

## OVERVIEW

## Google

Every day Google Search receives around 3.5 billion queries [1]. In most cases, Google succeeds in displaying the most relevant information for a user's needs. However, sometimes the first result can be misleading or inaccurate. These cases often occur when website content providers use search engine optimization techniques to try to "beat" or "outsmart" Google's algorithm.

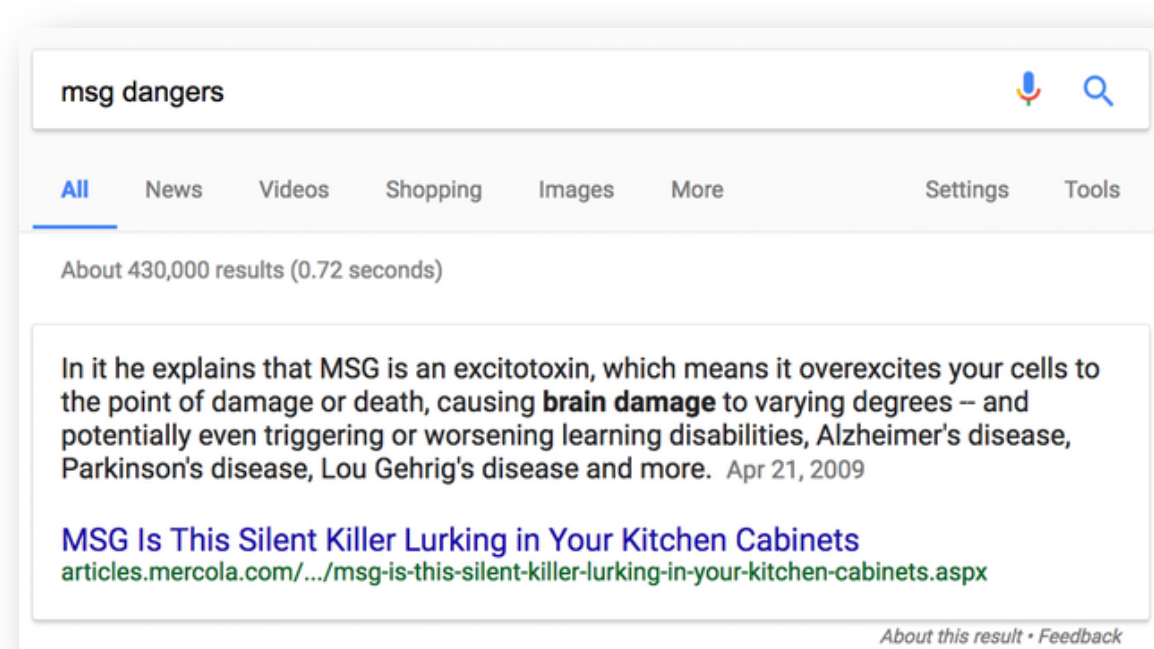
## Why do companies use SEO techniques?

Companies and individuals make money on the Web through online advertisements or by selling products in an online store. To make a profit, a large number of visitors to a site is essential. The best way to increase the number of visitors on a site is to improve its ranking on the Google results page

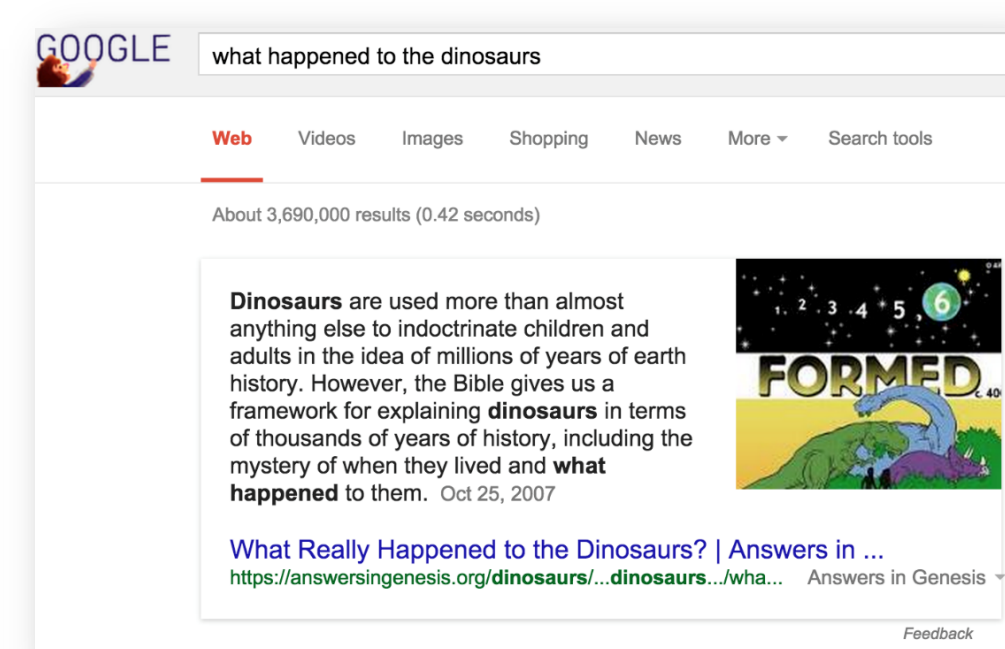
## Users are Easily Fooled

Many users are unaware of the fallibility of Google to SEO tricks. People automatically trust the information at the top of the Google results page.

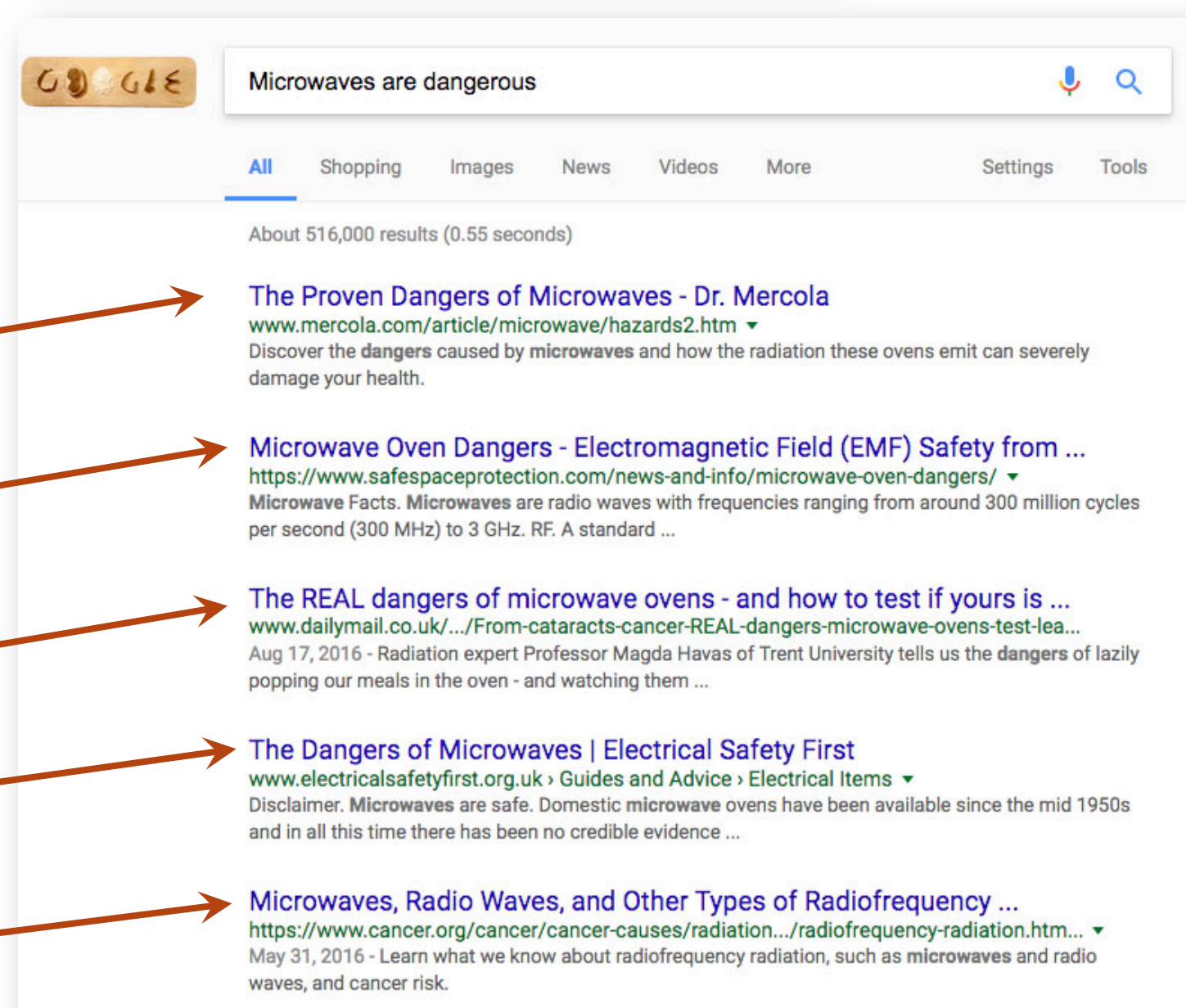
## GOOGLE'S FEATURED SNIPPETS



Similar to the featured snippet for this query about MSG, some of these results exploit common public fears [2].



Google removes inappropriate snippet results. Yet this does not fix the problem in the long run [3].



Most people usually read only top three results from Google. For this query, none of the top three results comes from trustworthy sources.

- Alternative medicine site
- Online shop selling products that protect from EM fields
- Site that was marked as "unreliable" by Wikipedia
- Site with safety regulations for different electrical devices
- American Cancer Society

## References

1. Internetlivestats.com. Google search statistics, <http://www.internetlivestats.com/google-search-statistics/>
2. Jeffries, A. Google's Featured Snippets are Worse than Fake News. *The Outline*. <https://theoutline.com/post/1192/google-s-featured-snippets-are-worse-than-fake-news>
3. Pick, R. Go Ahead, Ask Google "What Happened to the Dinosaurs". *Motherboard*. [https://motherboard.vice.com/en\\_us/article/pg4wp/go-ahead-ask-google-what-happened-to-the-dinosaurs](https://motherboard.vice.com/en_us/article/pg4wp/go-ahead-ask-google-what-happened-to-the-dinosaurs)

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## GOOGLE QUERIES AND SERP OBSERVATORY

In this project, we analyze the Google search engine result page (**SERPs**). We are most interested in understanding the SERP for science-related topics. The goal of the SERP observatory is to monitor patterns in top results over time and study the prevalence of pseudoscience results.



Snopes, a fact-checking site was used as a source of "claims" that people were trying to verify

We selected popular health, science, medicine, and food claims which were rated by Snopes as

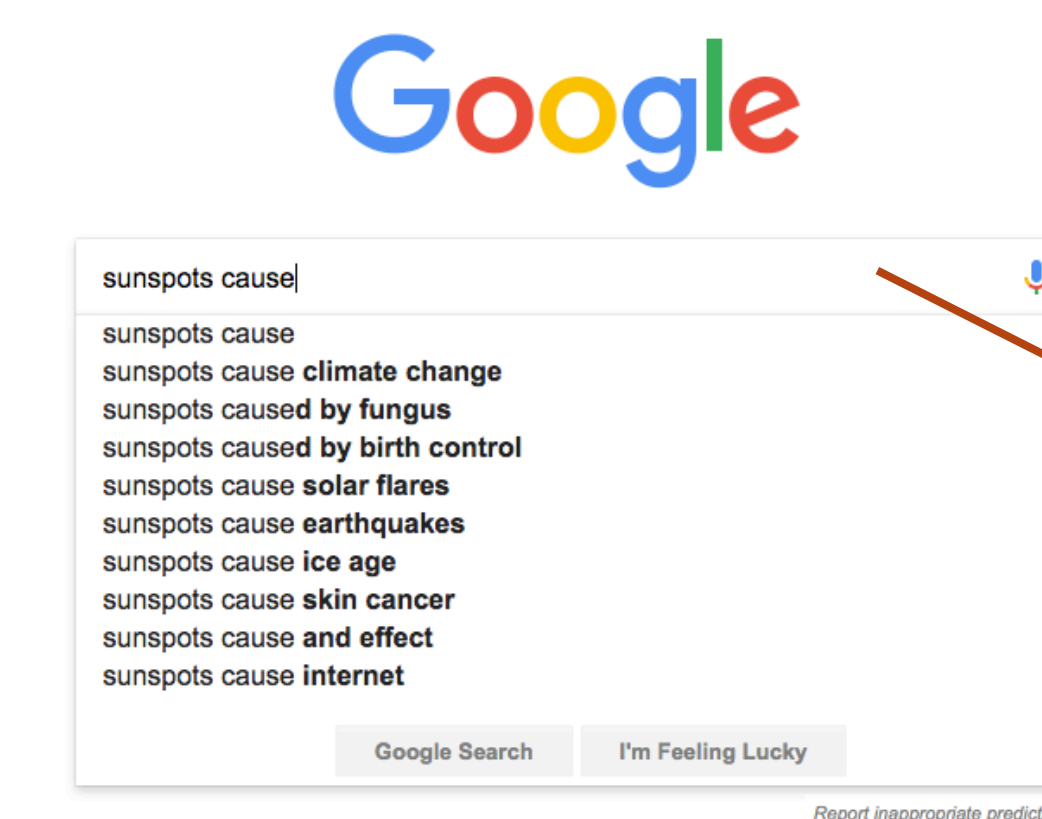
- False
- Mostly false
- or Mixture



## Current list of queries:

- Fidget spinners can kill your child
- Cooking with aluminum foil puts you at risk for Alzheimer's
- Blue strawberries discovered
- Sunspots cause climate change
- Microwaves are dangerous
- Bananas with HIV blood
- E-cigarettes contain 10 times more carcinogens
- Water fluoridation reduces IQ
- Global warming hoax
- 58 scientific papers say climate change is a myth

We periodically monitored queries and the first five SERPs along with other page elements were recorded.



Featured snippet

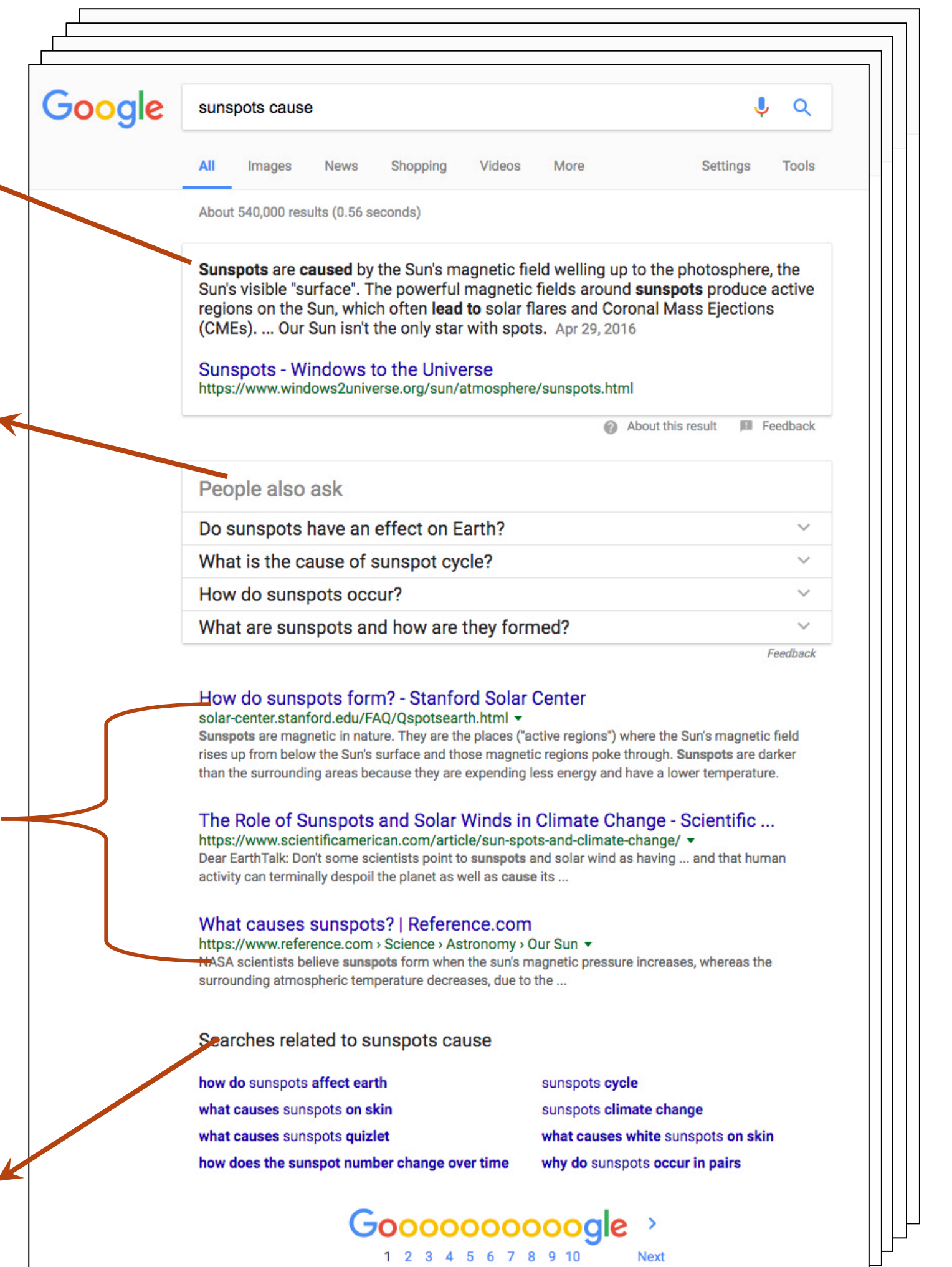
Other similar questions that people ask

Results:

- Title
- URL
- Text snippet

Autocomplete suggestions

Related searches



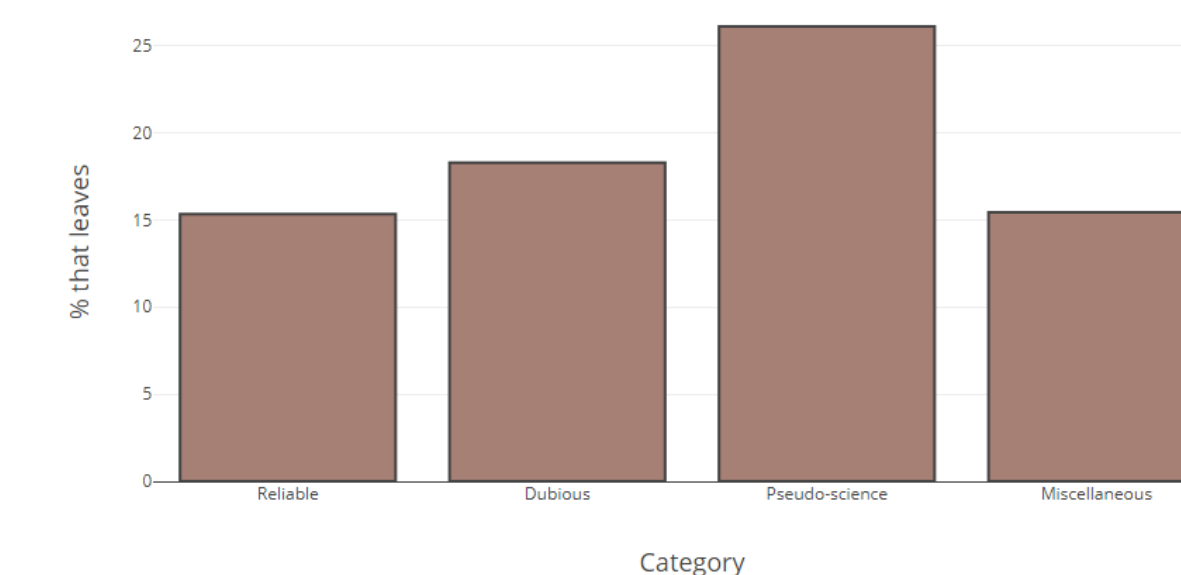
## OBSERVATIONS

From data from the first observation (6/13/2017), we extracted the list of unique websites that appeared on the top 3 pages for all queries. Then, three annotators labeled sites into different categories. The four categories that we used in our analysis are:

- **Reliable** – 222 sites
- **Pseudoscience** – 23 sites
- **Dubious** (includes fake news, conspiracy sites) – 104 sites
- **Miscellaneous** (includes platforms or click bait sites) – 201 sites.

## Percentage of websites that leave top 10 by category (for six observations)

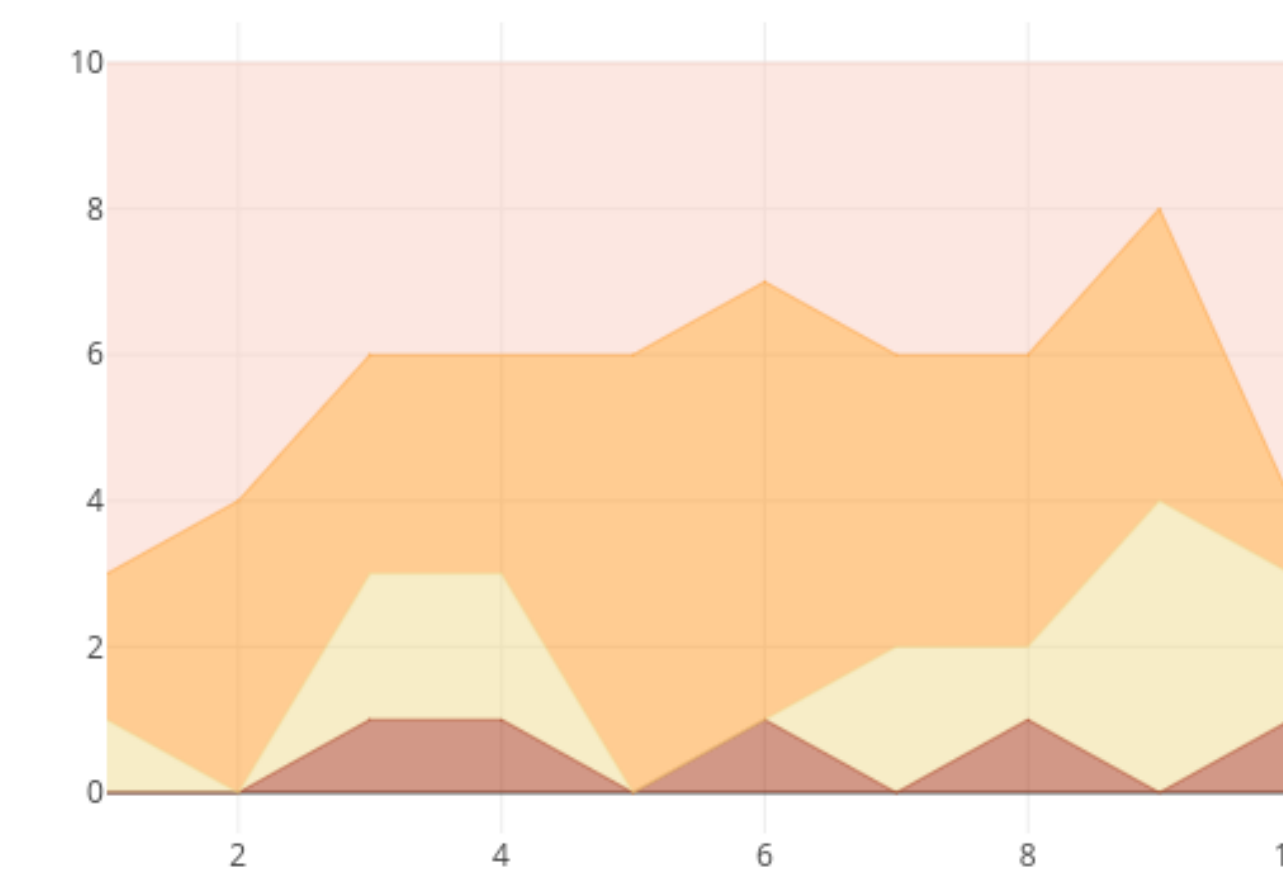
Websites that left top 10 at any point were recorded and percentage of websites that leave was calculated for each category.



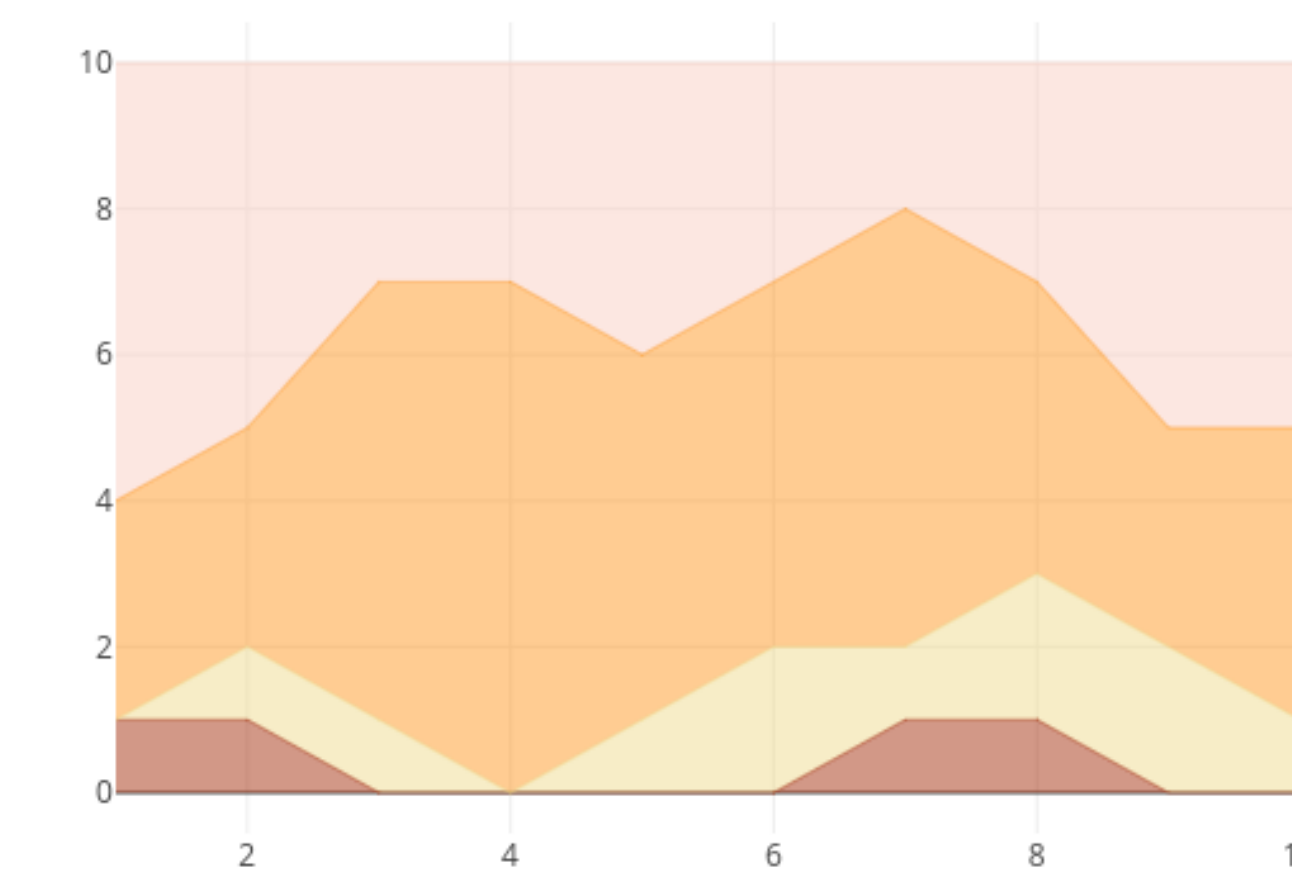
With data from 6 observations over the past month, we looked at prevalence of each category in SERPs.

## Distribution of Site Categories by Rank (top 10) for different observations

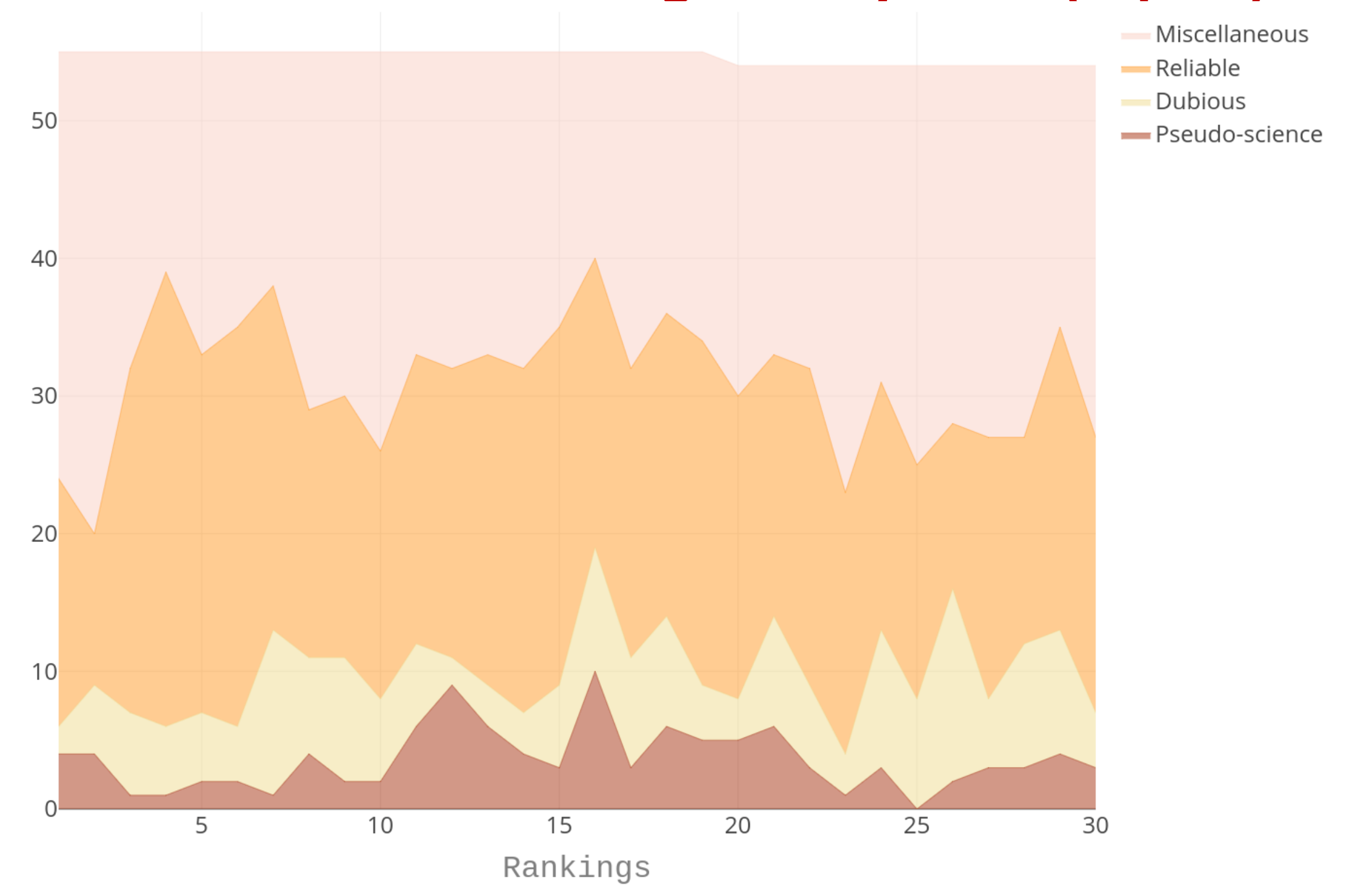
Observation #2



Observation #3



## Distribution of Site Categories by Rank (top 30)



Composition of the first page of results changes from one observation to another.