

Geotargeted Alerts and Warnings: A Workshop on Current Knowledge and Research Gaps

National Academy of Sciences – Keck Center
500 5th Street, NW, Washington, DC 20001
Room 100

February 21-22, 2013

DAY 1 – Public Response and Considerations for Geotargeted Alerts and Warnings

Past research has shown that specific and clear information, including which locations are and are not at risk, increases the likelihood that people take protective action. When alerts and warnings are delivered to broader populations than those actually affected by an event, the result may be that an alert or warning indicating more people than are actually at risk should take action. With new technological opportunities to more precisely target alerts and warnings come new questions about public response:

- What degree of geographical targeting is needed to make messages relevant? In what scenarios might greater precision be useful?
- What is known about the consequences of too many messages (e.g., if the threshold for events which trigger alerts is set too low, if alerts cover too large a geographical area, if messages are repeated too often, or if there are too many false alarms)? Is there a threshold above which people will ignore messages or opt out from receiving them?
- What are potential drawbacks of better geotargeting capabilities, such potential for privacy protections?

8:30–9:00 AM **Welcome**

Ellis Stanley, Chair, Committee on Geotargeted Disaster Alerts and Warnings
Dan Cotter, Geospatial Information Officer, Department of Homeland Security
Denis Gusty, Science and Technology Directorate, Department of Homeland Security

9:00-9:45 **Overview of Past CSTB Alerts and Warning Work**

Public Response to Alerts and Warnings on Mobile Devices
Jeannette Sutton, Chair, Committee on Public Response to Alerts and Warnings on Mobile Devices

Public Response to Alerts and Warnings Using Social Media
Leslie Luke, Committee on Public Response to Alerts and Warnings Using Social Media

9:45-11:15 **Value of Geotargeted Alerts and Warnings**

What role does geotargeted information play in effectively communicating risks to at-risk and not at-risk populations?
Tim Sellnow, University of Kentucky

What are the various ways that geotargeted information can be communicated to the public? Under what circumstances might one method be preferred over another?
Michele Wood, University of California, Fullerton

For what hazards and protective actions is geotargeting most needed?
Brooke Liu, University of Maryland

How do present-day tools constrain emergency managers? Are some deployed capabilities being underused?
Ken Rudnicki, City of Fairfax

Moderator: Dennis Mileti

11:15-11:45 **Break**

11:45-12:45 **Geotargeting Needs and Challenges for Particular Hazards**

Wildfire Events
Thomas Cova, University of Utah

Radiological/Nuclear Incident
Steven M. Becker, Old Dominion University College of Health Sciences

Transportation Systems
Peter LaPorte, Washington Metropolitan Area Transit Authority

Moderator: Ellis Stanley

12:45-2:00 pm Lunch is available in the cafeteria on the third floor.

2:00-3:30 pm **Data Security and Privacy**

Mobile Device Privacy and Security Concerns
Patrick McDaniel, Pennsylvania State University

Personal Privacy
Marc Armstrong, University of Iowa

Methods for Preserving Privacy While Providing Geotargeted Alerting
Darrel Ernst, Private Consultant

Legal questions surrounding location information
Kevin Pomfret, Centre for Spatial Law and Policy

Moderator: Ming-Hsiang Tsou

3:30-4:30 pm **Location-Enabled Technologies – Part 1**

Wireless Location Determination
Larry Dodds, TruePosition

Indoor Position Technologies
Ayman Naguib, Qualcomm

Moderator: Shashi Shekhar

4:30-5:00 pm **Day One Summary and Discussion**

Ellis Stanley, Chair, Committee on Geotargeted Disaster Alerts and Warnings
Dennis Mileti, University of Colorado, Boulder & Committee Member

DAY 2 – Technologies and Tools for More Precise Geotargeted Alerts and Warnings

Cell phones and other mobile devices can determine their position using cell tower triangulation, GPS, and nearby WIFI sites and offer ample computing power and high resolution displays to receive, process, and display alerts and warnings. Similarly, other computing devices such as laptops, desktops, and cable set top boxes can also establish their location and with suitable software provide targeted alerts.

- How can already-deployed and emerging technologies be used to deliver improved geographical targeting capabilities?
- What would be effective strategies for introducing more precise geographic information as systems are modernized and enhanced?
- What technical and operational standards are needed to facilitate the delivery of more precise alerts/warnings?
- How can commercial off the shelf technology and commercial services be leveraged to deliver alerts and warnings?

8:30-9:15 am **Current and Future Vision for the Integrated Public Alert and Warning System**

Mike Gerber, National Weather Service
Denis Gusty, S&T Directorate, Department of Homeland Security
Wade Witmer, IPAWS Division, Federal Emergency Management Agency

Moderator: Art Botterell

9:15-10:30 **Lessons from and Opportunities for Traditional Technologies for Geotargeted Alerts**

Telephone Alerting
Rick Wimberly, Galain Solutions

Radio Broadcast Technologies
John Kean, NPR Labs

Weather Radio Technologies
Bruce Thomas, Midland Radios (remotely)

Cable Television Alerting
Ron Boyer, Boyer Broadband

Moderator: Helena Mitchell

10:30-11:30 **Location-Enabled Technologies – Part 2**

Geotargeted Alerts and Warnings in Streaming Video
Hisham Kassab, MobiLaps

Geotargeting with Internet Protocols
Richard Barnes, BBN Technologies/Raytheon, IETF Geographic Location working group

Cross Platform Alerting – Google Public Alerts
Nigel Snoad, Google

Moderator: Mani Chandy

11:30-11:45 **Break**

11:45-1:00 **Current and Future Capabilities of Location-Enabled Mobile Devices**

Geotargeting of SMS
George Percivall, Open Geospatial Consortium

Carrier Capabilities
John Davis, Sprint

Third-Party Application Capabilities
JT Johnson, Weather Decision Technologies

Mobile Location Determination
Farshid Alizadeh, Skyhook Wireless (remotely)

Moderator: Ramesh Rao

1:00-1:15 pm **Wrap-Up Discussion**

Ellis Stanley, Committee on Geotargeted Disaster Alerts and Warnings
Denis Gusty, Department of Homeland Security