CROWDSOURCED MOBILE SOLUTIONS FOR FLOODPLAIN MANAGEMENT

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Overview

- What are the different types of crowdsourcing in mobile solutions?
- What are the current crowdsourced mobile solutions?
- How is social media used in crowdsourcing?
- What analytics can be applied to crowdsourced data?
- What are some future directions for crowdsourcing?
Solution users produce more structured data when they are more engaged.

(Poblet et al., 2012; 2017)
Dedicated apps and crowdsourcing platforms engage users and produce well-structured data.
Social media platforms produce all levels of data structure because users can choose their level of involvement.
Communication direction varies with disaster phase, but social media platforms allow users to choose how and when they receive or send information.
Using social media for crowdsourcing means we have to reduce the noise and boost the signal.

- No specific location in tweet
- No hashtags to categorize content
- No specific change in flood conditions noted

- Tagged local office of emergency management
- Hashtags include regional and topical tags
- Specific values for flood conditions noted

(Schimak, Havlik, & Pielorz, 2015)
The basic steps in analyzing social media data are straightforward.
The actual analysis of social media data can be a major time investment.

**Data Identification**
- Twitter streaming API
- Facebook Real Time API
- SMS messages to dedicated number
- Facebook posts/likes

**Data Analysis**
- Hand-review tweets or SMS messages
- Computer programs to classify data
- Analytics platforms to identify patterns

**Interpretation**
- Update web-based crisis maps
- Update web-based flooding maps
- Create graphs or charts as visual aids

**Next Steps:** Decide who is notified and what they need to know
The future of crowdsourcing for floodplain management...

Improved Analytics

Improved Security

Resilient Networks
IoT Architecture in Brief

Cloud (Cognitive)

Analytics Machine Learning

Fog (Reflexive)

Realtime

Sensors

Actuators

Firewall (Security)

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References


THANKS FOR LISTENING!

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