



# **Perspectives from the U.S. Federal Communications Commission: Lessons Learned on ICTs in Disaster Prevention and Relief**

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# FCC's Statutory Obligations

- To promote the safety of life and property through the use of wire and radio communications
- FCC is committed to this responsibility and works with other United States government agencies to bring the full benefits of ICTs to people in times of disaster or national emergency



# FCC's Role in Disasters in the United States

- FCC's major goal is to ensure that reliable communications are available throughout the U.S., including in emergency situations
- Work with other US Government agencies and ICT industry
- The FCC's roles include:
  - Monitoring status of communications services and infrastructure during emergencies
  - Identifying communications needs of public safety organizations and commercial providers
  - Supporting restoration and emergency operation of essential communications facilities



# FCC's Role in Disaster Response Internationally

- FCC supports U.S. State Department by providing technical and regulatory assistance
  - 3 missions to Haiti in the immediate aftermath of the 2010 Earthquake
  - Served on Response Management Team in the U.S. Agency for International Development for the U.S. responses to Haiti and Japan earthquakes
  - Provide advice and share information on ICT emergency communications issues as part of bilaterals with other nations
- Coordinate with the U.S. ICT industry and non-governmental organizations (NGOs)



## Prepare and Coordinate

- Take an “All Hazards Approach” to Preparedness
- Act Under the National Response Framework and other U.S. Policy Directives
- Coordinate with Our Federal Government Partners, the Public Safety Community and the Information and Communications Industry





# Lessons Learned from Past Experiences





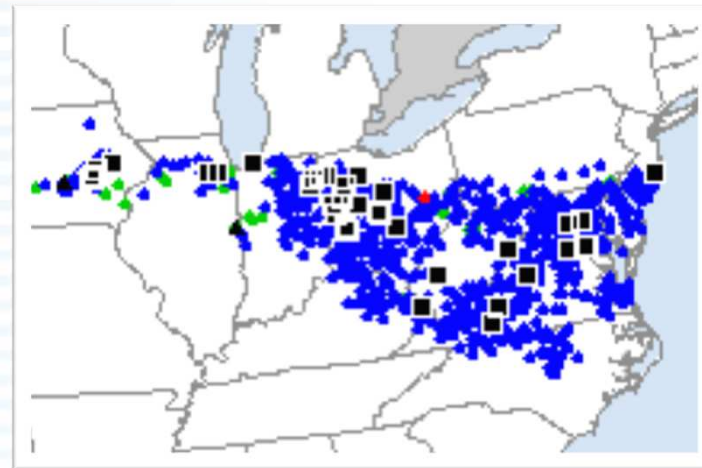
## Lessons Learned: United States

- What worked:
  - Disaster Information Reporting System (DIRS)
  - Project Roll Call
- What Needed to be done:
  - *Need to fully understand the reliance of the ICT sector on the energy sector*
  - *Plan for adequate back-up power*
  - *Need for interoperable communications for responding agencies and entities*
  - *Make plans to use full range of ICT capabilities to reach citizens (traditional broadcast, satellite broadcast, social media, mobile device SMS, fixed wireline, and Internet)*



# Lessons Learned: United States “Derecho” Storm June 29, 2012

- 5 million people lost power from Chicago to Washington, DC and 22 people were killed







## Lessons Learned: Haiti

- Satellite facilities play an important role, especially in the early stages of disaster response (mobile satellite devices, VSAT systems)
- SMS text messaging saved lives (low bandwidth and reliable)
- Social media & the Internet have tremendous potential to report damage & request assistance (crowd sourcing of information)
- The cost of “free international calls”
- Multiple emergency call numbers may lead to confusion for citizens and public safety authorities



# Lessons Learned: Japan

- Use of Broadband and advanced ITC infrastructure mitigated impact of disaster (early warning systems provided valuable seconds to citizens)
- Importance of having a reliable & resilient Internet-based communications, especially mobile services
- Importance of alternative backup power & redundant transmission facilities
- Need to develop a robust & reliant integrated public alert & warning system
- Effectiveness of sophisticated earthquake early warning system
- Community outreach & awareness education taken seriously
- Key role of social/new media in disseminating information, locating people, pinpointing damage & fundraising
- The cost of “free international calls”



# FCC Initiatives on Disaster Mitigation and Response

- National Broadband Plan Items
- Next Generation 911
- Emergency Alert System
- Personal Localized Alerting Network
- Deployable Ariel Communications Architecture



# National Broadband Plan Items

- NBP includes recommendations to:
  - *Create Nationwide Interoperable Public Safety Wireless Broadband Network*
  - *Develop and deploy of Next Generation 911 (NG 911) Networks and Emergency Alert Systems*
  - *Examine resilience and preparedness of Critical Infrastructure*
  - Identify disaster-related Communications outages and help with their restoration under *Project Roll Call*
  - *Ensure that Broadband Satellite Service is a part of any emergency preparedness program*





# Emergency Alert System and First Nationwide Test in 2011

- EAS is a national public warning system. It requires broadcasters, cable television systems, wireless cable systems, satellite digital audio radio service providers, and direct broadcast satellite providers to allow the President to use their communications capabilities to address the American public during a national emergency.
- State and local authorities can also use EAS to deliver important emergency information targeted to specific areas.
- The first nationwide EAS test took place on November 9, 2011 over multiple communications platforms.
- The FCC gave EAS participants until June 30, 2012 to deploy operational equipment that is capable of receiving and processing Common Alerting Protocol-formatted EAS alerts as required by the FCC's rules.



## Personal Localized Alerting Network (PLAN)

1. Authorized national, state, local, territorial or tribal government officials send alerts regarding public safety emergencies to PLAN
2. PLAN authenticates the alert, verifies if sender is authorized, and sends alert to participating wireless carriers
3. The wireless carriers push the alerts from cell towers to mobile phones in the affected area. The messages appear on mobile phones like text messages, up to 90 characters.



# Deployable Aerial Communications Architecture

- Will ensure that emergency alerts are still transmitted, even when land-based communications infrastructure is severely damaged after an emergency situation.
- DACA involves an aerial capability that is deployable within the first 12-18 hours after a disaster to temporarily restore communications, including broadband, for a period of 72-96 hours.
- This capability will preserve back-up power supplies and allow rescue workers to continue using their day-to-day communications devices, even when access roads and bridges are impassable.
- The project will require collaboration with other U.S. government agencies





## Considerations

- Implement a robust and reliant public alert & information dissemination system
- Encourage development of broadband systems & technologies
- Mandate back-up power requirements at national levels
- Awareness & public outreach
  - Regional forums and bilateral exchanges to share knowledge
- Development of national telecommunications emergency plans





## U.S. Opportunities for Continued Work With Interested Parties

- Broadband Partnership of the Americas through U.S. Agency for International Development -- this provides a mechanism to share U.S. expertise on this and other issues within Latin American and the Caribbean
- U.S. State Department leading interagency efforts to engage with other countries on this topic
  - Joseph Burton, [burtonkj@state.gov](mailto:burtonkj@state.gov)
- FCC International Visitor Program to host focused discussion on specific ICT disaster issues for those visiting US or via video/teleconference



## Thank You

International Telecommunications Union and the  
Colombian Ministry of Information and  
Communications Technology

For more information:

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