

ASPR TRACIE Technical Assistance Request

Request Receipt Date (by ASPR TRACIE): 30 October 2018

Response Date: 1 November 2018

Type of TA Request: Standard

Request:

The requestor asked if ASPR TRACIE had any articles on geographic information systems (GIS) and how these tools are used for emergency planning. He also asked if we had any examples of how other jurisdictions are using GIS or information on other databases from which to pull data (e.g., a social vulnerability index).

Response:

The ASPR TRACIE Team reviewed existing Topic Collections, namely the [Information Sharing](#) Topic Collection. We also conducted a search online for additional materials. This response includes resources related to GIS and how it can be used in emergency planning.

GIS-Related Resources

California Governor's Office of Emergency Services. (2016). [ArcGIS Online Case Study: Emergency Management – Cal OES](#).

This short YouTube video addresses how GIS has been used in real-world emergencies in the State of California.

City of Philadelphia, Office of Emergency Management. (2011). [The Role of GIS in Emergency Planning](#).

This PowerPoint presentation includes information on using GIS in the emergency management planning process (e.g., hazard analysis and risk modeling, geospatial analysis and modeling, situational awareness).

ESRI. (2013). [Emergency Management: GIS for Comprehensive Emergency Management](#).

This resource describes how mapping and analysis capabilities provided by GIS can help in emergency management planning processes.

ESRI. (2008). [Public Safety and Homeland Security Situational Awareness](#).

This white paper describes the importance of GIS as a scalable technology and the role GIS plays in situational awareness.

Federal Emergency Management Agency. (2013). [IS-922: Applications of GIS for Emergency Management](#).

This free, online course includes lessons on the following: GIS basics and history overview, how GIS is used in emergency management, and tools available to enhance the usefulness of GIS.

Florida Division of Emergency Management. (2018). [Florida Emergency GIS Response Team](#).

This website provides an overview of the Florida Emergency GIS Response Team (EGRT), and addresses how local and state government GIS staff are organized into a rapidly deployable resource built to support special events, disaster response, and recovery efforts.

Gaudet, M. (2017). [GIS in Emergency Management: Applications for Each Phase of the Emergency Management Cycle](#). Linked in.

This paper discusses the application of GIS to the four phases of emergency management (mitigation, preparedness, response, and recovery), and how local emergency managers can utilize GIS in their own jurisdictions.

Holdeman, E. (2014). [How GIS Can Aid Emergency Management](#). Emergency Management.

The author of this article conducted an interview with Susan Cutter, a geography professor at the University of South Carolina. Ms. Cutter discusses the use of GIS in emergency management and the evolution of hazard mapping in the U.S.

Holser, M. (2016). [The Importance of GIS in Emergency Management](#). Harvard Environmental Law Review.

This article provides an overview of GIS and how it can be used in jurisdictions for emergency management planning.

Milenković, M., and Kekić, D. (2016). [Using GIS in Emergency Management](#). Sinteza. 202-207.

This article provides an overview of how GIS can be used in the four phases of emergency management (mitigation, preparedness, response, and recovery).

Robinson, A.C. (n.d.). [Introduction to GIS in Emergency Management](#). (Accessed 10/30/2018.) The Pennsylvania State University, Department of Geography, College of Earth and Mineral Sciences.

This online course provides nine lessons specific to GIS and emergency management. Lesson 1 includes a basic overview; Lesson 2 discusses hazards; Lessons 3-6 address how GIS can be used in the four phases of emergency management; and Lessons 7-9 provide case studies to demonstrate how GIS has been used in real-world emergency situations.

Texas Emergency GIS Response Team. (2015). [Texas Emergency GIS Response Team for Disaster Mapping](#).

This webpage provides information on the Texas Emergency GIS Response Team (EGRT), a rapidly deployable GIS resource used to support mapping needs during disaster response and recovery efforts.

U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response. (2017). [GeoHEALTH](#).

GeoHEALTH is ASPR's secure Geographic Information System (GIS) based, electronic, interactive mapping application. This application incorporates information from other federal and public agencies (e.g., NOAA, USGS and NGOs) into a single visual environment for enhanced situational awareness, assessment, and management of resources for planning, response to natural, man-made or pandemic events. This system supports functions such as policy analysis, planning, course of action comparison, incident management, and training.

U.S. Department of Homeland Security. (2016). [GIS and Event Modeling for Disaster Planning](#). System Assessment and Validation for Emergency Responders (SAVER).

This two-page article addresses how GIS models, along with population data, can rapidly generate GIS maps that provide statistics on the disaster-affected population and real-time information for evacuation and shelter-in-place planning.