

Social Media for Natural Disaster Response and Recovery

What is Social Media?

"Social media is an innovative way of socializing where we engage in an open dialogue, tell our stories and interact with one another using online platforms." (Associated Press, 2010)

2 - 3

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Attributes and Objectives of Social Media

Get message out faster	Reach more people through another communication channel	Arguably relatively low operating costs
Reach people via mobile communication device	Instant, highly scalable form of communication	Direct from the source

2 - 5

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Maximize Reach with Social Media

Channel

People reached

Cannot reach everyone with social media, but should be used **together** with other channels of communication to **maximize** reach within the community.

2 - 7

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Who Uses Social Media?

- **73%** of adult internet users use social networking sites (Pew Research Center, 2013)
- **74%** of people with disabilities use social media (Wireless RERC, 2013)
- **98%** of states use social media to disseminate emergency information (Wireless RERC, 2013)

2 - 8

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Increasing Usage From All Ages

Social networking site use by age group, 2005-2012

The fastest growing social media user group = **Baby Boomers**

Source: Pew Internet Survey, 2013

2 - 9

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Social Media Applications

2 - 10

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Facebook


- Started in 2004
- Social networking site
- 1.23B+ active users
 - Approximately 20% from U.S. (Dec. 2013)



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Twitter

- Started in 2006
- Microblogging and social networking service
- 140 character limit
- 240M+ active users, 500M tweets a day (Dec. 2013)



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YouTube


- Launched in 2005
- Watch and share originally-created videos
- Over 3 billion videos viewed a day
- More video is uploaded to YouTube in one month than the 3 major U.S. networks created in 60 years



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Vine

- Launched in January 2013 by Twitter
- 6-second, looping video sharing app
- 40M+ users (Aug 2013)



©Twitter

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Instagram

- Founded in 2010
- Mobile application for sharing photos
- 2 million users within first 3 months
 - 150 million users (Dec. 2013)
- 55M photos uploaded daily (Dec. 2013)



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TwitPic

- Launched in 2008
- Share pictures and videos instantly



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Pinterest

- Launched in March 2010
- 70M+ active users (Jul 2013)
- Pin-board style photo sharing
- Users can browse boards, "re-pin" content
- 80% of total pins are repins (SocialMediaToday, 2013)



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Google+

- Launched June 2011
- Certain growth through integrated login and features
- 540M+ active users (Oct. 2013)



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Challenges of Social Media and Public Information

People expect 2-way conversations	Set expectations if communications will not be interactive
Considerations must be made to reach vulnerable populations	Connect with organizations that communicate directly with vulnerable populations
Inaccurate information can spread quickly on social media	Link back to official sources of information
Difficult to reach population not connected to social media	Social media is used as an additional tool to supplement traditional channels of communication

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How is Social Media Used in Disaster Management?

Prepare public for emergencies	Monitor for help needed	Keep public updated with news and information
User feedback via messages, wall posts, polls, etc.	Alert and warn public	Data Collection
	Relief and recovery efforts	

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Monitoring on Twitter: Hawaii Tsunami Warning

- Ginafontillas tweets message:
- Tinamahina re-tweets message @HI_CivilDefense:
- HI_CivilDefense gets tweet and replies to both tweeters:



- Hawaii Civil Defense on Twitter

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Integrated Approach

- Based on communications strategy
- Closely engages with key government agencies, partners, and community
- Uses interagency coordination to provide regular content to City and County Facebook pages
- Promotes agency personality through branding and photos



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Response

THE PREPAREDNESS MOVEMENT COMMUNICATIONS STRATEGY

SFDEM BLOG

The Earthquakes' Call to Action

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Smart Phone Application SF Heroes

- Leverages social reward mechanisms
- Inspires preparedness by tying rewards and social incentives to meaningful real-life activities.
- Educates and motivate public preparedness
- Connects with Facebook, Twitter, other social media

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Twitter Alerts

Ways you can receive Alerts

Highlighted Tweet, Text Message, App Notification

During a crisis or emergency, FEMA will send you Twitter Alerts.

Alerts from FEMA will be updates with time-sensitive, critical information related to the unfolding event.

With Twitter Alerts activated, it's easier to get essential information when you need it.

Activate Alerts from @fema

- All public safety organizations can apply for Twitter Alerts: <http://about.twitter.com/products/alerts/enroll>

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Recovery Efforts for Washoe Drive Fire

Search results: washoe drive fire

Tweets by all

Washoe Drive Fire

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A Case Study in the Use of Social Media Throughout the Disaster Management Cycle

2011 Hurricane Irene

- Made landfall in Puerto Rico, North Carolina, New Jersey
- Severe damage and flooding in New Jersey and Vermont

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Department of Homeland Security on Twitter

Homeland Security (@DHSgov)

4,682 TWEETS

298 FOLLOWING

326,990 FOLLOWERS



U.S. Department of Homeland Security
Federal Emergency Response Agency

Vermont Emergency Management

Alerts, Updates on Twitter and Facebook

vermont @VermontAlerts
 The only place in north VT to donate blood is at the Danor Co. 30
 St. Provost St. (Burlington) See below link at
facebook.com/vtemergency

vermont @VermontAlerts
 No, New England Red Cross urgent appeal for blood donations to
 help with shortage of more than 1,500 units of blood.
http://www.redcross.org

vermont @VermontAlerts
 1000 Update - here Clean-Up and Recovery Efforts Continue
www.vermont.gov/news/1000

vermont @VermontAlerts
 Call 811 for "NOT" road closures. Please dial 211 for shelters or other
 resources.
http://www.vermont.gov/news/1000

vermont @VermontAlerts
 BETTER SAFE THAN SORRY IF YOU LIVE NEAR A RIVER AND
 ITS RAINING HARD- VISIT A FRIEND OR RELATIVE ON HIGH
 GROUND!
http://www.vermont.gov/news/1000

Vermont Emergency Management
 Over 50 volunteers met at the Dover School and Summit hotel at Mt.
 Mansfield 20 at 4:30pm

[Clicky Deck Spinning like this.](#)

Vermont Emergency Management
 Town of Jamaica just opened a shelter at the Masonic Hall on RT 30 in
 Jamaica.
 August 28 at 4:30am

[View all 3 comments](#)

Vermont Emergency Management
 Governor for Saturday afternoon. Governor declares state of emergency -
 allows National Guard to assist in storm response. Wind gusts will
 expected to hit 60 Sunday into Monday. Flooding expected to be biggest
 threat - be safe!
 August 27 at 9:47pm

Vermont Emergency Management on Twitter

Vermont Emergency Management on Facebook

[illegible]

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National Hurricane Center on Facebook and Twitter

Posted information and updates for public about Hurricane Irene's path

111,149
Like this



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Red Cross Engages with Community via Facebook



American Red Cross
Here's the Sept 18, 24, 11 update on Hurricane Irene from the National Hurricane Center. Are you prepared? Check www.nhc.noaa.gov to find out.



Hurricane IRENE
www.nhc.noaa.gov

This graphic shows an approximate representation of coastal areas under a hurricane warning (red), hurricane watch (orange), tropical storm warning (blue) and tropical storm watch (yellow). The orange circle indicates the current position of the center of the tropical cyclone. The black line, when active...

Share - August 24 at 11:54am

Provide update
about disaster



American Red Cross
Need to find a Red Cross shelter? Join the more than 15k who have already downloaded our free shelter app from iTunes here.

15,000+ American Red Cross Shelter View on iPhone, iPad, touch, and iPad on the iTunes App Store.
itunes.apple.com



Learn more, read reviews, and download American Red Cross Shelter View by VisiLink, Inc. on the iTunes App Store.

Share - August 27 at 2:28pm

Provide relief
assistance,
shelter app
helps people
find shelter

Citizens Communicate with Each Other via Red Cross's Page

[illegible]

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Wells Fargo Communicates with Customers



Tweets from Wells Fargo
Twitter page



Updates on Wells Fargo
Facebook page

3 - 36

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Significant Trends for Use in Disaster Management

- Redefining risk and crisis communications
- Expanding role of citizen journalism
- Enabling geographically-targeted alerts and notifications
- Using *crowdsourced* data
- Spawning Volunteer Technical Communities (VTC)
- Empowering rapid data visualization

3 - 36

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Sandy: By the Numbers

- 10 Instagram photos per second (at peak)
- Top-shared terms on Facebook
 - “We are ok”
 - “Power” –lost power, have power, no power
 - “Damage”
 - “Hope everyone is ok”
 - “Trees”
- 20M+ tweets sent between Oct. 27-Nov. 1

3 - 37

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Managing Expectations

- Broadcast role
 - Manage presence on social media platforms
 - Work within guidelines of published communication plan
- Interactive role
 - Monitor and respond to emergency requests
 - 76% of people expect help to arrive within 3 hours of posting to social media (Red Cross survey, 2010)

4 - 7

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Establishing Online Identity

Visual signature

Organizational personality

“Voice”

Consistency

4 - 10

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Misinformation and Corrections

Monitor

Quickly correct

State and explain

Alert command

Viral reality

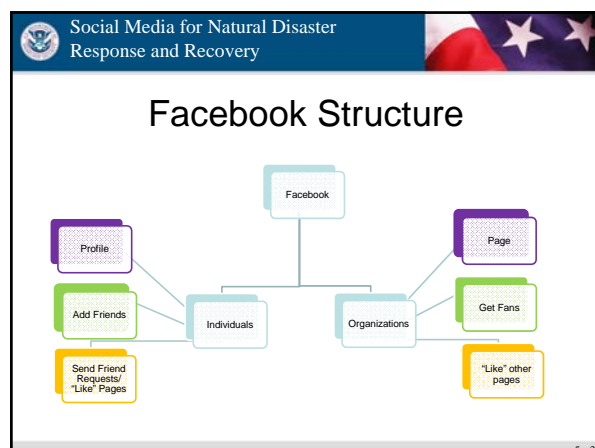
Recognition

4 - 12

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Building Credibility

- Build a reputation
- Create a Presence
- Stay Involved and Current with Information
- Provide access to first source of information



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Facebook Pages

- Other users can become Fans and "Like" your Page
- Limited access to individual profile pages on your Organization Page
- Allows the ability to invite Friends

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Why Create a Facebook Page?

- Can maintain a Fans list
- Update your status and broadcast messages (which gets shared with your Fans)
- Interact with the public via your Page
- Share pictures, videos, discussion board, application, wall posts, and groups

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Twitter Earthquake Map

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Using Twitter

- Simple, open, fast, searchable, topic-based platform
- Uses short messages: 140-character limit
- Enables following other users' messages
- Enables building a following: Have other people follow you
- Send direct private messages
- Can repost other users' public messages
- Can reply to a public or private message
- Can create a specific event using a hashtag (#)

Tools to Research on Twitter

- Trendsmap
 - <http://trendsmap.com>
- Twitterfall
 - <http://twitterfall.com>
- Klout
 - <http://klout.com>



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Advanced Twitter Search

Advanced Search

Words

All of these words

These exact words

Any of these words

None of these words

These forbidden

Or/And Go

People

From these accounts

To these accounts

Excluding these accounts

Places

Near this place

Other

Sort ☐ Positive ☐ Negative ☐ Question ☐ Include retweets

Search

Operator	Phrase labels...
Twitter search	containing both "twitter" and "search". This is the default operation.
"Tweets from"	containing the exact phrase "Tweets from".
from: @ID	containing either "from:" or "from:" (or both).
text: word	containing "text:" or not "text".
@ID:to	containing the hashtag "#ID:".
from:personid	sent from person "personid".
to:personid	sent to person "personid".
@hashtagid	relating to person "hashtagid".
"Tweets from" near "ID"	containing the exact phrase "Tweets from" and sent near "ID".
near:ID	sent within 10 miles of "ID".
tweets:personid since:2010-12-27	containing "tweets:personid" and sent since date "2010-12-27" (year-month-day).
the url:2010-12-27	containing "url:" and sent up to date "2010-12-27".
near: ID city	containing "near:" but not "city", and with a positive affinity.
Right 1	containing "right" and with a negative affinity.
Right 1	containing "right" and with a positive affinity.
Timeline from time	containing "Timeline" and linking to ID:ID.
news:source:twitterfeed	containing "news:" and linked to "twitterfeed".

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VTC Examples

- Crisis Mappers
- Crisis Commons
- Humanity Road
- Virtual Operations Support Teams



Crisis Commons
connecting people, tools, & resources to support crisis response

HUMANITY ROAD

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Virtual Operations Support Teams #VOST

- Social media monitoring, curation, and engagement on large-scale
- Globalized teams of trusted agents provide support to emergency managers and EOC personnel
- Force multiplier for small agencies and/or agencies with limited resources/capabilities

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VTC Case Study: Crisis Mappers

The world's largest crisis mapping hub

Leveraging mobile platforms, computational linguistics, geospatial technologies, and visual analytics to power rapid crisis response

The Network catalyzes communication and collaboration between and among crisis mappers with the purpose of **advancing** the study and application of **crisis mapping** worldwide.

Launched in 2009

<http://crisismappers.net/>

Accessed in 191 countries

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Social Media Reporting and Monitoring

Ushahidi
Open Source software to collect, visualize and map data (reports)

CROWDMAP
Free, hosted, Ushahidi

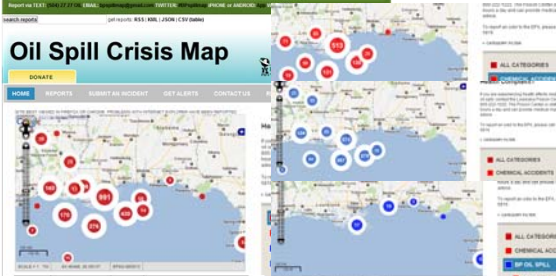
SwiftRiver
Platform to help filter and make sense of information. Works with Ushahidi

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Example Implementations

<http://oilspill.labucketbrigade.org/>

Oil Spill Crisis Map

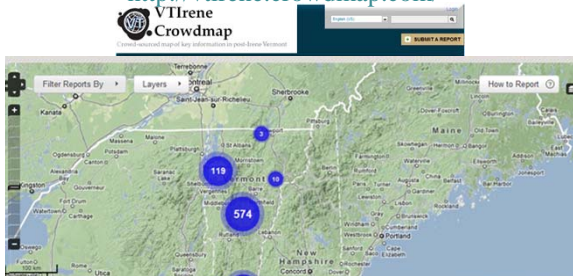


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Example Implementations (cont.)

<http://vtirene.crowdmap.com/>

VTirene Crowdmap



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Example Implementations (cont.)

<http://stlouistornado.crowdmap.com/>

7 - 13

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FEMA Smart Phone App "Disaster Reporter" Feature

- Take and submit GPS photo reports
- Displayed on public map

• <http://www.fema.gov/disaster-reporter>

7 - 14

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Thank You!

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8 - 9