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Geospatial Information Response Team

Introduction

Extreme emergency events of national significance that include manmade and natural disasters seem to have become more frequent during the past two decades. The Nation is becoming more resilient to these emergencies through better preparedness, reduced duplication, and establishing better communications so every response and recovery effort saves lives and mitigates the long-term social and economic impacts on the Nation. The National Response Framework (NRF) (*http://www.fema.gov/NRF*) was developed to provide the guiding principles that enable all response partners to prepare for and provide a unified national response to disasters and emergencies. The NRF provides five key principles for better preparation, coordination, and response: 1) engaged partnerships, 2) a tiered response, 3) scalable, flexible, and adaptable operations, 4) unity of effort, and 5) readiness to act. The NRF also describes how communities, tribes, States, Federal Government, private-sector, and non-governmental partners apply these principles for a coordinated, effective national response. The U.S. Geological Survey (USGS) has adopted the NRF doctrine by establishing several earth-sciences, discipline-level teams to ensure that USGS science, data, and individual expertise are readily available during emergencies. The Geospatial Information Response Team (GIRT) is one of these teams.

The USGS established the GIRT to facilitate the effective collection, storage, and dissemination of geospatial data information and products during an emergency. The GIRT ensures that timely geospatial data are available for use by emergency responders, land and resource managers, and for scientific analysis. In an emergency and response capacity, the GIRT is responsible for establishing procedures for geospatial data acquisition, processing, and archiving; discovery, access, and delivery of data; anticipating geospatial needs; and providing coordinated products and services utilizing the USGS' exceptional pool of geospatial experts and equipment.

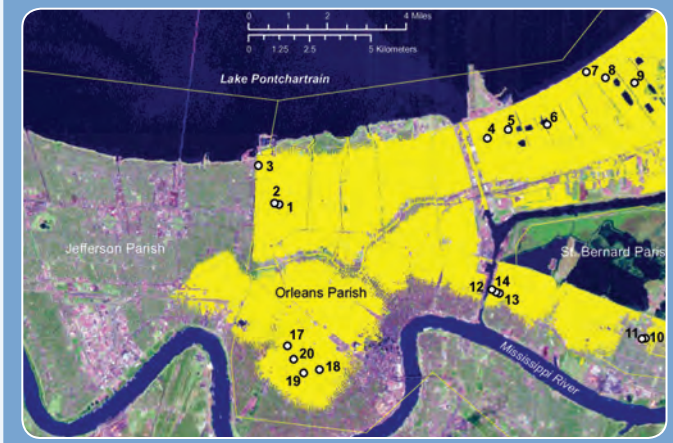
Leadership and Membership

The National Geospatial Program (NGP) Emergency Operations Chief serves as the GIRT Chair and is responsible for coordinating with the USGS Hazard Response Executive Committee (HREC), other discipline-level emergency response teams, the Geospatial Liaison Network, science centers, and program leads. In the event the GIRT is activated, a leadership succession plan is conveyed to its members to ensure continuity of operations including possible 24/7 operations.

Members of the team are appointed by the relevant senior manager with approval by the USGS Deputy Director and Associate Director for Geography. Team membership includes, but is not limited to, the following organizational areas and depending on the response, more than one representative may be required:

- National Geospatial Program Office (NGPO);
- Land Remote Sensing, Program Office;
- Earth Resources Observations and Science (EROS) Center;
- Geographic Science Centers;
- National Wetlands Science Center, Science Response Vehicle (SRV) Coordinator;
- Eastern, Central, and Western Regional Director's Offices;
- Central Region, Geospatial Information Office, Map Distribution Warehouse;
- Geospatial Liaison(s) in, or adjacent to, the area where the response is required;
- Hazards Program Coordinator(s), Ad hoc depending on the response required; and
- National Civil Applications Program.

Other participants are added to the GIRT for a given response depending upon the type of hazard and response required to fulfill mission requirements.



Landsat image showing area inundated by flood water following Hurricanes Katrina and Rita, 2005. Derived from USGS stream gage data and 5 meter resolution Lidar (light detection and ranging) elevation data. Numbers depict soil sample locations.

Satellite imagery showing the extent of wild fires in southern California.

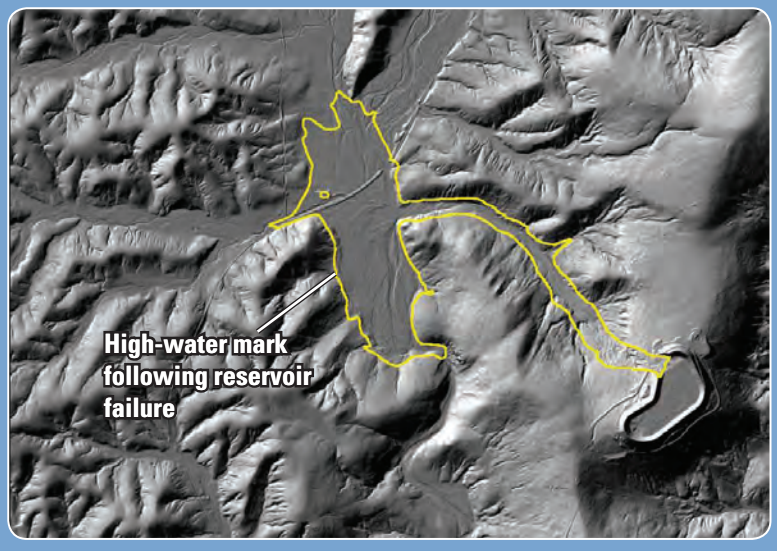
Process

The GIRT is responsible for eliminating duplicate geospatial efforts throughout the USGS by facilitating effective communications among contributing and requesting organizations. When activated, the GIRT collects requirements for emergency imagery acquisition, map development, data validation, and other specialized products and services. These requirements are communicated to the GIRT by its team members and others according to the GIRT Charter. Requirements also may come from the Department of Homeland Security, the Federal Emergency Management Agency, and other Federal agencies that have a need for USGS geospatial expertise during an emergency.

The GIRT acts on the ingested requirements by coordinating with and utilizing the expertise of its team members, USGS Geospatial Products and Services Contract Office, International Charter support staff, and other discipline-specific science centers with specialized capabilities to support geospatial product development and dissemination. In the event that emergency requirements exceed the fiscal constraints of Bureau's supporting organizations, the GIRT ensures that resource needs are communicated to the HREC for timely decisions on resource allocation.

Activation

The GIRT is activated either by the GIRT Chair or at the request of the HREC in response to an emergency. The GIRT remains active in its coordination role for the duration of the emergency or as long as geospatial resources are needed for response, recovery, and scientific analysis. The GIRT may coordinate resources for more than one emergency at a time and may have different representation for each emergency, particularly with respect to the Geospatial Liaison Network and Science Centers.



Shaded relief image derived from high-resolution Lidar data collected within 24 hours of the Proffit Mountain reservoir failure, Taum Sauk, Missouri. Yellow line depicts the high water boundary following the breach of the reservoir.

Product Availability

Emergency products coordinated by the GIRT will be ingested into the Hazard Data Distribution System (HDDS) as the primary method of distribution. The HDDS has both a publicly available and password protected, special-access database for the response and recovery community (*http://hdds.usgs.gov/hdds/*). Although HDDS is the primary data outlet, the GIRT maintains product distribution flexibility by accommodating the specific needs for response, recovery, and scientific analysis on a case by case basis.

Specific information on resources readily available to the GIRT and a current list of contacts can be found at: *www.usgs.gov/emergency/.*

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