Guidance and Resources for Disaster Response

How can Esri help users when faced with disaster?

Thousands of organizations use Esri GIS software during the four phases of disaster management: mitigation, preparedness, response, and recovery. GIS enables these organizations to minimize the impact of disasters on lives and property. They use GIS for readiness, effective response coordination, and comprehensive situational awareness.

Following a disaster, the Esri Disaster Response Program provides software, data coordination, technical support, and other GIS assistance to organizations. Esri can also provide onsite technical personnel to assist with emergency GIS operations. Some of the common requests for assistance include:

- Data Support—either in finding, managing or operationalizing data sets to support organizations
- Situational Awareness—building viewers and sites to support both internal and external (public maps showing road closures for example) situational awareness
- Damage Assessment—taking a paper based process and spatially enabling that with GIS to support the damage assessment needs in the field
- Help with ArcGIS Online—setting up an AGOL Organizations account and best practices around making and using maps for public websites, coordination, etc.

You can request assistance or contact the Esri Disaster Response Program at any time for help.

What can you do to be better prepared for disasters?

You should be focused on data and implementing a common operating platform using ArcGIS that allows you to leverage that data when disasters occur. Without the data and a platform in place, valuable time is lost. ArcGIS for Emergency Management is an openly available baseline configuration of mission specific templates, tools and applications sitting on top of the ArcGIS platform. It is designed to support and enable common workflows across all aspects of the emergency management mission, from planning to response and recovery, by organizing and delivering the baseline tools and data typically needed to support an emergency management organization. For more information, please reference the ArcGIS for Emergency Management white paper.

Free templates that comprise the ArcGIS for Emergency Management solution can be found online at http://solutions.arcgis.com/emergency-management/.

These include:

- Public Information Map
- Impact Summary Map
- Public Safety COP
- Damage Assessment
- Special Events Planning
- Briefing Book

- Flood Planning
- Emergency Management Maps
- My Hazard Information
- Citizen Service Request
- ArcGIS Online Model Organization for Emergency Management

Additional Resources include:

- Public Safety Blog—http://blogs.esri.com/esri/arcgis/category/subject-public-safety/
- Public Safety Videos—http://video.arcgis.com/series/46/public-safety/date/desc
- Public Safety Forum—http://esriurl.com/GeoNetPSForum
- Facebook—http://www.facebook.com/pages/Esri-GIS-for-public-safety/183768242996?ref=nf
- Twitter—http://twitter.com/GISPublicSafety

What has Esri helped with in the past?

Esri has a number of different ways to support government agencies/first responders, private sector businesses, and citizens in response to disasters. Here are a few examples of how we can support you.

Local Government:

Reporting and Engagement (External):

- Citizen engagement information portals
- Current condition applications (status of electrical outage)
- Progress reports (restored services)
  - Road closures
  - School openings/closings
  - Shelters (cooling stations)
  - Holiday event status (example is the Fourth of July cancelled)
  - Social services (elderly/youth/at-risk health conditions)
  - Health services
  - Churches/NGO's offering assistance
  - Neighborhood watch/crime watch programs
  - Tourism link/travel advisory/business advisory

Executive Awareness Dashboard (Internal):

- Routing risk populations to emergency shelters/social services
- Public announcements via push messages
- Social media feed and analysis
- Executive briefing on all activities
- Allocation of government resources for all departments
- Location of potential at risk populations
- Transportation network updates
- FEMA or State Emergency reimbursement Tracking

Economic sustainability reports during and after an event:

- Open attractions
- Open business districts/business
- Travel advisory-stay off roads, ferries, airports, rail, subway
- Volunteer opportunities (Adopt-A)/volunteer network
- Donation centers (financial/goods and services)

Public Works:

Pre-planning and during emergency:

- Fleet and equipment staging areas (strategic positioning for optimal response)
- Incident management for barricading streets
- Risk analysis of bridges
- Twitter feeds for community service needs

Post-emergency:

- Managing debris clean up and staging areas for biomass (trees, vegetation, even mud)
- Optimized barricading for traffic flow and community congestion
- Optimized routing for non-routine solid waste collection
- Management of temporary restrooms
- Pavement damage assessment analysis
- Long-term vector management (mosquitoes, biting flies) around stagnant waters
- Twitter feeds for community service needs

Utilities:

- Power outage maps—area of service maps
- Services to stand up a public facing website
- Social media maps
- Connection between agencies in other areas—local government, public health, emergency response groups (Red cross)
- Demographic data—tapestry data—relative to impacted populations and vulnerability
- Potential for imagery and weather data with heat and precipitation

Health Providers/Health Systems:

- Identifying vulnerable populations in relation to neighborhood demographics
- Identifying of vulnerable populations in relationship to power outages and other public health resources (i.e. cooling centers)
- Monitoring conditions that exacerbate impact of heat on medical conditions
- Access to and availability of 'cooling centers' and shelter locations

Business and Insurance:

- Data for business continuity, disaster response, and risk management
- Social media feed maps from area for 911/311
- Power outage boundaries, with weather data (heat index), age of homes (older homes in areas more likely to not have AC), demographic data, and income levels.
- Maps with of mobile or fixed emergency services and information centers i.e. cell phone battery charging facilities
- Passable and impassable road information. Likely only needed for area impacted by the storm

Contact Us For Further Information or Assistance:

Esri Disaster Response Program
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