Argonne NATIONAL LABORATORY

Emergency Preparedness

Special Population Planner Supports All-Hazards Emergency Planning for Special-Needs Populations

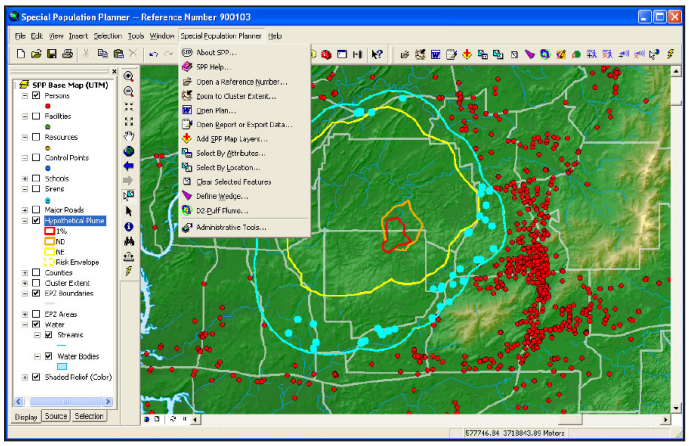
Challenge

It has been said that the true measure of a society's greatness is how it protects those least able to care for themselves. Recent emergencies, such as Hurricane Katrina, underscore the need to meet a complex challenge: planning for individuals with special needs. Studies indicate that up to 19% of Americans are disabled. People with special needs often have difficulty in responding to emergencies (e.g., receiving and understanding public emergency broadcasts) or taking protective actions (e.g., taking shelter or proceeding with evacuation).

In addition to persons with disabilities, other individuals may have special needs during emergencies, including:

- People without access to transportation
- Children who are sometimes home alone
- Persons who do not speak English
- Migrant workers, homeless persons, or visitors
- Individuals who lack financial resources
- People who are in confined facilities (e.g., schools, hospitals, nursing homes, prisons)

Persons with special needs deserve the same attention as given to our general population. The Americans with Disabilities Act specifically prohibits exclusion of persons from the benefits of government services or programs solely because they are disabled.



SPP adds planning tools to a commercial GIS.

Approach

To help ensure that the special-needs population receives support during emergencies, Argonne National Laboratory has developed the Special Population Planner (SPP) in cooperation with the Alabama Emergency Management Agency and six Alabama counties. The SPP is the first geographic information system (GIS)-based software tool designed to facilitate emergency planning for special-needs populations. It has been used since 2001 to help prepare persons with special needs to become more self-reliant during disasters. As of April 2007, the SPP was being used to enhance emergency preparedness for some 4,500 persons with special needs in Alabama.

The SPP includes tools to accomplish five main activities:

- Creating and updating a voluntary special-needs population registry of key personal data
- Creating and updating area GIS information, including assigning map locations to registered persons based on their street addresses
- Automatically generating reports and maps
- Analyzing data in the context of planning zones and scenarios for preparing response plans
- Organizing emergency response plans for quick retrieval and updates

The SPP can be expanded to support additional emergency planning activities, including:

- Scenario modeling
- Integration with 911 data
- Addition of new database tables and map layers
- Linking of dynamic Internet data sources
- Real-time response implementation

The SPP enables users to easily map communities, facilities, and households where persons with special needs reside relative to response assets and hazard scenarios.

Requirements

The SPP is designed to use a shared set of files on a networked disk drive and one or more client systems for user access. Other requirements are:

- *ArcView 9.1 or ArcGIS 9.1* (or higher) for each client system, plus Crystal Reports 11, which is bundled with ArcView and ArcGIS software
- *Microsoft Access 2002* (or higher) for operations within the SPP database, including changes to the SPP database for use at a new installation

Benefits

The SPP provides a rapid way to build a registry of information for planning areas that can be visualized in a geographic perspective and integrated with other emergency preparedness systems and models. The software is flexible and can easily be adapted for a variety of applications beyond the default configuration. The need for an emergency planning tool that considers persons with special needs is expected to increase. As new organizations implement the SPP, the software licensing will allow them to customize and add elements that fit their needs and share them with the larger emergency planning community.

Free Download

SPP software, including the source code, full documentation, and an example database, is available at SourceForge.net: *https://sourceforge.net/projects/spc-pop-planner/.* Copying, distribution, and development of derivative works, with some minor constraints, can be performed under the General Public License-style license.

A Few Words of Caution:

A key aspect of the SPP architecture is that it uses a registry to identify persons with special needs. Registry-based emergency planning is one way to enable emergency planners to address the special needs of individuals or groups. However, registries can also raise significant privacy, confidentiality, ethical, legal, and liability concerns. ***SPP users should consider these issues with great care before initiating a special-needs population registry or database.***

SPP provides the ability to perform multi-hazard planning using a variety of map and report formats.

To learn more about emergency preparedness for special-needs populations, visit:
http://www.dis.anl.gov/ep/publications/sppublications.html

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