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Ushahidi in Haiti: The Use of Crisis Mapping During the 2010 Earthquake in Haiti

Article · January 2010

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CrisisMapping

&

Ushahidi

Olga Werby, Ed.D.

2009

CREDIT: JEWEL SAMAD, AFP

2010

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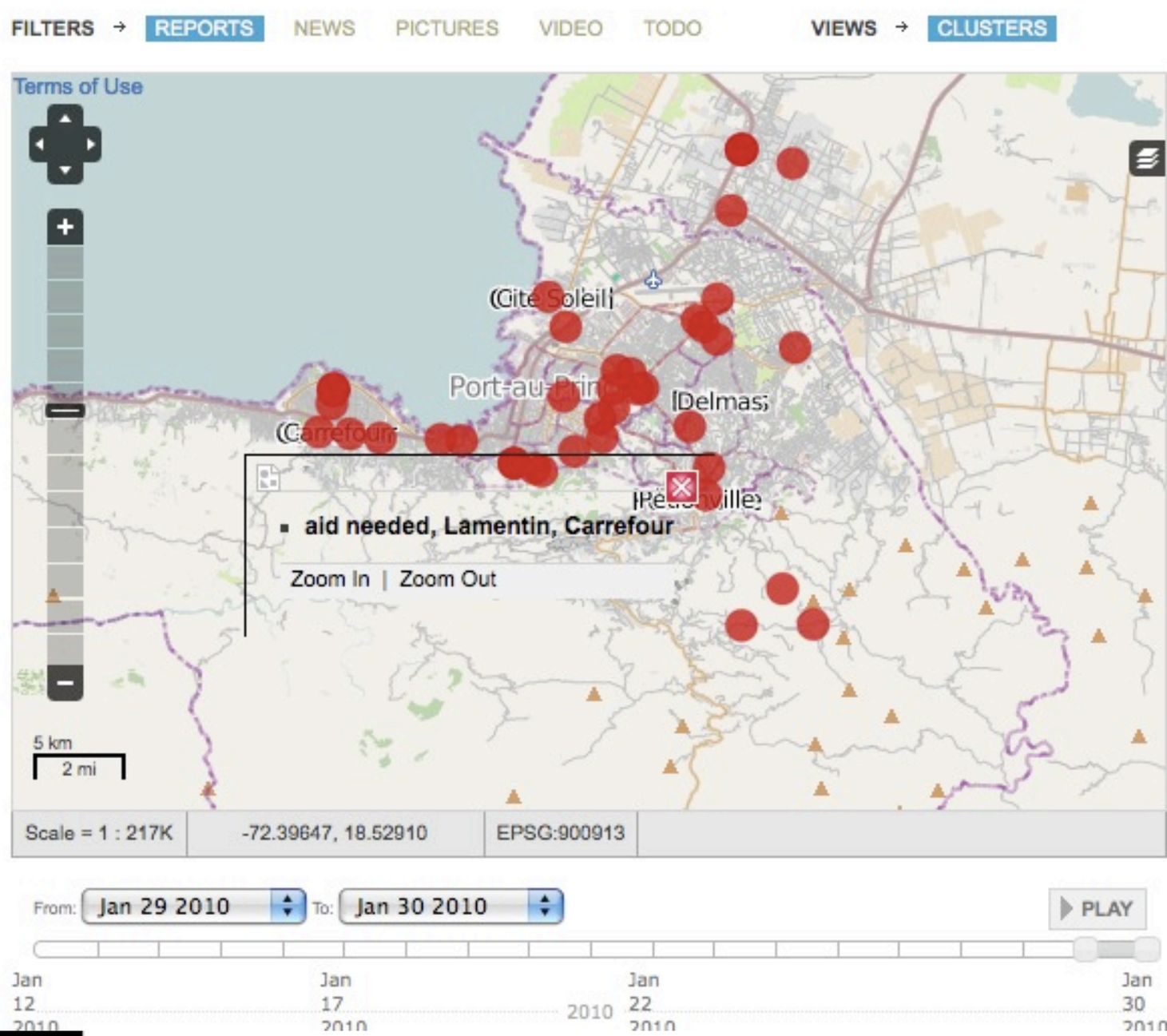
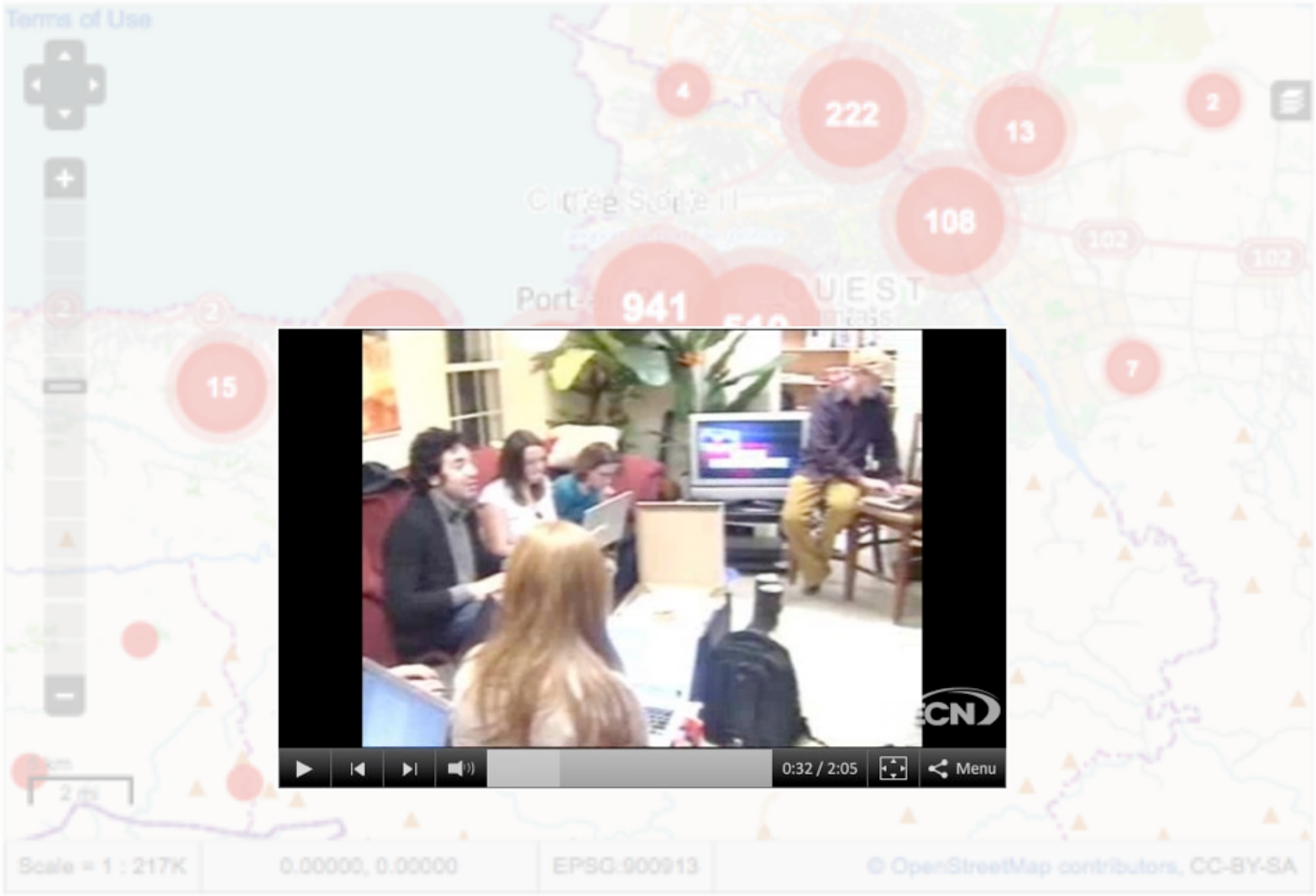
CrisisMap of Haiti



NECN News Coverage of
Tufts University Students
CrisisMapping of Haiti
Post the 2010 Earthquake



Visit http://www.interfaces.com/blog/2011/01/micro-introduction-to-crisis-mapping/ to watch the video

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Three Main Components of CrisisMapping

- **CrisisMap Sourcing (CMS)**: data point collection
- **CrisisMap Analysis (CMA)**: describing the data points & displaying them in a map-like structure
- **CrisisMap Response (CMR)**: generating action based on the collected data points

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CrisisMap Sourcing (CMS)

- *CrisisMap Coding (CMC)*—refers to entering the data points by hand, based on analysis of news, police reports, blogs, and so on, but the person entering the data is a professional
- *Participatory CrisisMapping (PCM)*—refers to data points entered by the population in crisis, requires people on the ground
- *Mobile CrisisMapping (MCM)*—refers to the use of hand-held mobile devices to enter data points (e.g.: cell phones, portable computers, PDAs, real-time satellite and drone imagery, etc.)
- *Automated CrisisMapping (ACM)*—refers to the use of computer programs/algorithms to extract relevant data points from “the virtual cloud”

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CrisisMap Analysis (CMA)

- *CrisisMapping Visualization (CMV)*—refers to visual data representation using maps as the basis

- *CrisisMapping Analytics (CMA)*—refers to analysis of data points using software to detect hidden patterns and statistical analysis

- *CrisisMapping Modeling (CMM)*—refers to creating simulations using the data points as variables (think climate models)

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CrisisMap Response (CMR)

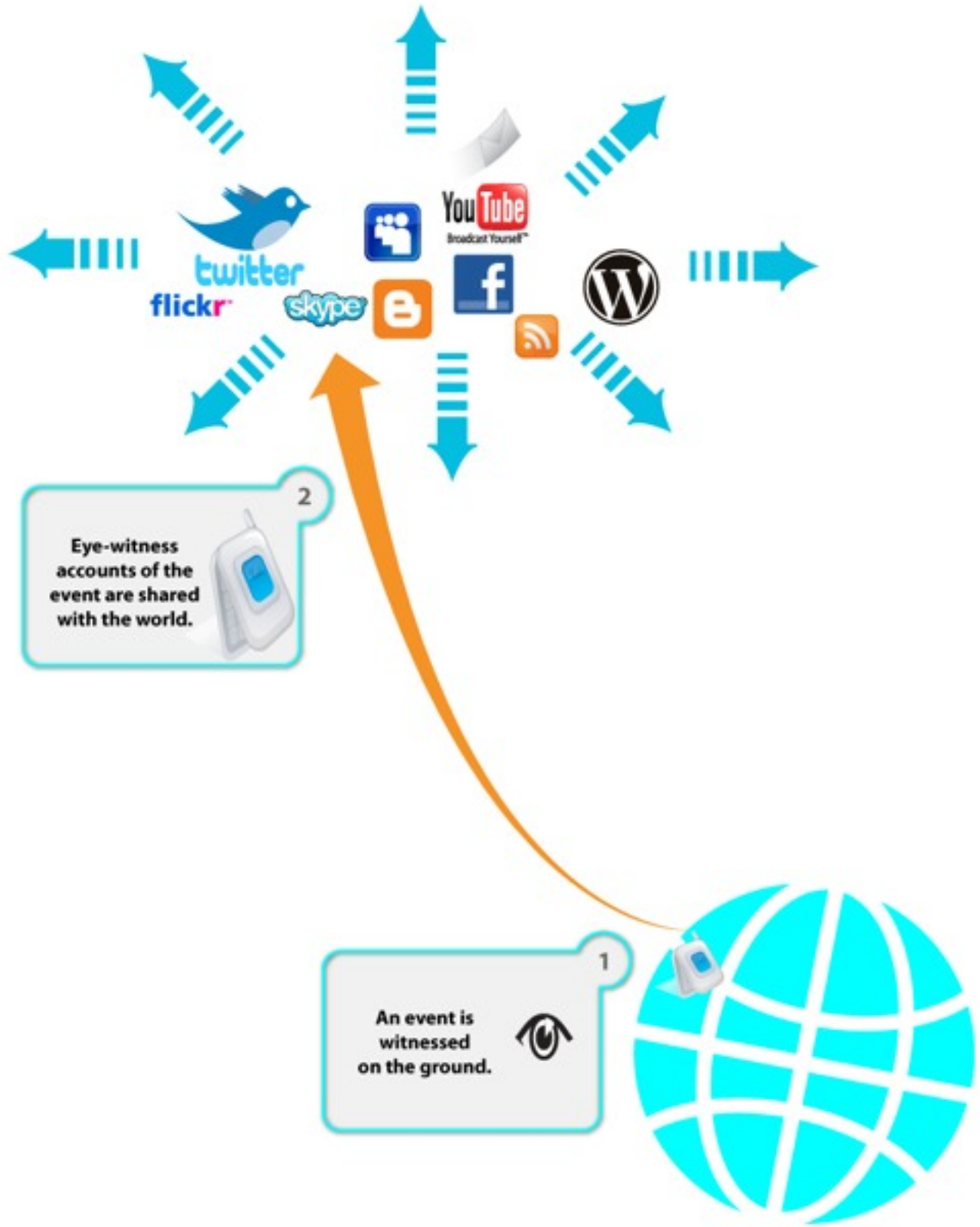
- *CrisisMap Dissemination (CMD)*—refers to dissemination of information to the relevant organizations who can actually provide services on the ground

- *CrisisMap Decision Support (CMDS)*—refers to the creation of rules and triggers based on the data points: a certain threshold is set on events that, once reached, trigger a particular action (think pandemic)

- *CrisisMap Monitoring & Evaluation (CMME)*—refers to the research that can be conducted using the maps and data points over time

Decision Scaffolding & CrisisMapping

Smoke Signals from Eye-Witnesses



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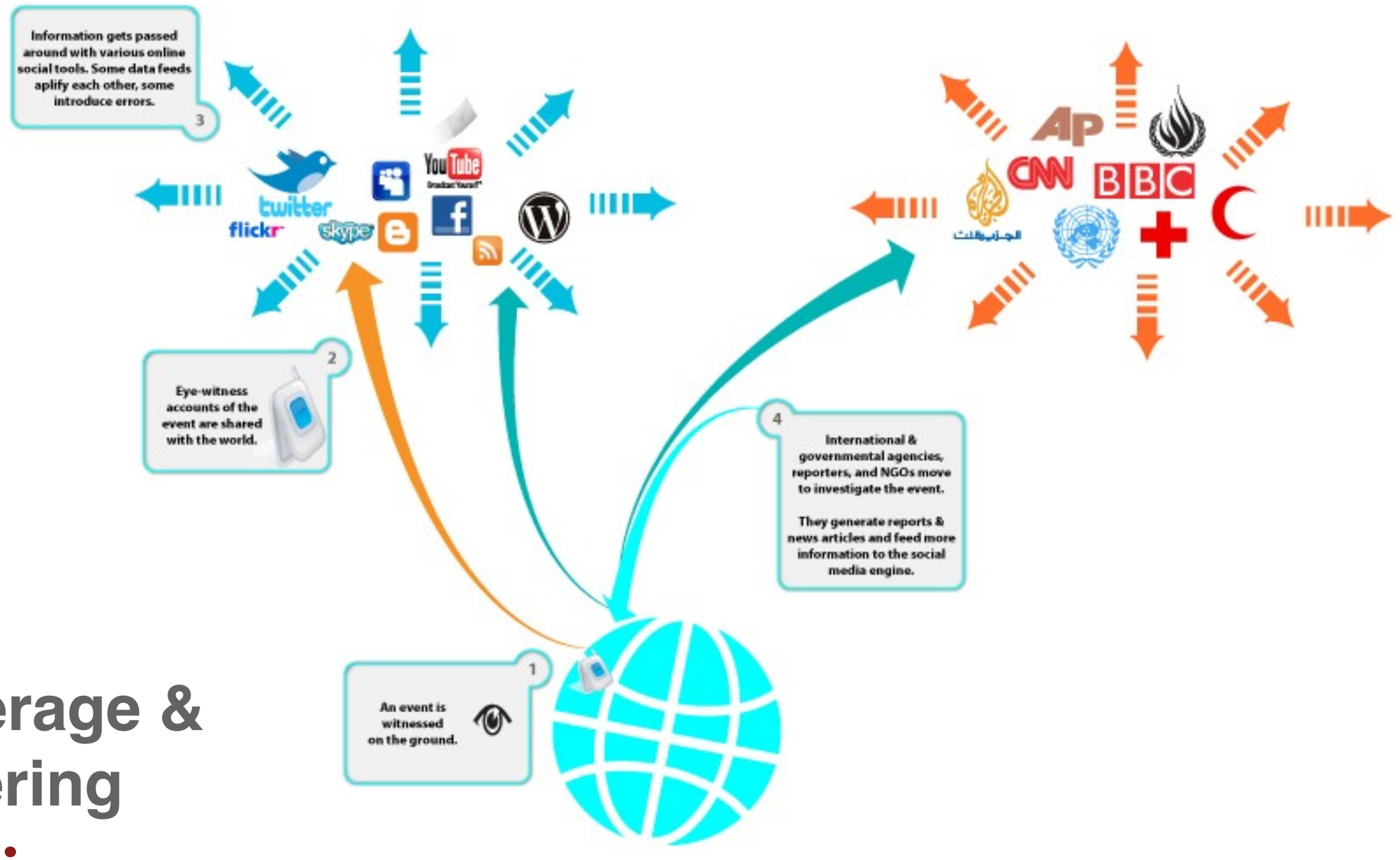
Decision Scaffolding & CrisisMapping



News Coverage & Data Gathering

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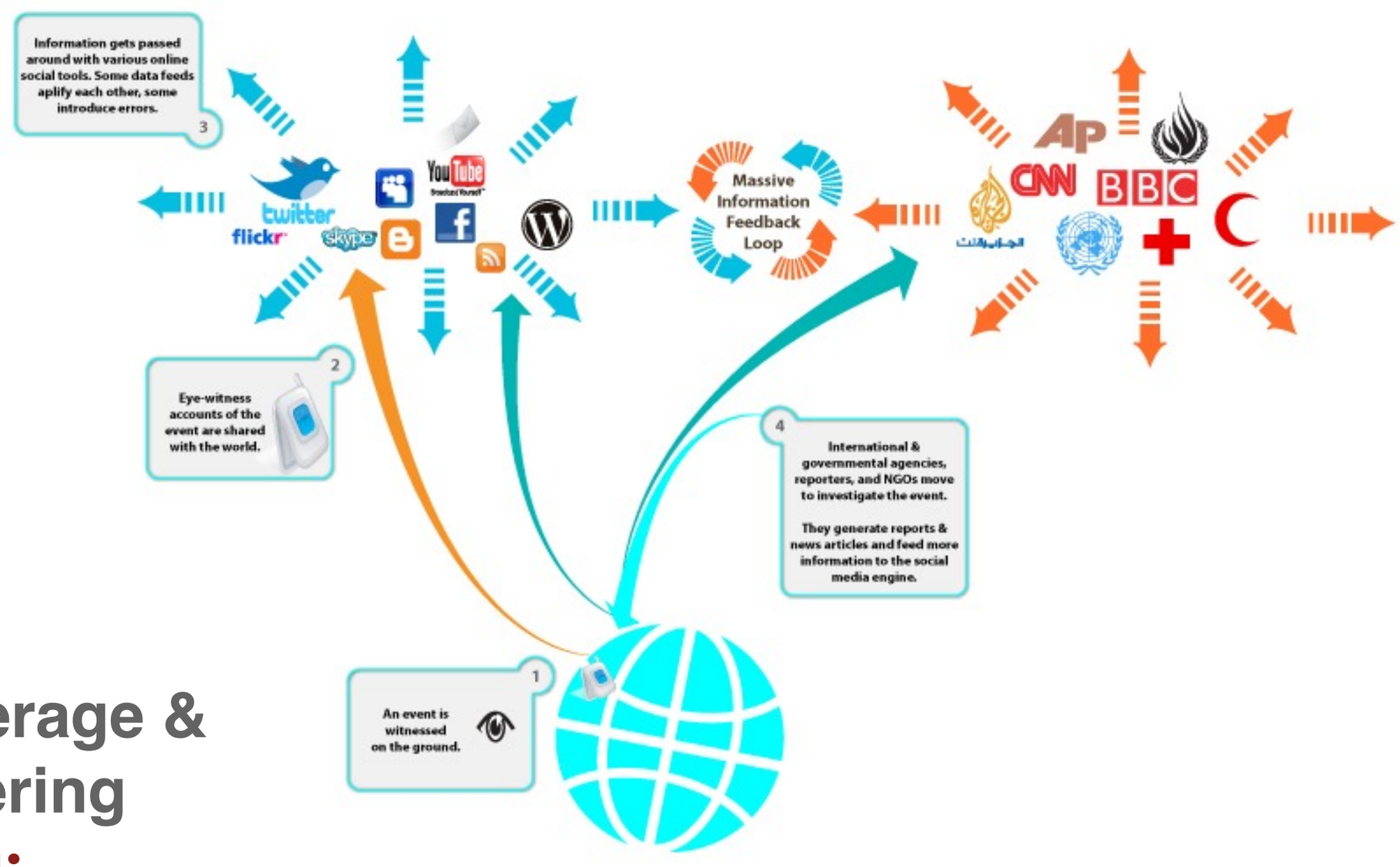
Decision Scaffolding & CrisisMapping



News Coverage & Data Gathering

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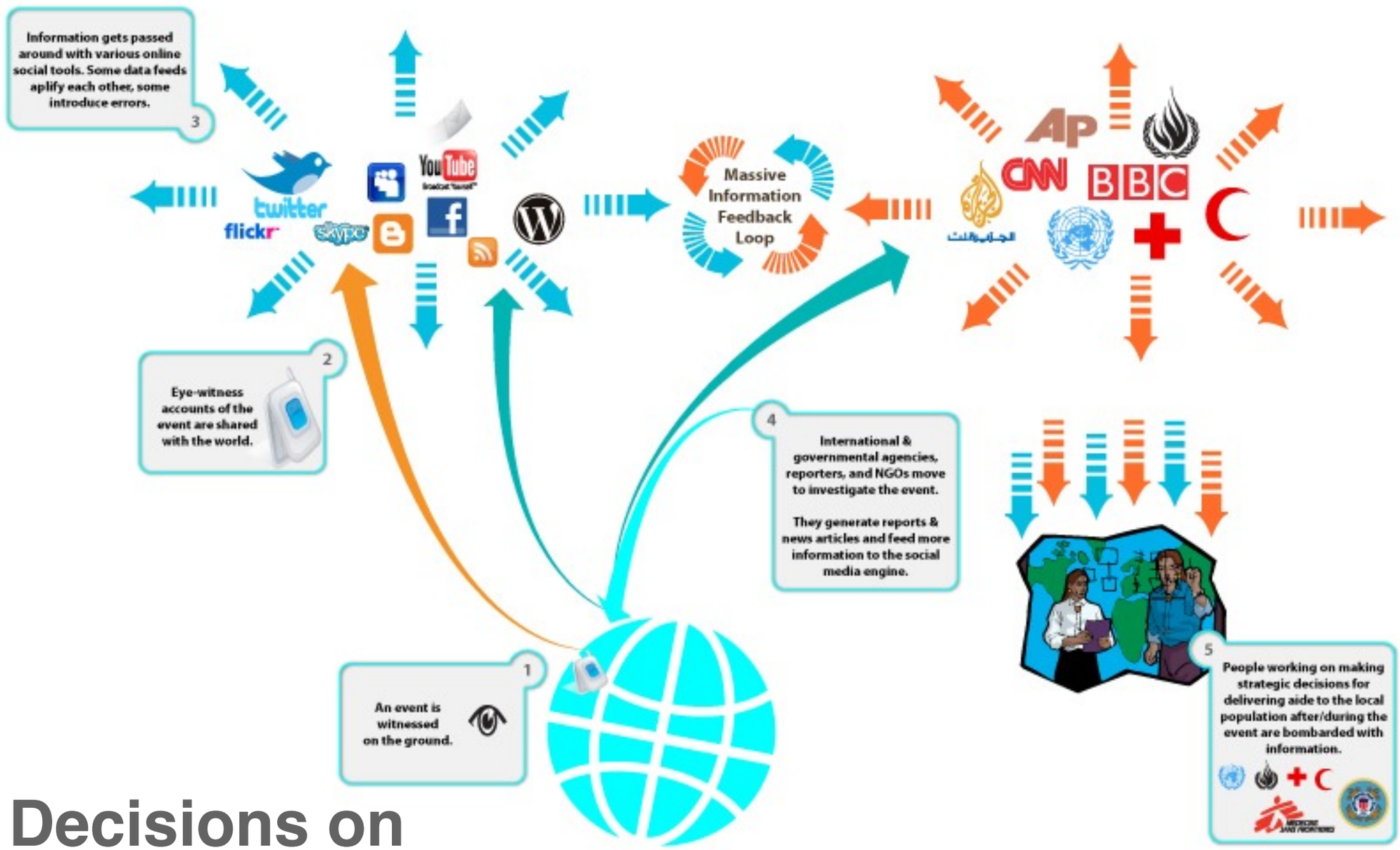
Decision Scaffolding & CrisisMapping



Strategic Decisions on How to Deliver Help

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Decision Scaffolding & CrisisMapping

Strategic Decisions on How to Deliver Help

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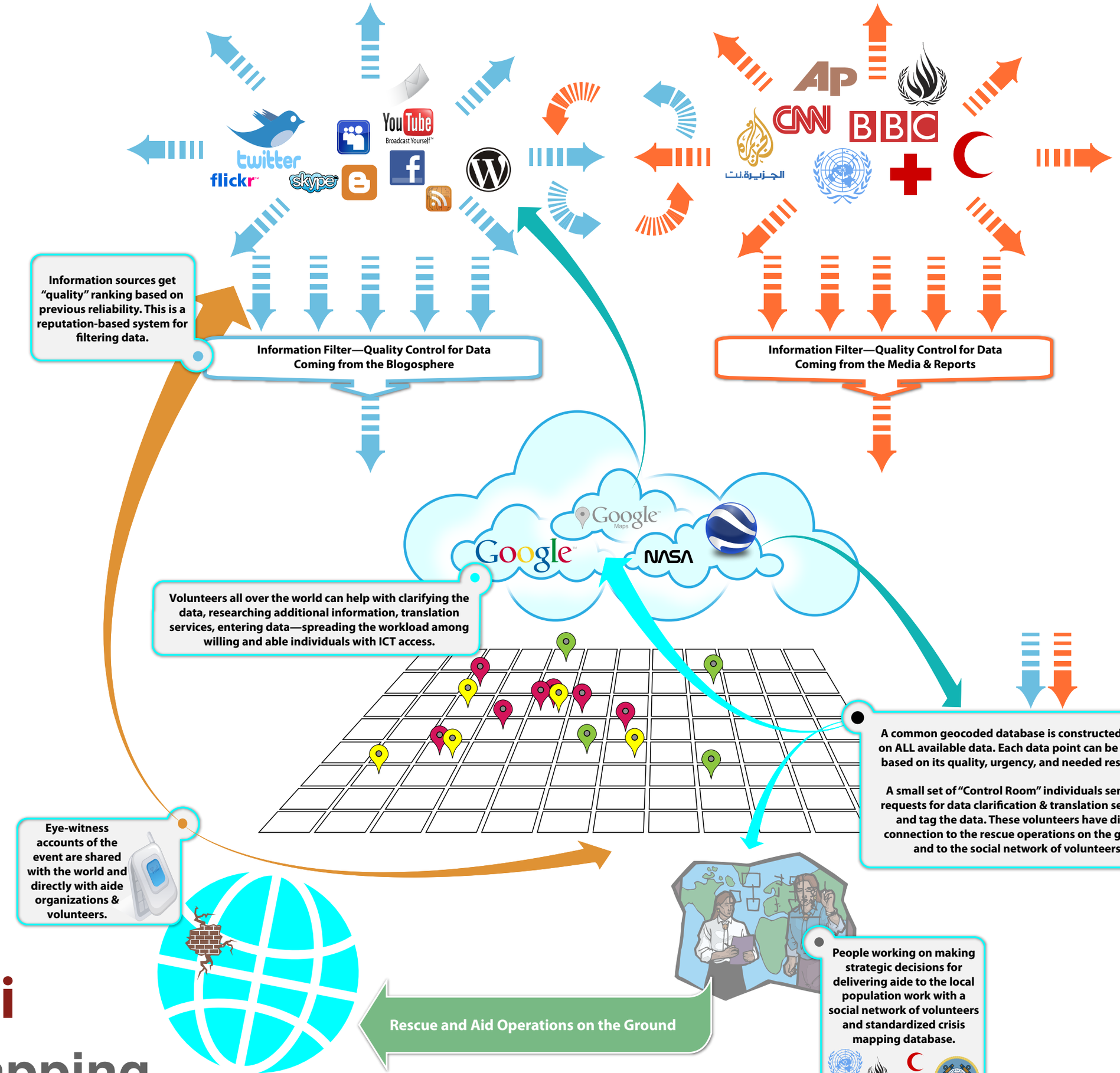
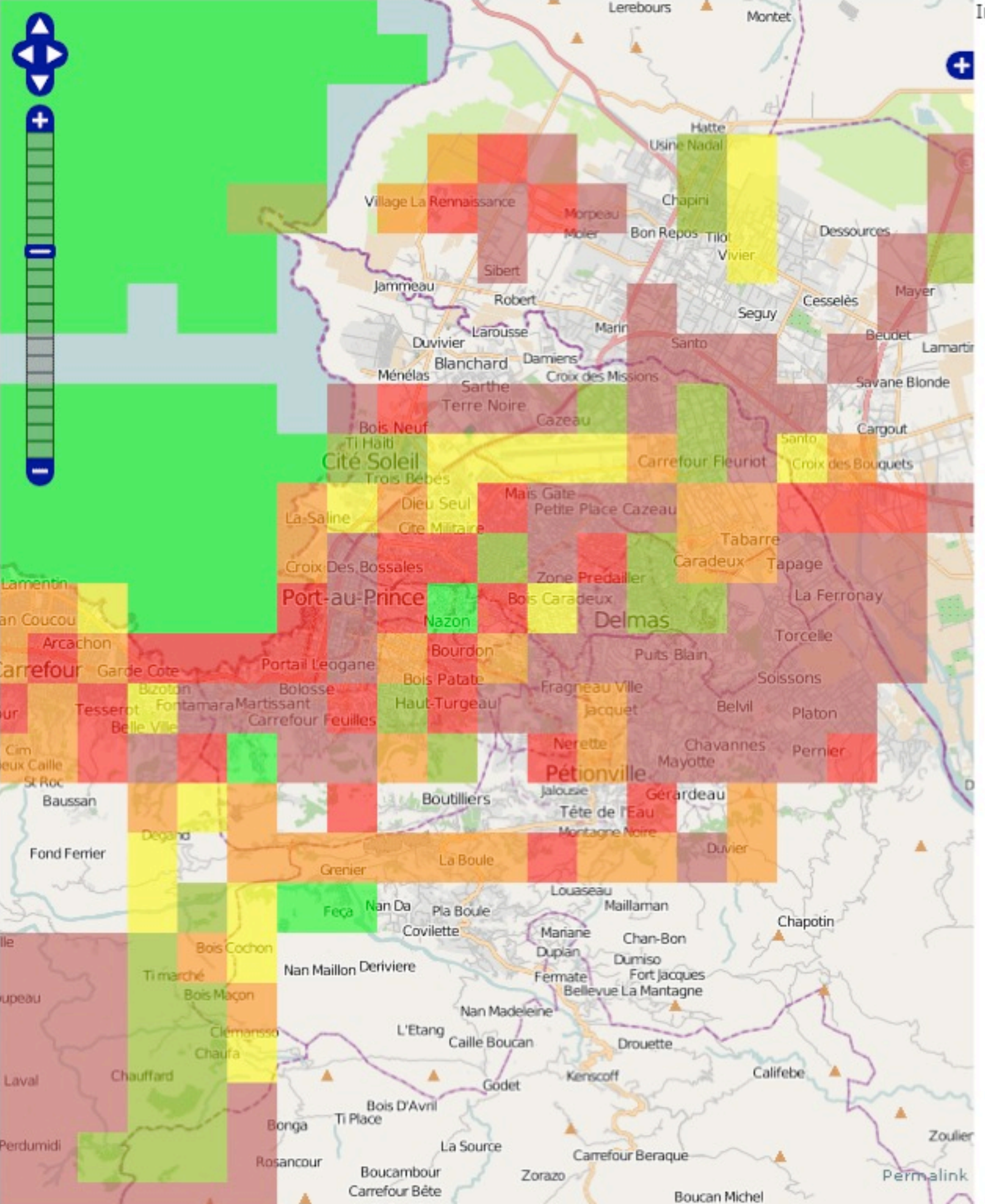


Ushahidi & CrisisMapping



Instruction:

1. Optional Login: Hello Guest
   OSM-Username: ikiya
   OSM-Password: ●●●●●●●●
   Login
2. Please zoom to a map segment. **Please zoom in! (Now 12/ Should 13)**
3. Show workmatrix / redraw
4. Select a square in the map (Leftclick) and *click here to focus the square*
5. Show the aerial photos
6. Move this controller back and forth to change between aerial photo and openstreetmap

   aerial photo visibility: 50%
7. Judge the square

Trace status of the square | Optional

- ☐ All major streets are present Check All ☐
- ☐ All residential roads are present
- ☐ All forest and clearings are present
- ☐ All buildings are present
- ☐ All lakes/rivers are present
- ☐ All power lines are present

Save *Please check if the element is not in the square.*

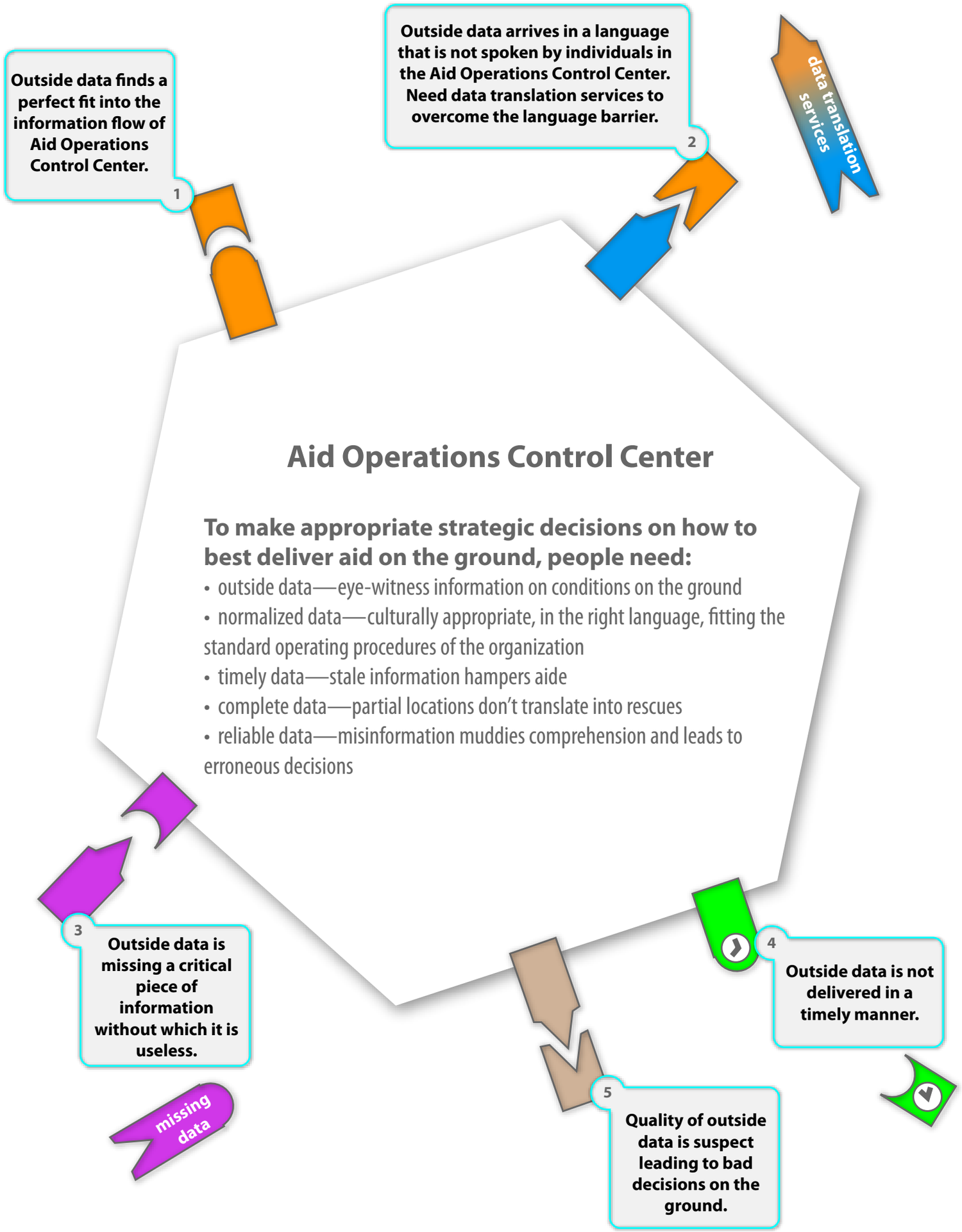
Bordercolor: grey=0 Checks, darkred=1, red=2, orange=3, yellow=4, darkgreen=5, green=6

Infos from

Changelog | Comments | OSM | Tools | Info

```
Trace Status:
Major Highways: 946
Roads: 754
Forest and Clearing: 617
Lakes 652
Rivers: 768
Powerlines: 567
```

Information Scaffolding & CrisisMapping



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Ushahidi can provide informational scaffolding to improve strategic decision making of rescue operations on the ground.

Outside data finds a perfect fit into the information flow of Aid Operations Control Center. 1

Outside data arrives in a language that is not spoken by individuals in the Aid Operations Control Center. Need data translation services to overcome the language barrier. 2

data translation services

Volunteers can provide translation services, expanding and contracting the workforce as needs demand.

data translation services

data translation services

data translation services

Volunteers can research the missing information and deliver it to crews on the ground.

missing data

missing data

missing data

missing data

Aid Operations Control Center

To make appropriate strategic decisions on how to best deliver aid on the ground, people need:

- outside data—eye-witness information on conditions on the ground
- normalized data—culturally appropriate, in the right language, fitting the standard operating procedures of the organization
- timely data—stale information hampers aide
- complete data—partial locations don't translate into rescues
- reliable data—misinformation muddies comprehension and leads to erroneous decisions

Volunteers can research and track data, asking for clarifications and speeding up the processing of information to make it more timely.

3 Outside data is missing a critical piece of information without which it is useless.

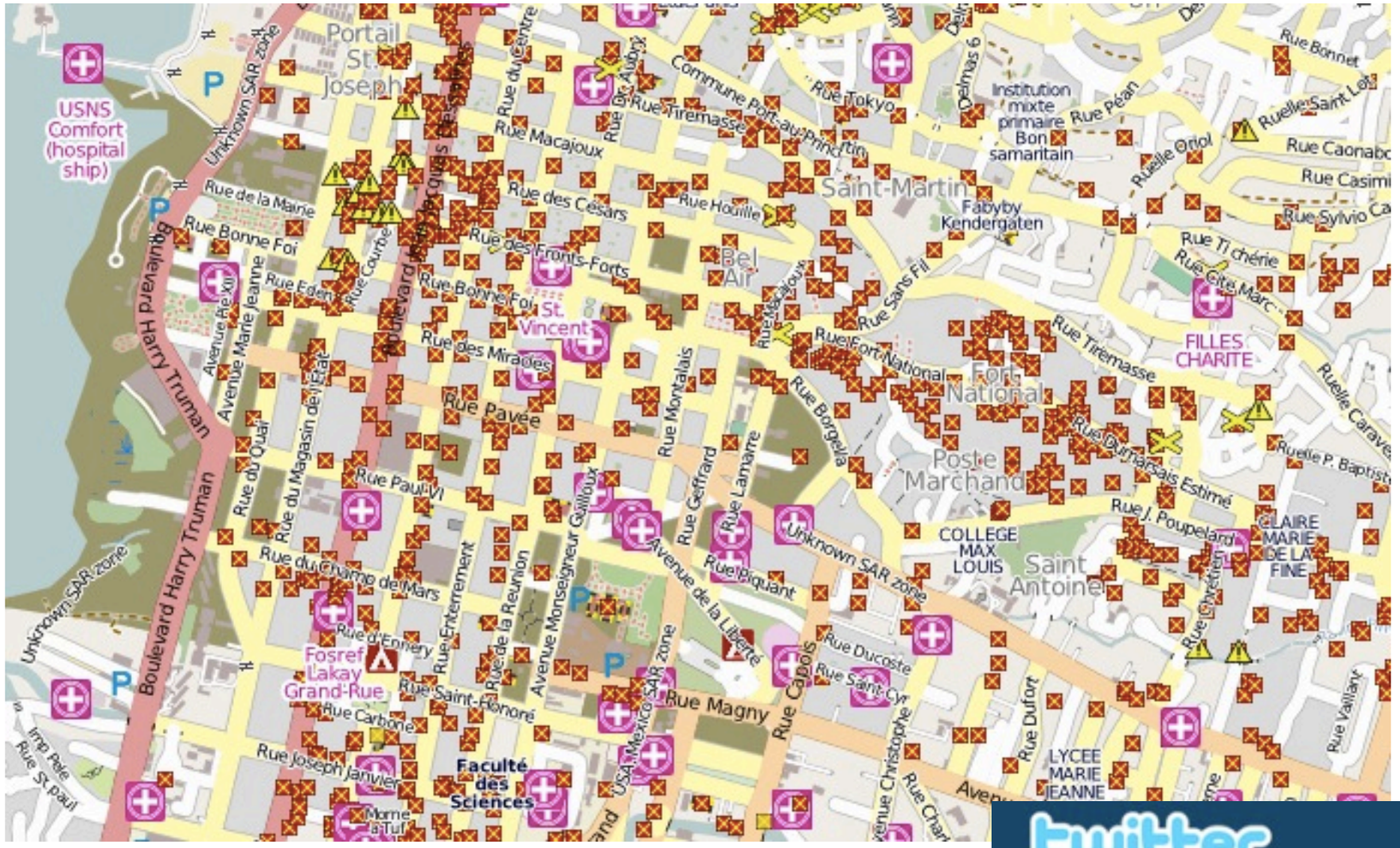
missing data

4 Outside data is not delivered in a timely manner.

5 Quality of outside data is suspect leading to bad decisions on the ground.

Volunteers can help with quality control by checking the data and providing verification of sources.

Information Scaffolding & CrisisMapping


USNS Comfort (hospital ship)
Portail St. Joseph
Boulevard Harry Truman
Unknown SAR zone
Rue de la Mairie
Rue Bonne Foi
Rue des Césars
Rue des Fronts-Forts
Rue des Miracles
Rue Pavée
Rue Paul VI
Rue du Champ de Mars
Rue Macajoux
Rue Tiremasse
Rue Tokyo
Rue Houille
Saint-Martin
Fabyby Kendergaten
Institution mixte primaire Bon samaritain
Rue Peán
Rue Bonnet
Rue Caonabo
Rue Casimir
Rue Sylvio Ca
Rue Ti chérie
Rue Cité Marc
Bel Air
St. Vincent
Rue Sans Fil
Rue Fort-National
Fort National
Rue Tiremasse
FILLES CHARITE
Poste Marchand
Rue Durmarsais Estimé
Rue J. Poupelard
COLLEGE MAX LOUIS
Saint Antoine
CLAIRE MARIE DE LA FINE
Rue Montalais
Rue Geffrard
Rue Lamarre
Rue Borgella
Rue Piquant
Avenue de la Liberté
Rue Ducoste
Rue Saint-Cyr
Rue Magny
Rue Capois
Rue Dufort
LYCEE MARIE JEANNE
Rue Vaillant
Fosref Lakay Grand-Rue
Rue Saint-Honoré
Rue Carbone
Rue Joseph Janvier
Faculté des Sciences
Rue Enterrement
Rue de la Réunion
Avenue Monseigneur Guilloux
Rue du Quai
Rue du Magasin de l'Etat
Avenue Marie Jeanne
Avenue Pie XII
Rue Eden
Rue Courbe
Rue du Centre
Rue Dr. Aubry
Commune Port-au-Prince

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Crisis Map of Haiti represents the most comprehensive and up-to-date map available to the humanitarian community http://haiti.ushahidi.com/
4:00 PM Jan 22nd via web
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Craig Fugate
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Not online at this time for privacy reasons

Haiti

The 2010 Earthquake in Haiti

Ushahidi-Haiti @ Tufts University

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Transitioning to Noula.ht

Our local partner, Haiti-company Solutions, has the most up-to-date reports for first responders — please visit their site for the most current data.

+ SUBMIT INCIDENT

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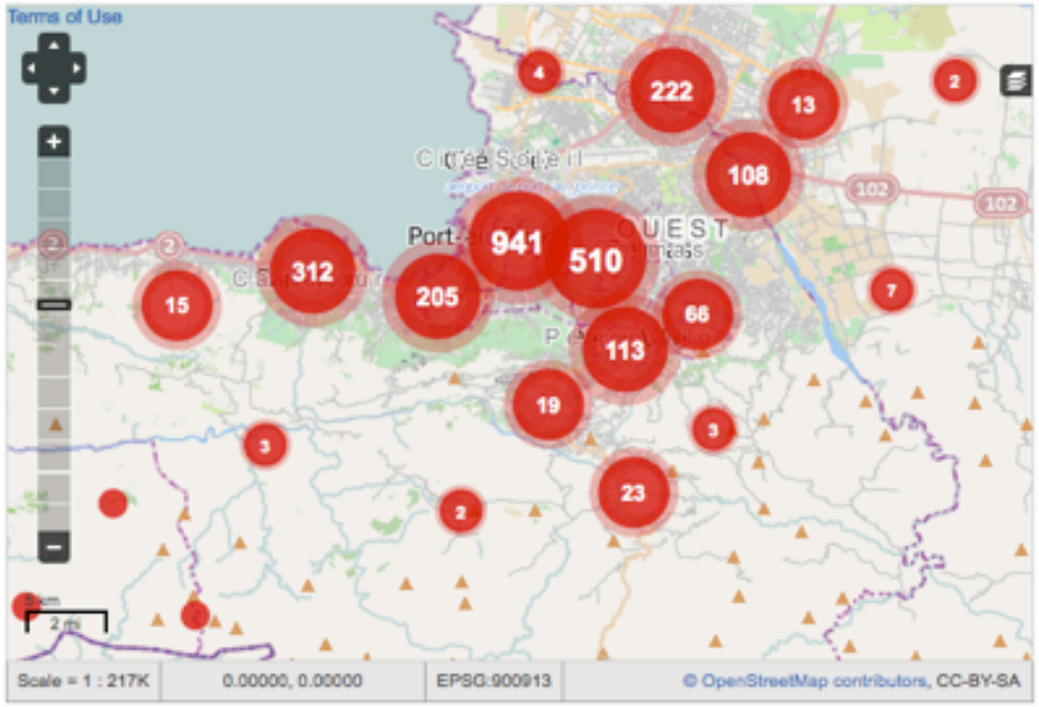
FILTERS → REPORTS NEWS PICTURES VIDEO TODO

VIEWS → CLUSTERS



+ TIMELINE OF EVENTS

From: Jan 12 2010 To: Sep 14 2010 PLAY

Jan 12 2010 | Jun 14 2010 | Nov 14 2010 | Sep 13 2010

+ CATEGORY FILTER

- ALL CATEGORIES
- 1. URGENCES | EMERGENCY
- 2. URGENCES LOGISTIQUES | VITAL LINES
- 3. PUBLIC HEALTH
- 4. MENACES | SECURITY THREATS
- 5. INFRASTRUCTURE DAMAGE
- 6. NATURAL HAZARDS
- 7. SECOURS | SERVICES AVAILABLE
- 8. AUTRE | OTHER

Incidents (from the map, listed in chronological order)

TITLE	LOCATION	DATE
* URGENT * Type O blood donations needed...	Jacmel, Haiti	Jul 5 2010
Citi Soleil school	Citi Soleil, Haiti	May 18 2010
Eliante Valentin	664 Blv. Jean Jacques Dessalines, Port-au-Prince, Haiti	May 3 2010
Shelter needed in Leogane.	Leogane, area of Mapou bissonière	Apr 27 2010
school materials needed in Mirebalais	Mirebalais	Apr 27 2010
Medical attention needed on Delmas 41	Delmas 41	Apr 26 2010
Violence at "arcahaie bas Saint-Ard"	unable to find "arcahaie bas Saint-Ard" on map	Apr 26 2010

Mainstream News

TITLE	SOURCE	DATE
Frogs Hang on in Haiti - Voice of America	Google News: ha...	Jan 13 2011
Korean textile manufacturer investing in...	Google News: ha...	Jan 13 2011
A year later, Haitian engineers acquiring...	Google News: ha...	Jan 13 2011
The Nation: How NGOs Have Failed Haiti -...	Google News: ha...	Jan 13 2011
Haiti Earthquake Remebered At Local Church...	Google News: ha...	Jan 13 2011
My Take: Haiti's earthquake, one year later...	Google News: ha...	Jan 13 2011
Minister Power renews IrelandÂ□s commitment...	Reliefweb	Jan 13 2011
Une ingÃ©nieure haÃ¯tienne aide l'UNICEF...	Reliefweb	Jan 13 2011
Bill Clinton opens Iron Market restored...	Google News: ha...	Jan 13 2011

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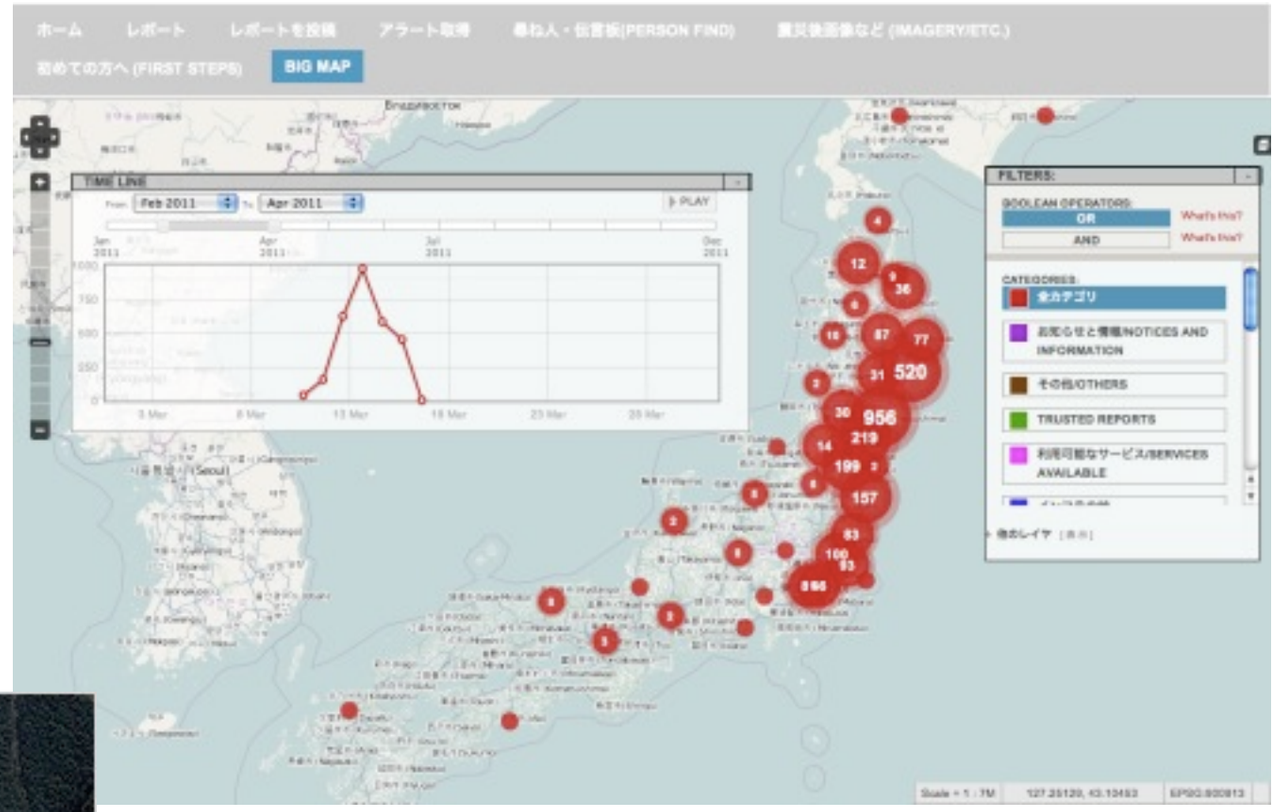
100s of Ushahidi CrowdMaps documenting events all over the world...

Live CrisisMapping in Japan, hours after the earthquake hit:



Aerial view of the damaged Fukushima Daiichi nuclear plant in Okuma, Japan, on Monday, March 14th, 2011

How Easy Is It?

- Ushahidi runs its own servers — no need to setup complicated software system on your own server (at least for simple projects).
- Ushahidi has comprehensive documentation and technical support — it's possible to setup a CrowdMap in one afternoon!
- Anyone can do it!

Ushahidi.com
wiki.Ushahidi.com

If you know what you want to accomplish and have clear goals for your CrowdMap, Ushahidi makes it very easy to set up and go.

LinkedIn.com/groups/Crowdmappers-4215298

CostOfChicken.com is a CrowdMap setup by San Francisco high school students. It tracks the "true costs of food" around the world.

HOME REPORTS SUBMIT A REPORT COST OF CHICKEN BIG MAP PRINT MAP

CO$T of CHICK€N.com

Use this CrowdMap as "sandbox" for trying Ushahidi

FILTERS

Boolean Operators:

OR What's this?

AND What's this?

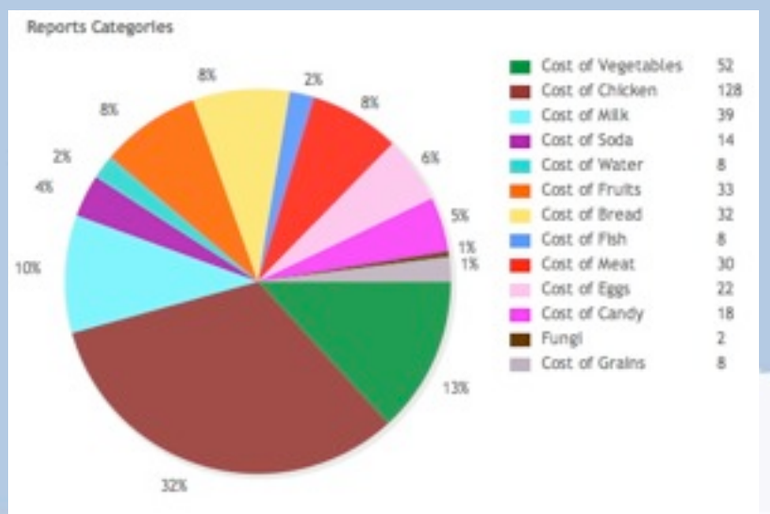
Size of dots: Medium

Clustering: On

- COST OF CHICKEN
- COST OF EGGS
- COST OF SEAFOOD
- COST OF FRUITS
- COST OF GRAINS

TIME LINE

From: Apr 2008 to: Jan 2013



Scale = 1 : 55M | 164.88281, -51.78144 | EPSG:900913 | PRINT A MAP

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