

**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

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Section 1

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About the Repository Analytics and Metrics Portal (RAMP)

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- 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, 2017 - 2021
 - Complete documentation is available.

Objectives

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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

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- 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

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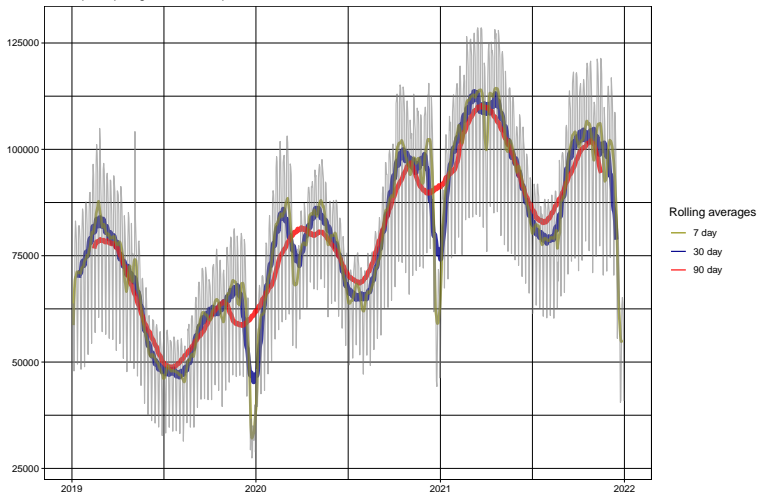
Section 2

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



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COVID disruption of seasonal trend (2020)

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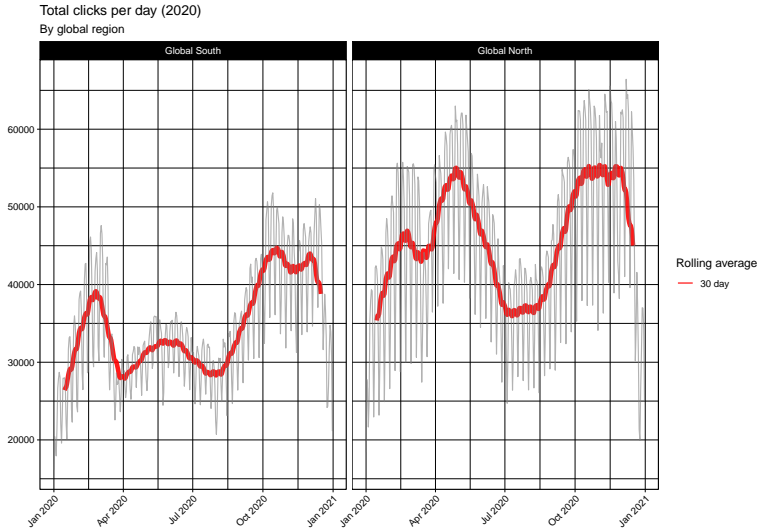
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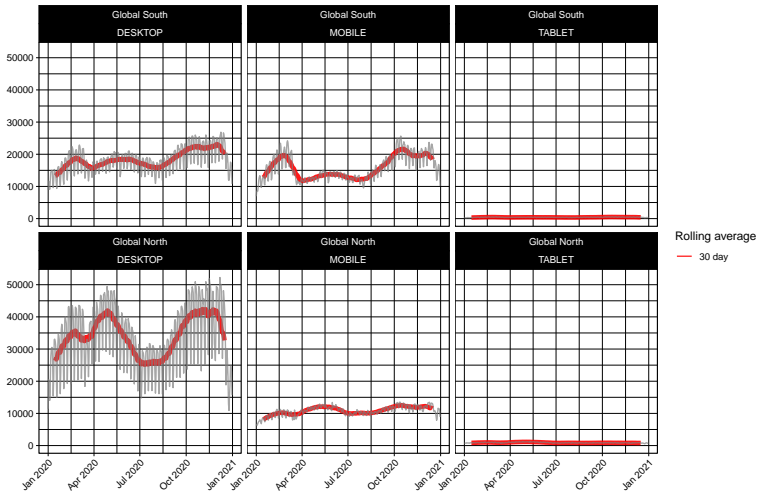


COVID 2020 disruption by device

Daily totals with 30-day moving average.

Total clicks per day (2020)

By global region and device



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Desktop and mobile devices

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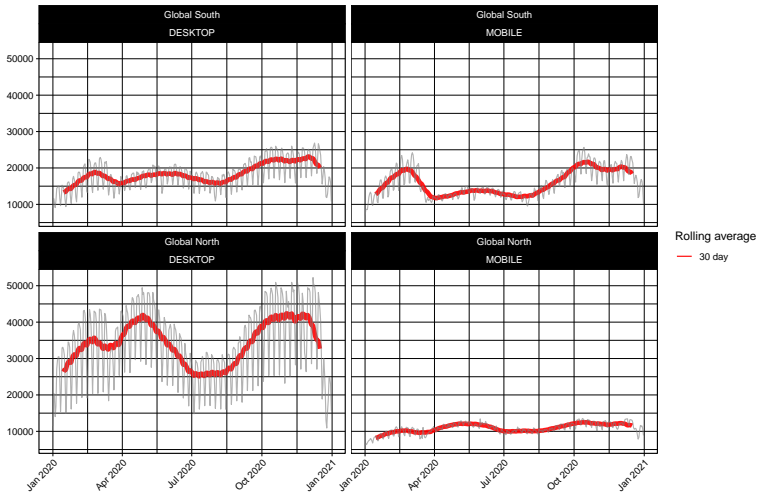
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Total clicks per day (2020)

Desktop and mobile devices by global region



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Section 3

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Overall clicks by device

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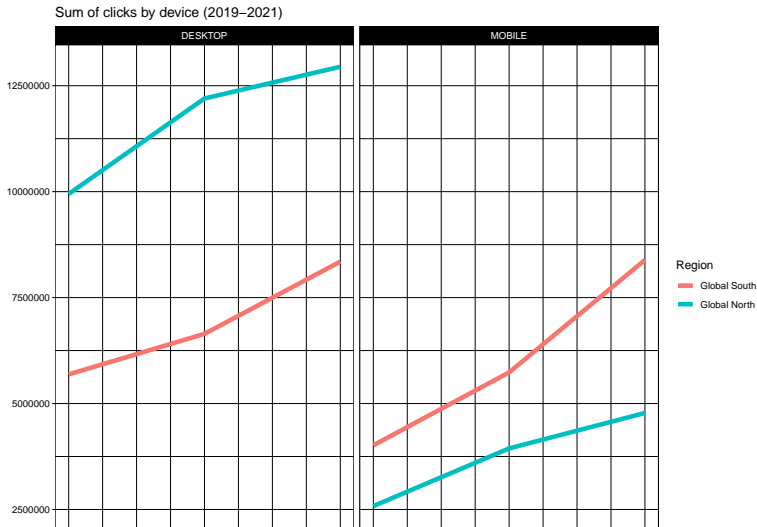
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Clicks by device, weighted by population (World Bank)

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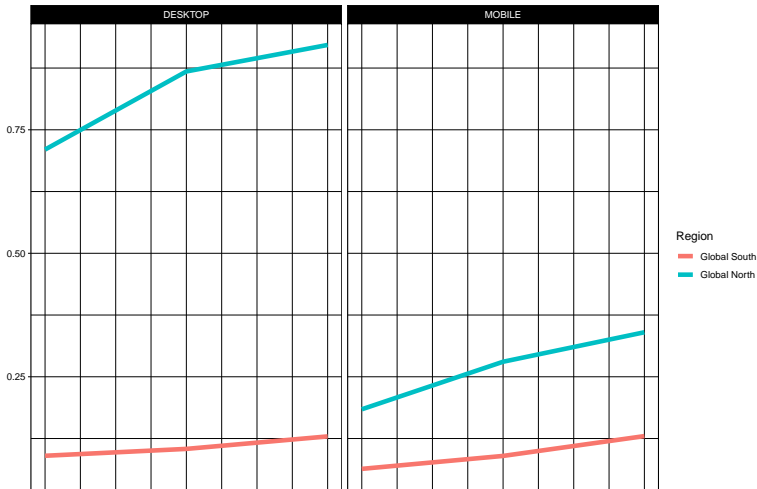
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Clicks by device (2019–2021)
Weighted by population (per 100 people)



Total clicks from top 10 countries by region

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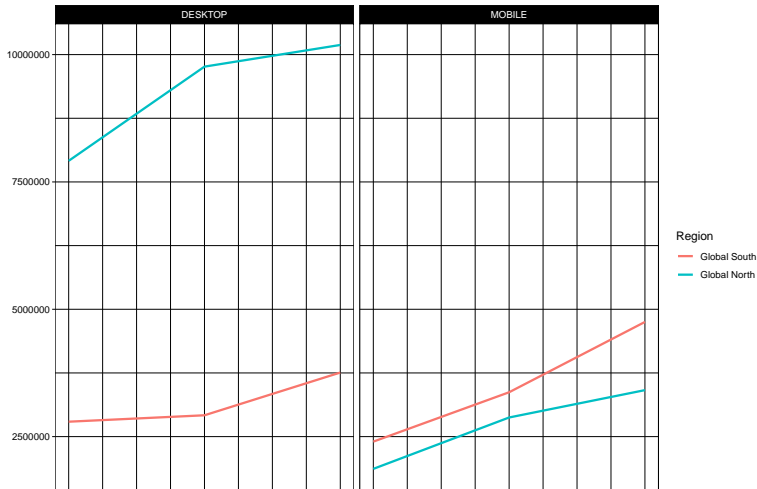
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Total click activity by device (2019–2021)

Click activity limited to top 10 countries by region



Total weighted clicks from top 10 countries by region

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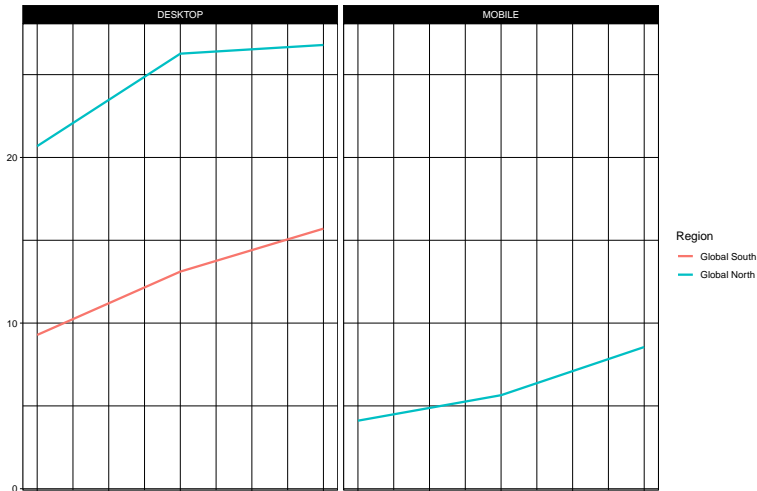
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Population-weighted click activity by device (2019–2021)

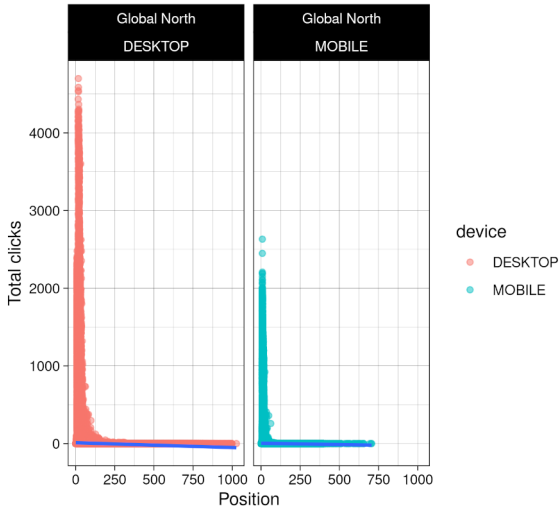
Click activity limited to top 10 countries by region



Comparing position and total clicks by device - global north

Clicks relative to position

Global North by device



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Comparing position and total clicks by device

- global south

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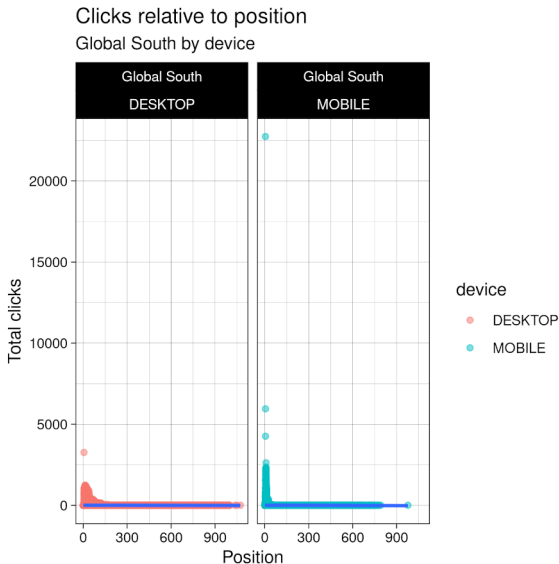
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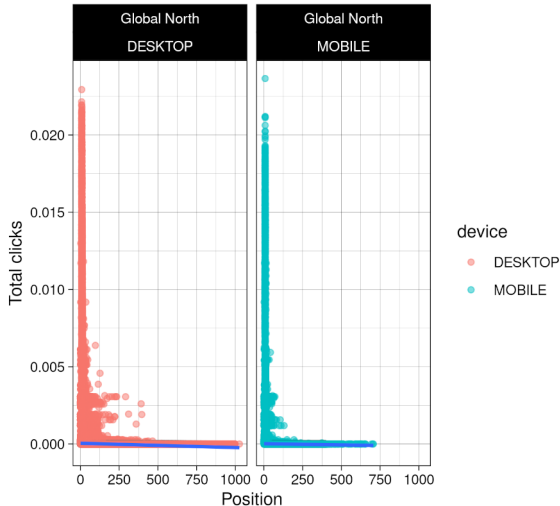
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Comparing position and population-weighted clicks by device - global north

Population weighted clicks relative to position

Global North by device



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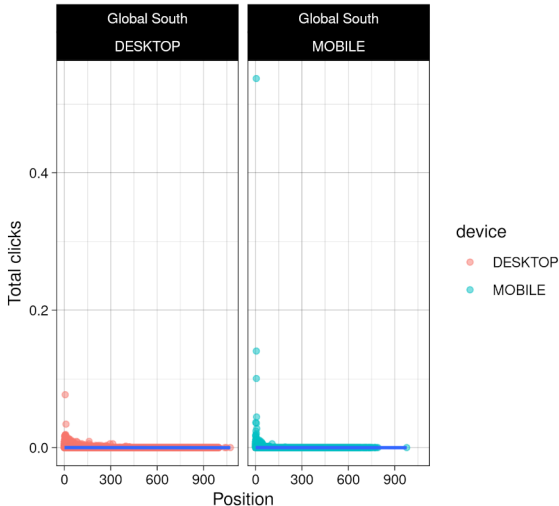
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Comparing position and population-weighted clicks by device - global south

Population weighted clicks relative to position

Global South by device



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Section 4

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Click correlations

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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

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- 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

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- 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)

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- 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

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- 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>