

WikiLetters Systematic Review (v.1.0.1)

WL ≠ WL-SR

Integration amongst
complementary
services likely to
support better science

A dynamic-method-tool
to support SR

WikiLetters
WL

WL Systematic
Review

Agenda

1. The problem?
2. Friends in the wiki-world advancing Reviews
3. Literature Review (LR) and Systematic Review (SR)
4. Wiki-ecosystems that may support Science.
5. The WikiLetters Systematic Review (WLSR)

Challenges to be addressed

SRs are meant to be highly reproducible, but yet humans curate each article (**humans bias?**).

Traditional Reviews

humans make decisions, user ends search when they like / (get bored?).

Traditional Systematic Reviews (TSR)

humans share their method for selecting articles, but selection is **yet** very much up to their individual taste.

TSR is a **consensus** between ~3-4 humans.

Acknowledging SR Friends in the wiki-world



1. Both do medicine; **AR** does other academic fields.
2. Both organize wiki events and have Wikimedians in Residence.

Note: Reviews suit encyclopedias like **Wikipedia**.

Literature reviews are
summaries of research
&
Systematic Reviews are
**systematic steps to produce
summaries of research**



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Systematic review

From Wikipedia, the free encyclopedia

616 revisions since [2005-10-25](#) (+8 hours), 287 editors, 160 watchers, [11,859 pageviews](#) (30 days), created by: [194.225.62.74](#)

For the academic journal, see [Systematic Reviews \(journal\)](#).

Systematic reviews are a type of review that uses repeatable analytical methods to collect secondary data and analyse it. Systematic reviews are a type of evidence synthesis which formulate research questions that are broad or narrow in scope, and identify and synthesize data that directly relate to the systematic review question.^[1] While some people might associate 'systematic review' with 'meta-analysis', there are multiple kinds of review which can be defined as 'systematic' which do not involve a meta-analysis. Some systematic

Repeatable? Yes!
Accurate? No!



Why are humans still curating each article in a SR? It affects accuracy to achieve the same group of selected articles.

Major steps commonly found in Traditional Systematic Reviews?

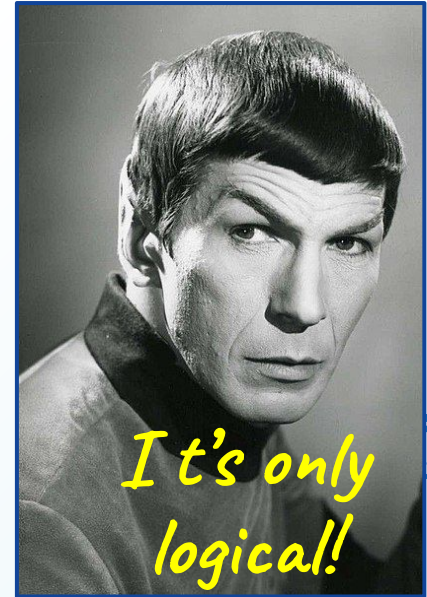
1. Submit keywords (get ~1,000 - ~3,000 articles).
2. Assess titles & ~abstract (reduce to ~150 - ~300 articles)
3. Assess full articles (select ~30 - ~80 articles).

Note: emotions can be found in these steps, so **it is only logical** to suppress these emotions.

4. Lastly, to read and summarize selected articles.

Systematic review =
more logical, less human

It's only logical to evolve
Systematic Reviews!



[https://commons.wikimedia.org/wiki/File:Leonard_Nimoy_as_Spock_1967_\(cropped\).jpg](https://commons.wikimedia.org/wiki/File:Leonard_Nimoy_as_Spock_1967_(cropped).jpg)

How are **Wikipedia** articles created?

How do **Wikipedia** articles evolve?

Can **Wiki-ecosystems** embrace Science via “**Living Systematic Reviews**” and other means?

How was this created? And origin of sources?



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Climate change and ecosystems

From Wikipedia, the free encyclopedia

 351 revisions since [2010-03-11](#) (+2 seconds), 162 editors, 34 watchers, [1,188 pageviews](#) (30 days), created by: [En](#)

[Climate change](#) has adversely affected both [terrestrial](#)^[1] and [marine](#)^[2] ecosystems, and is expected to affect [tundra](#), [mangroves](#), [coral reefs](#),^[3] and [caves](#).^[4] Increasing global temperature, more frequent occurrence of extreme weather events, and sea level rise are among some of the effects of climate change that will have the most significant impact. Some of the effects include species decline and extinction, behavior change within ecosystems, increased prevalence of [invasive species](#), [carbon sources](#), ocean acidification, disruption of the water cycle, and increased occurrence of natural disasters.

Stats: Climate change and ecosystems

- traffic ➤ 26,585 views in 2020
- references ➤ 121 (and growing)
- editors ➤ 162 users (and growing)
- edits ➤ 351 (and growing)
- creation ➤ 11 March 2010

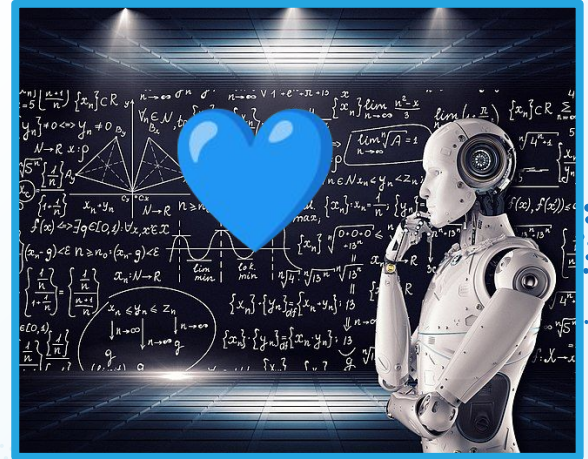
Opinion: This is an article with moderate to high traffic and engagement. It influences human thought.

and growing.....

32. [^] Root, Terry L.; Price, Jeff T.; Hall, Kimberly R.; Schneider, Stephen H.; Rosenzweig, Cynthia; Pounds, J. Alan (January 2003). "Fingerprints of global warming on wild animals and plants". *Nature*. **421** (6918): 57–60. [Bibcode:2003Natur.421...57R](#). [doi:10.1038/nature01333](#). [PMID 12511952](#). [S2CID 205209602](#).
33. [^] Root, T. L.; MacMynowski, D. P.; Mastrandrea, M. D.; Schneider, S. H. (17 May 2005). "Human-modified temperatures induce species changes: Joint attribution". *Proceedings of the National Academy of Sciences*. **102** (21): 7465–7469. [doi:10.1073/pnas.0502286102](#). [PMC 1129055](#). [PMID 15899975](#).
34. [^] [Grass flourishes in warmer Antarctic](#) originally from [The Times](#), December 2004
35. [^] Mills, L. Scott; Zimova, Marketa; Oyler, Jared; Running, Steven; Abatzoglou, John T.; Lukacs, Paul M. (15 April 2013). "Camouflage mismatch in seasonal coat color due to decreased snow duration". *Proceedings of the National Academy of Sciences*. **110** (18): 7360–7365. [Bibcode:2013PNAS..110.7360M](#). [doi:10.1073/pnas.1222724110](#). [PMC 3645584](#). [PMID 23589881](#).
96. [^] ^a ^b Basu, Samarпита; MacKey, Katherine (2018-03-19). "Phytoplankton as Key Mediators of the Biological Carbon Pump: Their Responses to a Changing Climate". *Sustainability*. **10** (3): 869. [doi:10.3390/su10030869](#). [ISSN 2071-1050](#).
97. [^] Burek, Kathy A.; Gulland, Frances M. D.; O'Hara, Todd M. (2008). "Effects of Climate Change on Arctic Marine Mammal Health" (PDF). *Ecological Applications*. **18** (2): S126–S134. [doi:10.1890/06-0553.1](#). [ISSN 1051-0761](#). [JSTOR 40062160](#). [PMID 18494366](#).
98. [^] ^a ^b ^c Albouy, Camille; Delattre, Valentine; Donati, Giulia; Frölicher, Thomas L.; Albouy-Boyer, Severine; Rufino, Marta; Pellissier, Loïc; Mouillot, David; Leprieur, Fabien (December 2020). "Global vulnerability of marine mammals to global warming". *Scientific Reports*. **10** (1): 548. [Bibcode:2020NatSR..10..548A](#). [doi:10.1038/s41598-019-57280-3](#). [ISSN 2045-2322](#). [PMC 6969058](#). [PMID 31953496](#).
99. [^] Avila, Isabel C.; Kaschner, Kristin; Dormann, Carsten F. (May 2018). "Current global risks to marine mammals: Taking stock of the threats". *Biological Conservation*. **221**: 44–58. [doi:10.1016/j.biocon.2018.02.021](#). [ISSN 0006-3207](#).

Did we miss something? **How** up to date this?
What references are relevant? **Can** Wikipedia articles evolve to maybe comprise “Living Systematic Reviews”?

Wikipedia and Wiki-ecosystems are becoming platforms for serious research



[https://commons.wikimedia.org/wiki/File:Artificial Intelligence %26 AI %26 Machine Learning - 30212411048.jpg](https://commons.wikimedia.org/wiki/File:Artificial_Intelligence_%26_AI_%26_Machine_Learning_-_30212411048.jpg)



Wikidata Query Service



WIKIPEDIA
The Free Encyclopedia

{ } wikicite



Our sincere apologies for potentially missing some projects!



WikiLetters.org follows this wiki-mentality, and supports quality-checked-reviews with Databases:



[WikiLetters.net](https://www.wikiletters.net) (Letters of Caveats)



[WikiComments.org](https://www.wikicomments.org) (Published Peer-reviewed Comments)



[WikiRetracted.org](https://www.wikiretracted.org) (Retractions)



[WikiCitingRetracted.org](https://www.wikicitingretracted.org) (Citing-Retracted articles)



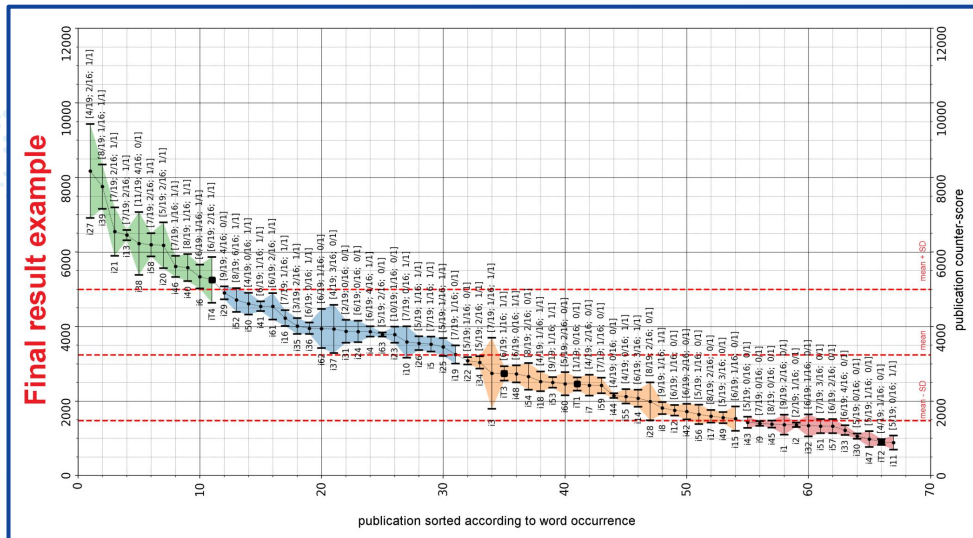
[WikiErratum.org](https://www.wikierratum.org) (Minor corrections)

These Databases can be used for checking quality aspects of manuscripts to be used in a **WL-SR**, any Wikipedia article.

WLSR aims to interconnect

- **Wikipedia** (hosting Living-Reviews)
- **Wikidata** (hosting Meta of pub.)
 - **WikiCite** (feeding Wikidata)
- **WikiLetters** (checking quality aspects)

Where to use a plot like this?
Appendix!
Supplementary!



WL Systematic Review tool

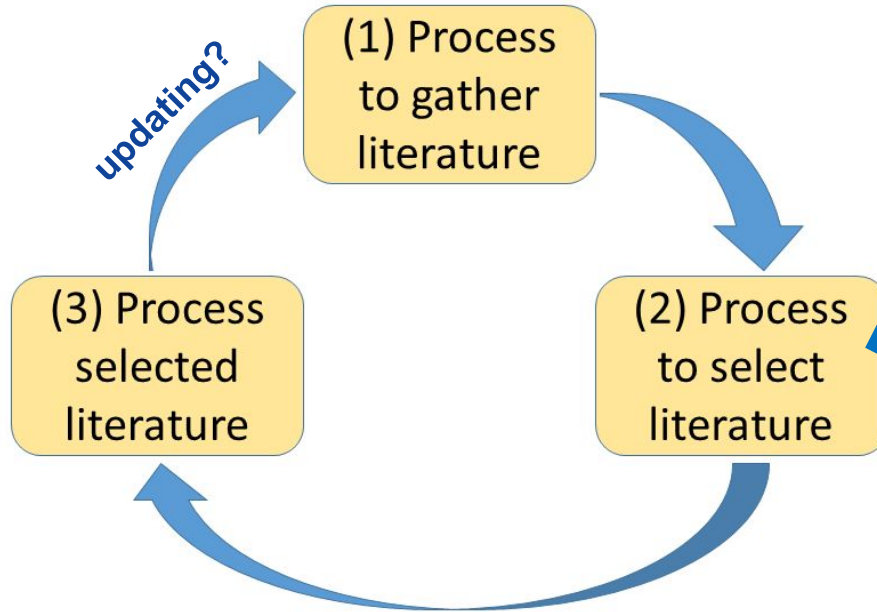
Tool for identifying sources to cite, at scale

- Helps assessing between ~100 and ~3000 academic articles;
- makes research human-bias-reduced, higher quality, more reproducible and accurate.

Main components of most Systematic Reviews

Projects engaged in gathering literature:

- [WikiCite](#)
- [WikiProject Zika Corpus](#)
- [WikiProject Invasion biology](#)



This work is currently focusing on this component, but we aim to expand more!!!!

Why to cast a **net** hopefully larger than what you may need?

Our suggestion:

- 1 - Find a SR on a similar topic, and get the total number of articles (**T**);
- 2 - Multiply this total (**T**) by **~5-10**;
- 3 - You would consider between **5T** and **10T** files to feed the WLSR.

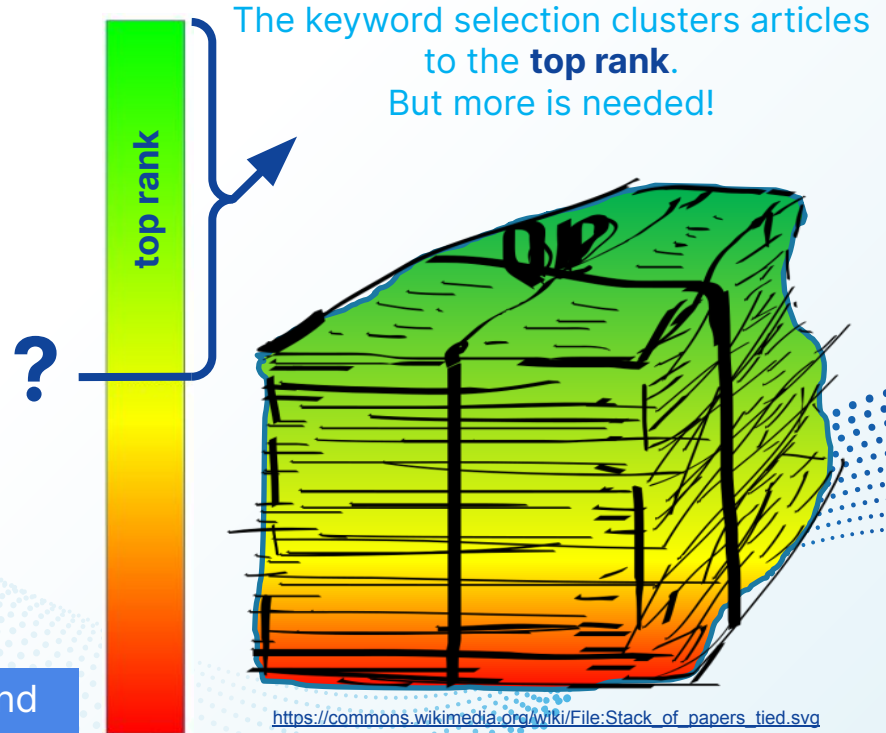


https://commons.wikimedia.org/wiki/File:Little_fish_in_hand.jpg

If the net is too small, do we risk **missing** things?

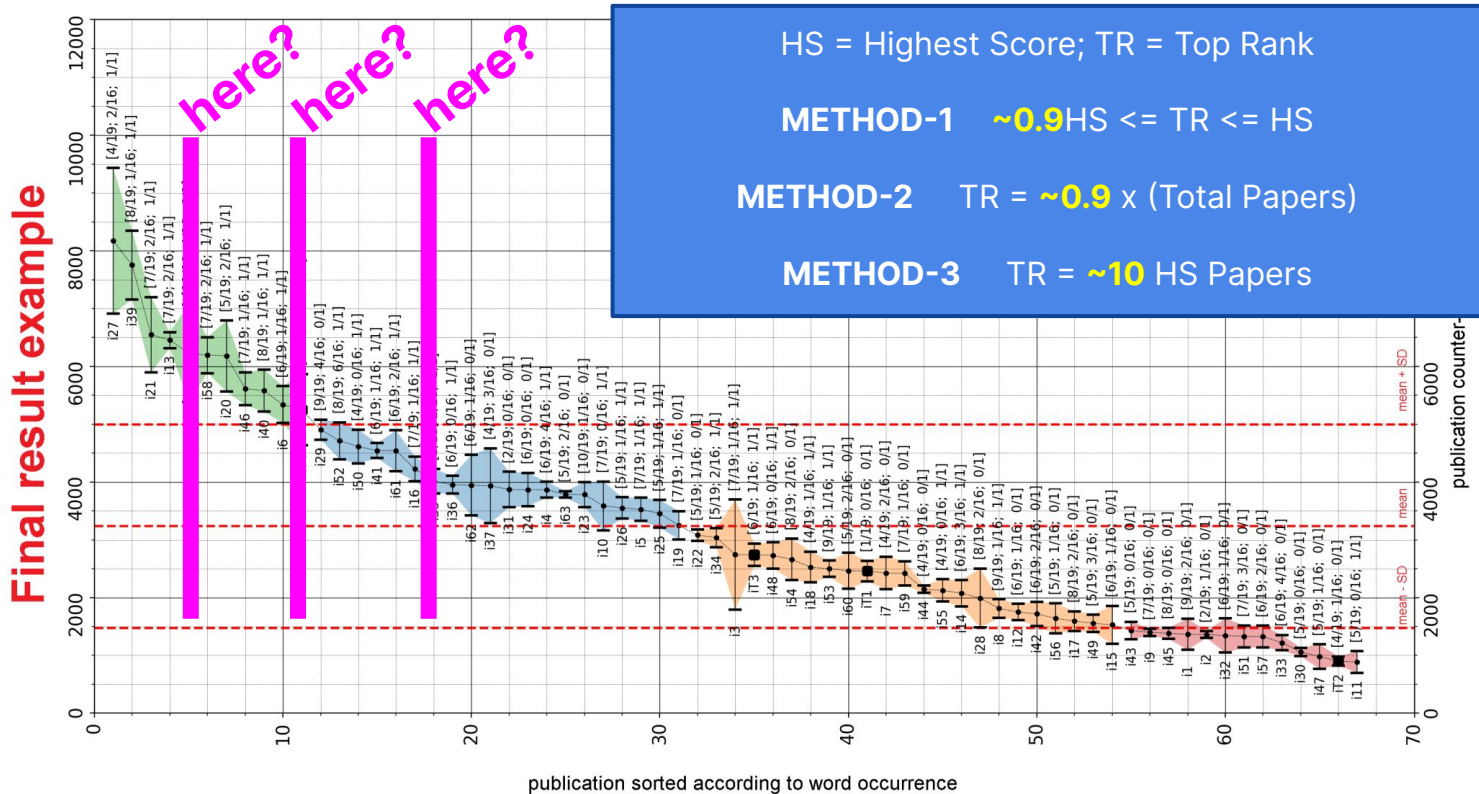
Humans select the keywords

- vulnerability ✓
- coastal ✓
- resilience ✓
- coast ✓
- tsunami ✓
- exposure ✓
- elevation
- hazards
- vulnerable ✓
- hurricane ✓
- erosion ✓
- damage
- natural
- climate ✓



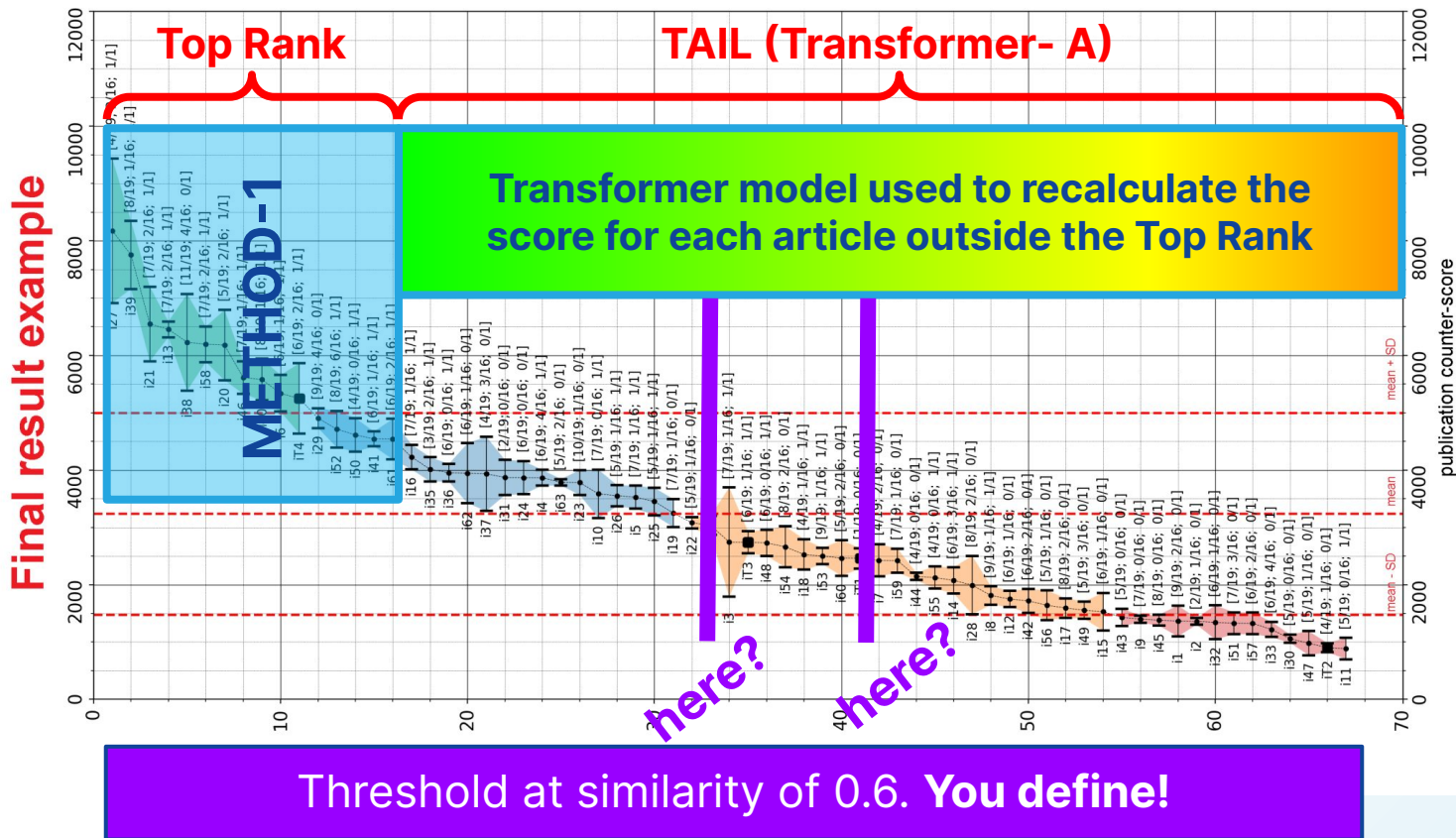
- Select words initially used in the queries to find these PDFs.
- Select relevant words that may appear in this list.

How to select the Top Rank (TR) articles?



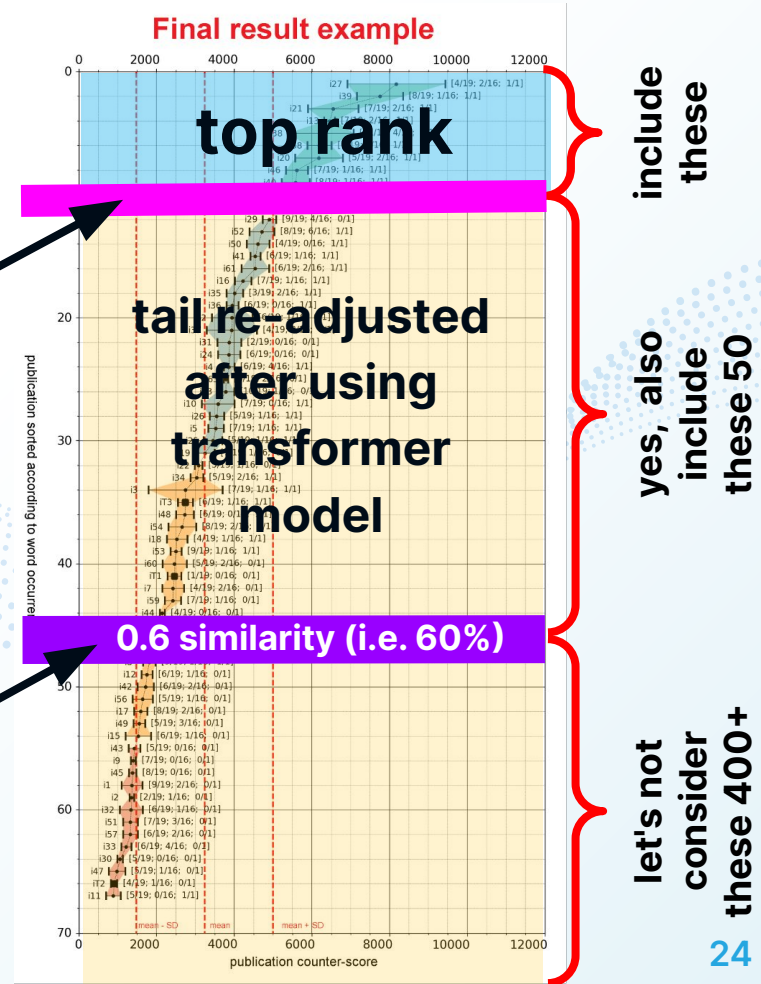
Note: you are welcome to adapt and change the method to define top ranked articles.

How to define the second threshold?



The basic sequence

1. **Bot** extract all terms from papers;
2. **Human** selects words and method to define the **line of relevance** for top rank;
3. **Bot** reorganizes the **tail** considering the **top rank** chunk;
4. **Human** selects method determining the **line of relevance**.



Features to be further implemented into the score system (**quality assessment?**)

This is when some **Wiki-ecosystems** can also support SR, Living-Reviews, Wikipedia,



and other platforms...

Living Systematic Reviews (LSRs) in Wikipedia

Using the main-wiki directory

URL (https://en.wikipedia.org/wiki/Review:Climate_variability_and_change)

header

The **General Body (GB)** comprising **General References (GR)**. This area follows the normal building up process just as any Wikipedia article.

remains

Key-terms related to "Review:Climate_variability_and_change", of Q98053916 (Q example)
key-terms here provided via an **embedded frame** or via **Qnumber's href**

New information

Figure containing **WikiCite** elements, which are the indexes of scholarly publications relevant to research topic
Example of a publication **Qnumber**: <https://www.wikidata.org/wiki/Q29618659>

Traditional reference list expected in any Wikipedia article

remains

Structure for Living Systematic Reviews (LSRs) in Wikipedia

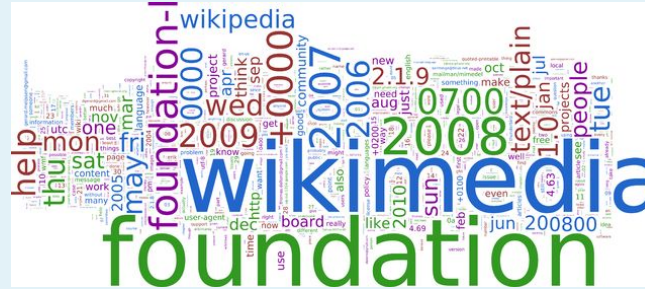
https://en.wikipedia.org/wiki/Review:Climate_variability_and_change

Main-body

New inf.

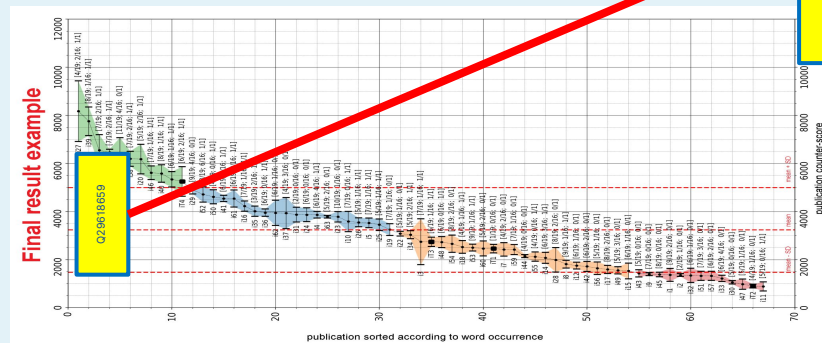
References

Key-terms relevant to this LSR



https://commons.wikimedia.org/wiki/File:Foundation-I_word_cloud_small.png

Publication relevant to this LSR



[Q29618659](#)

Href providing the publication information generated by WikiCite in Wikidata

Thanks!

Any questions and suggestions?

Feel free to contact :)

fernando.pinheiro.andutta@gmail.com

rasberry@virginia.edu

daniel.mietchen@ronininstitute.org

- All group to be and keep being updated

Credits

Work members

WLSR (version 1.0.0)

https://wikiconference.org/wiki/Submissions:2021/WikiLetters_Systematic_Review

- **A**ndutta, F.P., **D**riemeier, L., **H**arari, J., **L**opes, M., **M**ietchen, D., **R**asberry, L.

WLSR (version 1.0.1)

https://br.wikimedia.org/wiki/WikiCon_Brasil_2022/Programa/WLSR

- **A**ndutta, F.P., **D**riemeier, L., **H**arari, J., **L**opes, M., **M**ietchen, D., **R**asberry,
- **B**alliet, D.P., **D**uenas, M.A., **S**padaro, G.,
.... to continue

Credits

Special thanks to all the people who made and released these awesome resources for free:

- Wikicommunity
- WikiMovimentoBrasil
- To all supporting this goal
- PPT template by [SlidesCarnival](#)