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# The Impact of the Global Movement of Open Access (OA) on OA Publishing for Canadian Government Science Researchers

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True North Science Boot Camp, Mount Royal University  
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# Outline

- Introduction
- Our study
  - Research Questions
  - Methods
  - Results
  - Discussion
- What was learned

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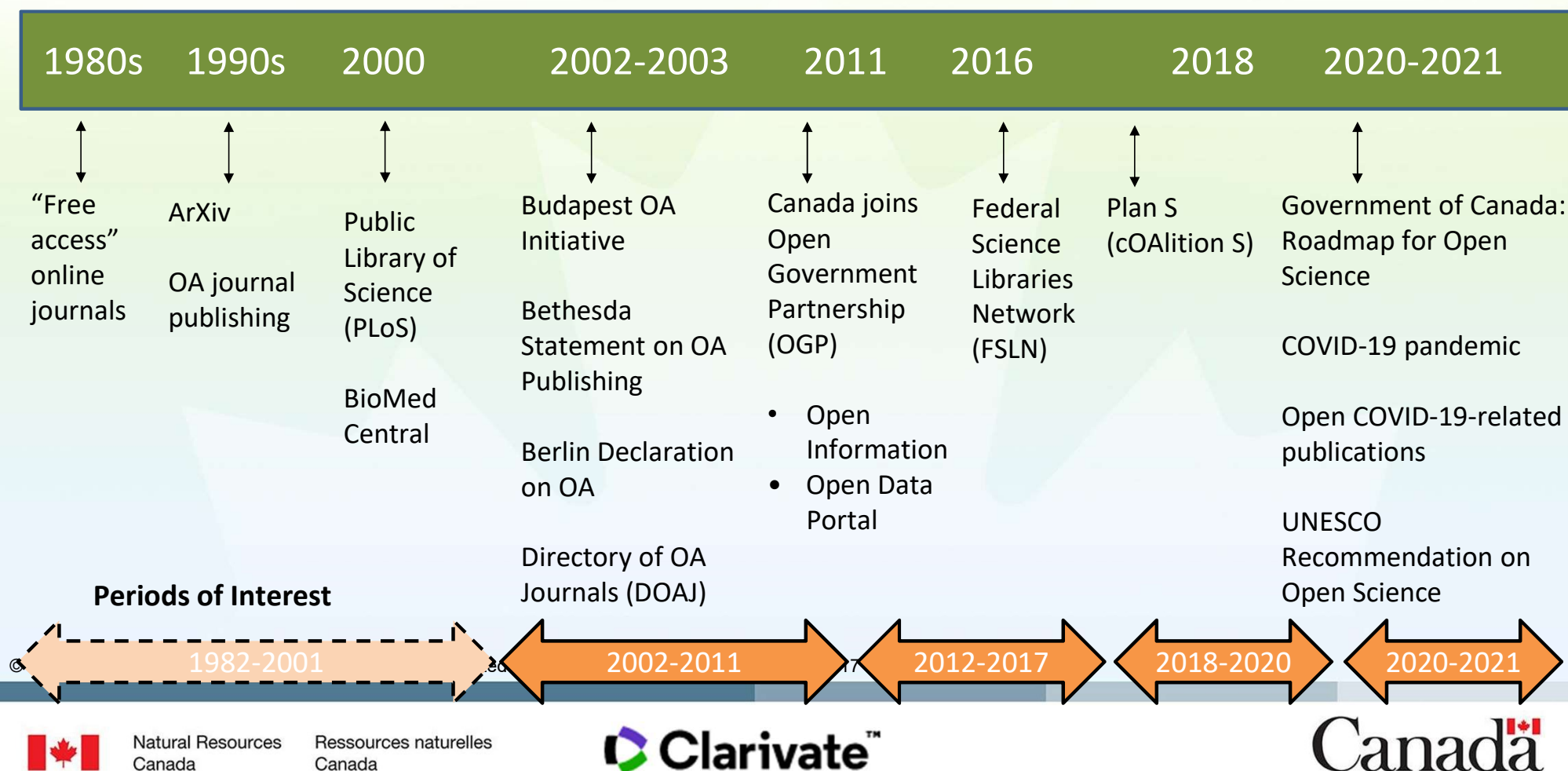
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# Open Access (OA) Timeline



# Research Questions

- ★ **Have OA mandates, Open Science (OS) initiatives, and the current global pandemic led to a growth of Open Government resources and OA publications?**
  - How did the availability of open publications contribute to research impact assessment?
  - Have government researchers' publishing practices been influenced by OA mandates and publishers' OA policies?
  - Are there any disciplinary differences in OA funding, and OA publishing?

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# Methods

- The Web of Science (WoS) Core Collection was used to locate OA publications and citation trends in four OA variants:
  - DOAJ Gold, Other or Hybrid Gold, Green Accepted, and Green Published.
- Analysis was conducted using the WoS Core Collection and InCites Benchmarking & Analytics to form stories in government institutional repositories, citation premiums benefiting from OA publishing, Canadian funders and collaborators for OA documents, etc.
- Publication data was tabulated manually to correspond to the key OA time frames for OA impact analysis.
- 2020 data was added to see if trends remained constant or changed, either slightly or significantly.

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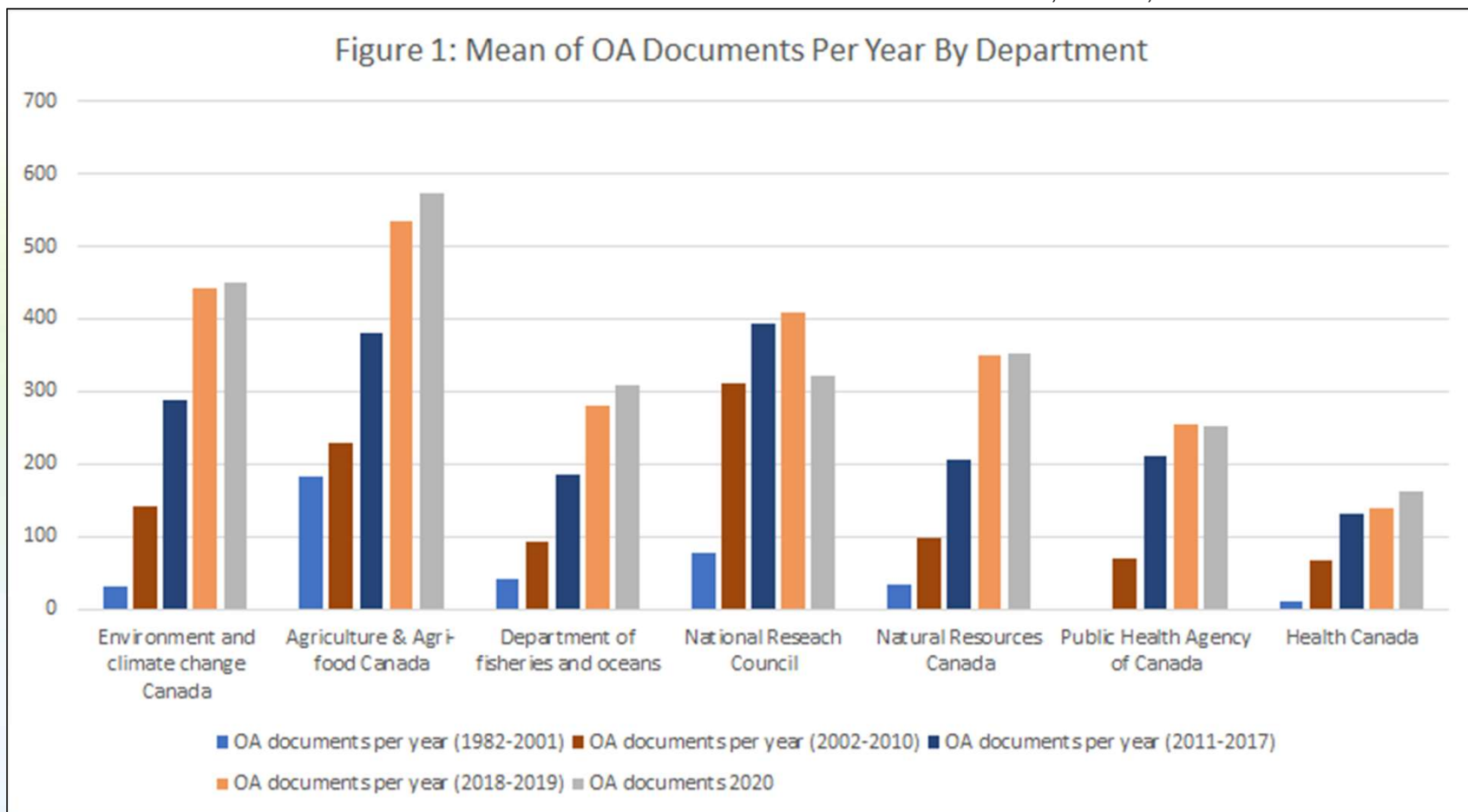
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# OA Growth - FSLN Departments

Authors: Lin, Ruccolo, & Pollock-Greenwood



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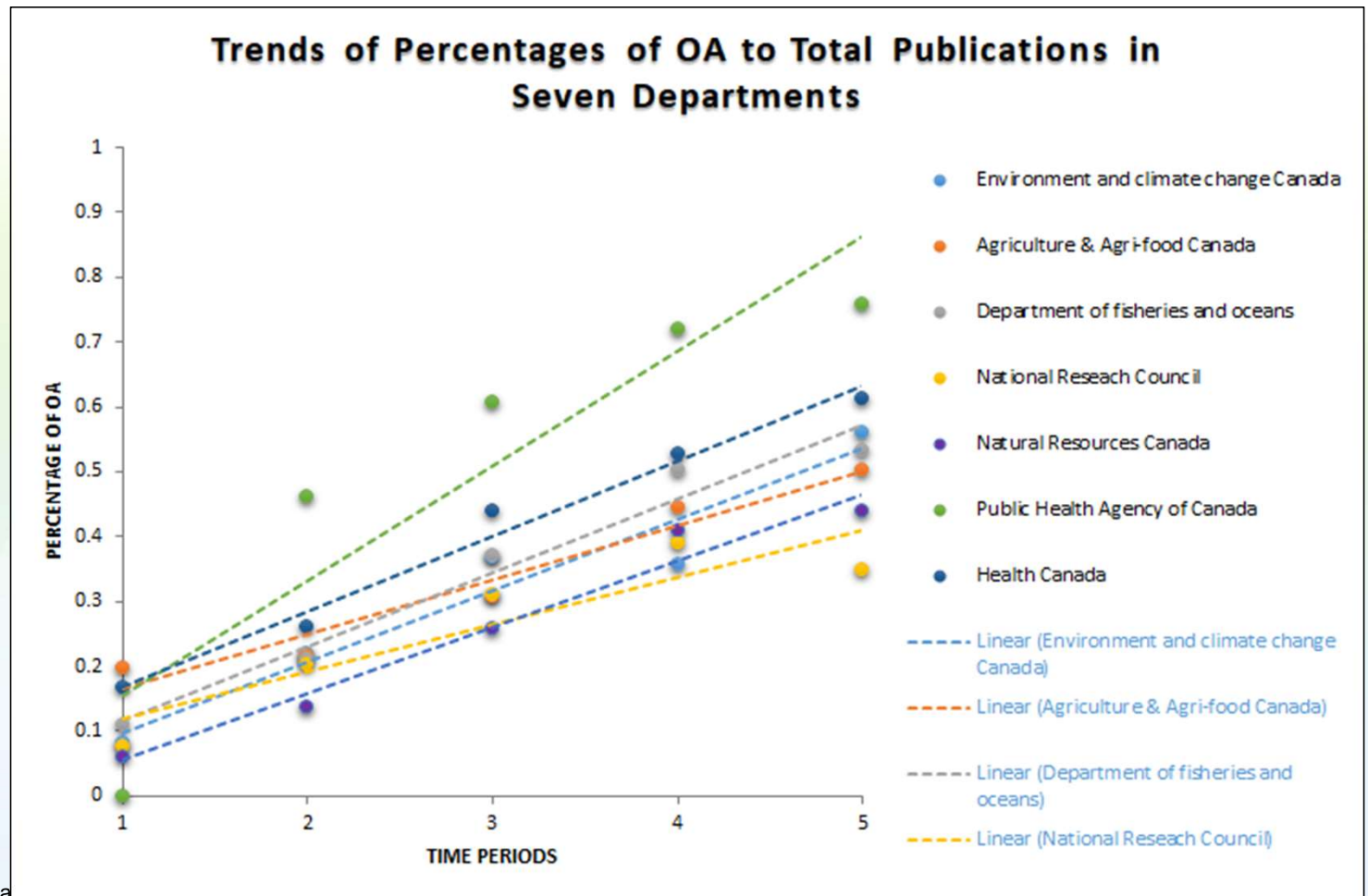
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# Trends in FSLN: OA Growth

## Time Periods

- 1: 1982-2001
- 2: 2002-2010
- 3: 2011-2017
- 4: 2018-2019
- 5: 2020



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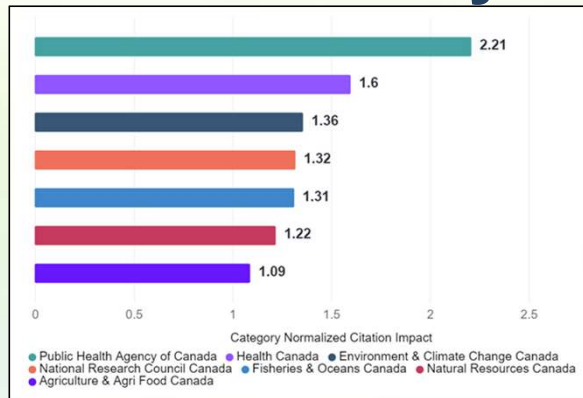
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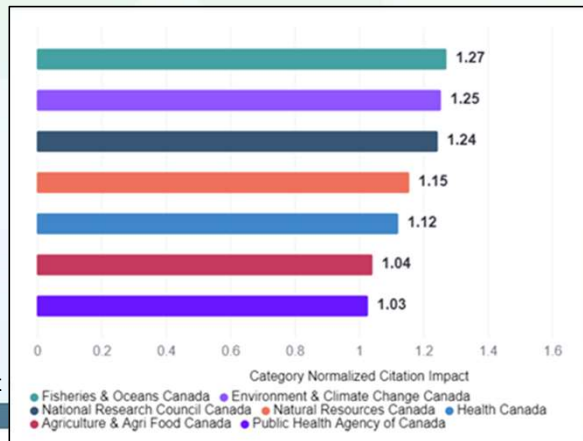
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# Category Normalized Citation Impact (CNCI) for FSLN Publications by Department, 1982-2020

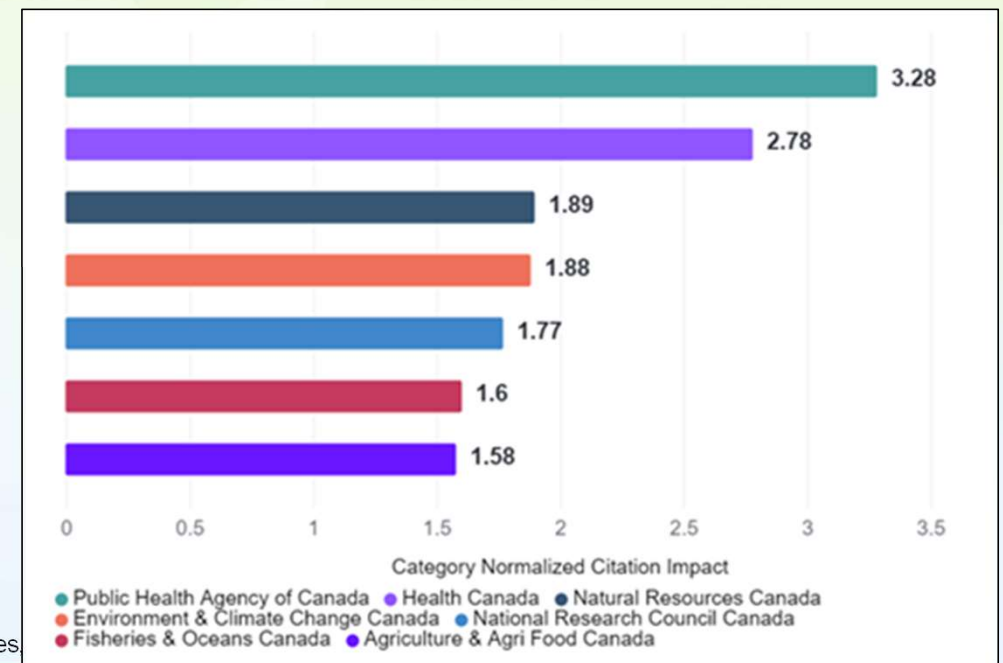
CNCI for all FSLN publications from 1982 - 2020



CNCI for non-OA FSLN publications from 1982 - 2020



CNCI for FSLN OA Publications from 1982 - 2020



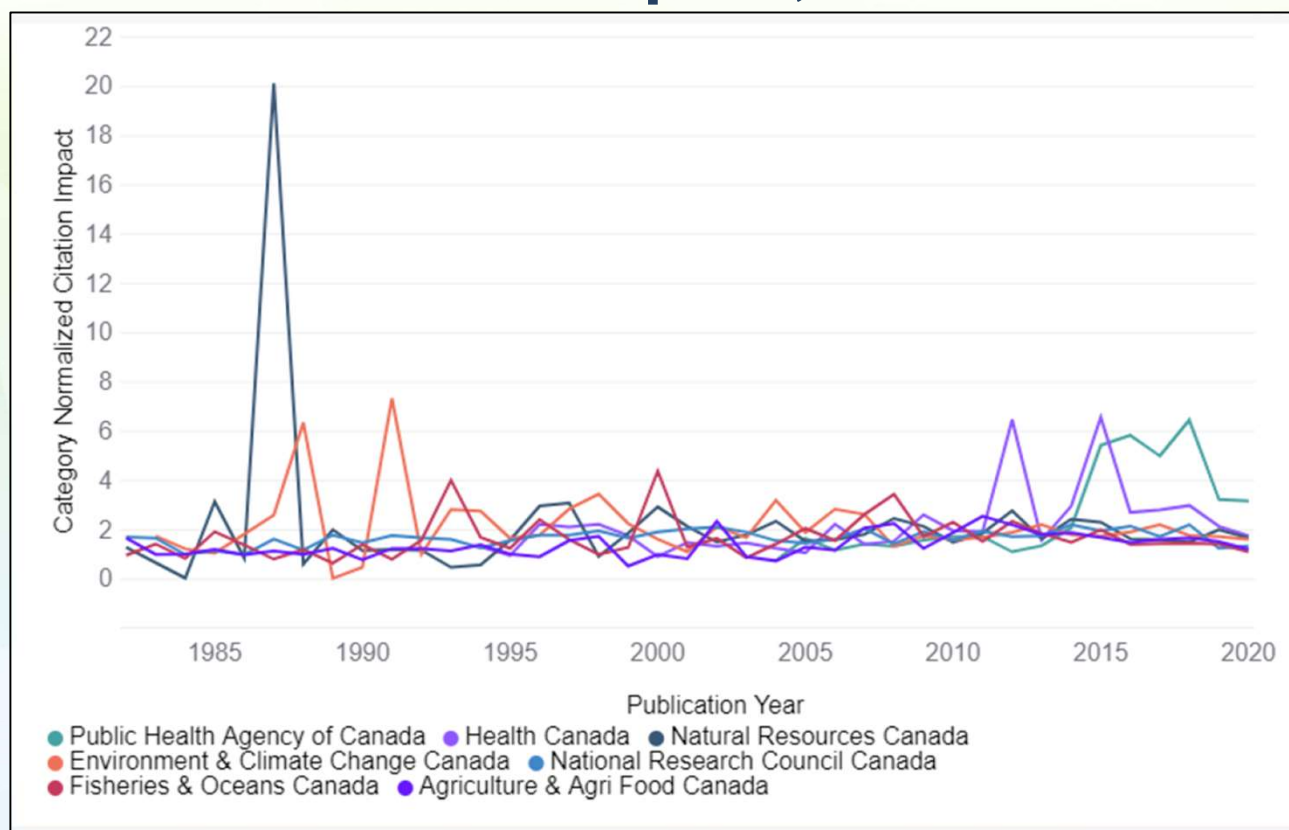


## CNCI for FSLN Researchers' OA Outputs, 1982-2020

The global average CNCI being 1, a higher number represents an above average citation impact.

Spikes in CNCI:

- NRCan publications in the late 1980s.
- ECCC publications in 1980/90s.
- HC and PHAC publications in 2010s.



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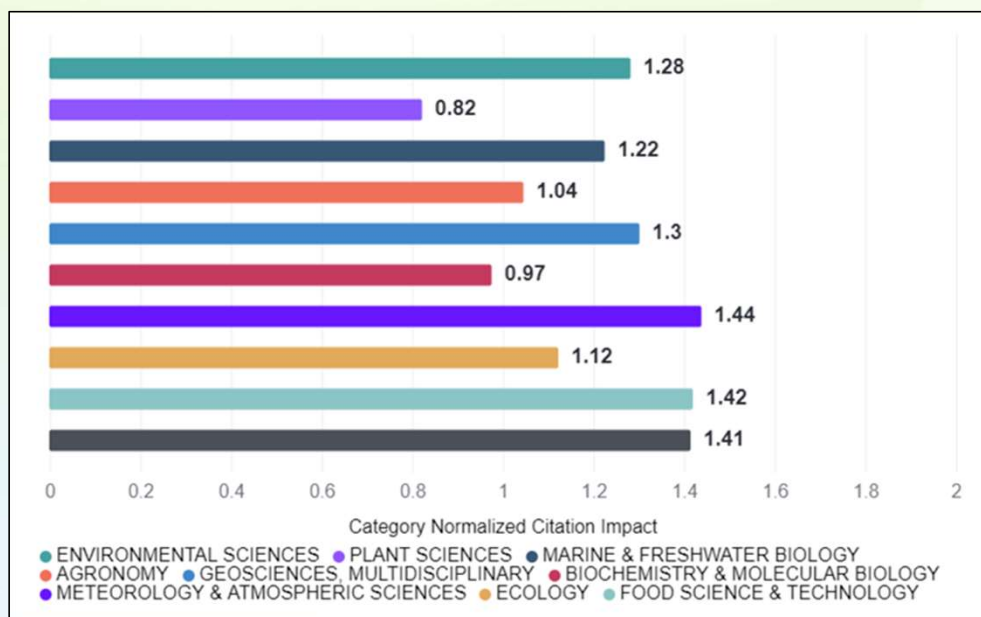
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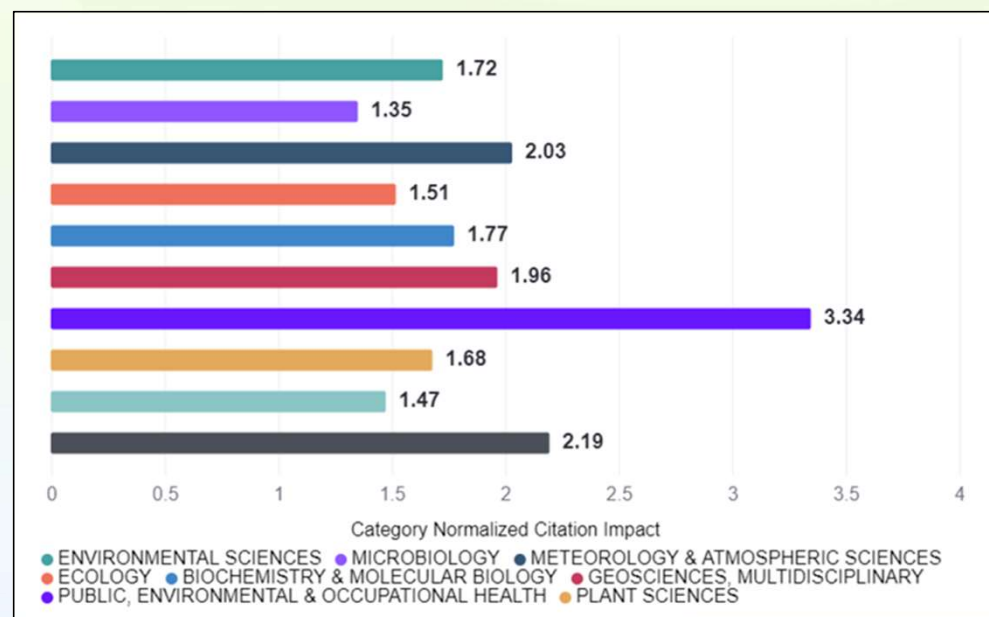
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# CNCI for FSLN Publications by Research Area, 1982-2020

CNCI for all FSLN publications from 1982-2020



CNCI for FSLN OA Publications from 1982-2020



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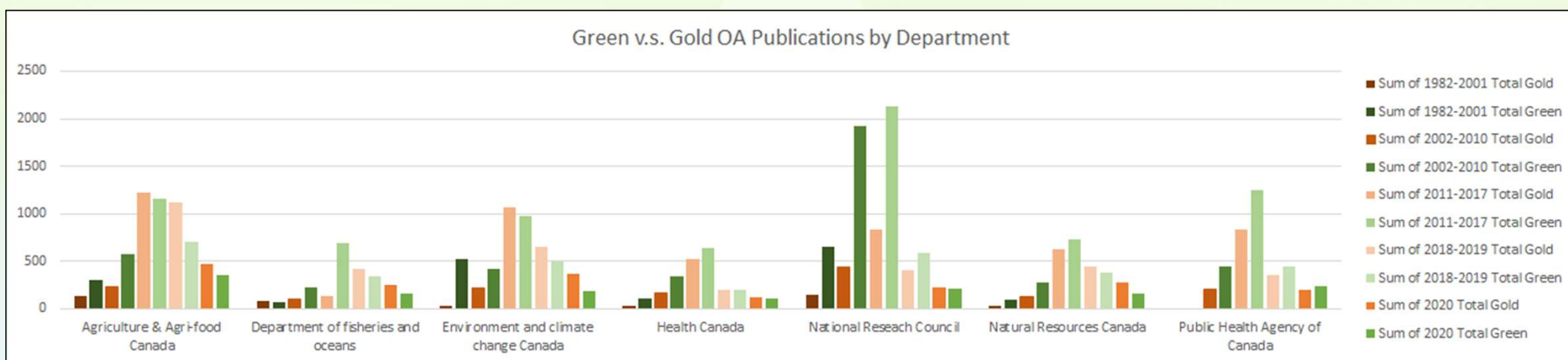
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# Gold & Green OA Output by FSLN Department, 1982-2020



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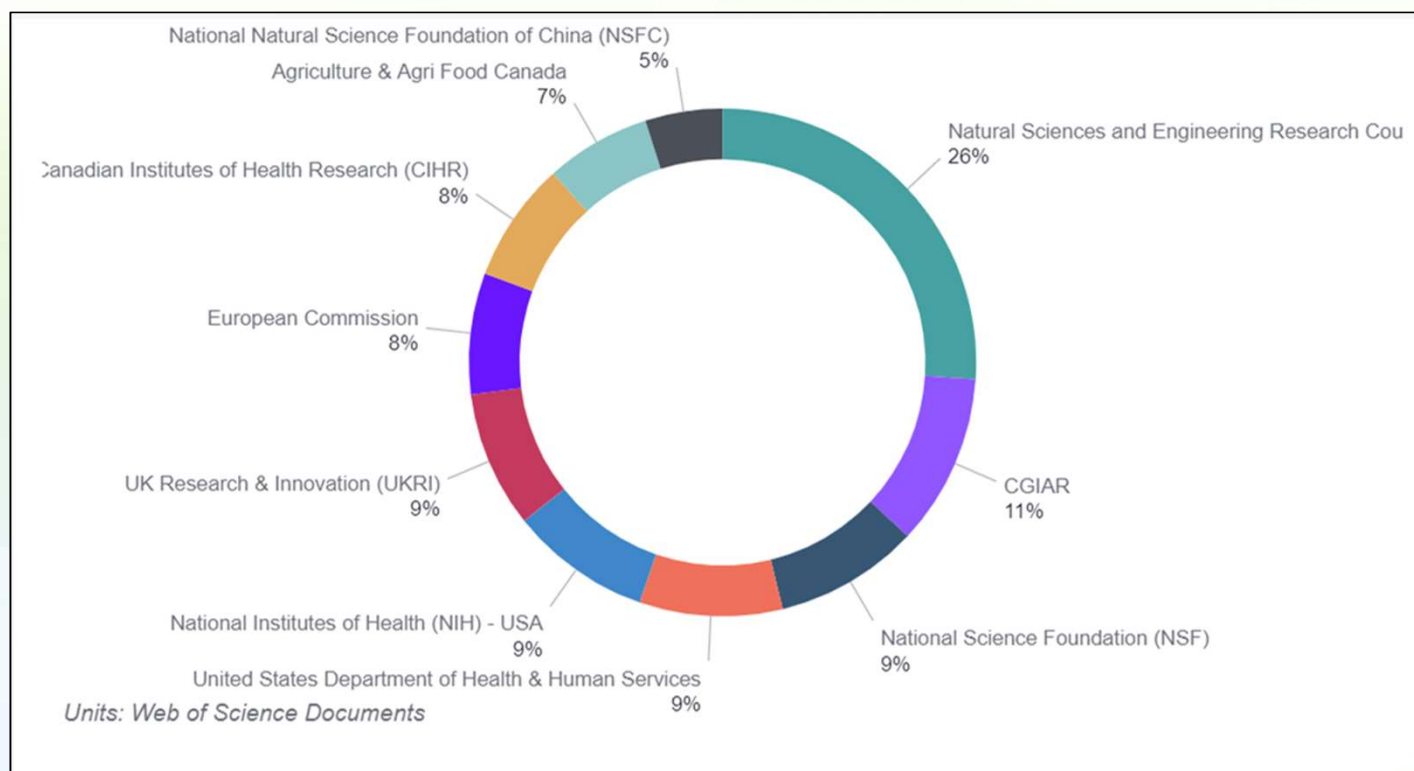
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# Top 10 Funders for FSLN Researchers' OA Output, 1982-2020



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## Journals Where FSLN Researchers are Most Frequently Publishing OA Output, 1982- 2020

-  Diamond OA
-  Gold OA
-  Hybrid (Gold) OA
-  Immediate & delayed (hybrid Gold and Green) OA options

Top 25 journals by OA Output (1982-2020)		Journal Normalized Citation Impact
	PLOS ONE	1.2
	ATMOSPHERIC CHEMISTRY AND PHYSICS	1.1
	APPLIED AND ENVIRONMENTAL MICROBIOLOGY	0.9
	SCIENTIFIC REPORTS	1.1
	JOURNAL OF BIOLOGICAL CHEMISTRY	0.8
	POULTRY SCIENCE	0.93
	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA	1.3
	ASTROPHYSICAL JOURNAL	1.3
	ZOOKEYS	1.4
	JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES	1.7
	PLANT PHYSIOLOGY	0.8
	REMOTE SENSING	0.9
	GEOPHYSICAL RESEARCH LETTERS	1.8
	JOURNAL OF CLINICAL MICROBIOLOGY	0.9
	OPTICS EXPRESS	1.1
	CANADIAN JOURNAL OF PUBLIC HEALTH-REVUE CANADIENNE DE SANTE PUBLIQUE	1
	ENVIRONMENTAL HEALTH PERSPECTIVES	1.5
	MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY	1.4
	JOURNAL OF VIROLOGY	1
	BMC GENOMICS	1.2
	FRONTIERS IN PLANT SCIENCE	0.9
	JOURNAL OF BACTERIOLOGY	0.9
	ASTRONOMY & ASTROPHYSICS	1.6
	FRONTIERS IN MICROBIOLOGY	1
	HEALTH PROMOTION AND CHRONIC DISEASE PREVENTION IN CANADA-RESEARCH POLICY AND PRACTICE	1.1

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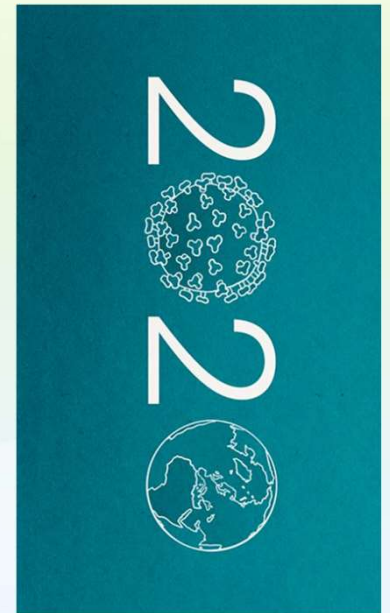
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# Then Year 2020

- ❖ Global demand for OA.
- ❖ Digital transformation became a reality.
- ❖ How science is conceived, conducted, collaborated, and shared has changed permanently.
- ❖ The world of library vendors shrunk.



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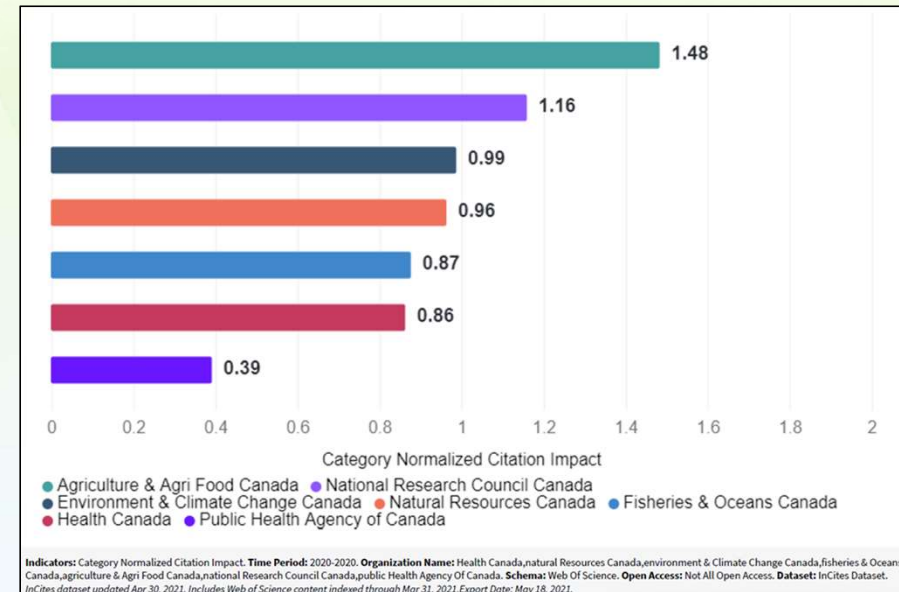
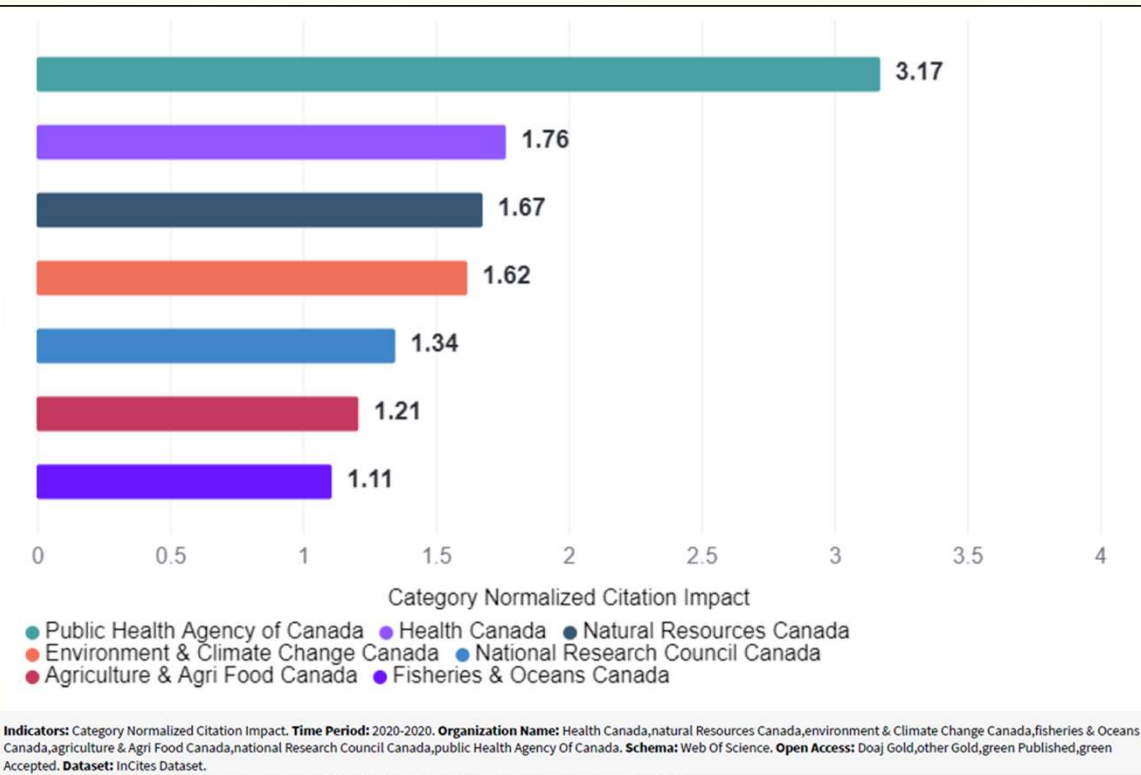
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# 2020: CNCI for OA and for Non-OA Outputs



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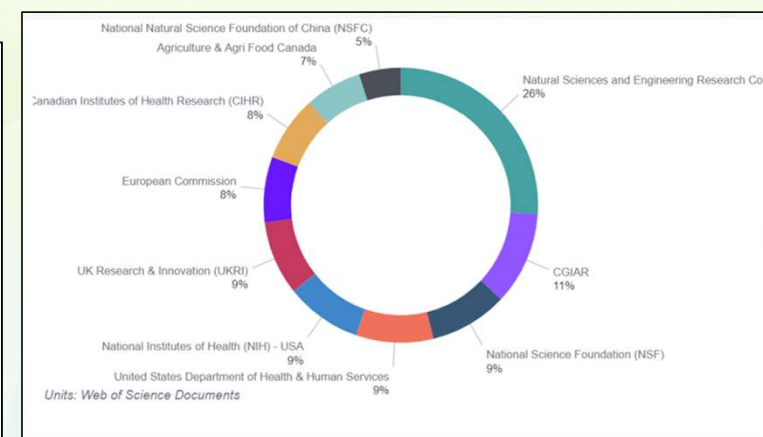
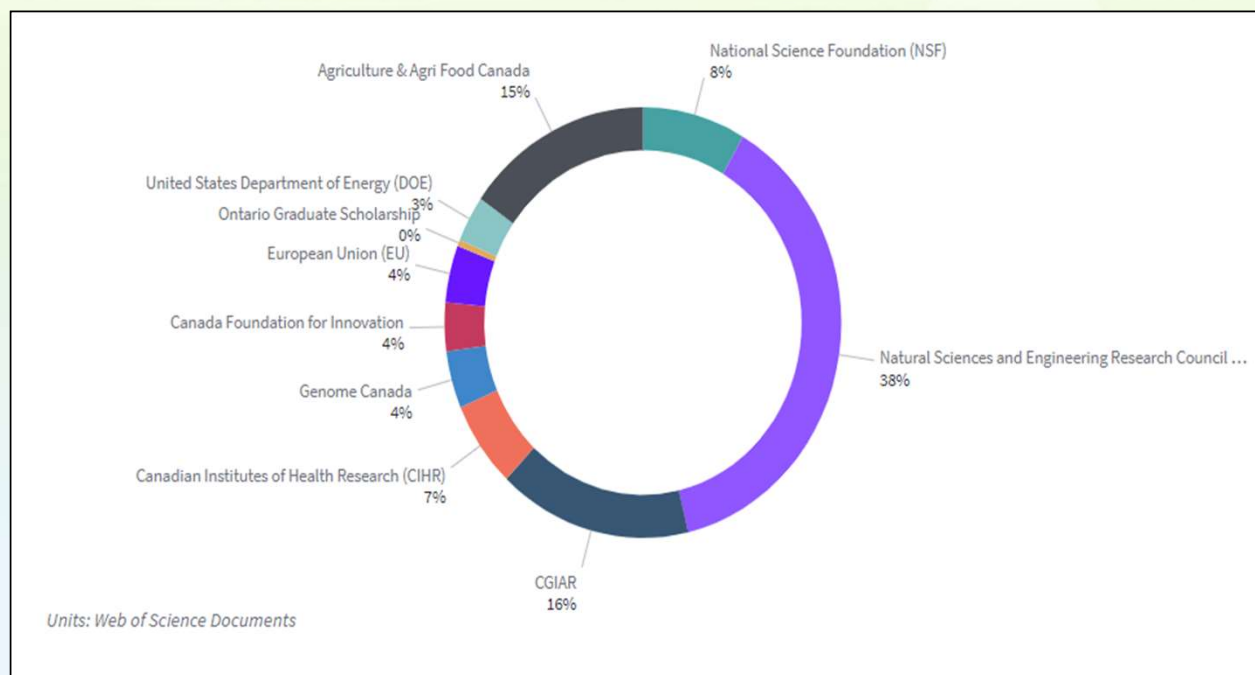
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# Top 10 Funders for FSLN Researchers' OA Output, 2020



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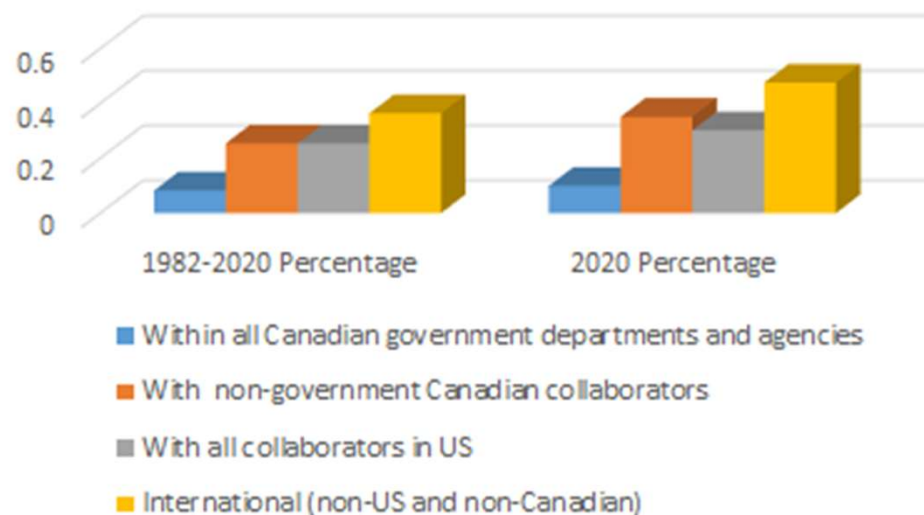
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# FSLN Research Collaborations, 2020

Collaborations Over Time for All Seven Departments



thebmj

covid-19

Research

Education

News & Views

Campaigns

Jobs

**Analysis** » Covid-19: The Road to Equity and Solidarity

**International collaboration and covid-19: what are we doing and where are we going?**

BMJ 2021 ; 372 doi: <https://doi.org/10.1136/bmj.n180> (Published 29 January 2021)

Cite this as: BMJ 2021;372:n180

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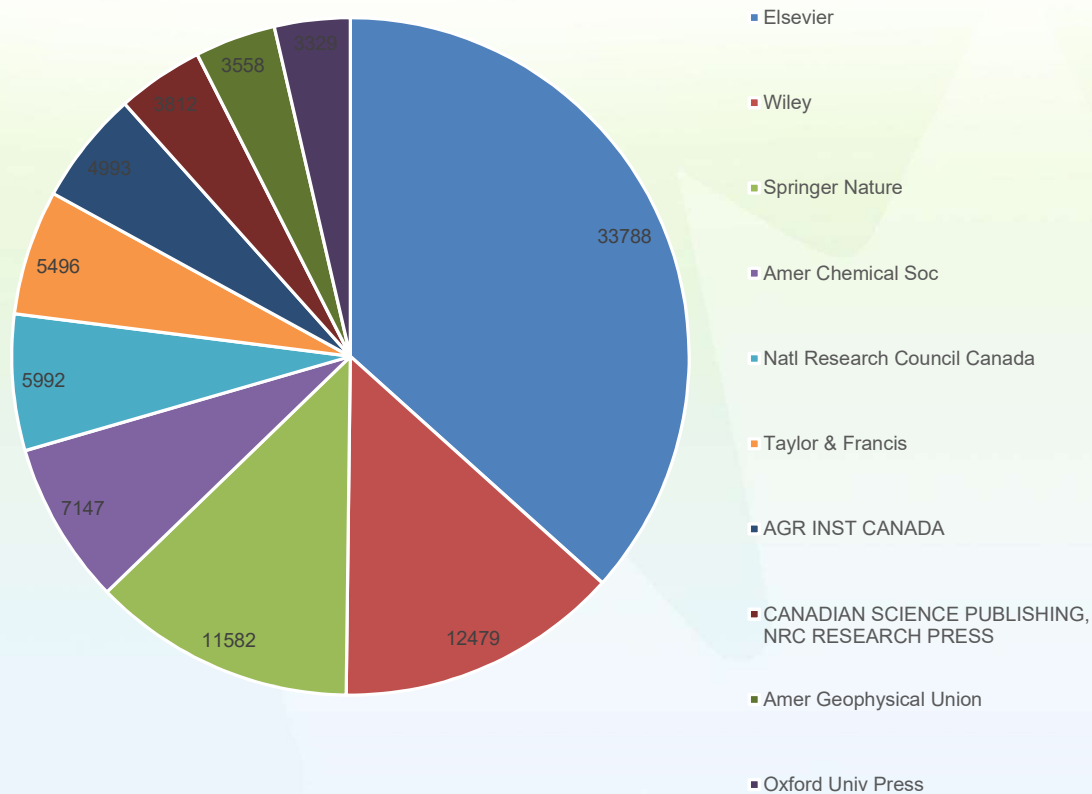
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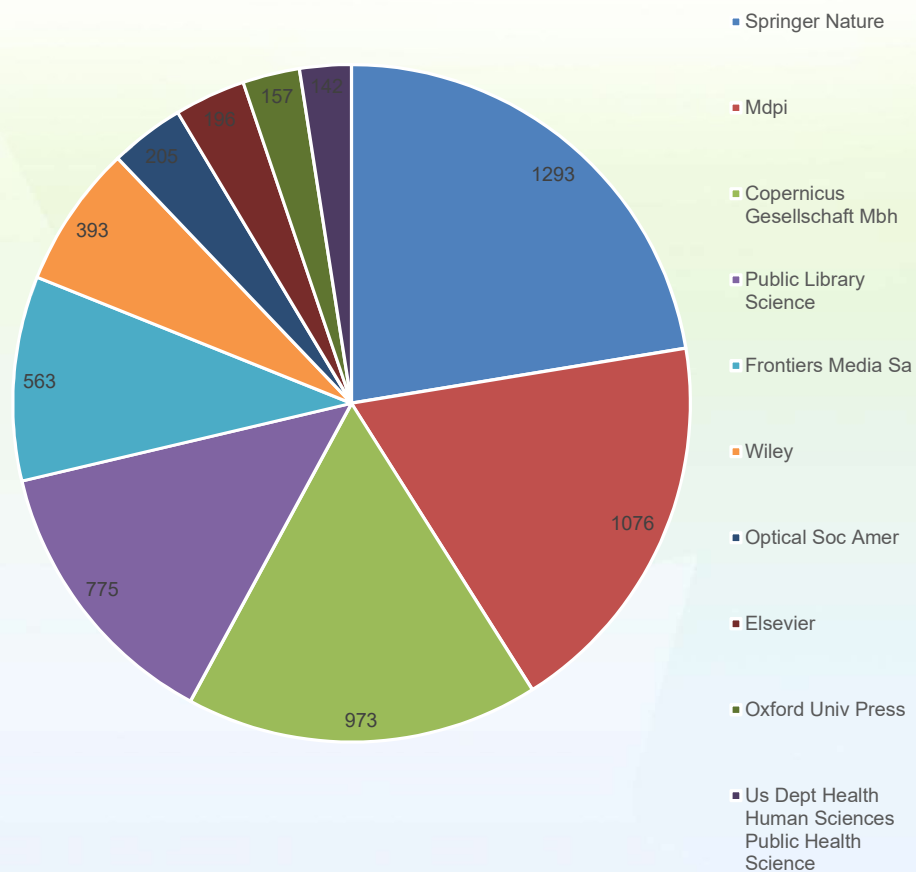


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## Top Ten Publishers by Number of Publications-2020



## Top Ten Publishers in DOAJ - 2020



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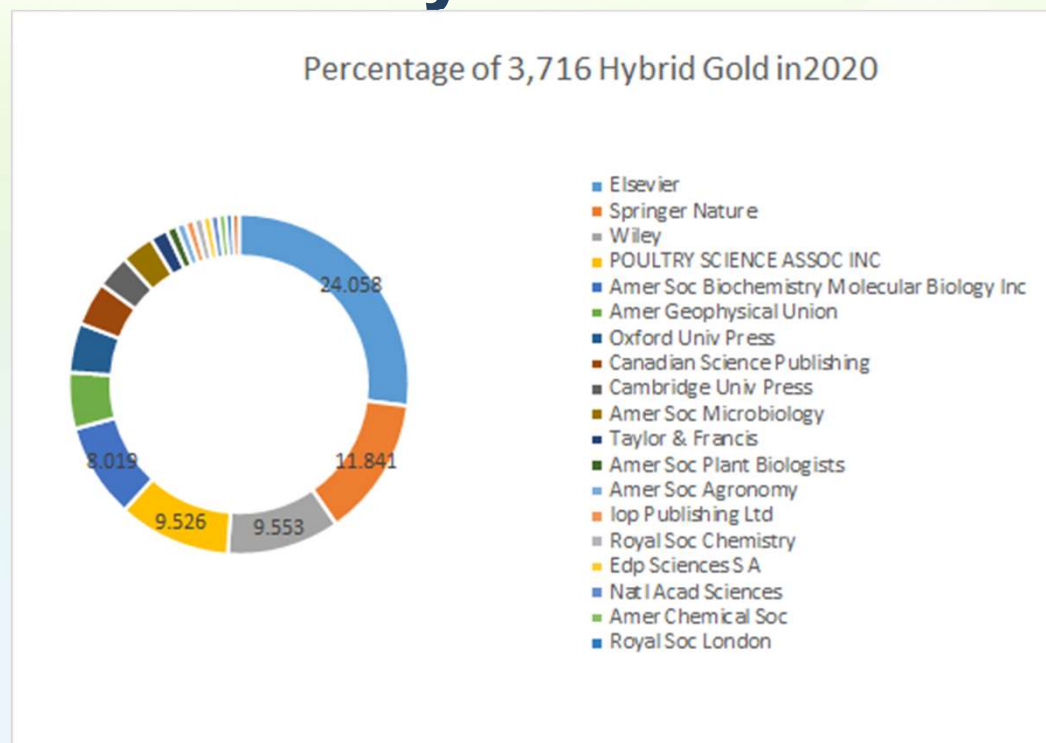
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# Cost of OA Publishing in FSLN: A Snapshot of Hybrid Gold Publishers in 2020



- \*Average APC price by publisher ranges from 246 to 2,851 USD.
- In 2020, the estimated APC paid (subset of all Gold OA) by the 7 federal departments and agencies to hybrid gold publishers could range from **914,136 USD to 10,594,316 USD** as calculated from the high and low end of average APCs above\*.

*\*Morrison, H. (2019). APC price changes 2019 – 2018 by journal and by publisher. Sustaining the Knowledge Commons.*

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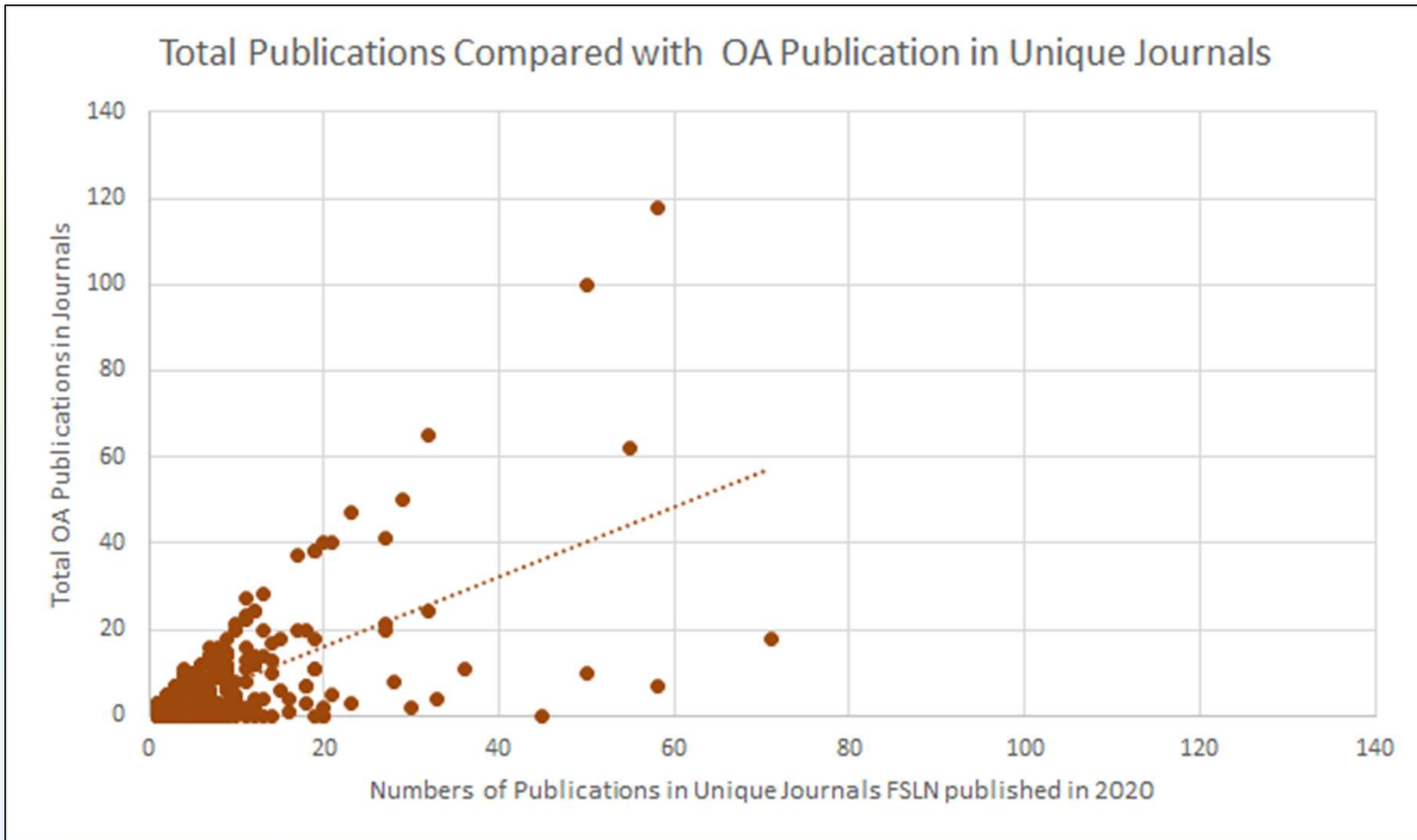


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# FSLN Researchers in 2020

- 3164 researchers published 1 or more documents, the highest being 37.
- 1217 out 3164 (39%) authors have deposited their papers in Green (repositories).
- 65 highly cited papers, 37 indexed in DOAJ, 43 other Gold, 56 deposited in Green.

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# Key Learnings and Discussion

1. OA mandates and policies.
2. Cost of OA.
3. Scholarly communications full cycle.
  - E.g. Journal policies for self-archiving – green OA.
4. Roles of research libraries.
5. Open scholarship is a public good.

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# Questions

Thank you - Merci

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