

**Assessing the
Global Divide**

**Jon Wheeler,
Ngoc-Minh
Pham**

Background

Access to
Repositories
During
COVID-19

Augmenting
RAMP Data

Avenues for
Further
Inquiry

Assessing the Global Divide

**Repository access from the global north and south,
before and after COVID**

Jon Wheeler Ngoc-Minh Pham

2023-06-13

**Assessing the
Global Divide**

**Jon Wheeler,
Ngoc-Minh
Pham**

Background

Access to
Repositories
During
COVID-19

Augmenting
RAMP Data

Avenues for
Further
Inquiry

Section 1

Background

About the Repository Analytics and Metrics Portal (RAMP)

Assessing the
Global Divide

Jon Wheeler,
Ngoc-Minh
Pham

Background

Access to
Repositories
During
COVID-19

Augmenting
RAMP Data

Avenues for
Further
Inquiry

- Aggregate search engine performance metrics
 - Google search properties
 - Consistent reporting across repositories and platforms
 - Longitudinal data (since 2017 for some IR)
 - No-cost, online dashboards for participating repositories
- Open datasets
 - Subset of 35 IR, Jan 1 - May 31, 2019
 - All participating IR (with consent), 2017 - 2021
 - Complete documentation is available.

Objectives

Assessing the
Global Divide

Jon Wheeler,
Ngoc-Minh
Pham

Background

Access to
Repositories
During
COVID-19

Augmenting
RAMP Data

Avenues for
Further
Inquiry

Invite discussion about future research and the future of RAMP.

- Previous analysis of the Jan - May 2019 subset (Spring 2020: Pre-COVID!)
 - Access of IR content is unevenly distributed across IR and items
 - Users from the global south are far more likely to use mobile devices
 - Weak but significant correlation between population and access of IR content
- Redo previous analysis with more data
 - **Observe** trends in access of IR content during COVID
 - **Identify** external data sources of research interest
 - **Define** research questions for further analysis and collaboration

About the present sample

Assessing the
Global Divide

Jon Wheeler,
Ngoc-Minh
Pham

Background

Access to
Repositories
During
COVID-19

Augmenting
RAMP Data

Avenues for
Further
Inquiry

- Three years of data for 45 repositories
 - Repositories not in RAMP before January 1, 2019 excluded
 - Date range January 1, 2019 - December 31, 2021
- Limitations
 - Cannot assess or compare with longer term trends
 - Sample is not representative
 - Global regions
 - Languages
 - Google Search Console API is the sole RAMP data source
 - Absence of item level metadata and search queries limits potential for content analysis

**Assessing the
Global Divide**

**Jon Wheeler,
Ngoc-Minh
Pham**

Background

**Access to
Repositories
During
COVID-19**

**Augmenting
RAMP Data**

**Avenues for
Further
Inquiry**

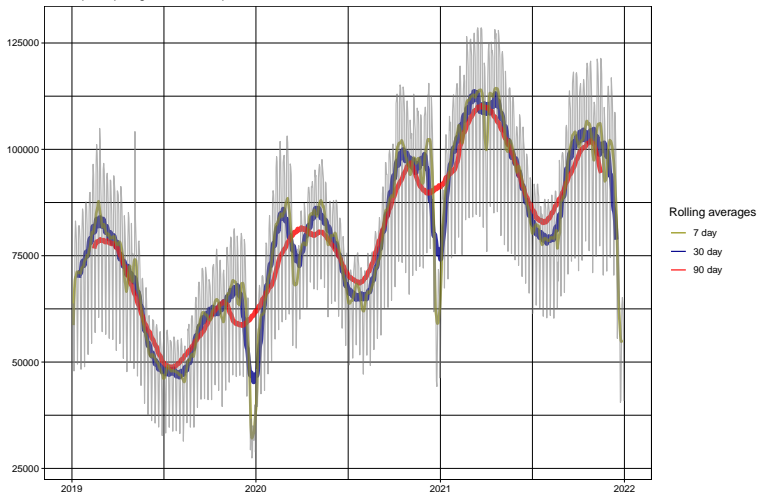
Section 2

Access to Repositories During COVID-19

General seasonal trend (2019-2021)

Daily totals with 7 day, 30 day, and 90 day moving averages.

Total clicks per day (2019–2021)
RAMP participating institutional repositories



Assessing the
Global Divide

Jon Wheeler,
Ngoc-Minh
Pham

Background

Access to
Repositories
During
COVID-19

Augmenting
RAMP Data

Avenues for
Further
Inquiry

COVID disruption of seasonal trend (2020)

Assessing the
Global Divide

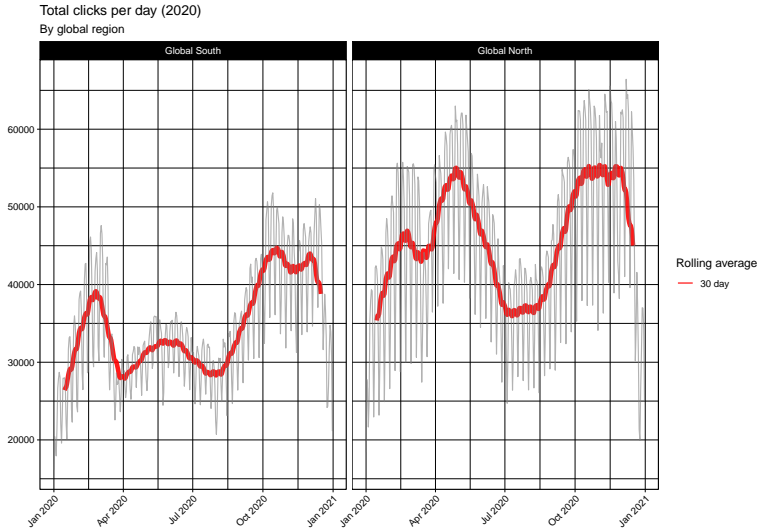
Jon Wheeler,
Ngoc-Minh
Pham

Background

Access to
Repositories
During
COVID-19

Augmenting
RAMP Data

Avenues for
Further
Inquiry

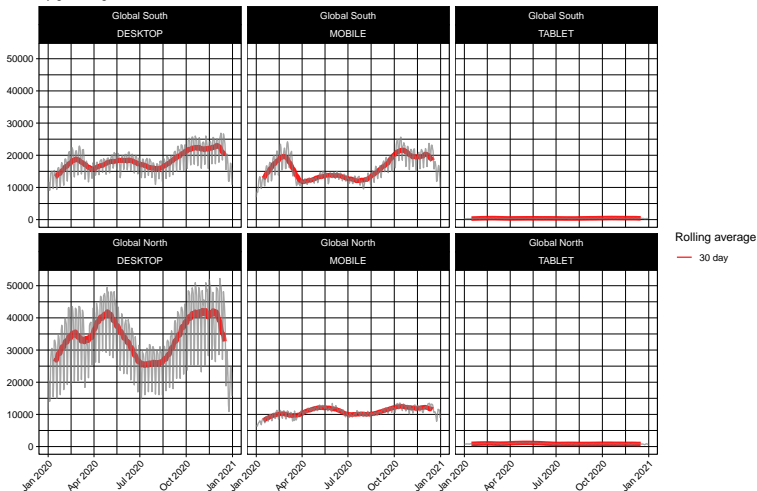


COVID 2020 disruption by device

Daily totals with 30-day moving average.

Total clicks per day (2020)

By global region and device



Assessing the
Global Divide

Jon Wheeler,
Ngoc-Minh
Pham

Background

Access to
Repositories
During
COVID-19

Augmenting
RAMP Data

Avenues for
Further
Inquiry

Desktop and mobile devices

Assessing the
Global Divide

Jon Wheeler,
Ngoc-Minh
Pham

Background

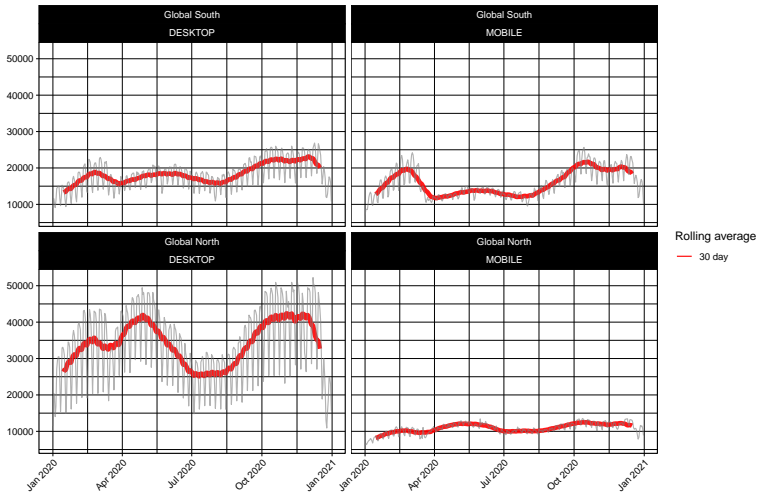
Access to
Repositories
During
COVID-19

Augmenting
RAMP Data

Avenues for
Further
Inquiry

Total clicks per day (2020)

Desktop and mobile devices by global region



**Assessing the
Global Divide**

**Jon Wheeler,
Ngoc-Minh
Pham**

Background

Access to
Repositories
During
COVID-19

**Augmenting
RAMP Data**

Avenues for
Further
Inquiry

Section 3

Augmenting RAMP Data

Overall clicks by device

Assessing the
Global Divide

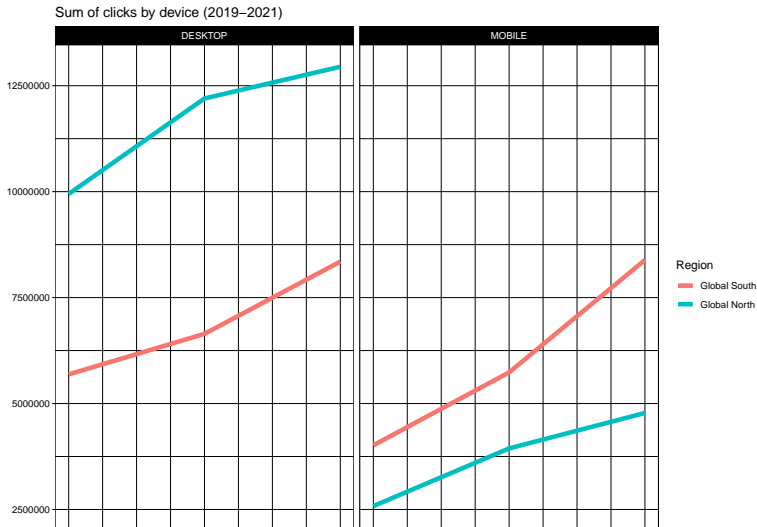
Jon Wheeler,
Ngoc-Minh
Pham

Background

Access to
Repositories
During
COVID-19

Augmenting
RAMP Data

Avenues for
Further
Inquiry



Clicks by device, weighted by population (World Bank)

Assessing the
Global Divide

Jon Wheeler,
Ngoc-Minh
Pham

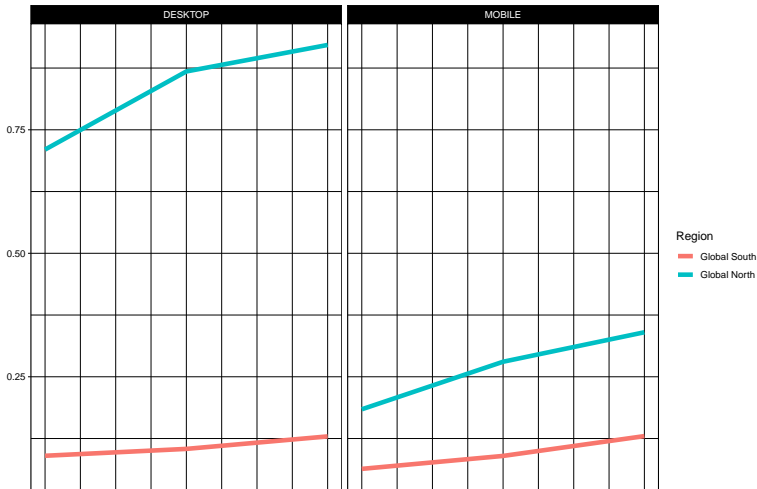
Background

Access to
Repositories
During
COVID-19

Augmenting
RAMP Data

Avenues for
Further
Inquiry

Clicks by device (2019–2021)
Weighted by population (per 100 people)



Total clicks from top 10 countries by region

Assessing the
Global Divide

Jon Wheeler,
Ngoc-Minh
Pham

Background

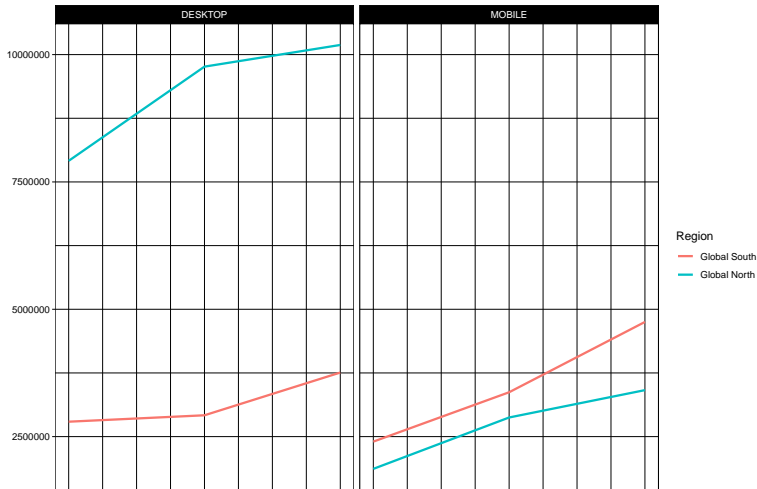
Access to
Repositories
During
COVID-19

Augmenting
RAMP Data

Avenues for
Further
Inquiry

Total click activity by device (2019–2021)

Click activity limited to top 10 countries by region



Total weighted clicks from top 10 countries by region

Assessing the
Global Divide

Jon Wheeler,
Ngoc-Minh
Pham

Background

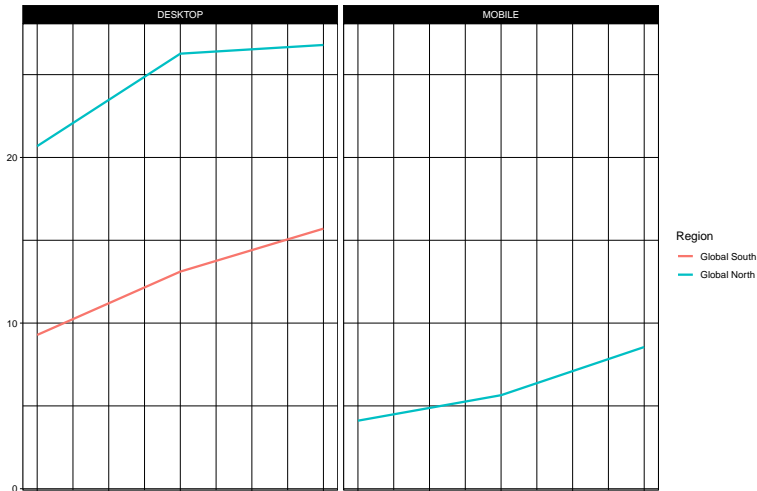
Access to
Repositories
During
COVID-19

Augmenting
RAMP Data

Avenues for
Further
Inquiry

Population-weighted click activity by device (2019–2021)

Click activity limited to top 10 countries by region

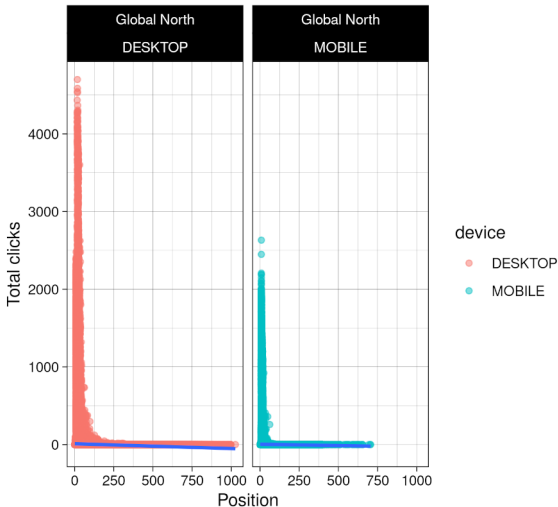


Comparing position and total clicks by device

- global north

Clicks relative to position

Global North by device



Assessing the
Global Divide

Jon Wheeler,
Ngoc-Minh
Pham

Background

Access to
Repositories
During
COVID-19

Augmenting
RAMP Data

Avenues for
Further
Inquiry

Comparing position and total clicks by device

- global south

Assessing the
Global Divide

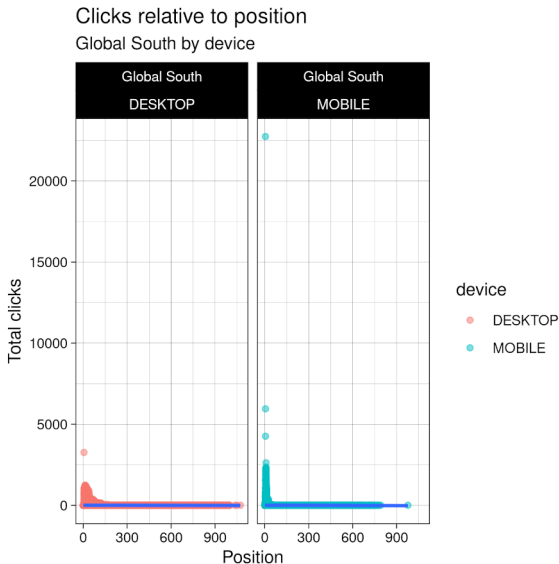
Jon Wheeler,
Ngoc-Minh
Pham

Background

Access to
Repositories
During
COVID-19

Augmenting
RAMP Data

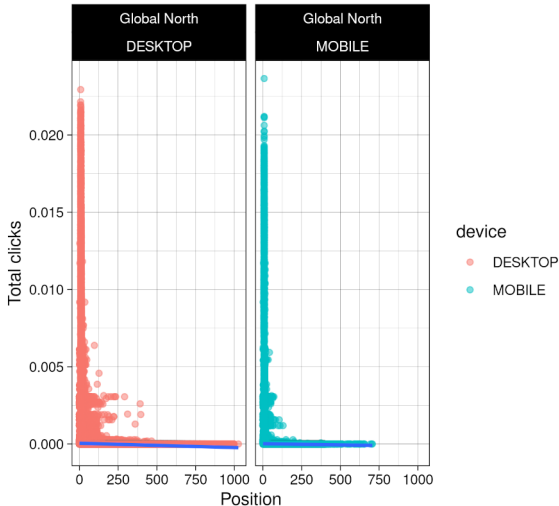
Avenues for
Further
Inquiry



Comparing position and population-weighted clicks by device - global north

Population weighted clicks relative to position

Global North by device



Assessing the
Global Divide

Jon Wheeler,
Ngoc-Minh
Pham

Background

Access to
Repositories
During
COVID-19

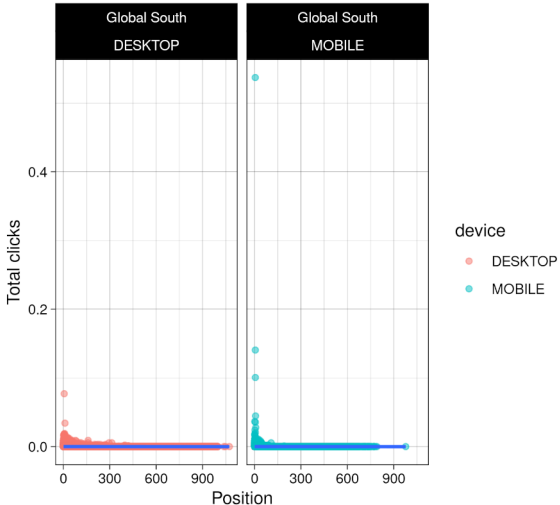
Augmenting
RAMP Data

Avenues for
Further
Inquiry

Comparing position and population-weighted clicks by device - global south

Population weighted clicks relative to position

Global South by device



Assessing the Global Divide

**Jon Wheeler,
Ngoc-Minh
Pham**

Background

Access to Repositories During COVID-19

Augmenting RAMP Data

Avenues for Further Inquiry

**Assessing the
Global Divide**

**Jon Wheeler,
Ngoc-Minh
Pham**

Background

Access to
Repositories
During
COVID-19

Augmenting
RAMP Data

**Avenues for
Further
Inquiry**

Section 4

Avenues for Further Inquiry

Click correlations

**Assessing the
Global Divide**

**Jon Wheeler,
Ngoc-Minh
Pham**

Background

**Access to
Repositories
During
COVID-19**

**Augmenting
RAMP Data**

**Avenues for
Further
Inquiry**

We count clicks on IR content from search engine result pages as “access” of that content.

- Does the previously described correlation between clicks and population persist with larger datasets?
 - When click activity is weighted by population, access from the top 10 countries from the Global South is limited to desktop devices only.
 - What other factors influence repository access across global regions?

Discoverability of repository content

**Assessing the
Global Divide**

**Jon Wheeler,
Ngoc-Minh
Pham**

Background

**Access to
Repositories
During
COVID-19**

**Augmenting
RAMP Data**

**Avenues for
Further
Inquiry**

- Which countries and users are driving mobile access of repository content?
- Potential benefit of search engine optimization.
 - Definition and implementation of citation metadata schema.
- Which factors improve accessibility of content across devices?

Code and documentation

**Assessing the
Global Divide**

**Jon Wheeler,
Ngoc-Minh
Pham**

Background

**Access to
Repositories
During
COVID-19**

**Augmenting
RAMP Data**

**Avenues for
Further
Inquiry**

- Supplemental data and code for generating this PDF presentation are available on GitHub:
 - https://github.com/jonathanwheeler01/open_repositories_2023_wheeler_pham
- Documentation and scripts for downloading and aggregating raw RAMP data are included.

Data Sources (other than RAMP data)

Assessing the
Global Divide

Jon Wheeler,
Ngoc-Minh
Pham

Background

Access to
Repositories
During
COVID-19

Augmenting
RAMP Data

Avenues for
Further
Inquiry

- International Organization for Standardization. (2020), “ISO 3166 Country Codes”, ISO, Nongovernmental organization, available at: <https://www.iso.org/iso-3166-countrycodes.html> (accessed 12 April 2020).
- Meta contributors. (2020), “List of countries by regional classification”, Wikimedia Meta-Wiki, Meta, discussion about Wikimedia projects, 1 April, available at: https://meta.wikimedia.org/w/index.php?title=List_of_countries_by_regional_classification&oldid=19943813 (accessed 12 April 2020).
- World Bank. (2023), “Population, total,” The World Bank Group, <https://data.worldbank.org/indicator/SP.POP.TOTL>.

Contact information

**Assessing the
Global Divide**

**Jon Wheeler,
Ngoc-Minh
Pham**

Background

Access to
Repositories
During
COVID-19

Augmenting
RAMP Data

**Avenues for
Further
Inquiry**

- For inquiries about RAMP data, research, or to participate in RAMP please see
 - <https://rampanalytics.org/>
 - Or contact us at <mailto:ramp.msu@gmail.com>