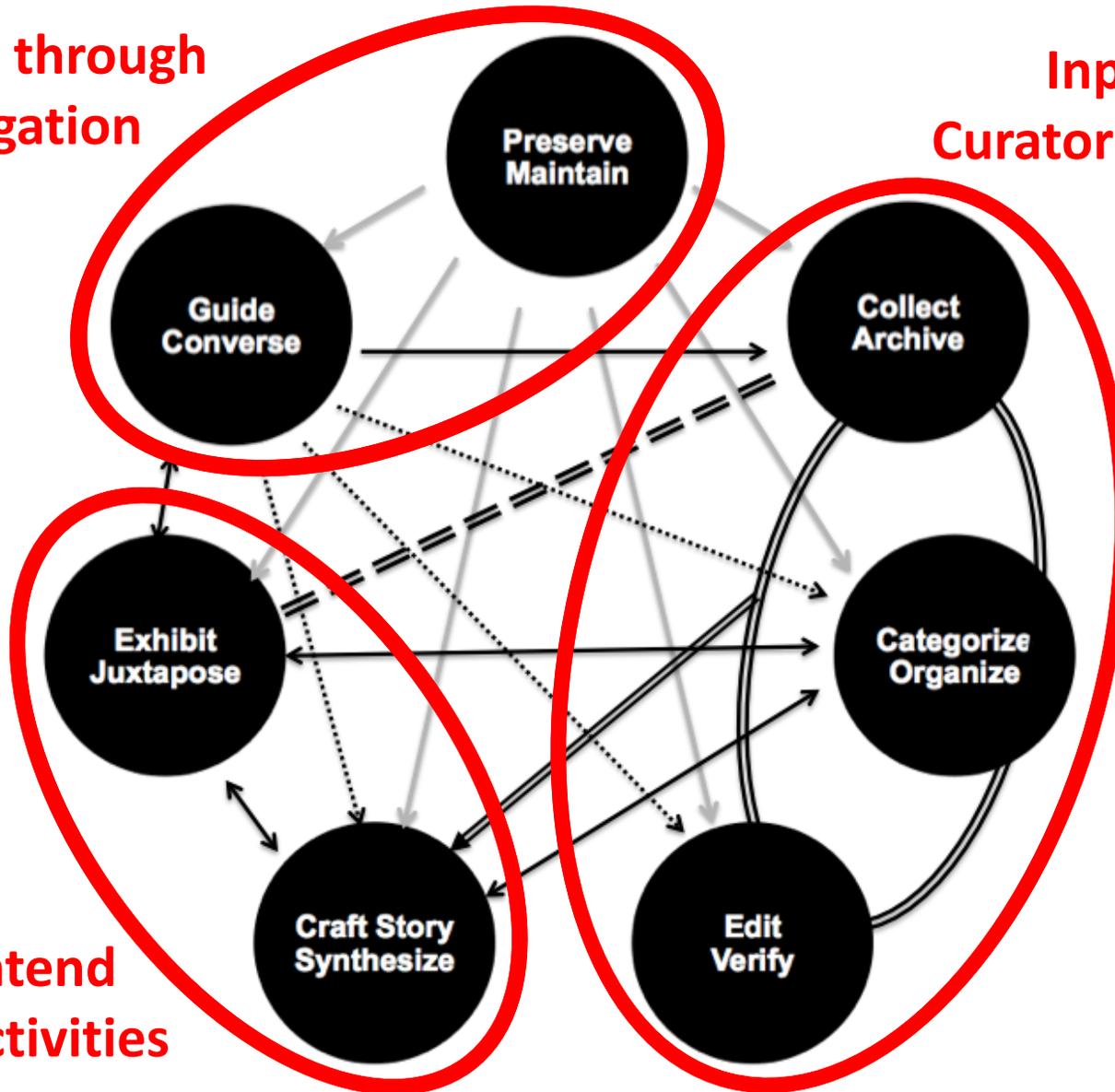


Theoretical Model of Socially-Distributed Curation

Preservation through Social Propagation

Input, Backend Curatorial Activities



Output, Frontend Curatorial Activities

Geospatial Crowdsourcing:

A Typology of Crowdsourcing for the Emergency Management Domain

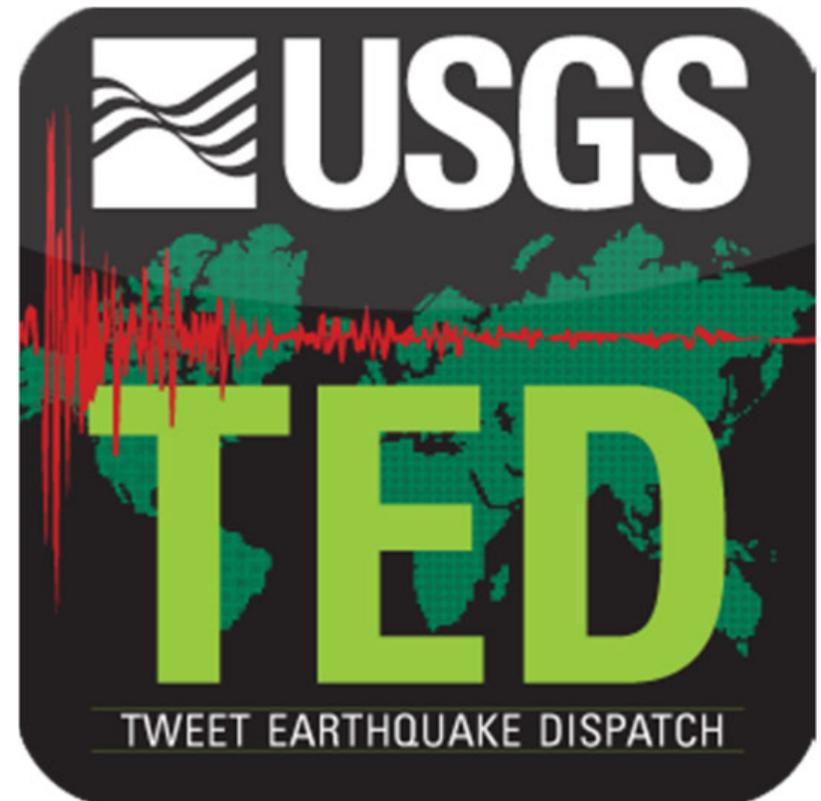
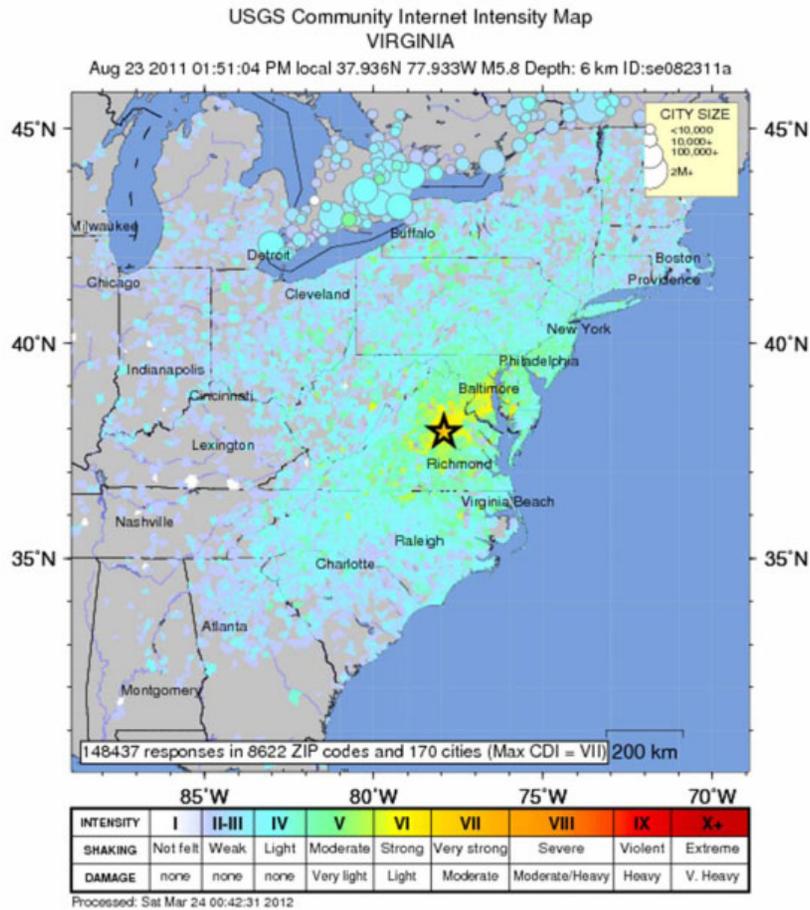
Types of “Crowds”

- Survivor-sourcing
- Diaspora-sourcing
- SocialNet-sourcing
- Expert-sourcing
- Col-sourcing

Types of “Sourcing”

- Crowd-Tagging
- Crowd-Mapping
- Crowd-Curating
- Crowd-Feeding
- Crowd-Harvesting

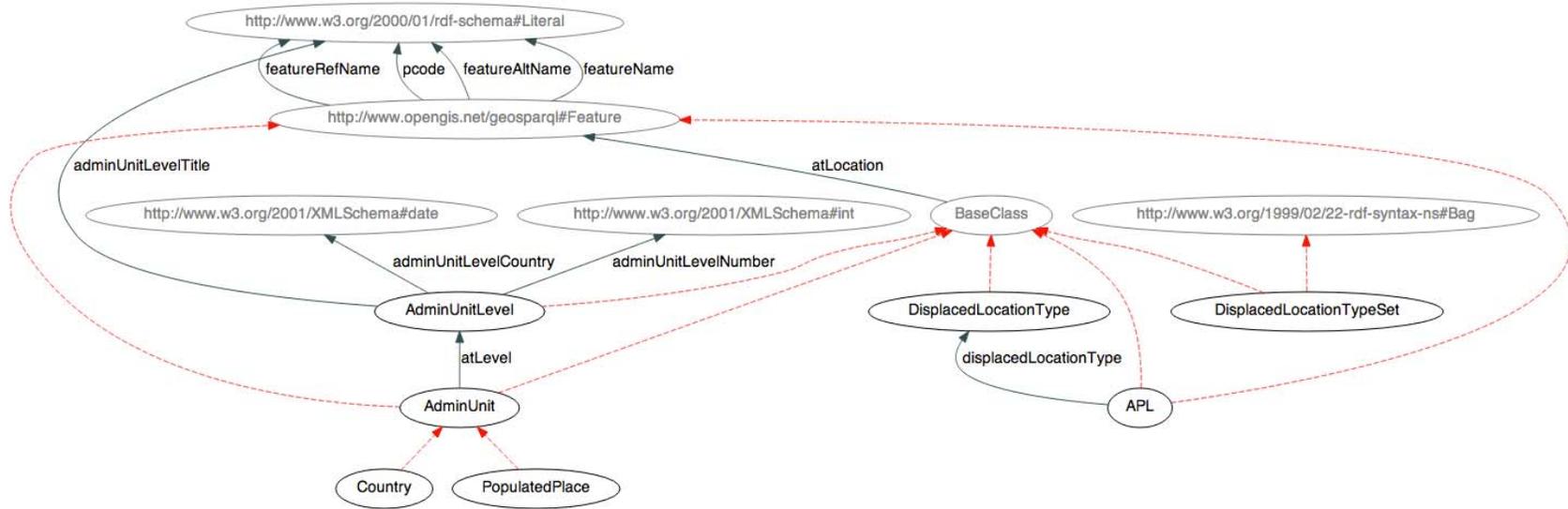
Survivor-Sourcing vs Crowd-Harvesting



Research Challenges with USGSted

- Most geolocations in Twitter have poor quality
 - Must be strategic with official statements based on Twitter data
- Twitter's TOS has restrictions on mining, storing, sharing data
 - Must be agile to the policy changes in TOS for research purposes
- Federal restrictions on PII even though it is public data
 - Must be vigilant so we used a one-way encryption for user names
- Unofficial use of Twitter data for operational purposes
 - Must be judicious on how to make USGSted part of NEIC workflow

Humanitarian Exchange Language Geolocation Standard (HXL-Geo)



- Improve interoperability of existing systems to facilitate collaboration between different stakeholders and foster community
- Make geographic information using different classification schemas more accessible by sharing raw data and mashing it with other data
- Resource Description Framework (RDF) /Linked Data approach to connect socially-distributed data

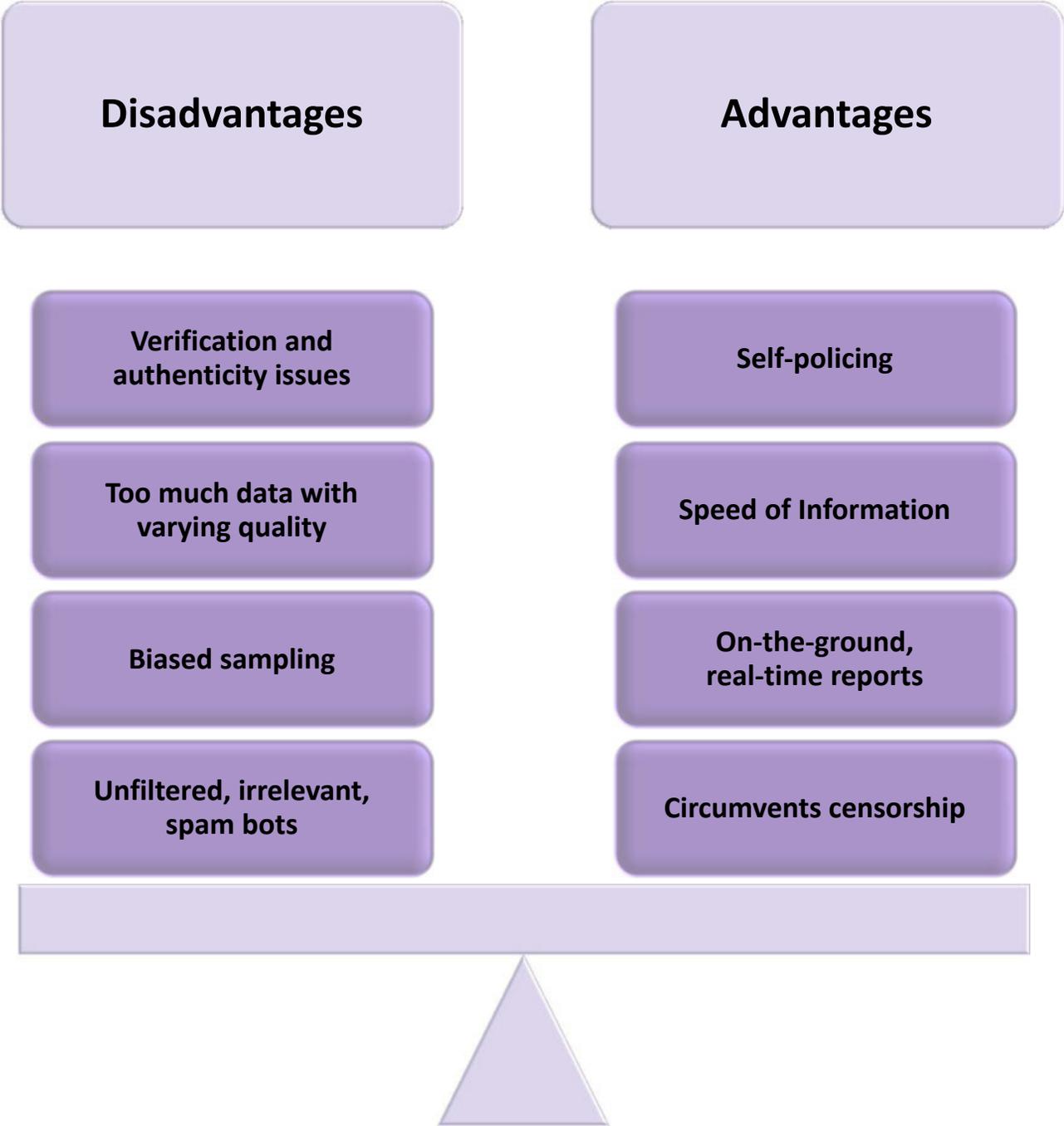


Questions?

sophialiu @ usgs.gov
<https://profile.usgs.gov/sophialiu>
@sophiabliu

Emerging Issues

- Data from the crowd leads to information overload
- Different classification schemas, taxonomic silos
- No data standards, inconsistency of crowdsourced data
- Verification issues with crowdsourced data
- Urge to formalize crisis mapping and crowdsourcing
- Concerns with data licensing and restricted permissions
- No direct interface between formal and informal efforts



S.T.O.P. Interface Challenges

Socio-Cultural

Technological

Organizational

Political

Do you think the volume of VGI available in your area of research and/or practice is adequate or deficient? If deficient, what can be done to increase it?

- Curation, Discovering, Preserving
- Very adequate in the crisis mapping field
- A lot via crowd-harvesting
- Crowd-sourcing the generation of VGI

How valuable are developing standards and (software) tools for collecting VGI for scientific community? What additional steps can be taken to develop and promote standards?

- Movement towards formalizing geospatial crowdsourcing
- Problem of taxonomic silos
- Interoperability issues
- Facilitating collaboration and community
- Person finder PPIF standard
- Humanitarian exchange language
- Open Geospatial Consortium standards
- Eddie Pickle - OpenGeo

How easy is it to collect VGI for scientific experiments?
What can be done to ensure that VGI is as useful as possible in science?

- Curation, discovering it
- (Un)informed and (in)voluntary consent
- Terms of use and terms of service issues
- Data licensing and restricted permissions
- Protecting PII at federal agencies
- Not just science but also applied science

What's the relative role and utility of social cyber networks (such as Facebook) vs. crowdsourcing /citizen science based approaches?

- Geospatial crowdsourcing typology
- SocialNet-sourcing vs open call
- DYFI vs Ushahidi Haiti or SBTF
- Sociotechnical infrastructure to enable crowdsourcing and socialnet-sourcing

Human-Algorithmic Curation

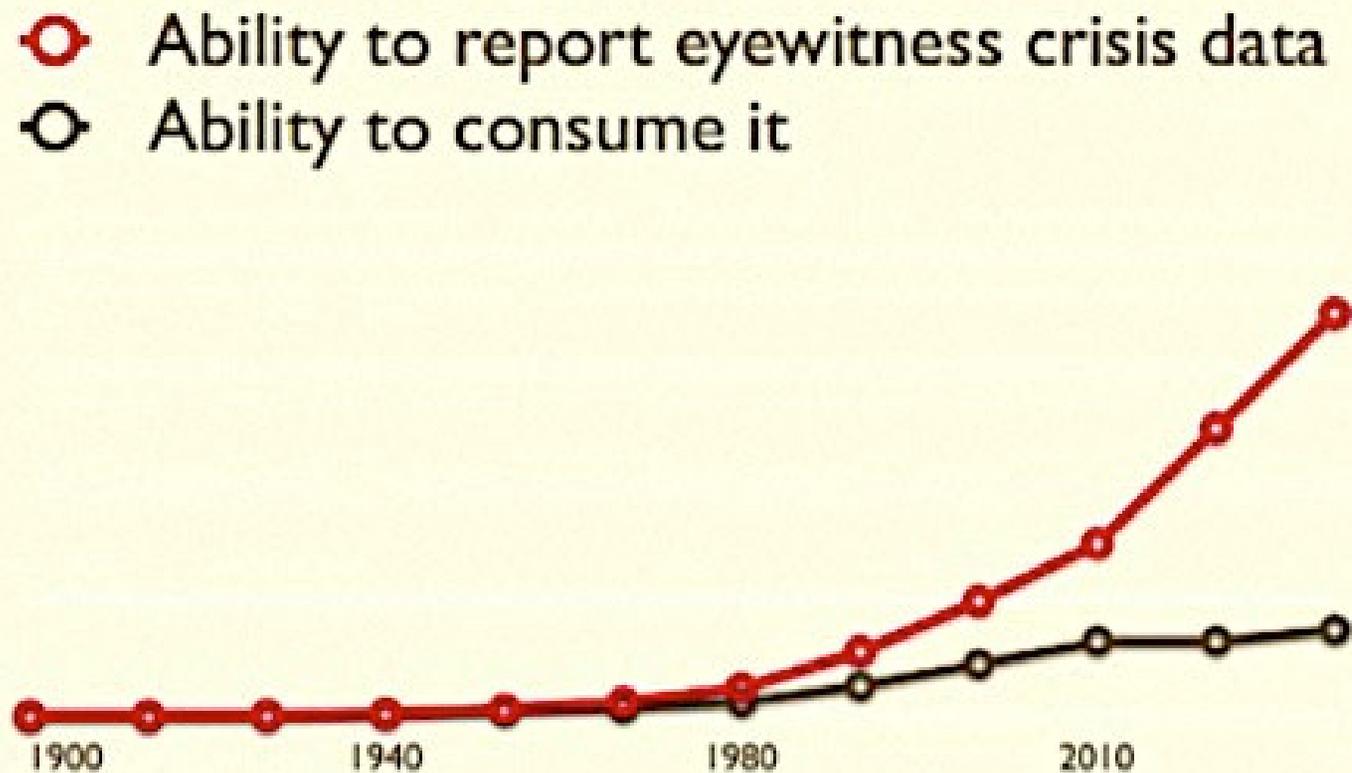


The Geography of Disaster Information



Erik Hersman on reporting crisis via texting

TED2009, Filmed Feb 2009; Posted Apr 2009



Erik Hersman on reporting crisis via texting

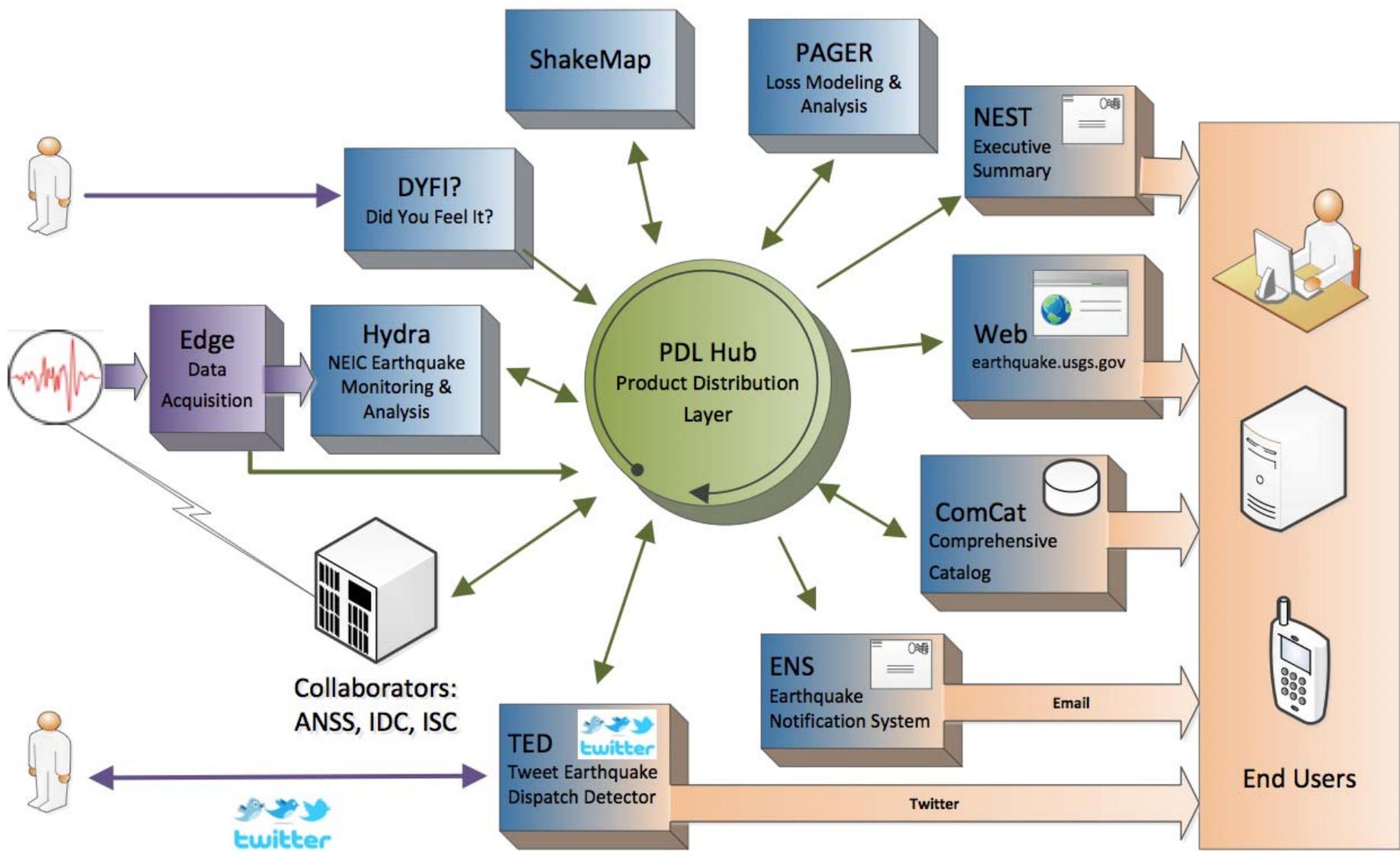
TED2009, Filmed Feb 2009; Posted Apr 2009



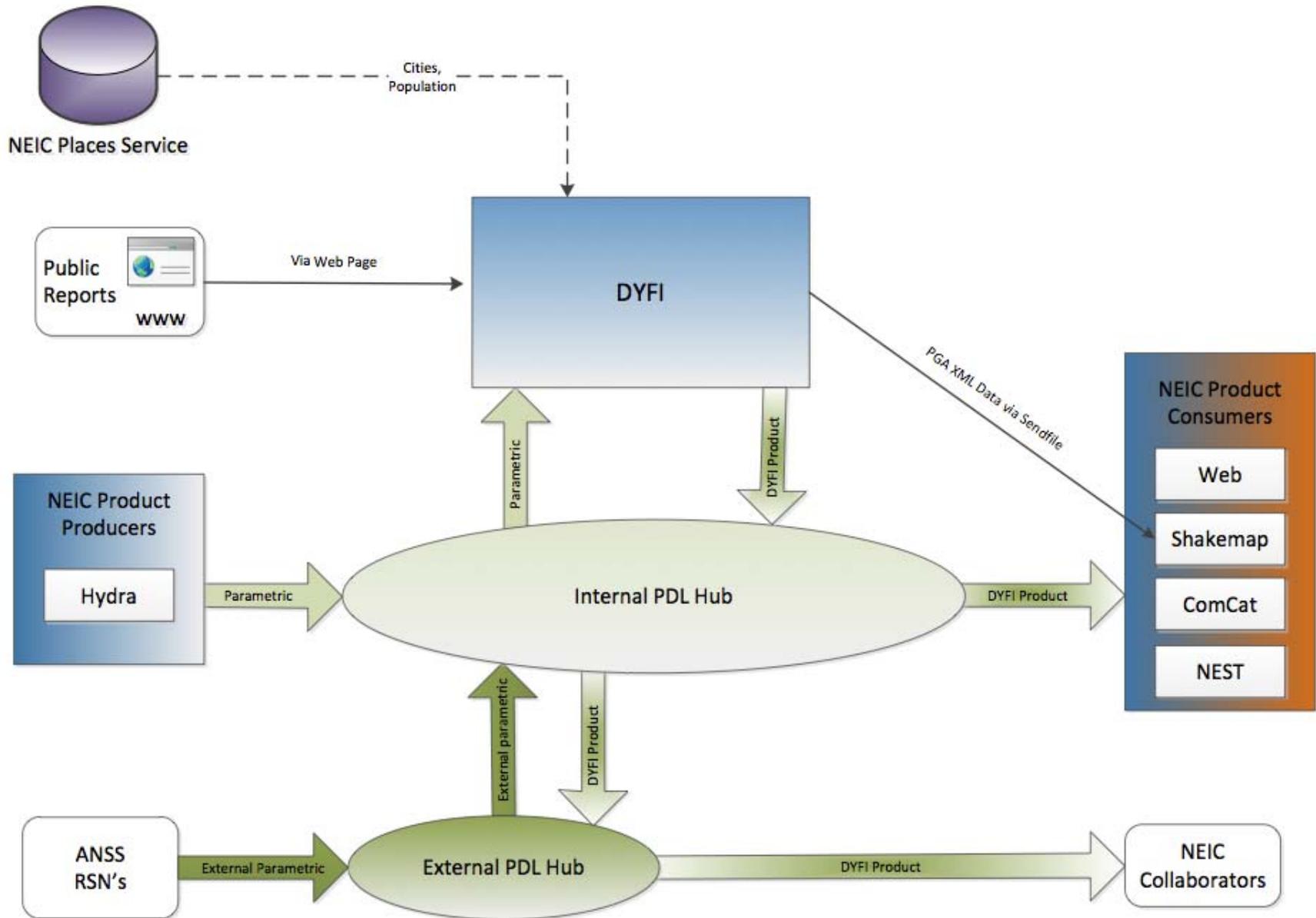
- Amount of Information Produced by Eyewitnesses
- The Response Effort's Processing Capacity



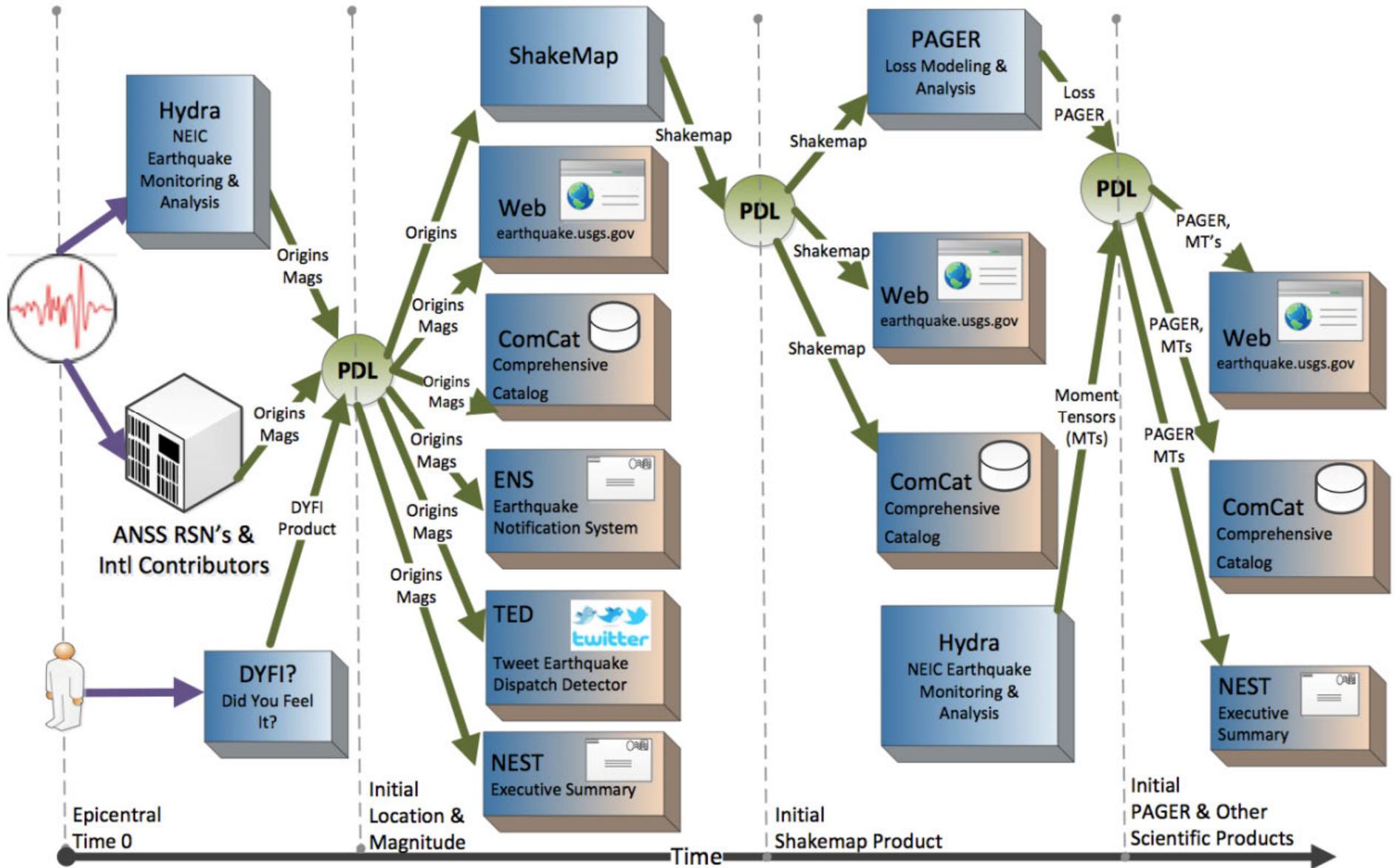
NEIC Earthquake Hazards System Overview



NEIC DYFI Subsystem Inputs & Outputs



NEIC Data Flow Over Time



Key Questions

- Currency can trump accuracy
- Availability and sustainability based on social relationships, social capital, and motivations and incentives
- VGI is not just the data itself but the curatorial process of accessing, collecting, and processing it
- Going beyond science for intellectual merit purposes to applied science with broader impacts for practitioners and policymakers