

# Citation analysis of AMS journals for collection development and publishing decisions

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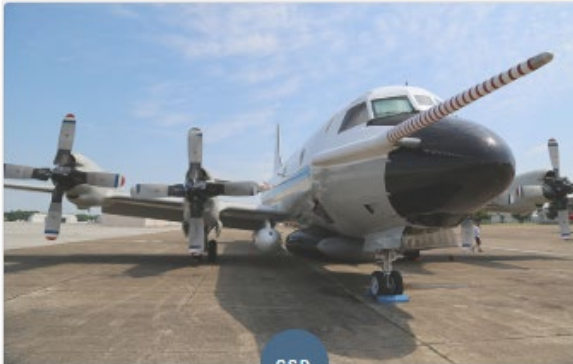
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# Outline

- Overview of library's focus
- Study purpose and methods
- Collection development findings
- Publishing findings
- Conclusions and lessons learned
- Questions

# The research Boulder Labs Library supports

## Earth System Research Laboratory (ESRL)



CSD

### Chemical Sciences Division

Research to advance understanding of climate, air quality, and the stratospheric ozone layer.



PSD

### Physical Sciences Division

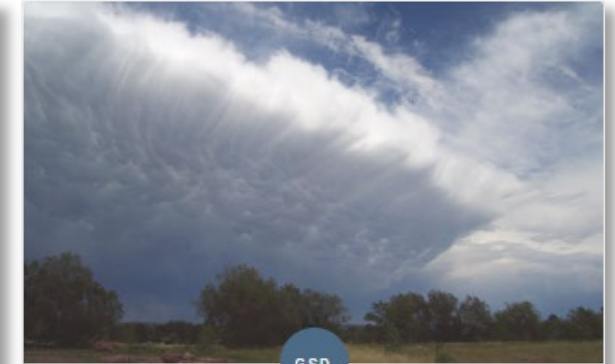
Research to improve observations, understanding, modeling and predictions of weather, water, and climate extremes.



GMD

### Global Monitoring Division

Taking the pulse of the planet with accurate, long-term, global observations and analyses to advance understanding of the Earth system.



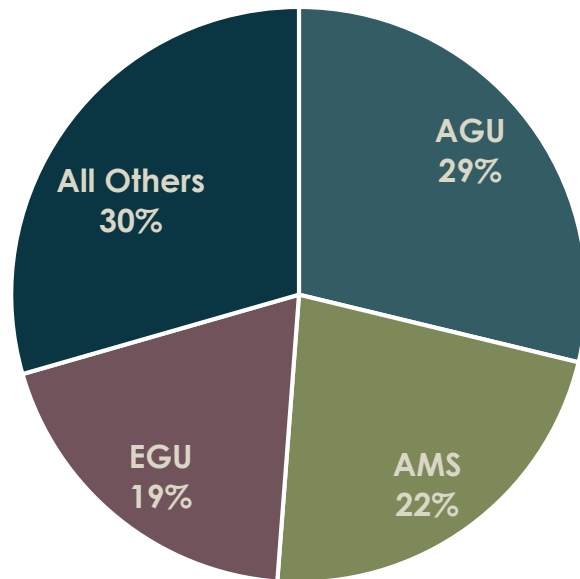
GSD

### Global Systems Division

Making forecasts better through applied research and directed development.

# Why study AMS journals?

ESRL Publications, 2018



- A quarter of all ESRL publications
- Highly ranked as a group in *Journal Citation Report (JCR)*, Meteorology and Atmospheric Sciences [Meteorology]
- Had not been studied as a group

# Study purpose

- Collection development: journals that are most important in field using AMS journal citing and cited data
- Publishing: impact of AMS journals across research areas and differentiation of journals from Meteorology journals as a whole

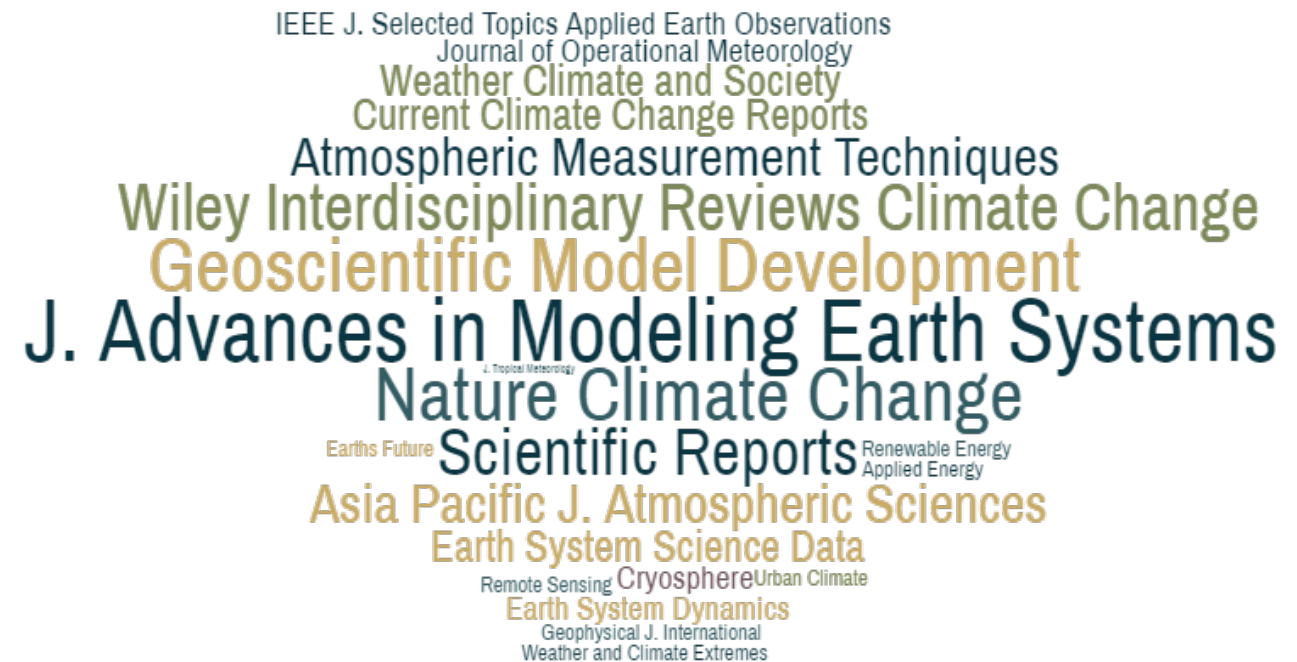
# Study methods

- *Web of Science* cited reference data from AMS publications, 2009-2018
- *Web of Science Core Collection* sources citing those AMS publications
  - Science Citation Index Expanded
  - Social Sciences Citation Index
  - Emerging Sources Citation Index
  - Journals only
- *Essential Science Indicators* disciplines and *Web of Science* research areas

# Collection development findings: Changes in cited sources, 2009-2018

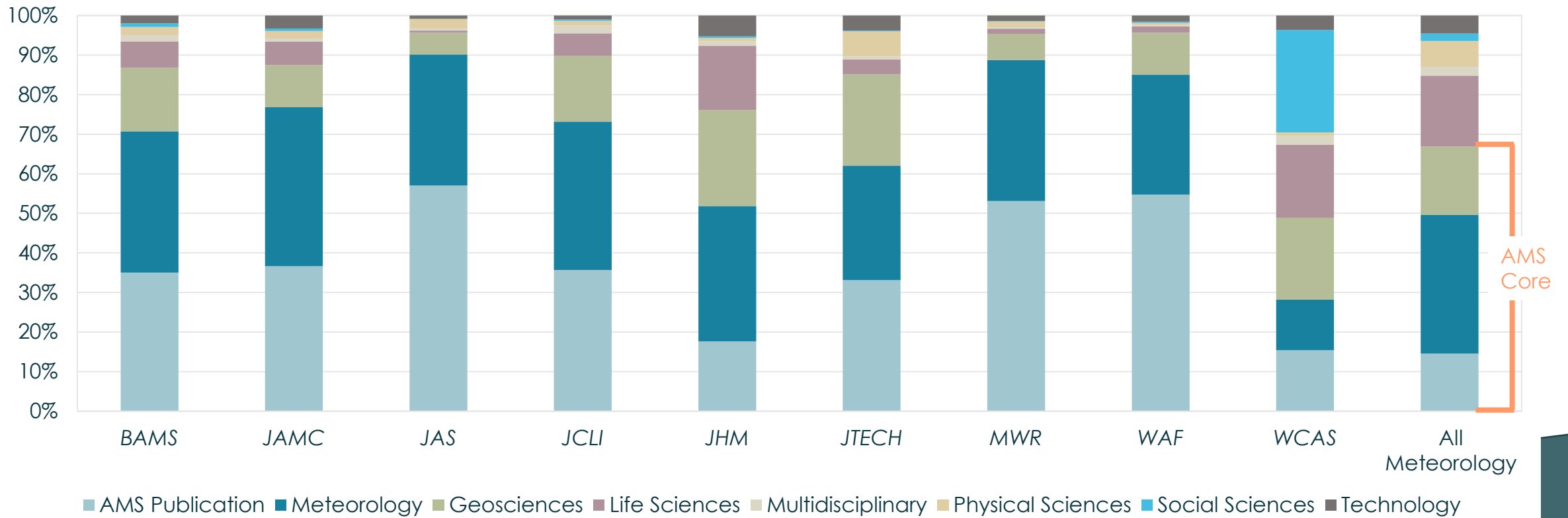
## Select Titles

Title	Increased # citation	Publisher, year started
<i>J. Advances in Modeling Earth Systems</i>	455	AGU, 2009
<i>Geoscientific Model Development</i>	402	EGU, 2008
<i>Nature Climate Change</i>	219	Nature, 2007
<i>Asia Pacific J. Atmospheric Sciences</i>	86	Springer, 1965
<i>Weather, Climate and Society</i>	51	AMS, 2009



# Publishing findings: Research areas citing

Percentage of Citing Publications by Research Area, 2009-2018





# Publishing findings: Top journals citing AMS publication



## **Meteorology**

- Q. J. Royal Meteorological Society
- Climate Dynamics
- JGR-Atmospheres
- International J. Climatology



## **Geosciences**

- Geophysical Research Letters
- JGR-Oceans
- Remote Sensing
- Geoscientific Model Development



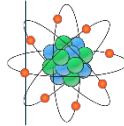
## **Life Sciences**

- Water Resources Research
- Environmental Research Letters
- Water
- Global Change Biology



## **Multidisciplinary**

- Scientific Reports
- PNAS
- Nature Communications
- PLoS One



## **Physical Sciences**

- Proceedings of SPIE
- Phil. Trans. Royal Society A
- Proceedings Royal Society A
- Advances in Space Research



## **Social Science**

- Regional Environmental Change
- Annals of the Am. Assoc. Geographers
- Global Environmental Change
- Applied Geography



## **Technology**

- Journal of Hydrology
- Journal of Fluid Mechanics
- Advances in Water Resources
- Environmental Modelling & Software

# Conclusions

- AMS citation patterns are good representation of meteorology journals as a whole
- Study identified new journals in the field, but also journals that rose in visibility and popularity
- AMS journals are best to reach AMS authors
- AMS journals have a stronger impact on meteorology and geosciences compared to meteorology journals as a whole
- WCAS is being used by social scientists

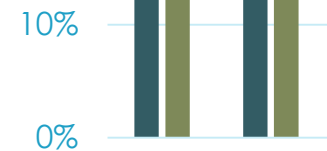
# Lessons Learned

- Going back 10 years didn't impact study findings
- Could have used data from *JCR* and *Web of Science* citation report with much less data manipulation

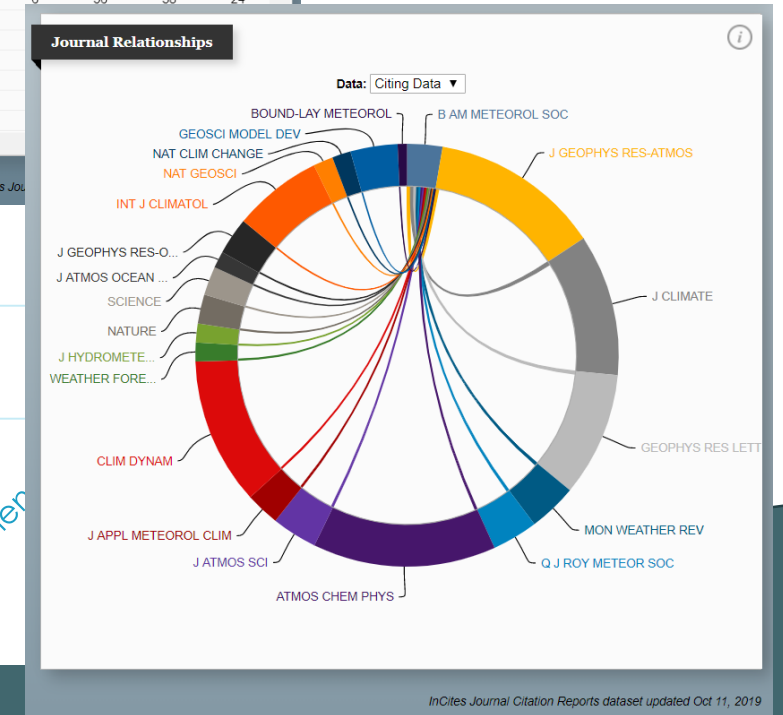
Cited Journal Data						
Impact	Citing Journal	All Yrs	2018	2017	2016	2015
1	ALL Journals	22,959	364	1,166	1,145	1,006
2	ALL OTHERS (744)	744	6	22	36	54
3	4.805 J CLIMATE	1,198	15	47	62	102
4	3.633 J GEOPHYS RES-ATM...	1,062	14	69	62	92
5	4.048 CLIM DYNAM	995	0	16	52	46
6	4.578 GEOPHYS RES LETT	784	30	61	58	74
7	3.601 INT J CLIMATOL	763	6	25	20	35
8	5.668 ATMOS CHEM PHYS	714	31	70	49	110
9	8.166 B AM METEOROL SOC	592	32	79	62	51
10	4.118 REMOTE SENS-BASEL	580	11	24	23	25
11	3.146 MON WEATHER REV	509	6	56	38	24
12	2.046 ATMOSPHERE-BASEL	418				
13	2.364 J APPL METEOROL C...	369				
14	3.198 Q J ROY METEOR SOC	340				
15	2.720 THEOR APPL CLIMATOL	333				
16	4.114 ATMOS RES	316				
17	6.192 ENVIRON RES LETT	277				

Citing AMS

2009-2018 ■ AMS 2018



AMS Publication  
Meteorology  
Geoscience



# Questions?

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