



FAIR Metrics for FAIR Data

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Investigating Re-Use



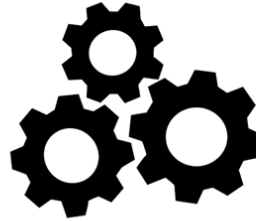
F_{indable}



A_{ccessible}



I_{nteroperable}



R_{eusable}



***We value FAIR Data, so how
do we evaluate FAIR data?***

**We do not yet have
“credit for data”**

5 Steps to Data Metrics

**Community agreement that
research data is important**

Endorsements by organizations

**We've made a lot of progress
here**



**Step 1:
Value**



Infrastructure needs to be open

**Numbers need to be
transparent and standardized**

**Infrastructure are not
bibliometrics, metrics are not
the raw numbers**

A photograph of a wooden boardwalk with railings, leading from a grassy area towards the ocean under a cloudy sky.

**Step 2:
Transparent
Infrastructure
e**

We created a data usage standard



The COUNTER Code of Practice for Research Data

Repositories Implemented



Data from: Metagenomic sequencing detects respiratory pathogens in hematopoietic cellular transplant patients

Langelier, Charles

Zinter, Matt S.

Kalantar, Katrina K.

Yanik, Gregory A.

Christenson, Stephanie

O'Donovan, Brian

White, Corin C.

Sapru, Anil

Dvorak, Christopher C.

Miller, Steve

Chiu, Charles Y.

DeRisi, Joseph L.

Publication date: July 10, 2017

Publisher: Dryad

<https://doi.org/10.5061/dryad.800tj>



Download the dataset ~ 0 B



Download Data Publication (PDF)

Metrics



240 views



139 downloads



[1 citations](#)

Keywords

next generation sequencing

pneumonia

lower respiratory tract infection



Data

Zanne

Lopez

Coom

Ilic, Ju

Jansen

Lewis

Miller

Swens

Wiem

Chave

Public

Publis

https://

Citat



MB

Works Referencing This Dataset

; (2018), The Role of Environmental Filtering in Structuring Appalachian Tree Communities: Topographic Influences on Functional Diversity Are Mediated through Soil Characteristics, MDPI AG, Article-journal, <https://doi.org/10.3390/f9010019>

Middendorp, Romaine S.; Vanacker, Veerle; Lambin, Eric F. (2018), Impacts of shaded agroforestry management on carbon sequestration, biodiversity and farmers income in cocoa production landscapes, Springer Nature, Article-journal, <https://doi.org/10.1007/s10980-018-0714-0>

Islam, Mahmuda; Rahman, Mizanur; Bräuning, Achim (2018), Long-Term Hydraulic Adjustment of Three Tropical Moist Forest Tree Species to Changing Climate, Frontiers Media SA, Article-journal, <https://doi.org/10.3389/fpls.2018.01761>

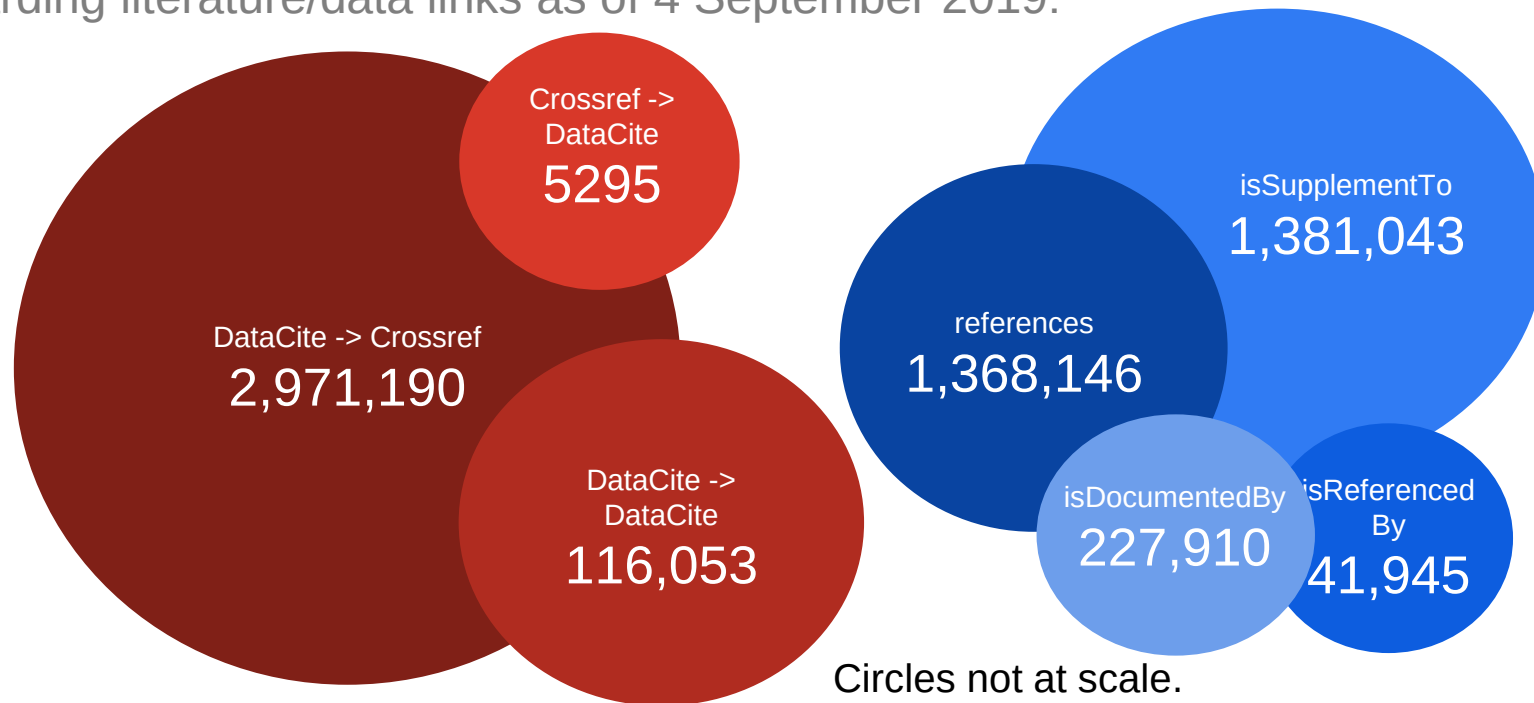
McPherson, E. Gregory; van Doorn, Natalie S.; Peper, Paula J. (), Urban tree database, USDA Forest Service, Dataset, <https://doi.org/10.2737/rds-2016-0005>

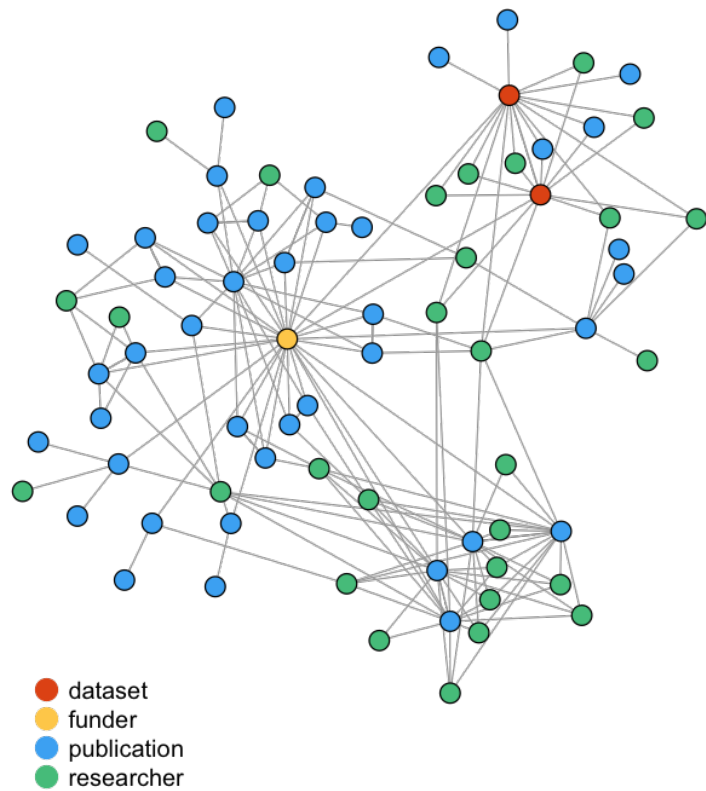
Michener, William K. (2017), Data Discovery, Springer International Publishing, Chapter, https://doi.org/10.1007/978-3-319-59928-1_7

Chave, Jerome et al. (2009), Towards a worldwide wood economics spectrum, Wiley, Article-journal, <https://doi.org/10.1111/j.1461-0248.2009.01285.x>

Centralized Aggregations

The joint Crossref/DataCite Event Data service holds the following information regarding literature/data links as of 4 September 2019:

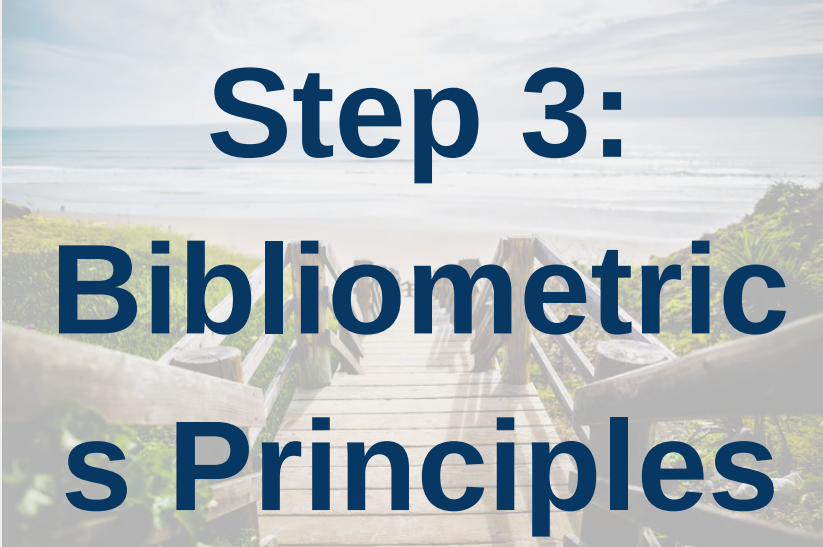




There is a lot to learn from article metrics, but data are different.

We don't know what is meaningful for data yet.

We can't default to impact factor/ h-index



Step 3: Bibliometric s Principles



**We need to figure out
what the right indicator
is, and what it means**

Rodrigo Costas, CWTS, Leiden

**Repeat the process we
did for citations, all
over again, and people
don't cite data!**

Isabella Peters, ZBW Leibniz

**This is a unique
approach - to not look
for meaning but to
start with basics and
build metrics**

Stefanie Haustein, U of Ottawa

Data need to be curated and peer reviewed

Curation $\neq$ peer review

Neither are common practice

Evaluation of data is not in numbers



Step 4: Human Activity

Metrics change behavior

We can't be prescriptive to researchers

We need to iterate and be adaptable



Step 5: Community Agreement

How to support MDC?

- ✓ **Repositories:** Standardize, send, and display data stats
- ✓ **Publishers:** Properly index data citations
- ✓ **Funders:** Urge researchers to publish at best practice repositories
- ✓ **Institutions:** Support the above implementations for your researchers!



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