

Using Social Media for Public Health Intelligence

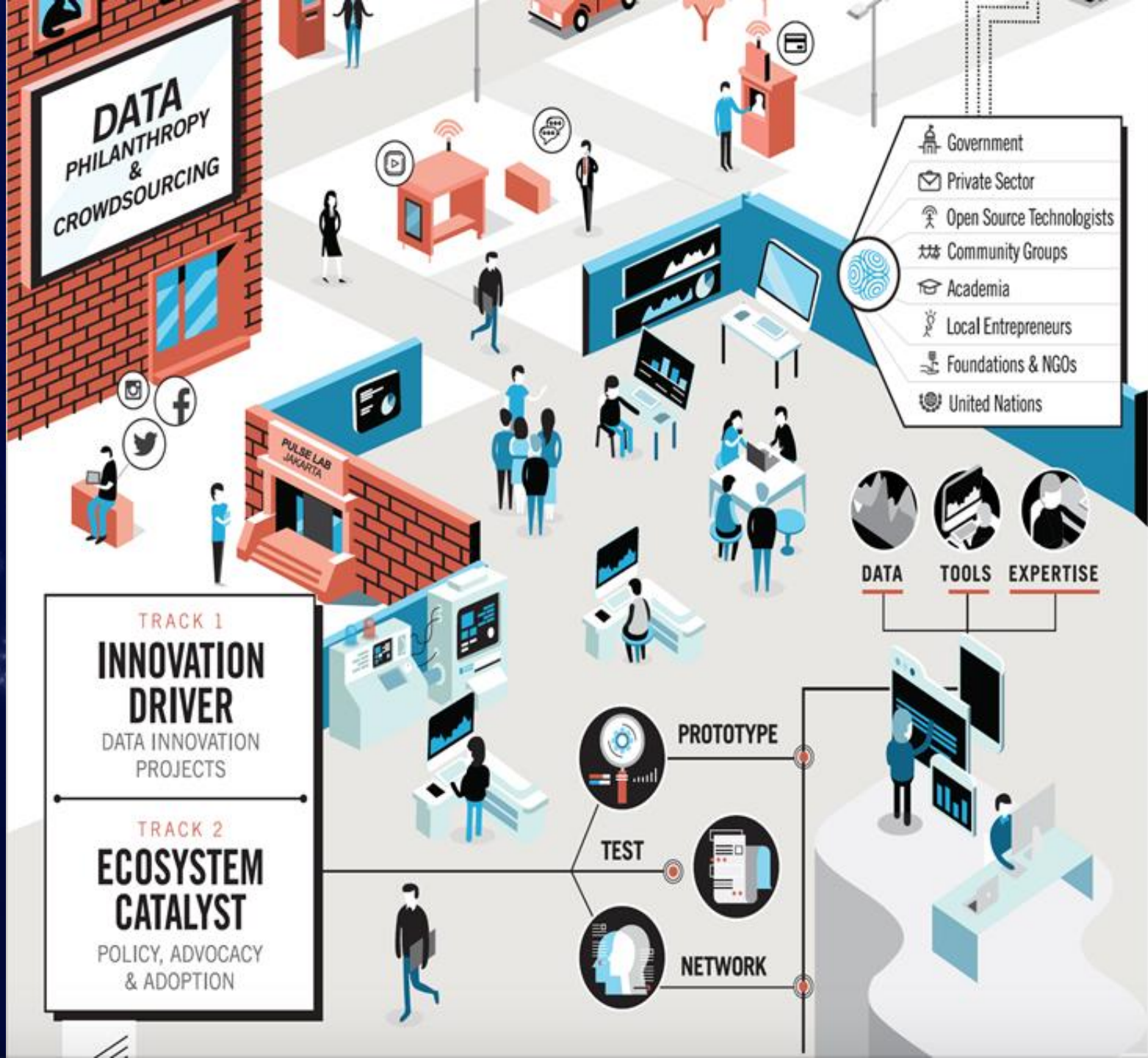
Jaemar Miller
UN Global Pulse

About UNGP



UN Global Pulse

Global Pulse is the United Nations Secretary-General's initiative on big data and artificial intelligence. Our vision is a future in which big data is harnessed safely and responsibly as a public good. Our mission is to accelerate discovery, development and scaled adoption of big data innovation for development, humanitarian action and peace.



Social Media Monitoring of Discrimination and HIV Testing



All tweets in the world
(approx. 500 million/day)

Tweets including
HIV/AIDS keywords

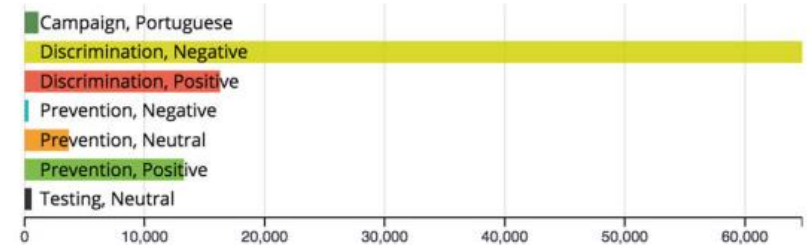
... from Brazil

Social Media Monitoring of Discrimination and HIV Testing

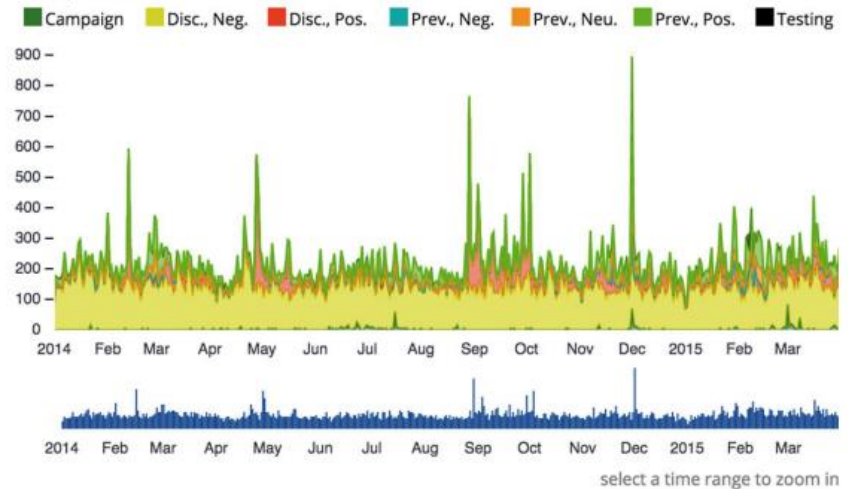
Brazil Map



Category



Daily Volume



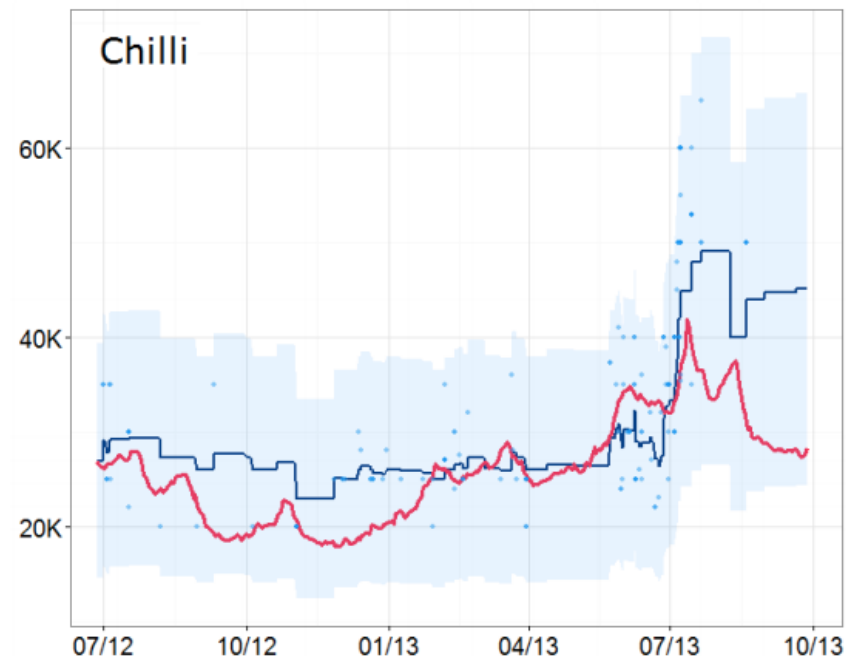
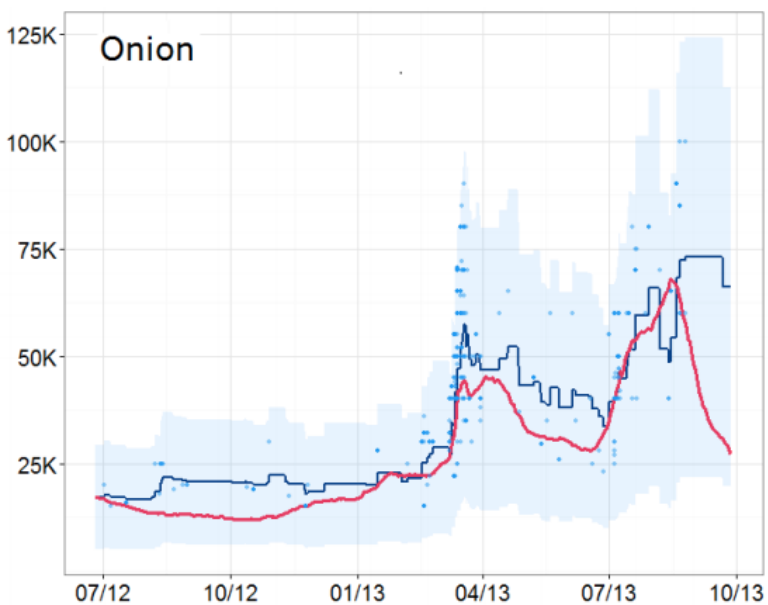
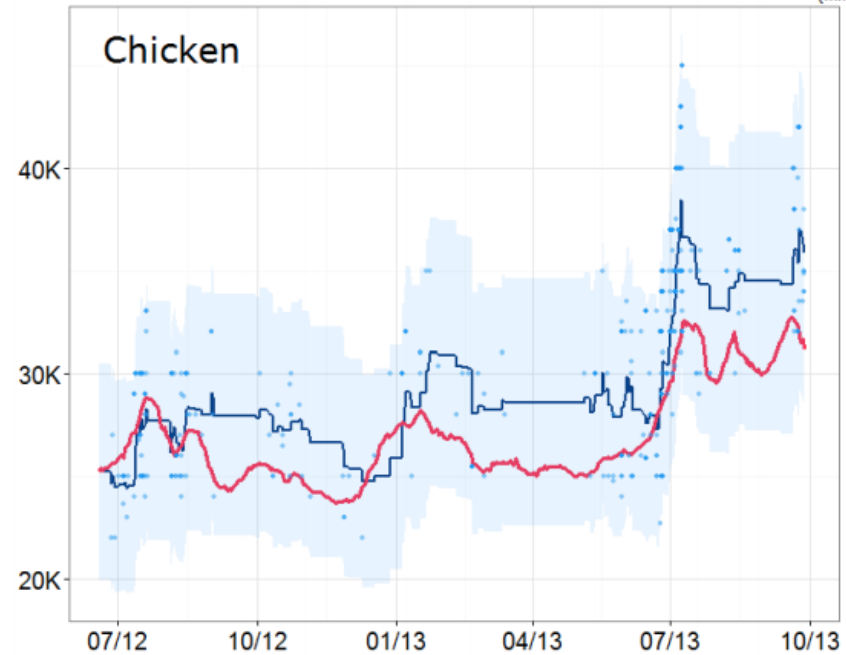
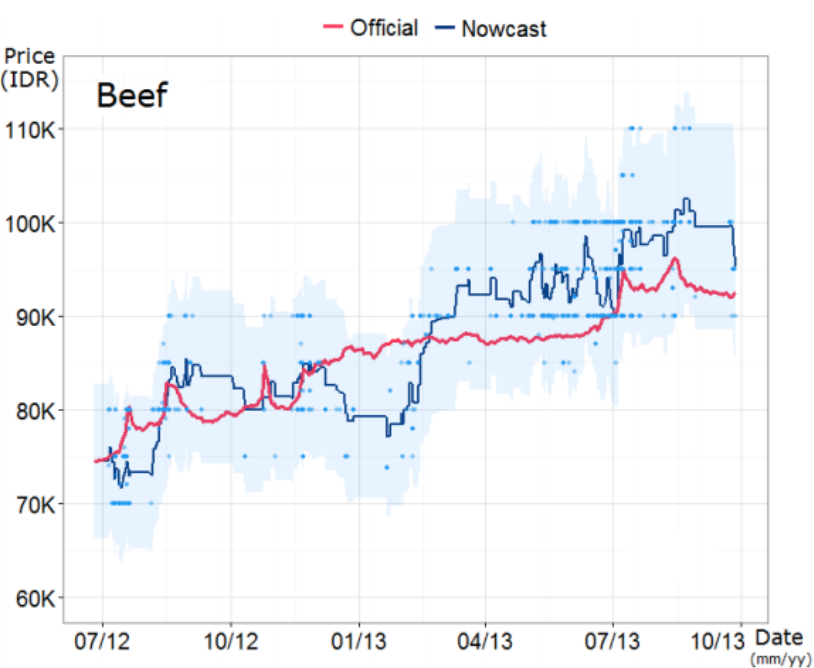
100,133 selected out of 100,133 records | [Reset All](#)

Nielsen, R.C., Luengo-Oroz, M., Mello, M.B. et al. AIDS Behav (2017) 21(Suppl 1): 114.
<https://doi.org/10.1007/s10461-017-1753-2>

Nowcasting Food Prices with Twitter in Indonesia



Source: The Star Online



Kim, Jaewoo, Meeyoung Cha, and Jong Gun Lee. "Nowcasting commodity prices using social media." *PeerJ Computer Science* 3 (2017): e126.

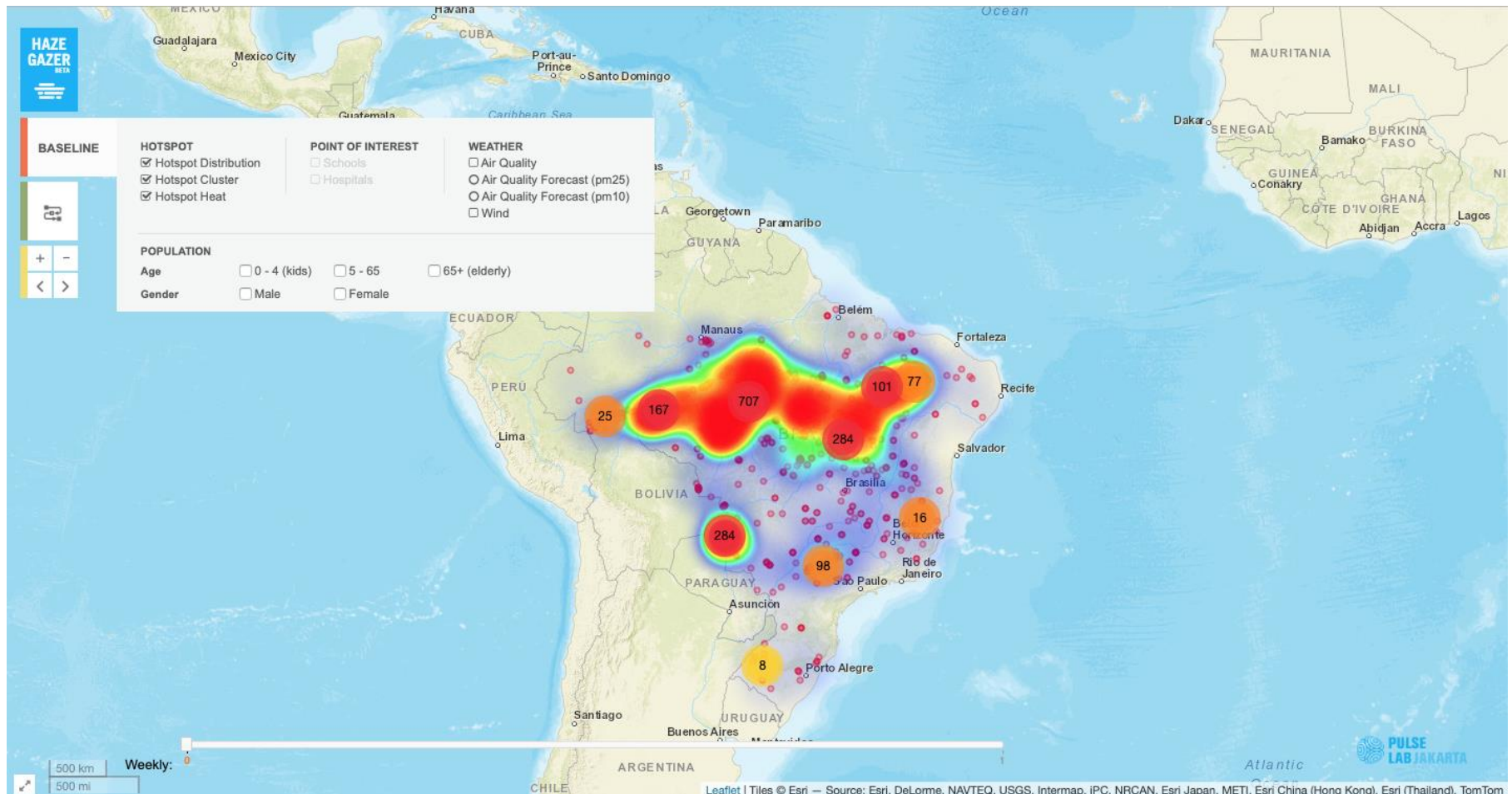
Hazegazer



Source: ~~REUTERS~~ TANOTO



Hazegazer



<http://hazegazer.org/>

Qatalog

- Query
- Assign
- Tag
- Analyze
- Log

Qatalog

Overview.



Twitter

3171 documents
(102%) loaded.

Associated terms.

Expand or refine your query by adding or removing terms and hashtags frequently associated with the keywords in your current query. The **frequent terms** are estimated using a **term frequency-inverse document frequency (tfidf)** method, and are ordered according to their importance in the queried corpus. The number times they occur in the corpus is also shown in brackets. The **hashtags** are ordered according to the number of times they occur.

Query level.

Set level.

Term level.

Frequent terms. Hashtags. Links.

#uganda [699]	#ebola [337]
#hiv [295]	
#endaids2030ug[164]	
#forbiddencures[107]	
#malaria [84]	#drc [77]
#health [72]	
#stepupthefight[64]	
#condom [60]	#sex [59]
#africa [55]	
#aworldatrisk[45]	
#tanzania [44]	
#flyugandaairlines[35]	
#lgbt [35]	
#peersmakingithappen[34]	
#ypluspageant19[33]	
#agenda2030[33]	
#tpam19 [33]	
#illuminatiagenda[33]	
#climateemergency[31]	
#knowyourhivstatus[28]	
#ntvnews [27]	

Query.



From: 20 Sep, 2019

To: 20 Oct, 2019

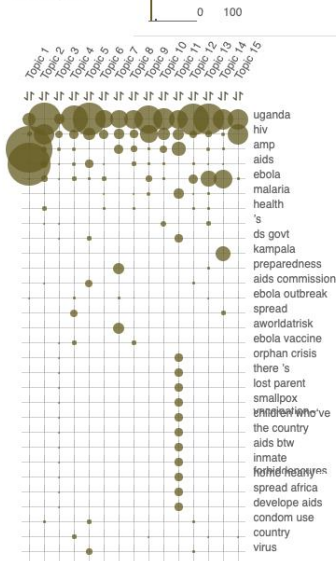
(hiv OR aids OR zika OR malaria OR "yellow fever" OR ebola) AND uganda

Get a query overview.

Your query contains 6 **sets** (combination of search terms) and 0 **supersets** (unique terms). Click the "Run query" button below to see the volume of **documents** (radio snippets, social media posts, and other textual sources) associated with each set, as well as the overall volume of documents your query will retrieve. This will lead you to the **Assign and Agree** stage.

Query overview. Latent topics. Actor network.

Model topics.



Volume of posts over time retrieved by your query.

360 —
300 —

Sample documents.

Below is a random sample of 10 original documents (not re-posts) retrieved with your query.



Qatalog

Taxonomy.

Create a taxonomy of tags and categories to label the queried documents and train a machine learning classifier. Each tag should be used to label at least **20** documents. You can combine tags to create new categories.

[Default]



33

HIV X

28

AIDS X

0

Zika X

12

Malaria X

0

Yellow Fever X

8

Ebola X

Add comma-separated tags.

Show predictions.

Analysis Overview

Looking into known health topics for Uganda

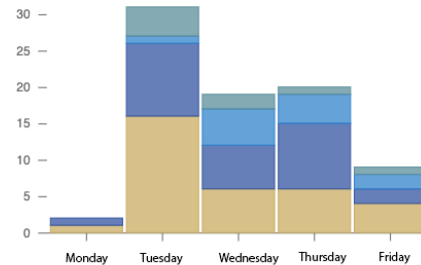
Volume overview.

Actor network.

Bar chart.

Line chart.

Streamgraph.



Tags currently displayed.

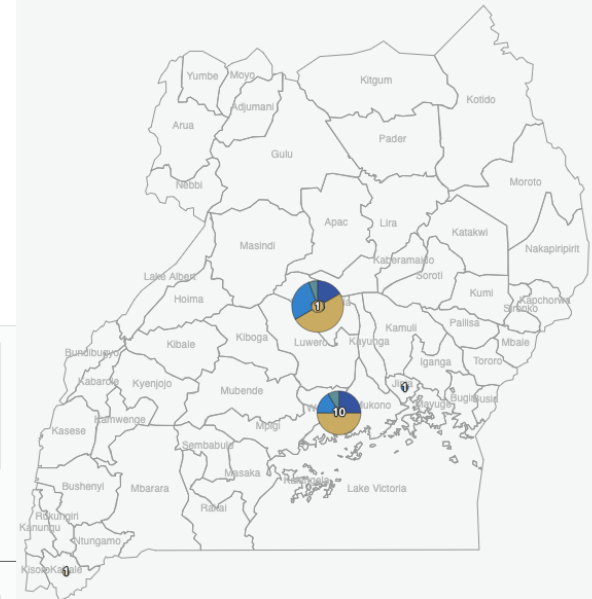
HIV X

AIDS X

Malaria X

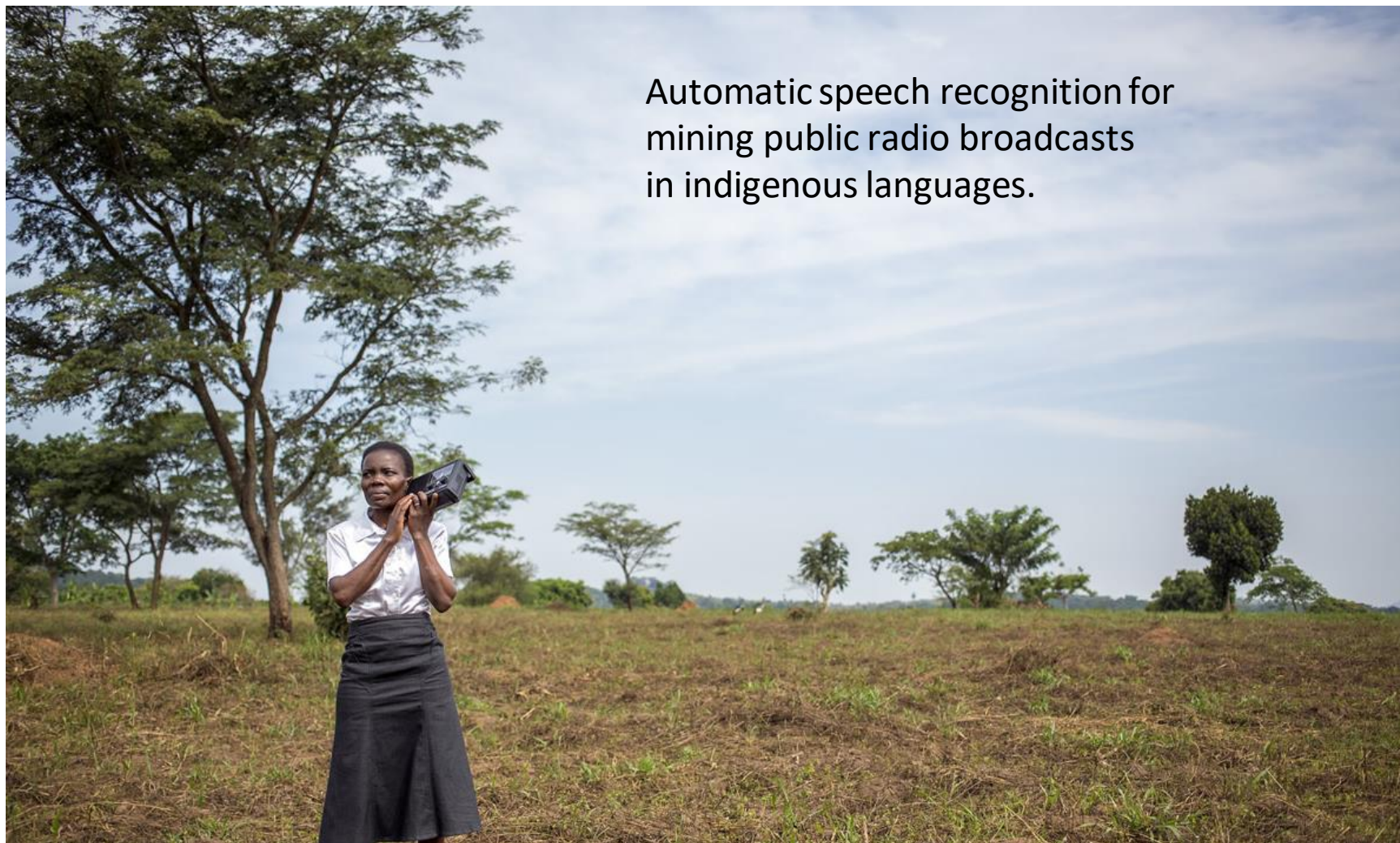
Ebola X

Export as monitor.



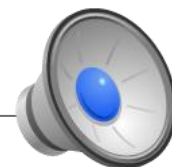
Radio

Automatic speech recognition for
mining public radio broadcasts
in indigenous languages.



Radio

Monitoring systems (continued).

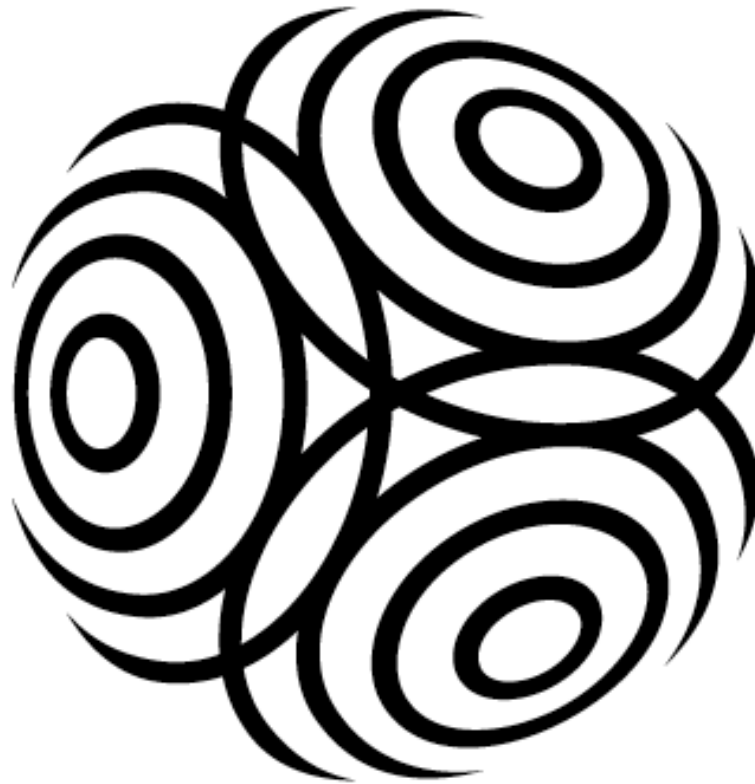
A grey silhouette map of Uganda is shown. A small orange and black location pin is placed on the southern border of the country, near the border with the Democratic Republic of the Congo. A white text box is overlaid on the left side of the map, containing text about a disease outbreak.

Disease outbreak: A listener participated in a call-in show aired by 106.5FM Kampala (September 2017) talk about his suspicion about a possible anthrax outbreak (“...I was actually tempted to think that the source of the anthrax outbreak in West Nile was due to the animals that entered our country (to refugee settlements) without being screened...”).

Many attempted health interventions are resisted and hindered due to circulating rumors and misconceptions. To address this, it is important that healthcare delivery programs understand the rumors and their context.

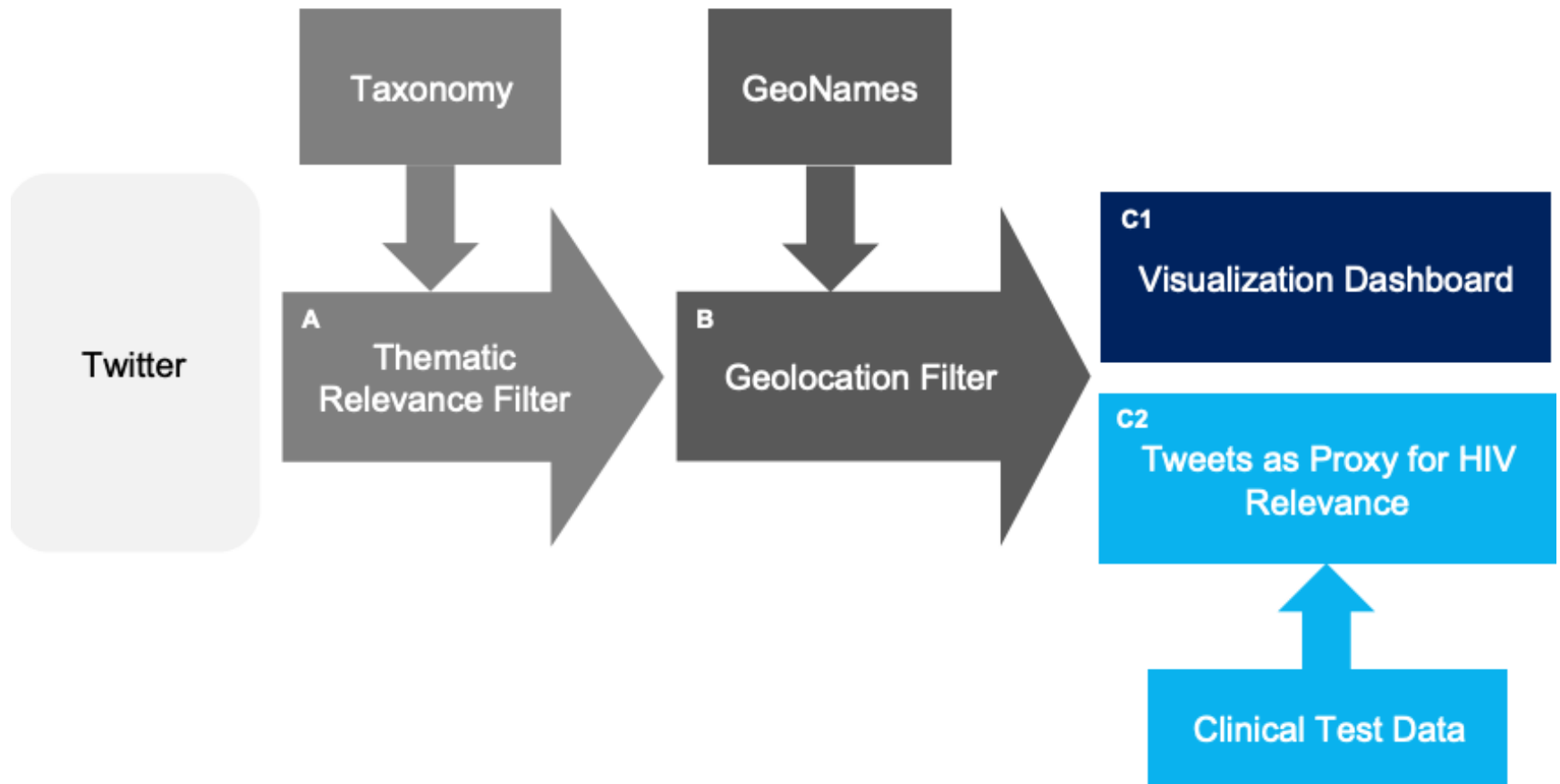
DEMO: https://www.unglobalpulse.net/radio_presentation/

Thank You

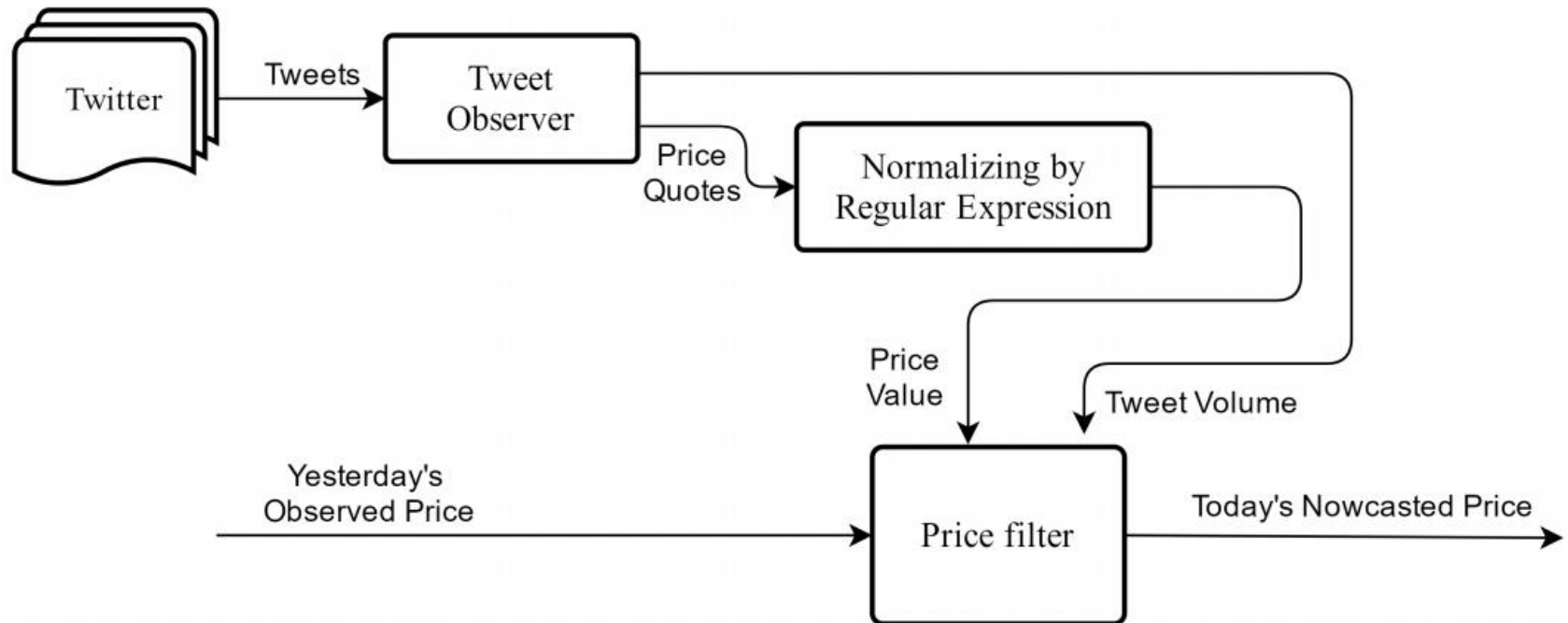


<https://www.unglobalpulse.org/>

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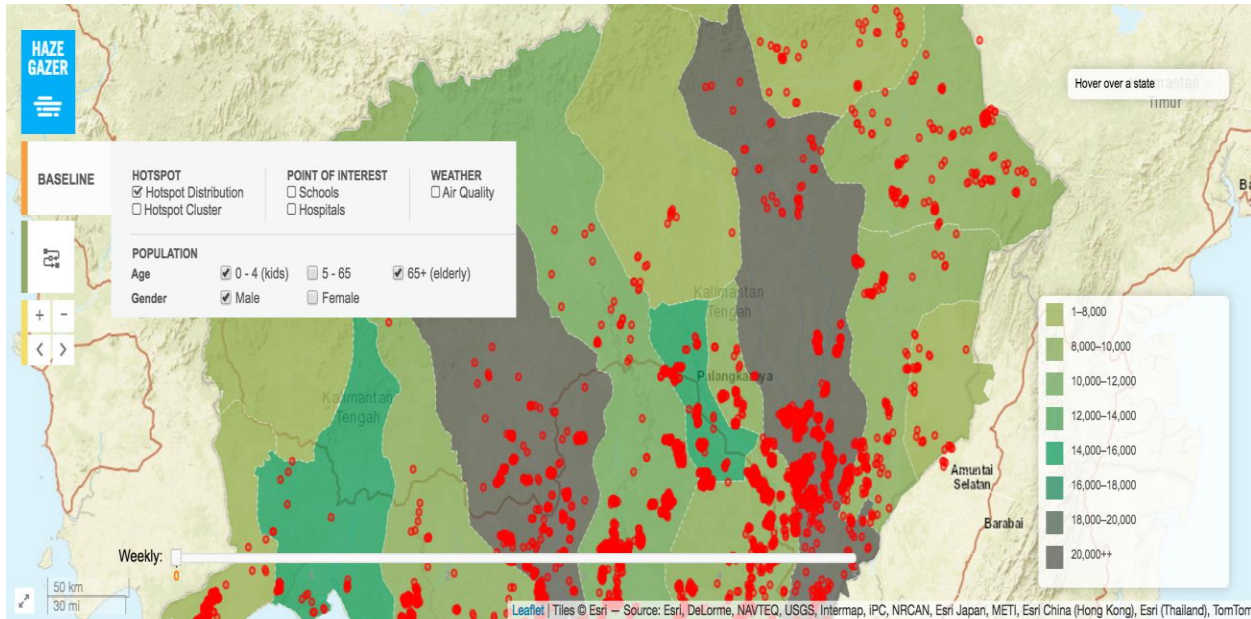


Nowcasting Food Prices with Twitter in Indonesia



Haze Gazer

Real-time hotspot detection and impact assessment



ANALYSIS IMAGE VIDEO CASE STUDY

1. Riau 2014
2. Central Kalimantan 2015
3. Indonesia 2015

INSTRUCTION ABOUT CONTACT

PULSE LAB JAKARTA

The ANALYSIS section shows a list of analysis results with a table of categories and counts. The IMAGE section shows a grid of images related to the analysis. The VIDEO section shows a video player with a play button and a title 'Penderitaan Suku Anak Da...'. The CASE STUDY section shows a list of case studies and a button to explore more.

<http://hazegazer.org>

