



# Signal in the Noise

## Virtual Operations Support Team Workshop

**Emergency Management and Homeland Security Program  
Center for Disaster Risk Policy  
Florida State University**

Governor's Hurricane Conference 2014  
15 May 2014

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# The VOST Concept

- ▣ VOST engages **volunteers** to assist emergency management agencies through social media monitoring, rumor identification, message amplification and situational awareness.
- ▣ Workloads are increasing, and budgets are stagnant – how do we deal with a deluge of social media data using existing resources?

# Social Media

- ▣ The sharing or exchanging of information in a virtual space/community.
- ▣ Generates millions of data points a day.
  - ▣ According to the Washington Post, Twitter users post over 400 million tweets per day (as of March 2013).



# Growth and Future

- ❑ Demographics matter!
- ❑ In general... social media usage is more prevalent in younger people.
- ❑ However, the **brand** of social media changes constantly, and usage patterns are not steady across age groups.
- ❑ Usage is likely to become more prevalent in older people.

# Current Demographic Sample

	<b>All internet users (n=1,895)</b>	<b>72%</b>
a	Men (n=874)	70
b	Women (n=1,021)	74
	<b>Race/ethnicity</b>	
a	White, Non-Hispanic (n=1,331)	70
b	Black, Non-Hispanic (n=207)	75
c	Hispanic (n=196)	80 <sup>a</sup>
	<b>Age</b>	

# Current Demographic Sample

c	Hispanic (n=196)	80 <sup>a</sup>
<b>Age</b>		
a	18-29 (n=395)	89 <sup>bcd</sup>
b	30-49 (n=542)	78 <sup>cd</sup>
c	50-64 (n=553)	60 <sup>d</sup>
d	65+ (n=356)	43
<b>Education level</b>		
a	No high school diploma (n=99)	67

# Current Demographic Sample

d	65+ (n=356)	43
<b>Education level</b>		
a	No high school diploma (n=99)	67
b	High school grad (n=473)	72
c	Some College (n=517)	73
d	College + (n=790)	72
<b>Annual household income</b>		
a	Less than \$30,000/yr (n=417)	75

# Current Demographic Sample

Annual household income		
a	Less than \$30,000/yr (n=417)	75
b	\$30,000-\$49,999 (n=320)	72
c	\$50,000-\$74,999 (n=279)	74
d	\$75,000+ (n=559)	71
Urbanity		
a	Urban (n=649)	74
b	Suburban (n=893)	71
c	Rural (n=351)	69



# FSU.VOST Missions

All FSU.VOST activity revolves around social media and the internet, but it can be broken into three distinct missions:

- 1. Enhancing Situational Awareness**
- 2. Rumor Identification**
- 3. Official Message Amplification**

# Recruiting VOST Participants

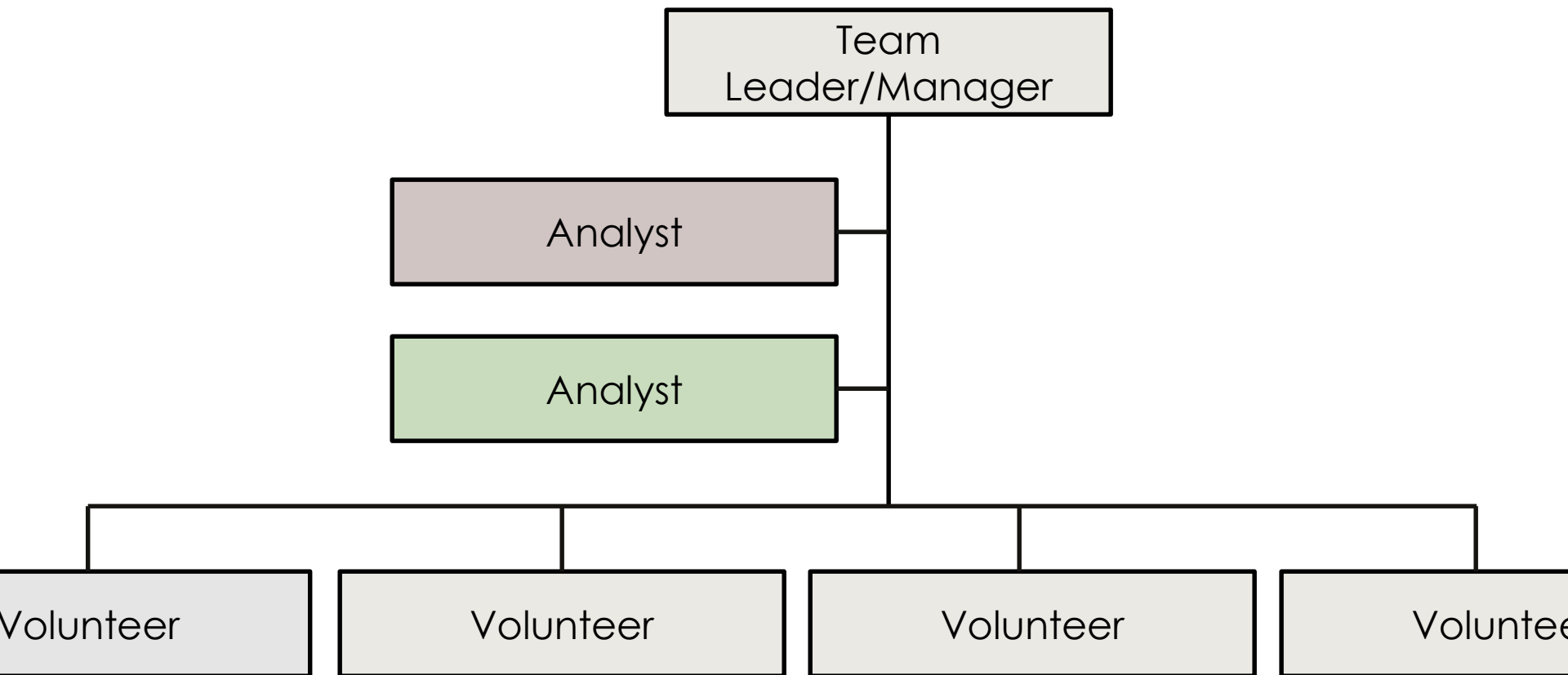
- ▣ VOST is virtual – no assigned work location, office, etc.
- ▣ Requirements for working VOST:
  - ▣ Laptop or desktop computer
  - ▣ Internet connection
  - ▣ Social media accounts (as specified by the partner organization)
  - ▣ Skype account
  - ▣ Positive, helpful attitude
  - ▣ Team oriented
  - ▣ Ability to follow directions

# Recruiting VOST Participants

Three levels of VOST Participation:

- 1. Volunteer**
- 2. Analyst**
- 3. Team Leader / Manager**

# FSU.VOST Organization Chart



# Volunteers

VOST Volunteers make up the majority of the VOST team.

## *They...*

- ▣ Are recruited from the local community
- ▣ May not have extensive EM or social media experience
- ▣ Perform the majority of monitoring and data collection in social media
  - ▣ Monitoring is based on defined keywords and phrases as well as specific sources
- ▣ Pass collected data 'up' to Analysts for review
  - ▣ The mechanism for this can vary, and will be discussed shortly

# Analysts

VOST Analysts work with data provided by Volunteers and determine trends, verify information, and provide input to reports.

## *They...*

- ▣ Have some experience in EM and with social media
- ▣ Provide feedback to volunteers on data being provided
- ▣ Assign work to volunteers as needed (follow up, verification, etc.)
- ▣ May work in teams or alone.

# Team Leader

VOST Team Leaders run the VOST and serve as the primary contact with the partner/client organization.

## *They...*

- ❑ Author and distribute reports to the partner/client organization
- ❑ Determine objectives and priorities for the VOST
- ❑ Assign work to Analysts and Volunteers
- ❑ Should have solid understanding of EM practices and how VOST integrates into the system

# VOST and the EOC

- ▣ **A VOST doesn't operate independently**, it supports an emergency management or response organization during an incident or disaster.
- ▣ The information created by the VOST can be used by a variety of entities inside the EOC or organization.
- ▣ Examples:
  - ▣ ESF-14 (Public Information), ESF-5 (Planning), ESF-6 (Mass Care), ESF-8 (Public Health)
    - ▣ “Infodemiology”
  - ▣ State Warning Point / County Warning Point



# Activation of the VOST

- ▣ Activation of the VOST is done at the request of the partner or client organization.
- ▣ VOST is voluntary and 'at will'. Flexibility will be required in scheduling volunteers.
  - ▣ Understand the shift requirements up front and communicate these to Volunteers and Analysts.
  - ▣ Do you need 4 hour shifts? 8 hour? Will VOST need to operate 24/7?

# Activation of the VOST

- ❑ VOST Volunteers and Analysts are contacted via SMS, email, phone or Skype by VOST Team Leader or Manager.
- ❑ Maintain a roster of available volunteers in a easy to access location.
- ❑ Remember, a Volunteer is not considered 'contacted' until they reply to the initial communication.
- ❑ Log the VOST activation date and time.

# Coordination of VOST Efforts

- ▣ There are several tools critical to **coordination** of the VOST.
  
- ▣ Generally, these include:
  - ▣ VOST Communications Channel
  - ▣ Information Portal
  - ▣ Activity Log
  - ▣ Situational Awareness Tool

# VOST Communication Channel

- ▣ The VOST Communications Channel is the primary method that team members talk to one another.
- ▣ VOST is virtual! This link is critical.
- ▣ This can be a combination of email, phone and chat, but one of the best tools for the job is Skype.
  - ▣ Skype allows group chats which are **persistent**. If a user logs off and then back on, they can see all the chats that have been sent in their absence. This is critical for continuity.

# Information Portal

- The tool puts all team information about the activation in one place for all members to access.
- This can be accomplished with a wiki, a blog engine or even a Facebook group.
- It is important that some parts of the Information Portal be protected by a password. Some information may not be appropriate for wide public distribution.

# Activity Log

- ▣ The Activity Log tracks all major events in the VOST, including:
  - ▣ Activation
  - ▣ Major incidents
  - ▣ Reports issued
  - ▣ Requests from the client organization
  - ▣ Deactivation
  
- ▣ The Log can be created using a blog, wiki, or social media site. Again, much of this information should be password protected.

# Finding Data.... How?

## Twitter.com

- ▣ <https://twitter.com/search?f=realtime&q=%23ghc2014&src=typd>

## Tagboard

- ▣ <https://tagboard.com/ghc2014>

## GramFeed

- ▣ <http://www.gramfeed.com/instagram/tags#ghc2014>

# But really... how?

- ▣ Keywords and hashtags
  - ▣ <http://fsuvost.com/toolbox/current-keywords-and-hashtags/>
- ▣ What hashtag do I use?
  - ▣ All of them... and here's the tricky part – **you don't get to choose what the hashtag will be!**
- ▣ But I don't know any!
  - ▣ Then try location... but this is tricky.
    - ▣ <https://app.geofeedia.com/geofeed/id/43902/GHC2014-B>
    - ▣ geocode:28.4229076,-81.4644843,.5km



# Situational Awareness Tool

- All of the data collected to support situational awareness must be collected somewhere... that somewhere is the Situational Awareness (SA) tool.
- The best suited platform for this job is **Ushahidi**, a free application for mapping information during a crisis.
- The Situational Awareness Portal is updated continuously, and provides a view of events as reported through the media and social media. Through this tool, VOST members and the client organization have a searchable, scalable, and categorized list of reports and data.

# Data Verification

- ▣ How do we know what we are seeing is valid?
- ▣ Once VOST Volunteers save or submit data, the VOST Analyst must determine if the data is **accurate** as well as **pertinent**.
- ▣ How do we accomplish this?

# Data Verification

## *Method: Ask for Verification*

Andy Carvin, a reporter for NPR, covered the Arab Spring in Tunisia in 2011.

- ▣ He received information from a variety of Twitter sources about events in the country.
  - ▣ He had no personal knowledge of these sources or events.
- ▣ He simply responded to Tweets with specific questions, including, “Can you verify this?” or “Source?”
- ▣ Further, he asked for photos or videos.
- ▣ Became wary of tweets with journalistic terms such as “Breaking News”

# Data Verification

## Method: *Triangulation*

- ▣ Given a specific event or report...
  - ▣ Are other other unconnected sources reporting the same event?
    - ▣ NOT re-tweets
  - ▣ Is the report coming from a primary source?
  - ▣ In the case of video or photos, is the scene depicted in line with what is being reported?
    - ▣ Background signs, terrain, time zones, languages, etc.

# Data Verification

## *Method: Message Analysis*

- ▣ Assess the data presented in the report
  - ▣ Does the report align with what is expected to be occurring?
    - ▣ Event, severity, timing, etc?
  - ▣ Does the info appear to be sensational or exaggerated?
  - ▣ Are there links to expanded information? What kind?
  - ▣ Are there pictures or video attached?
    - ▣ The presence of pictures greatly increases the odds of a factual report.

# Data Verification

## Method: *Source Analysis*

- ▣ Assess the source, not the information
  - ▣ Can the source be authenticated? Is the source personally known?
  - ▣ Examine available public profiles.
    - ▣ Is there a real name? A location? Is there a complete bio? A picture?
  - ▣ Account history
    - ▣ Is the account new? How many followers/subscribers?
  - ▣ Who are the followers?
  - ▣ When does the account post content?
    - ▣ May indicate rough time zone information

# Data Verification

## *Method: Trusted Sources*

- ▣ Use known or trusted agencies for verifiable content.
  - ▣ News agencies
    - ▣ Individual reporters and meteorologists
  - ▣ Personal and professional contacts
  - ▣ Government agencies
    - ▣ NWS, NOAA, EM, Law Enforcements, Local/county government, Fire, EMS.
  
- ▣ ***Create a list of these sources before a disaster.***

# Data Verification

- ▣ Successful verification typically requires a **combination** of these methods.
- ▣ VOST Analysts and Team Leaders (who perform verification) must have a solid understanding of the disaster, what has happened in the past, and what is happening now.



# Data Verification

## Grading the Data

- Some VOSTs simply use an ‘good or bad’ grading scale – either the data is **good** (and is included in analysis) or the data is **bad** (and is discarded).
  - Often referred to as “Verified” and “Unverified”
- Some VOSTs choose to rate data on a simple scale of 1 through 5 or “low”, “medium” and “high” confidence.
- The method is actually irrelevant, as long as a standard process for the VOST is created and followed.

# Analysis

- ▣ Once data is graded, the Analysts and Team Leader can analyze the data for patterns, etc.
- ▣ **Analysis only occurs on data that has been deemed “valid”.**
- ▣ Analysis must focus on the following:
  - ▣ Life Safety and Critical Issues
  - ▣ Situational Awareness
  - ▣ Rumors

# Analysis – Critical Issues

- ❑ If a Volunteer or Analyst becomes aware of a potential **life safety, casualty/fatality** or **infrastructure** issue, it should be reported immediately to the Team Leader.
- ❑ Rapid verification should occur and the information should be passed to the partner or client organization as quickly as possible.
- ❑ **Do NOT wait** for a scheduled report to alert the organization of the possible critical issue.
- ❑ ***When in doubt, report the information.***

# Reporting – Situation Reports

## ▣ Situation Reports

- ▣ Produced on a set schedule (typically twice per day or once per operational period) and contains (at a minimum):
  - ▣ Goals and objectives of the VOST
  - ▣ Definition of the operational period
  - ▣ VOST Team Leader contact information
  - ▣ Summary of Situational Awareness information
  - ▣ Summary of Trends and Data being collected
  - ▣ Summary of Critical Events collected and reported
  
- ▣ Situation Reports will be distributed to the entire VOST and the client agency.

# Reporting – Interim Reports

## ▣ Interim Reports

- ▣ The Team Leader may, at their discretion, publish interim reports during the operational period. These interim reports may include critical items or other information.
- ▣ Interim reports will be distributed to the entire VOST and the client agency.

# Reporting

- All reports are posted on the VOST Information Portal.
- Reports are created for the use of the partner or client organization. They are not intended for public release.