

# Maintaining the Argo bibliographies

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# Update for the past year

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- ▶ Similar number of papers published in 2016 and 2017
- ▶ Continued tracking statistics:
  - ▶ Argo DOI usage way up
  - ▶ official acknowledgement of Argo data way up
  - ▶ source of Argo data used in papers stable
  - ▶ Argo PI as an author on the paper down
- ▶ Trying to find ways to get additional use out of Argo bibliography
  - ▶ Sorting papers into different groups by Argo extension
  - ▶ Using bibliographic analysis from IFREMER

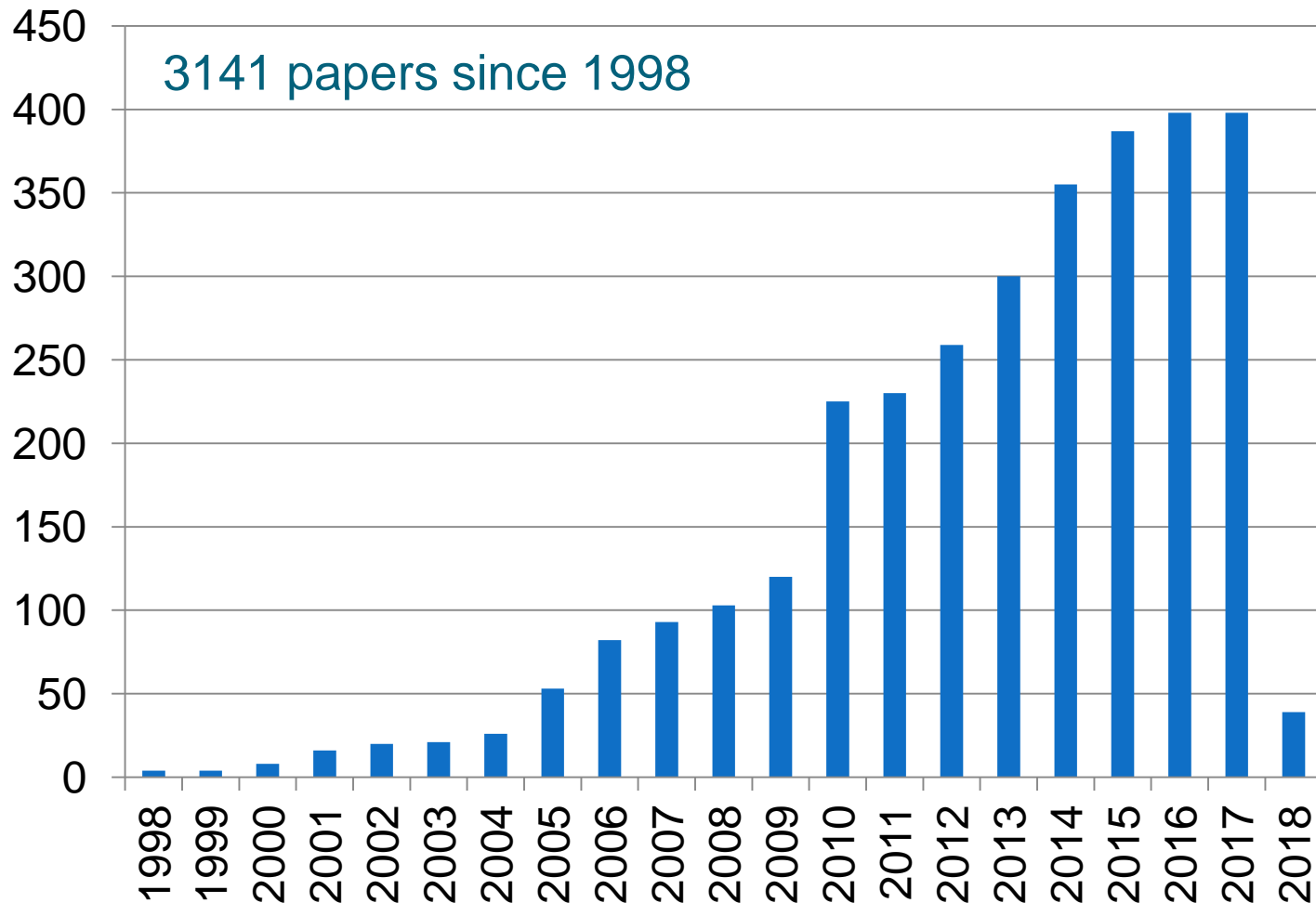


# Current status of Argo bibliography

Hard to believe  
Argo has reached  
a plateau in # of  
papers per year

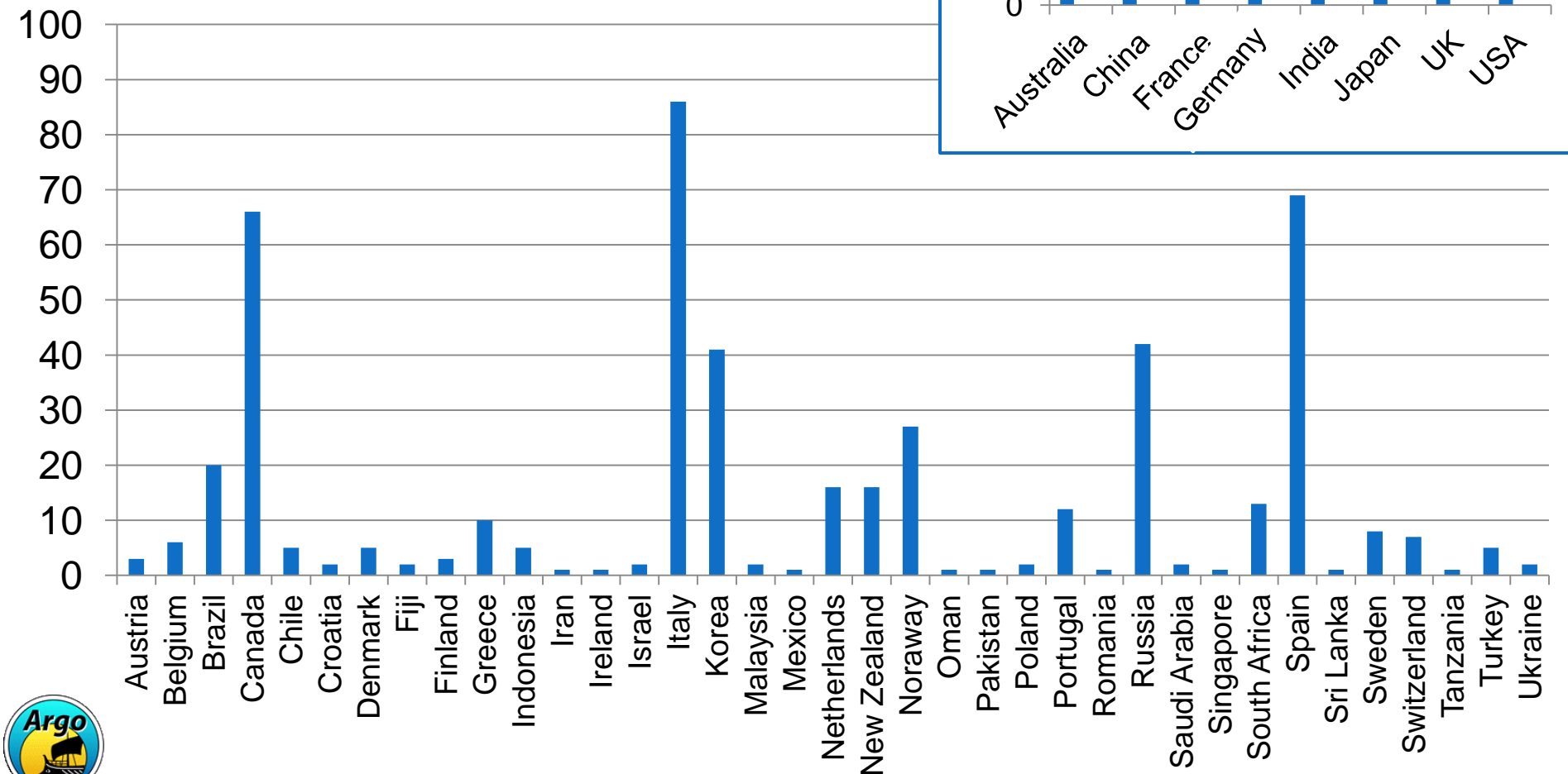
Likely more  
papers using  
secondary Argo  
sources (ie, grids,  
model outputs,  
etc) and no  
longer explicitly  
mention Argo

Working with P.  
Oke to find more  
modeling papers



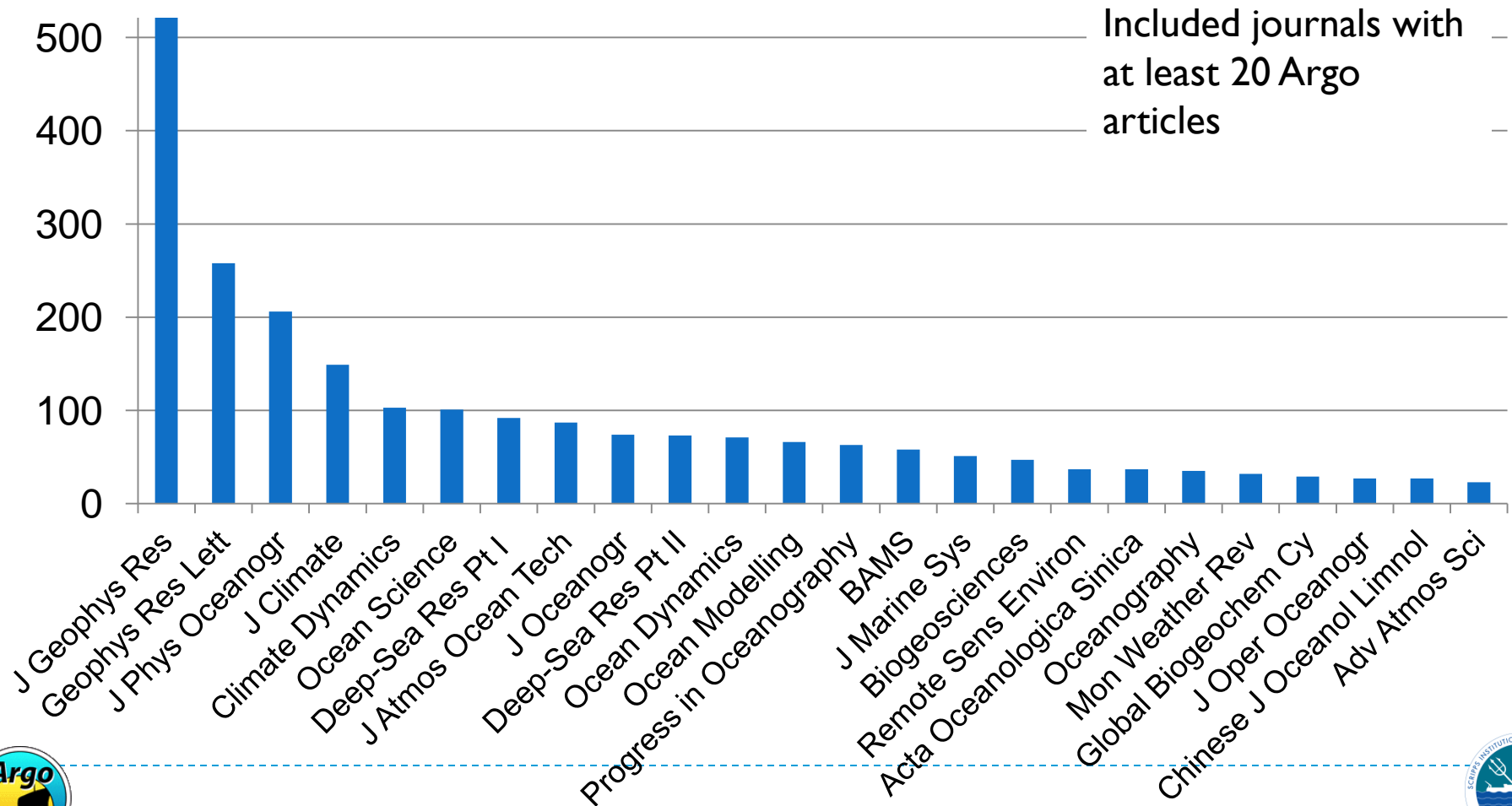
# What countries have published Argo papers?

- 39 countries, no new countries this year
- Extracted top 8 countries with over 100 papers



# What journals do Argo papers occur in?

- ▶ 12 articles in Nature
- ▶ 15 articles in Science
- ▶ 17 in Nature Geoscience
- ▶ 18 in Nature Climate Change



Should we include this figure on the Argo website?

Received requests to make BGC-Argo papers more clear.  
Link to BGC-Argo reference list?  
Something else?

Add unique symbol next to articles for each extension?

Deep Argo identified by MCS

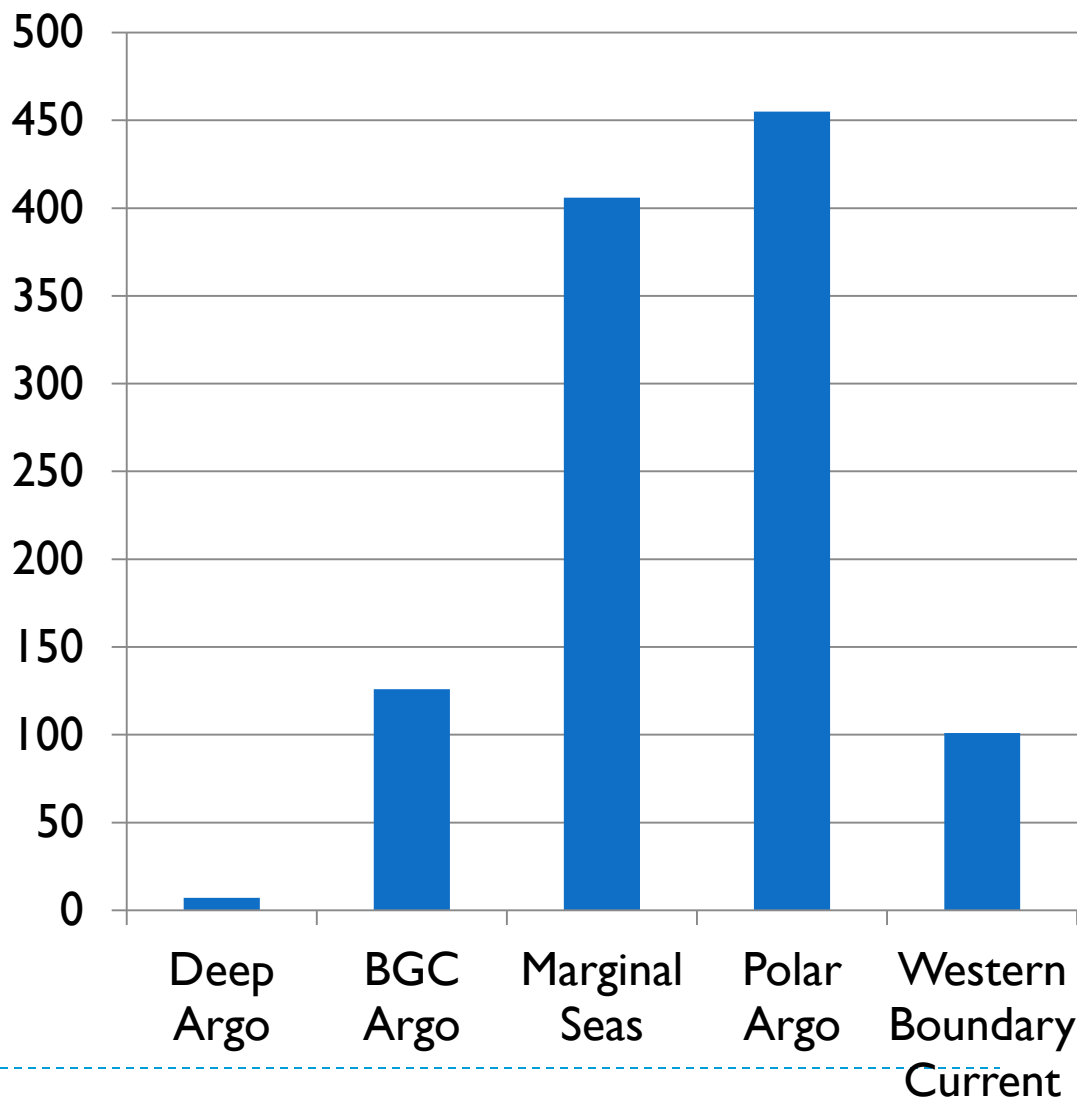
BGC Argo from BGC-Argo references and MCS

Marginal Seas papers from various Marginal Seas in title or keywords

Polar Argo from 'Arctic' in title, keywords or abstract and from 'Southern Ocean' and 'Antarctic' in title or keywords

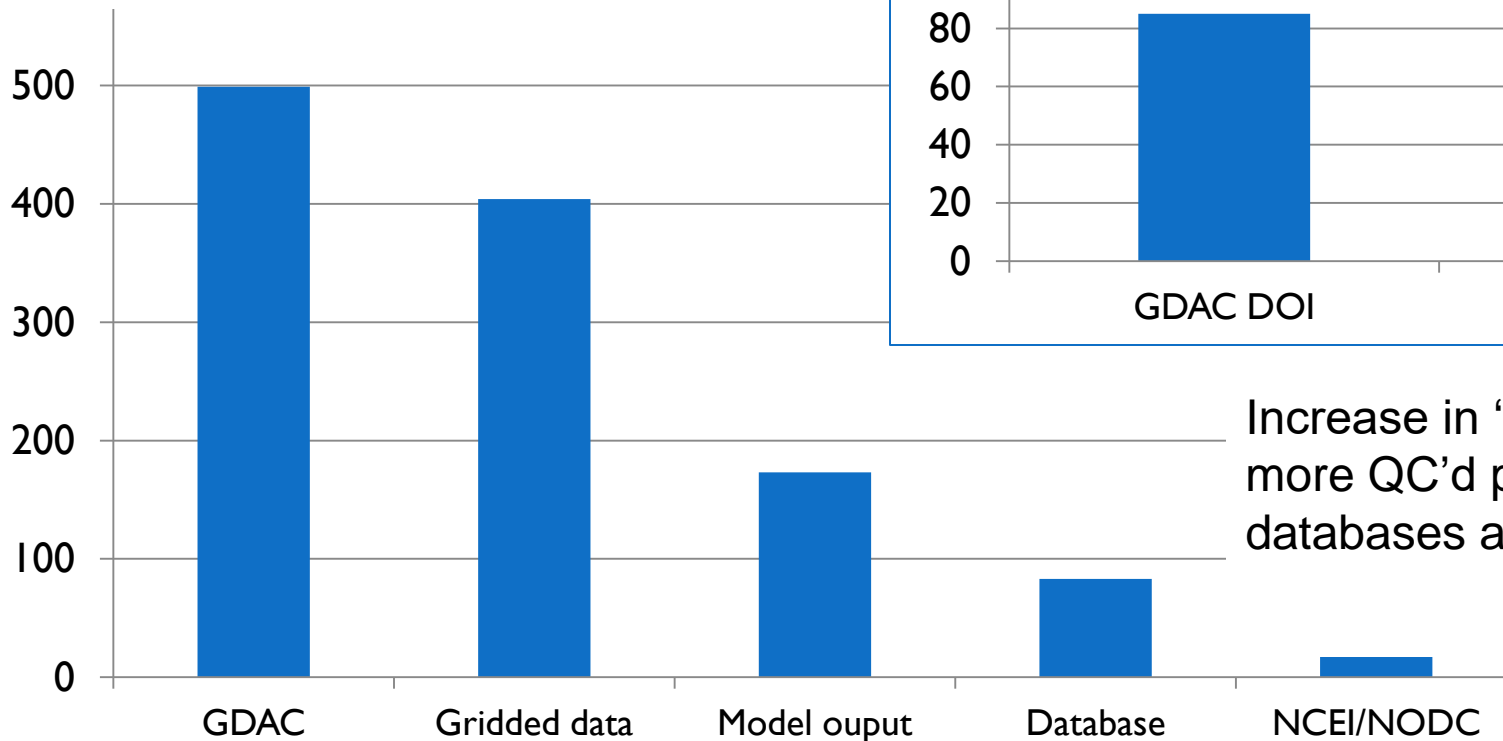
Western Boundary Current from 'Western Boundary Current' in title or keywords

# Argo Extension papers

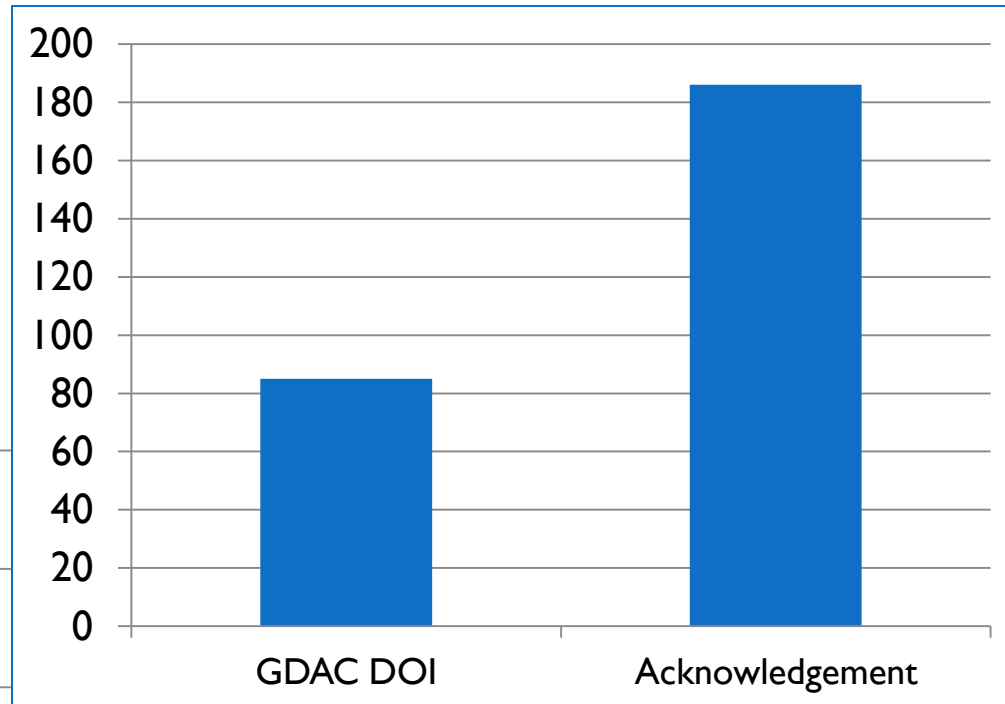


# Where do authors get their Argo data?

- ▶ Started tracking in March 2015
- ▶ Papers can have more than one source of Argo data
- ▶ Big jump in DOI (73 more) and Acknowledgement use (83 more) : Journals are requesting this and it shows



## How do authors acknowledge Argo?

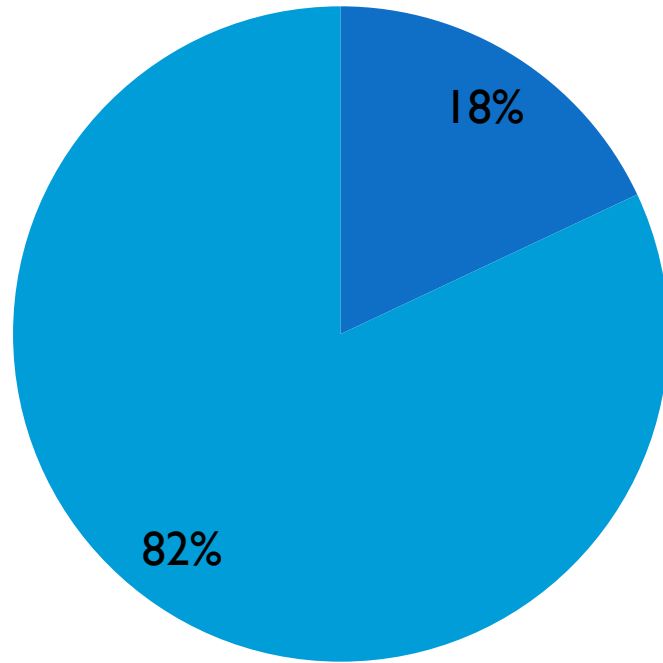


Increase in 'Database' as more QC'd profile databases are available



# Papers published by Argo PIs

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Past several years it was ~25%

■ At least one author is an Argo PI

■ No author is an Argo PI

Countries who have given me a list of Argo PIs:

Canada	China
France	Germany
South Africa	USA

**AST members from remaining countries are considered Argo PIs**

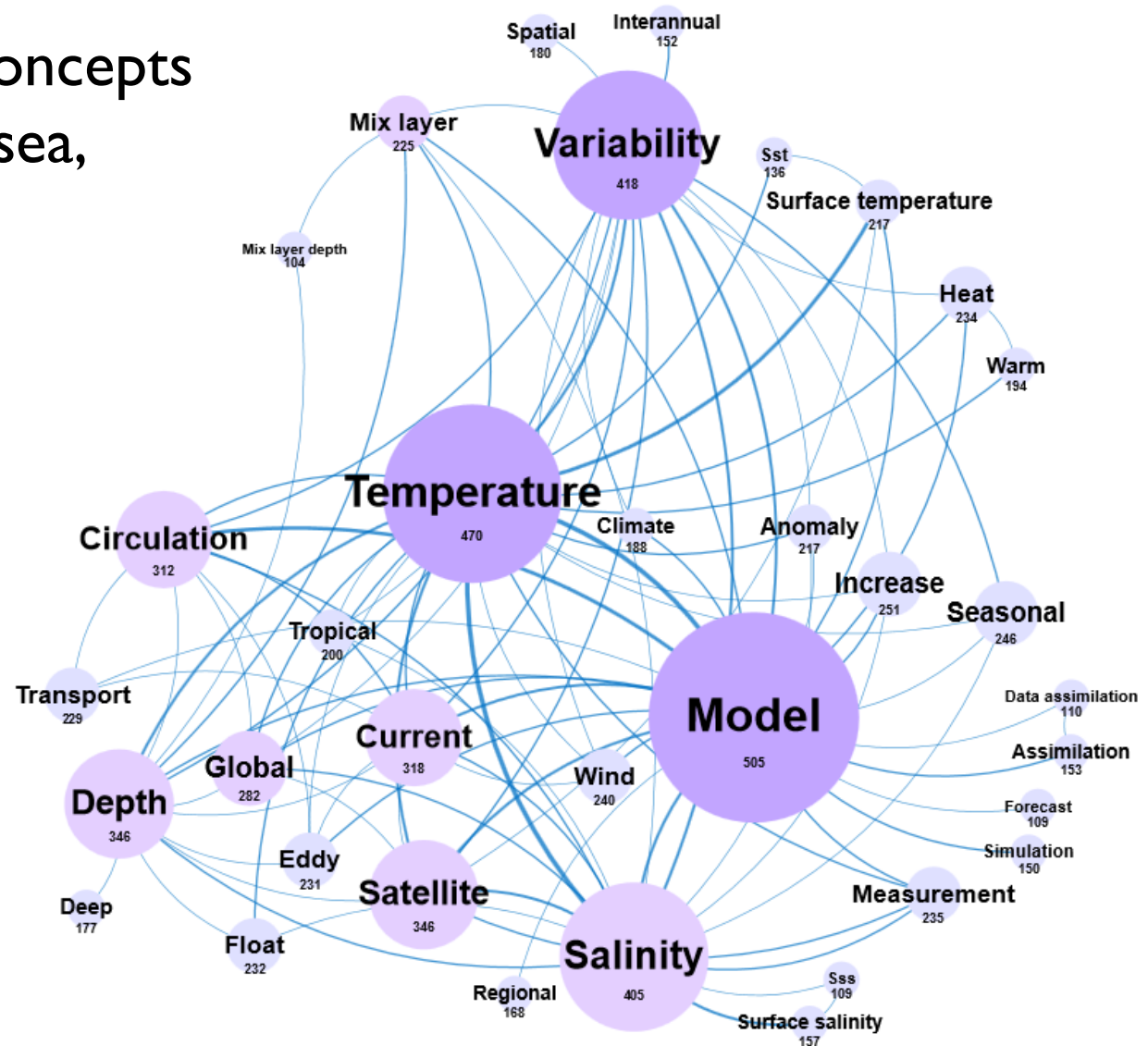
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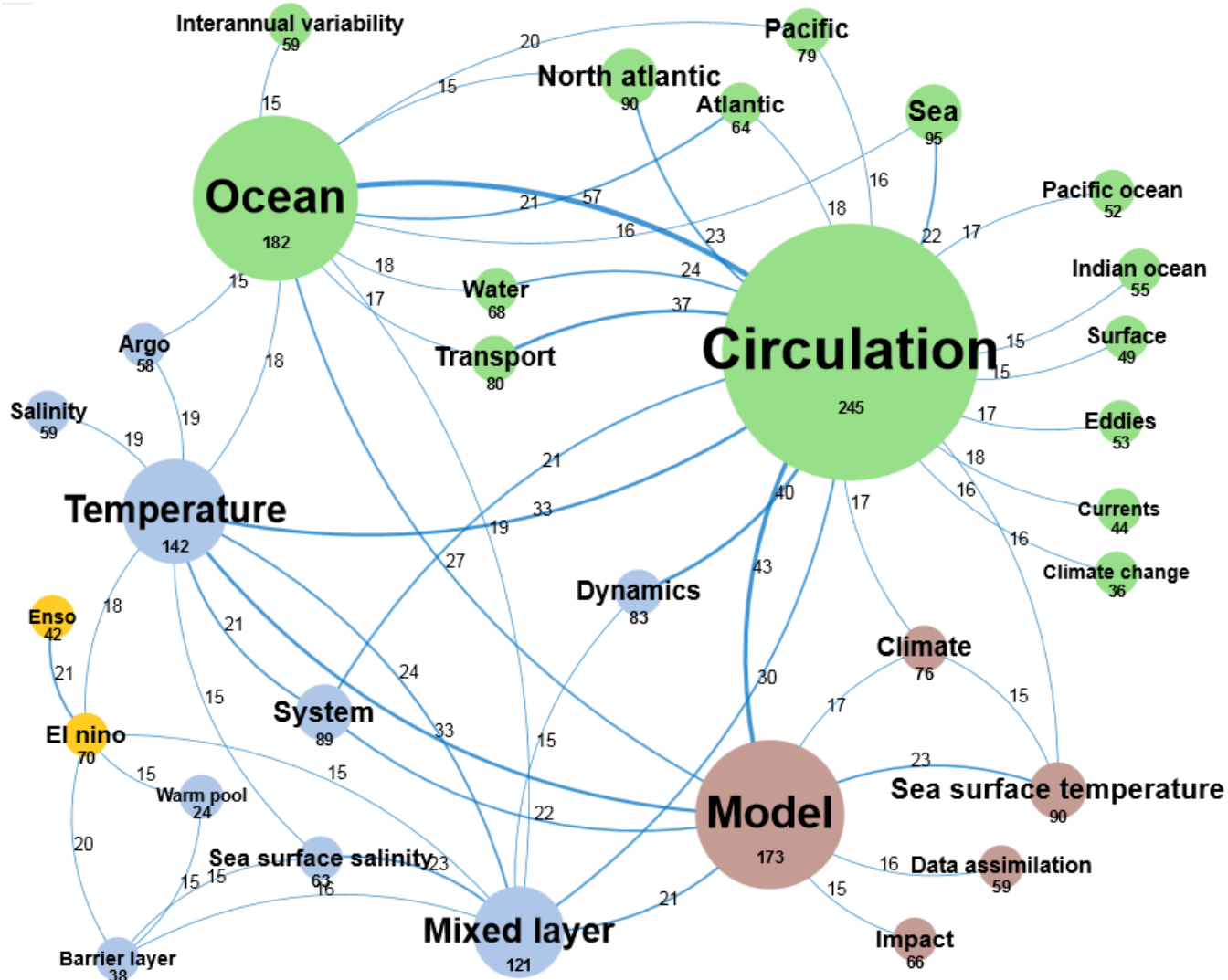




# IFREMER's analysis for 2014 - 2016

- Network of key concepts (excluding ocean, sea, marine, Argo)





# List of 2014-2016 articles cited at least 40 times from 2014 to 2018

- ▶ Total Publications : 1064
- ▶ Total Citations (26/02/2018) : 8585
- ▶ Average citations per item : 8.07

2014	2015	2016	2017	2018	Total	Average Citations per Year
◀				▶		
318	1429	2956	3656	220	8585	1430.83

1. **Causes and impacts of the 2014 warm anomaly in the NE Pacific**



By: Bond, Nicholas A.; Cronin, Meghan F.; Freeland, Howard; et al.  
[GEOPHYSICAL RESEARCH LETTERS](#) Volume: 42 Issue: 9 Pages: 3414-3420 Published: MAY 16 2015

2. **HYMEX A 10-Year Multidisciplinary Program on the Mediterranean Water Cycle**



By: Drobinski, P.; Ducrocq, V.; Alpert, P.; et al.  
[BULLETIN OF THE AMERICAN METEOROLOGICAL SOCIETY](#) Volume: 95 Issue: 7 Pages: 1063-1082 Published: JUL 2014

3. **Global Seasonal forecast system version 5 (GloSea5): a high-resolution seasonal forecast system**



By: MacLachlan, C.; Arribas, A.; Peterson, K. A.; et al.  
[QUARTERLY JOURNAL OF THE ROYAL METEOROLOGICAL SOCIETY](#) Volume: 141 Issue: 689 Pages: 1072-1084 Part: B  
 Published: APR 2015

4. **Unabated planetary warming and its ocean structure since 2006**



By: Roemmich, Dean; Church, John; Gilson, John; et al.  
[NATURE CLIMATE CHANGE](#) Volume: 5 Issue: 3 Pages: 240-245 Published: MAR 2015

5. **Global Patterns of Diapycnal Mixing from Measurements of the Turbulent Dissipation Rate**



By: Waterhouse, Amy F.; MacKinnon, Jennifer A.; Nash, Jonathan D.; et al.  
[JOURNAL OF PHYSICAL OCEANOGRAPHY](#) Volume: 44 Issue: 7 Pages: 1854-1872 Published: JUL 2014

6. **The rate of sea-level rise**



By: Cazenave, Anny; Dieng, Habib-Boubacar; Meyssignac, Benoit; et al.  
[NATURE CLIMATE CHANGE](#) Volume: 4 Issue: 5 Pages: 358-361 Published: MAY 2014

0	7	41	77	4	129	32.25
14	24	61	27	2	129	25.80
5	18	36	41	5	105	26.25
0	14	43	39	3	99	24.75
5	14	28	37	4	88	17.60
9	17	25	31	2	84	16.80

# Highly Cited papers

As of September/October 2017, this highly cited paper received enough citations to place it in the top 1% of the academic field of Geosciences based on a highly cited threshold for the field and publication year.

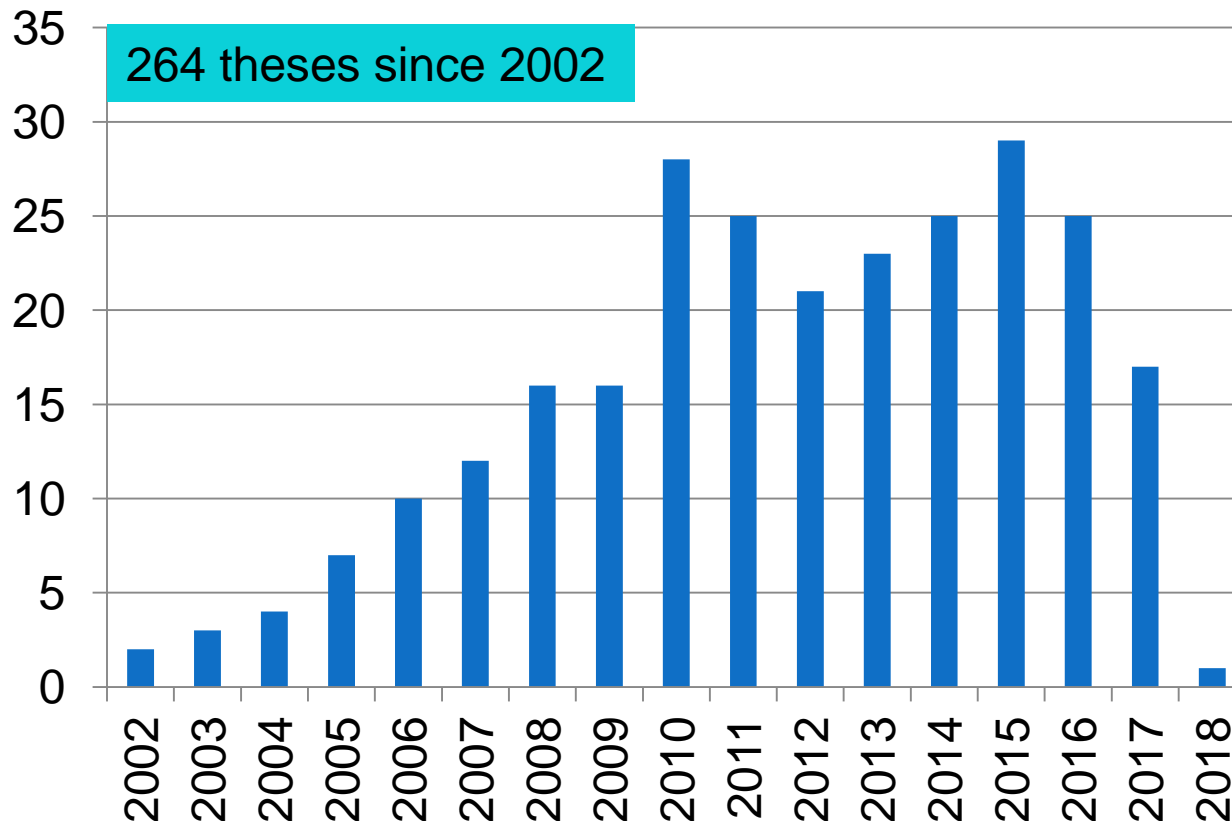
*Data from Essential Science Indicators*

Only top 5 are shown, 23 in total

First Author	Title	Times Cited
Bond, NA	Causes and impacts of the 2014 warm anomaly in the NE Pacific	129
Drobinski, P	HYMEX A 10-Year Multidisciplinary Program on the Mediterranean Water Cycle	129
MacLachlan, C	Global Seasonal forecast system version 5 (GloSea5): a high-resolution seasonal forecast system	105
Roemmich, D	Unabated planetary warming and its ocean structure since 2006	99
Waterhouse, AF	Global Patterns of Diapycnal Mixing from Measurements of the Turbulent Dissipation Rate	88

# Current status of thesis citation list

- ▶ Contains over 250 doctorate theses using Argo data
- ▶ 32 theses added since last AST meeting
- ▶ Based on my searches and feedback from AST members
  - ▶ Thanks to Canada, Germany, Japan and Poland for including dissertations in National Report
- ▶ Will include only theses with **verified Argo data** usage – either via access to document or by someone else familiar with thesis. This is getting easier as more theses are available online



# Conclusions

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- ▶ Explore ways to capture more secondary source Argo papers which may involve searching for papers by authors or models
- ▶ Consider how to display Argo extension papers or metrics – feedback from AST welcomed
- ▶ Argo DOI being cited more often which makes tracking papers easier
- ▶ IFREMER can do great analysis of bibliography metrics
  - ▶ Suggest we request report annually
  - ▶ Should we request permission to post this?

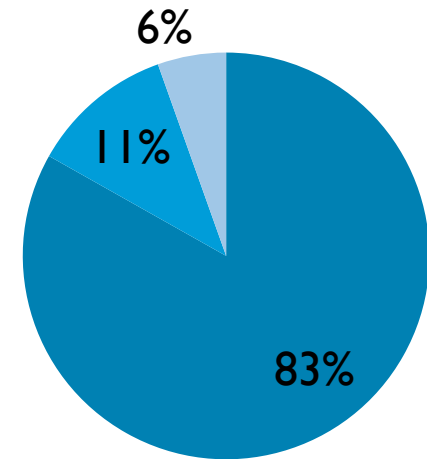


# How well do my searches work?

- Based on feedback from National Reports from Canada, China, France, Germany, Greece, India, Japan, Spain, UK
- Total of 202 citations
- Missing ones in English fell into following categories
  - Did not mention Argo /was assimilated into a model (4)
  - Was in a journal not searched (9)
  - Was in press or 2017 (3)

## Percentage of citations

- Found
- Missing (in English)
- Missing (in other language)



## Conclusions

- ▶ Need to consider expanding jnl list & maybe look for papers on models assimilating Argo
- ▶ Still reliant on authors/AST reps to send citations of papers where Argo is used, but not directly mentioned in paper