Near-real-time Analysis of Publicly Communicated Disaster Response Information

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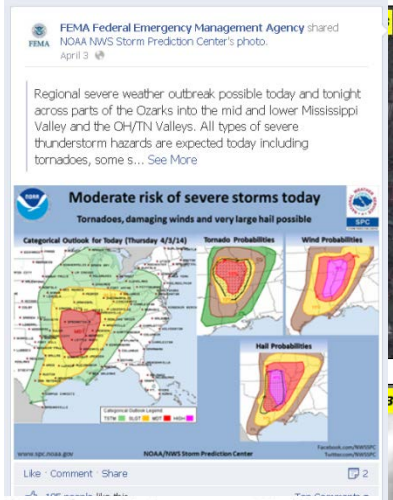
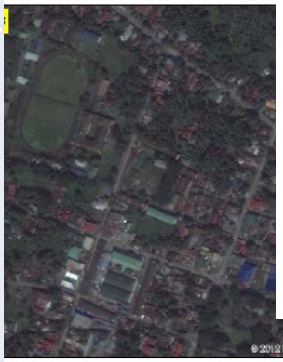
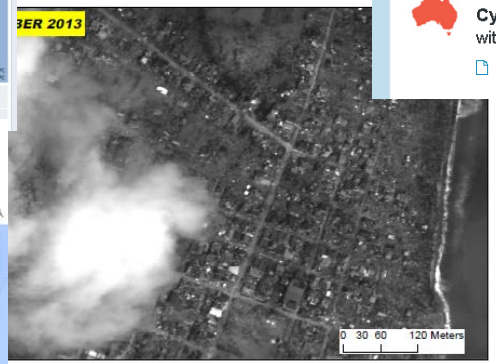
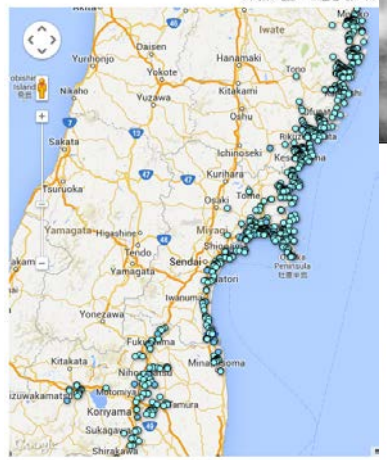
Input: Disaster Response Information

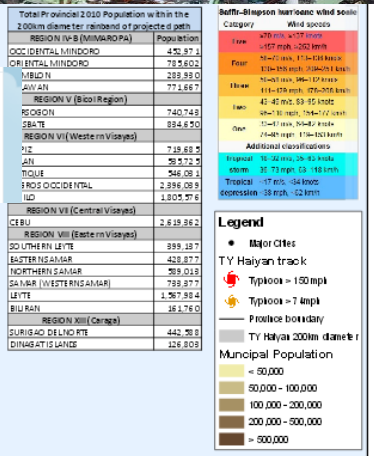


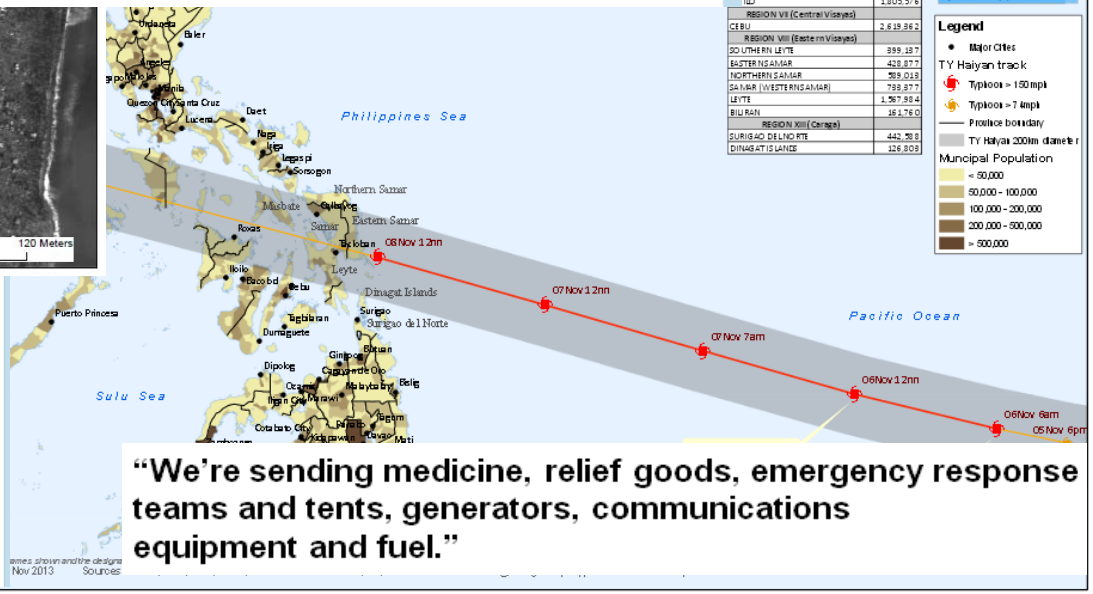






"Nearly 10 million people, or 10 percent of the Philippines' population, have been affected, while 660,000 have lost their homes, the UN estimated."





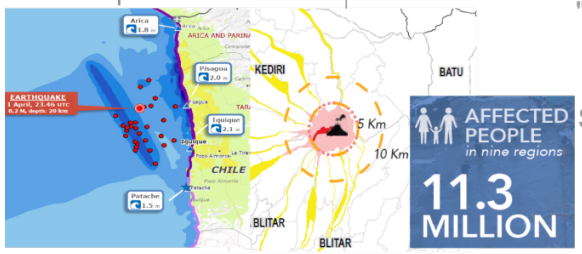
"We're sending medicine, relief goods, emergency response teams and tents, generators, communications equipment and fuel."

Information Needs of the Public To Respond to a Disaster

- General Disaster Info
  - Monitoring and Prediction
  - Affected
- Effects to People
  - Human Life Safety
  - Basic Human Needs
- Effects to Critical Systems
  - Transportation System
  - Medical System
  - Communication System

Event details/ Current situation/ Predictions | **Affected Areas or People** | **Casualties** | **Warnings** | **Life Saving Response** | **Handling of Fatalities** | **Disruptions** | **Solutions**

INPUT



"Residents in low lying and mountainous areas under Public Storm Warning Signals are alerted against possible flash-floods and landslides."(NDRRMC) -Tropical Storm Washi, Philippines

"The New Jersey National Guard has rescued more than 2,000 people from flooded areas." (Gov. of USA) -Hurricane Sandy, USA

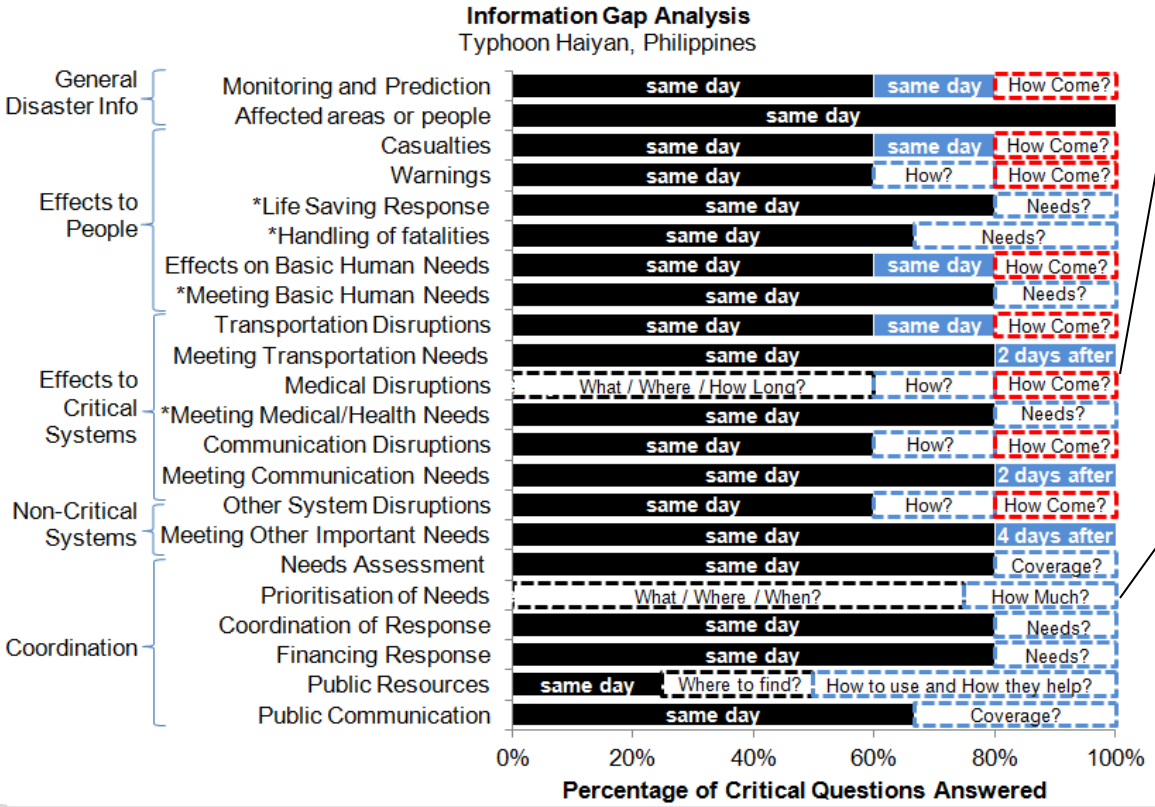
"More than 5,000 army troops were mobilised across the state to help clear roads." (Agence France-Presse) -Himalayan Earthquake

Output: Summary of Disaster Response Information

	Category	Summary of Information
General Disaster Information	**Event details**	2 days before 1st landfall: path of typhoon is being tracked and areas expected to be in path identified, which includes what, where and when. Flood and landslide risks discussed. Frequent updates. Information provided by NDRRMC
	Areas or people affected?	2 days prior: areas likely to be affected put under BLUE alert and flood prone areas identified. Within hours affected areas identified, and affected families, although number goes up significantly from 125,604 people after 1hr20min, to 4,282,636 people after 1.5 days. Updates follow.
Human Life Safety	**Casualties**	After 1 day state a very low number of casualties (4 dead, 7 injured and 4 missing), which rises to 255 dead, 45 injured and 28 missing after 3 days, to 1,798 dead, 2,582 injured and 82 missing after 4.5 days.
	Warnings	2 days before: fishermen warned. 1 day before: residents in low-lying and mountainous areas alerted against possible flashfloods and landslides, and those living in coastal areas alerted against storm surges.
	Life Saving Response (Evac, SAR)	2 days before evacuation is being encouraged, schools prepped as evacuation sites and pre-positioning of SAR assets. 1 day before LGU Butuan City ordered evacuation for the low lying and mountainous areas and evacuation was conducted in Region VIII. Updates follow.
	Handling of fatalities	2 days after 300 cadaver bags are sent to Tacloban city. 4 days after retrieval operations are being conducted in Tacloban City, Eastern Samar, Samar and Leyte.
Basic Human Needs	**Disruptions**	1 day before numbers provided of evacuated and stranded, and advised public in some areas to start storing water. 1hr20min after updates on number of families evacuated, stranded passengers. 1.5 days after identified number of houses totally and partially damaged. Updates follow.
	Solutions	2 Days before pre-positioning of many relief items, includes what, where, who, and value of goods. 1hr20min after description of distribution of food and NFIs, including location and by whom, and PDRRMC Laguna publish list of evac centers to all residents. Updates follow.

Output: Analysis of Disaster Response Information

Information Properties		
Basic Data	**Analysis**	**Root Causes**
What are the disruptions, *where*, and for *how long*?	*How* did they occur?	*How come* the system was vulnerable?



Medical Disruptions: Basic data was provided by International Medical Corps, WHO, UN Population Fund, IOM, AFP, MSF, and OCHA. Most detailed were the lists of medical disruptions and needs provided by Humanity Road (found at: http://reliefweb.int/disaster/tc-2013-000139-phl?f[0]=field_source%3A13123).

Prioritisation of Needs: Government response priorities are identified by other agencies, including the IOM after 1 day (http://reliefweb.int/report/philippines/typhoon-haiyan-situation-report-no-2). Analysis of how much is required of the critical needs was provided (i.e., need to medically support the 12,000 births expected in Nov., need to provide food to 2.5 million people). However, basic data is missing, meaning location of some of the needs is not known.