Myths and Misconceptions Surrounding People, Alerts, and Warnings

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Where did the " Disaster Myths" come from?

- Over the last half century many behavioral studies have been conducted on how people respond to disasters in the USA .

- In the process of conducting those studies scientists noticed a number of misconceptions, misinterpretations, and false assumptions about how people respond.

- Researchers have begun to refer to these observations as "disaster myths".

A Caveat on the Term "Myths"

- Before we talk about "myths" it is important to review a few limitations of the paradigm

  1. These observations are meant to illustrate the broad patterns in response not to say these never happen. The "myth" is that these are common responses it is not a suggestion that these things never happen.

  2. Most were developed looking at "disasters" there is room for reevaluation in catastrophes.

  3. Under "special conditions" some of these broad patterns may not hold true.
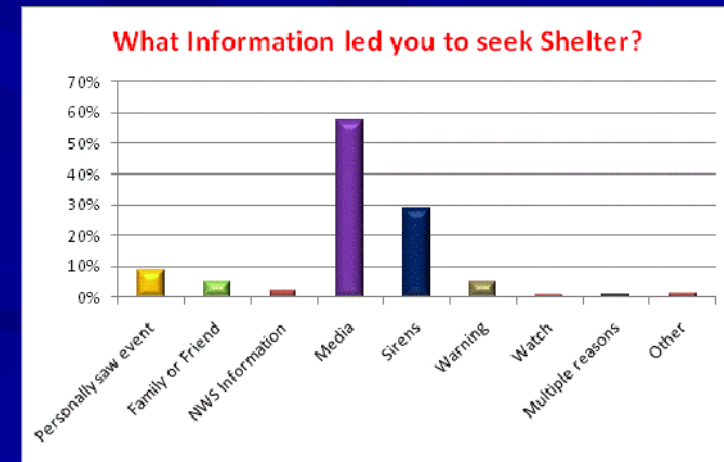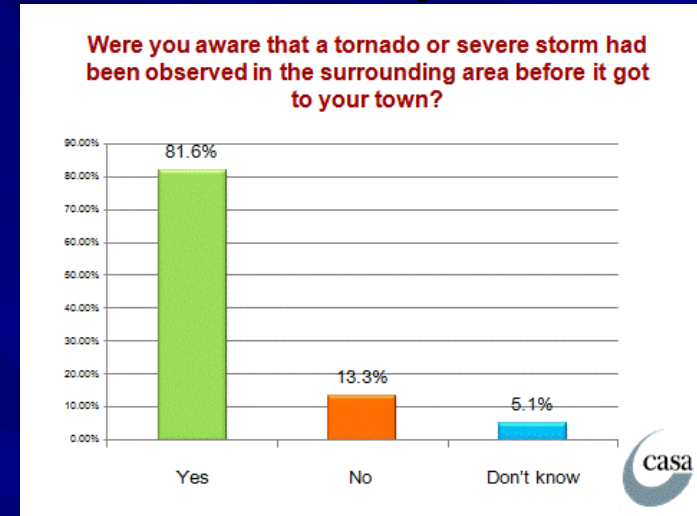
Myth #1-Alerts Cause "Mass Panic"

- **Myth:** When disasters occurs victims will panic and engage in any behavior deemed necessary at the moment to facilitate escape.

- **Consequences:** warnings are delayed until deemed absolutely necessary in order to avoid panic

- **Reality:** Extensive studies have shown that the greater issue is fighting what we sociologist call "normalcy bias" think about the last time you heard a fire alarm go off in a building. Did you run for the door? Probably not.

Myth #2- People Who Don't Comply with Alerts are Irrational or "Stupid"

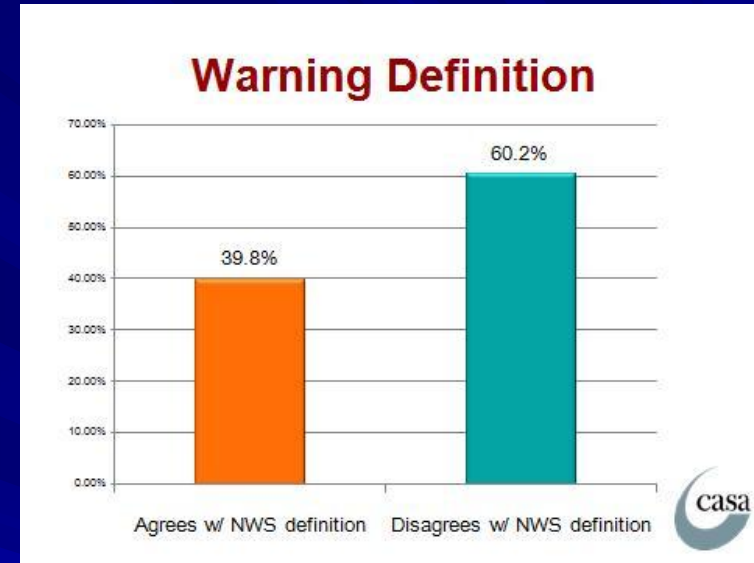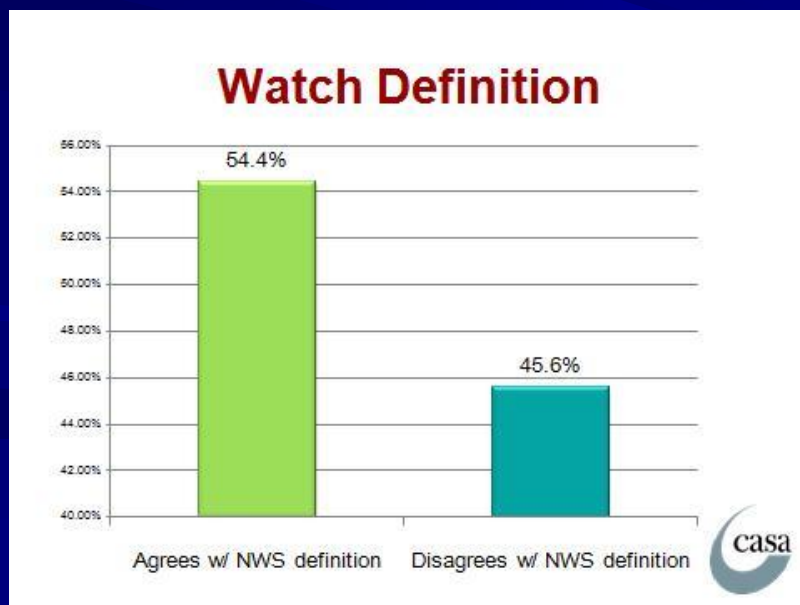**Warning Process (Donner, 2007: Modified version of Mileti and Sorenson):**

❖ *Receive the Warning*-People must physically receive a warning.

❖*Understand the Warning*-Once people receive a warning they must be able to process the message and understand what it means.

❖*Believe the warning is credible*-People must believe that the source of the warning is reliable and the threat could materialize

❖*Confirm the threat*-People must take steps in order to verify that the threat described in the warning is real.

❖*Personalize the threat*-People must believe that the threat is something that can potentially effect them.

❖*Determine whether or not protective action is needed*-People need to decide if they need to take action.

❖*Determine whether protective action is feasible*-People need to decide if they are able to take action.

❖*Decide if you have the Resources to Take Protective Action-* Finally people need to have the resources to actually do what is required

Were you aware that a tornado or severe storm had been observed in the surrounding area before it got to your town?

- Yes: 81.6%
- No: 13.3%
- Don't know: 5.1%

What Information led you to seek Shelter?

(Personally saw event, Family or Friend, NWS Information, Media, Sirens, Warning, Watch, Multiple reasons, Other)

Myth #3- Technical Terms are Intuitive

Tornado Warning
- Imminent Danger
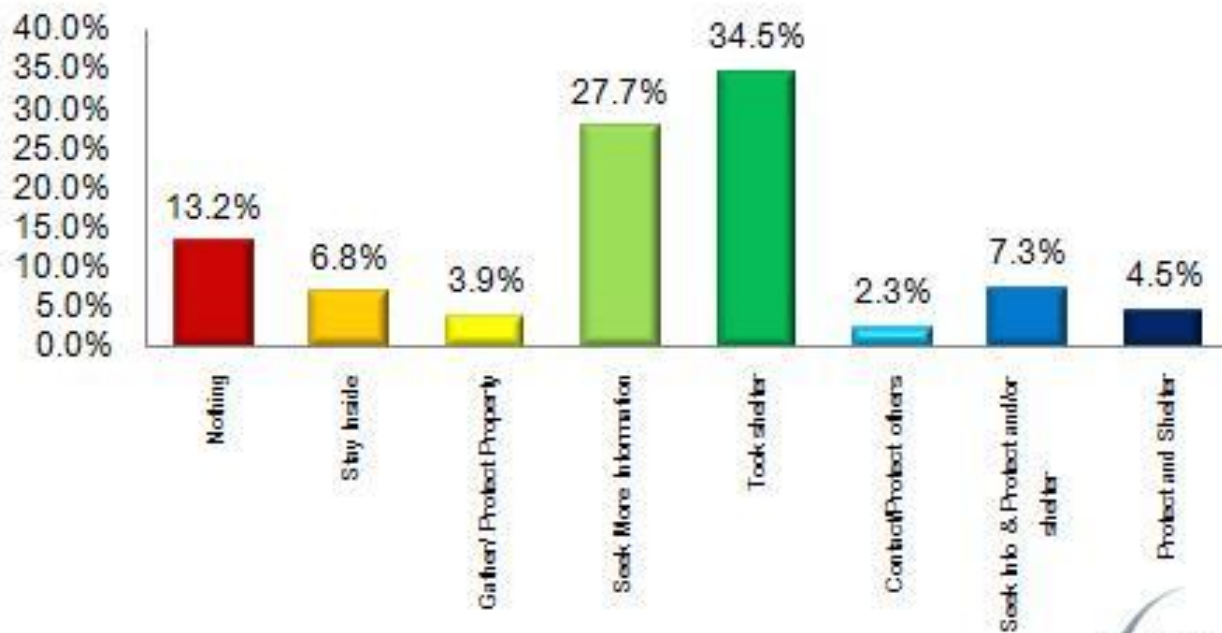- Seek Shelter Immediately

Warning Definition

Watch Definition

Tornado Watch
- Favorable Conditions
- Prepare to seek Shelter

Myth #4- Response to Alerts is Binary (compliance/non-compliance)

Myth #5- Single Messages are "The Whole System"

Its Coming Run like hell.

Integrated Crisis Communication and Response System (ICCRS)

Scientific Assessment

Monitoring and Modeling

Data Analysis

Scientific Predictions/Warnings

CDC   DHSS

Arrows: Points where system elements influence each other. Assumption: This is a virtual system that is not always directly coordinated. We are interested in exploring how the system actually works to disseminate warnings in terms of both the planned and unplanned relationships.

Information Dissemination

Warning Distribution Institutions

Schools   Hospitals   Emergency Management

Universities   Government   Health Care Providers

System Level Warning Characteristics

Media Coverage   Direct Messaging   Internet
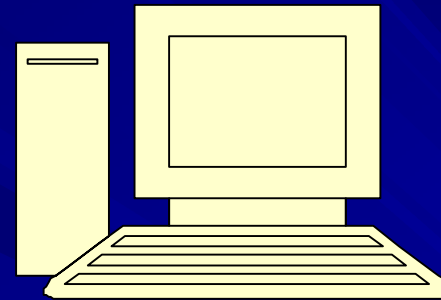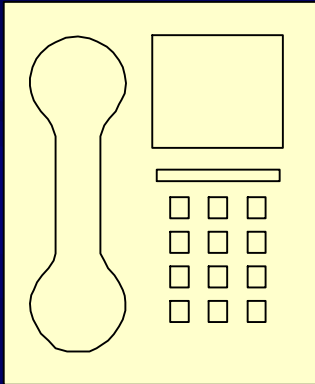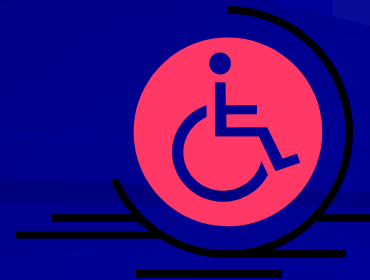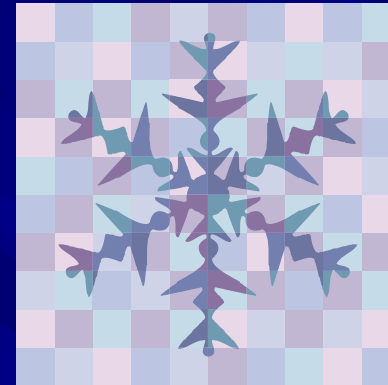
Individual Responses

General Public

Diagram adapted from Nigg 1995

Myth #6- Technological delivery systems are neutral or value free

Myth #7- The One Size Fits all Solution

- Technology
- Language
- Hazard Types
- Regional subculture

Myth #8 - "Good" Warning Systems are Good Enough

- Katrina
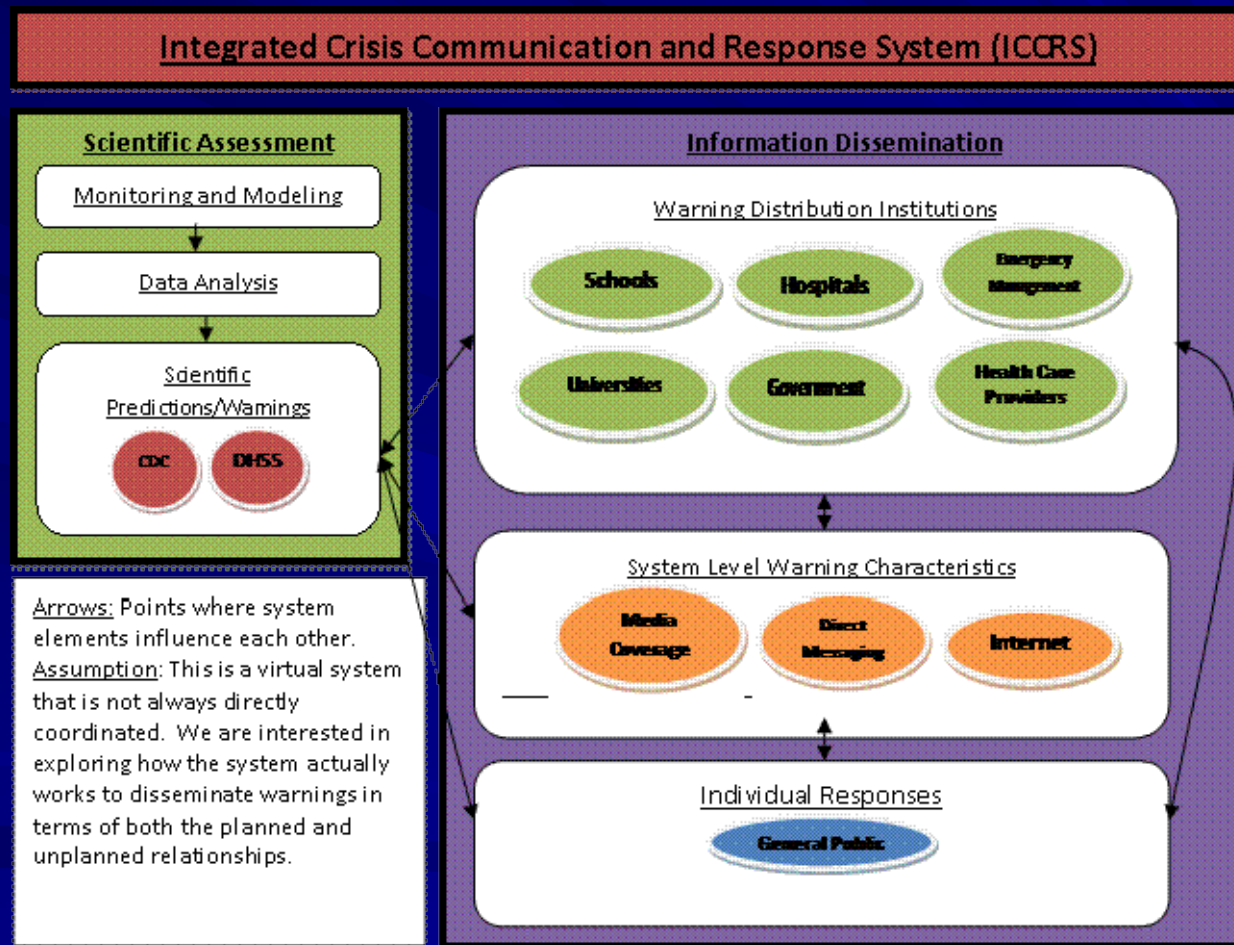 - % warned
  - % unwarned
  - % evacuated
  - % that did not evacuate
- Were Katrina warning, evacuation, and response systems a success or a failure?

Integrated Warning Systems

History of US Warning

- 1951 – CONELRAD (Control of Electromagnetic Radiation) developed during Cold War, alerts on certain frequencies labeled CD (civil defense)

- 1963 – EBS (Emergency Broadcast System) developed during civil defense era, national alerts through broadcast radio and television

- 1994 – EAS (Emergency Alert System) replaced EBS, added an automated broadcast and relay function for alert messages

Integrated Public Alert and Warning System (IPAWS)

- Improve upon current Emergency Alert System (EAS)
  - one message through multiple communication systems

- TV and radio no longer suffice
  - reach less than 40% during the work day

- FEMA's National Continuity Programs Directorate helped develop and manages IPAWS

- Executive order 13407 – requires US to have a "effective, reliable, integrated, flexible, and comprehensive system to alert and warn the American people."
  – IPAWS Program Management Office (PMO)

- Mission: "Provide integrated services and capabilities to local, state, and federal authorities that enable them to alert and warn their respective communities via multiple communications methods."

Structure of IPAWS
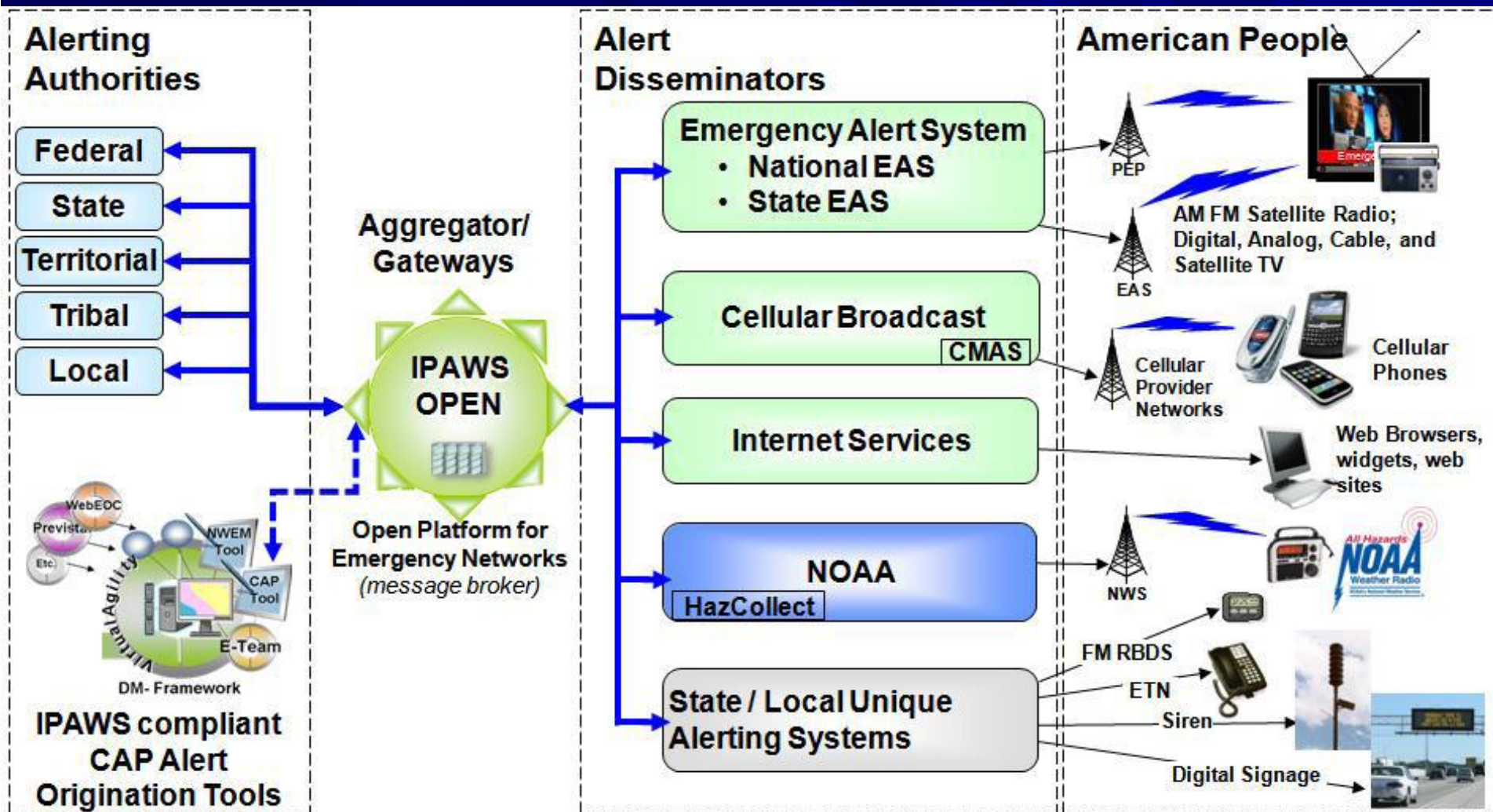
IPAWS Projects

- **EAS Modernization and Expansion Project**
  - Expand participating broadcast stations (total of 74)

- **Primary Entry Point Expansion**
  - Radio broadcast stations equipped to perform before, during, after emergencies

- **Standards and Protocols Project**

Common Alerting Protocol (CAP)

- "a format for exchanging emergency alerts allowing a consistent warning message to be disseminated simultaneously over many different warning systems"
- Interoperability

Conformity Assessment Program (CA)

- Verify systems conform to CAP (needed in order to interface with IPAWS)
- Vendors submit products to CA, if conform - Supplier's Declaration of Conformity posted to the Responders Knowledge Base website
- Allows user to view lists of vendors before purchasing/upgrading

- **Open Platform for Emergency Networks (IPAWS-OPEN)** *The Aggregator
  - Alert aggregator, collects and routes alerts to and from emergency systems

- **Commercial Mobile Alert System (CMAS)**
  - Government officials can send text alerts to public
  - Can be sent to any cell phone within range of tower
  - Doesn't clog network as much

Timeline

- Initial operating capability set for 6 months from adoption of CAP by FEMA (Sept. 2010)

- Early Roll out in NYC and DC this month

- Broad Participation of mobile carriers beginning in 2012

- EAS PEP will cover 90% of Americans by 2011

- First nation wide exercise of EAS (2011)

Use of Social Media

- Move beyond the traditional model
  - Alerts and warnings created by officials
  - Timing controlled
  - Content controlled

- In its infancy in the USA EM system
  - As a way to Disseminate Information
  - As a way to Collect Information

Unique Features

- Positive
  - Target information
  - Trusted circles
  - New concept of "the reporter"
  - Gap fill
- Negative
  - Less reliable individually
  - Less hardened technology

The Future

- Adding social media channels to formal systems
- Bidirectional communication
- Integration of warning with familiar platforms
- Leveraging existing networks