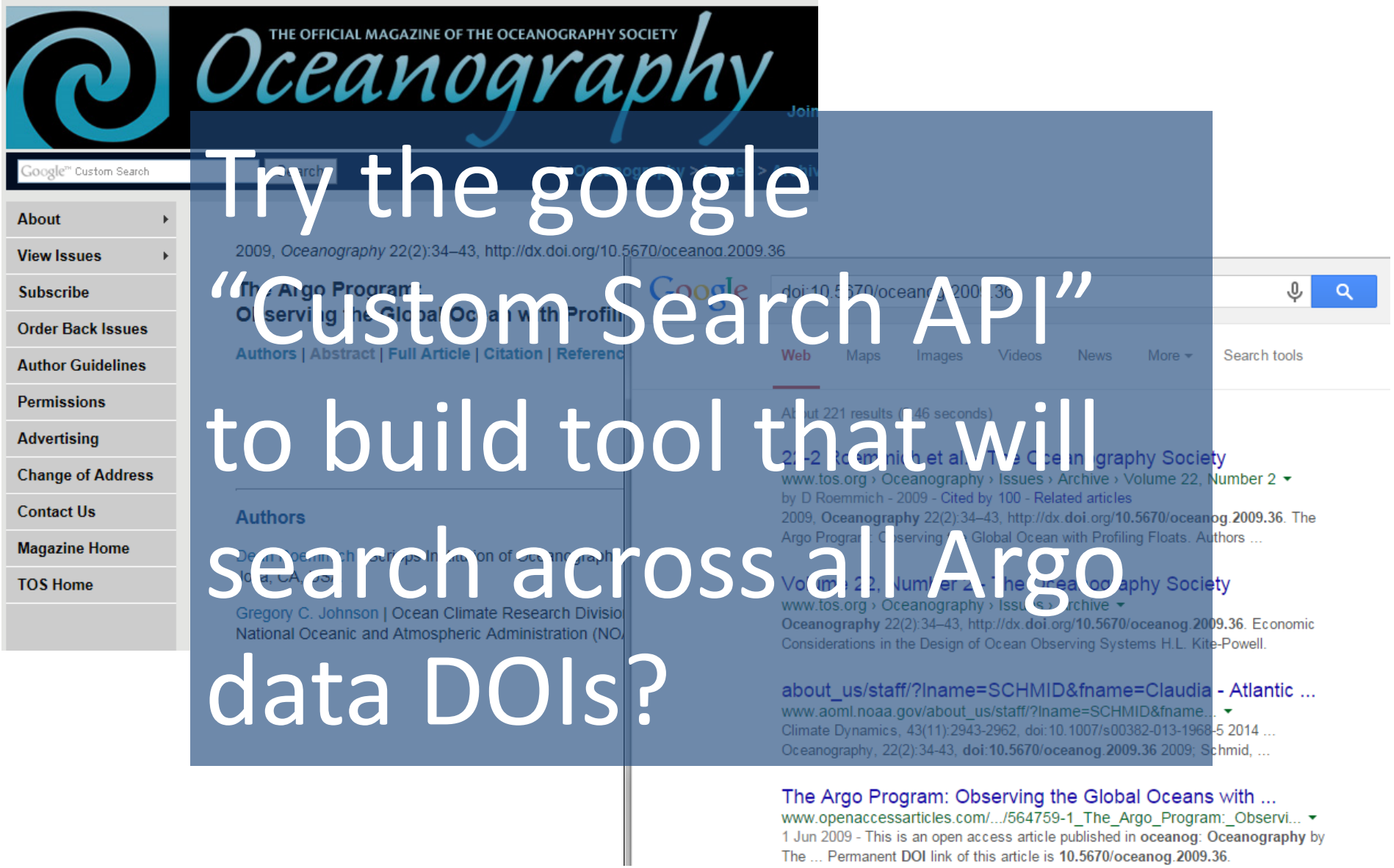
www.aoml.noaa.gov/about_us/staff/?lname=SCHMID&fname...
Climate Dynamics, 43(11):2943-2962, doi:10.1007/s00382-013-1968-5 2014 ...
Oceanography, 22(2):34-43, **doi:10.5670/oceanog.2009.36** 2009; Schmid, ...

The Argo Program: Observing the Global Oceans with ...
www.openaccessarticles.com/.../564759-1_The_Argo_Program:_Observi...
1 Jun 2009 - This is an open access article published in **oceanog**: **Oceanography** by The ... Permanent **DOI** link of this article is **10.5670/oceanog.2009.36**.

Google

Try the google "Custom Search API" to build tool that will search across all Argo data DOIs?



Next steps

- Need to investigate the indexing of Argo data DOIs
  - At the data centre and journal levels
  - Once indexing confirmed then work on searching
  - Need to identify Argo DOI citations to test
- Publish an Argo data paper
  - Users then cite data paper and snapshot DOIs
  - Data paper would automatically be indexed
  - Ahead of the single DOI and update if necessary
- Google “Custom Search API” a viable option?