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Lessons Learned Information Sharing
LLIS.gov

LLIS.gov Resource Compilation
for the 20 May 2013 Oklahoma Tornado

The LLIS.gov team has compiled various resources to help support efforts and initiatives focused on preparedness, response, and recovery following the May 20, 2013, Oklahoma Tornado. These resources are topic-specific and have been analyzed in order to provide support during the tornado response.

Global Positioning System (GPS), Geographic Information System (GIS), and Remote Sensing Technology

Note: The *LLIS.gov* team conducted specific research on the use of GPS, GIS, and remote sensing technology. LLIS.gov resources related to this topic are listed below.

GLOBAL POSITIONING SYSTEM, GEOGRAPHIC INFORMATION SYSTEM, AND REMOTE SENSING TECHNOLOGY

This document includes information related to use of Global Positioning System (GPS), Geographic Information System (GIS), and remote sensing technology during disaster response and recovery operations.

Following a disaster, emergency responders may struggle to navigate devastated neighborhoods where no recognizable landmarks are left. The *LLIS.gov* team found that in recent years emergency personnel have started using GPS, GIS, and remote sensing technology extensively to navigate disaster areas, create disaster map, and deploy assets and resources. Listed below are selected resources related to the use of GPS, GIS, and remote sensing technology in disaster response.

Debris Removal Operations after the Oklahoma Tornado. (Source: FEMA)

▪ ***Association of State and Territorial Health Officials*. Missouri Mobile Command Center (MCC)**
https://www.llis.dhs.gov/content/Missouri-Mobile-Command-Center-MCC
This document describes the Missouri Mobile Command Center (MCC) response to the 2006 Caruthersville, Missouri, tornado. Following this tornado, many buildings in Caruthersville were heavily damaged or completely destroyed, and few street signs remained. The MCC was deployed to assist responders and conduct damage assessment. The MCC assisted environmentalists and local responders by deploying a dedicated GIS team and GPS equipment.

- ***Lessons Learned Information Sharing.* FEMA Emergency Operations: Including Global Positioning System Coordinates in Communications with Responders**
  https://www.llis.dhs.gov/content/Emergency-Operations-Including-Global-Positioning-System-Coordinates-in-Communications-with-Responders
  This document states that Emergency Operations Centers (EOC) should include GPS coordinates of key locations in their communications with emergency responders during a response. This will enable responders to locate command centers, reception centers, fuel points, and other locations more easily.

- **On Line Disaster Response Community: People as Sensors of High Magnitude Disasters Using Internet GIS**
  https://www.llis.dhs.gov/content/On-Line-Disaster-Response-Community-People-as-Sensors-of-High-Magnitude-Disasters-Using-Internet-GIS
  In recent years, on-line disaster response communities have grown thanks to the integration of key geospatial technologies such as remote sensing, GIS, GPS, and the Internet. This paper examines these networks, their products, and their future potential.

- ***Lessons Learned Information Sharing.* Disaster Medical Assistance Teams: Distributing Global Positioning System Units with City- and Street-Level Data**
  https://www.llis.dhs.gov/content/Disaster-Medical-Assistance-Teams-Distributing-Global-Positioning-System-Units-with-City--and-Street-Level-Data
  This document discusses how GPS units and city- and street-level data can help Disaster Medical Assistance Teams better navigate through local disaster areas during deployment, thus increasing efficiency and the safety of team members.

- **Geographic Information Systems (GIS): We are coming to help, we just need to know where to go!**
  https://www.llis.dhs.gov/content/Geographic-Information-Systems-GIS-We-are-Coming-to-help-We-Just-Need-to-Know-Where-to-Go
  This document briefly summarizes how GIS, in conjunction with an appropriate back-up strategy, plays a valuable role in emergency preparedness, response, recovery, and restoration of communities who are impacted by natural or manmade disasters.

- **2012 Statewide Public Assistance Program /Debris Management Conference, Lessons Learned in Debris Management**
  https://www.llis.dhs.gov/content/2012-statewide-public-assistance-program-debris-management-conference-lessons-learned-debris
  This presentation includes lessons learned related to debris removal operations following the January 12-13, 2011, blizzard and the June 1, 2011, tornado in Springfield, Massachusetts. The document also includes recommendations and observations related to the use of IPADS and GIS during field operations.

Greensburg, Kansas, before (above) and after (below) the May 4, 2007 tornado. (Source: Kansas Division of Emergency Management)