

#### RELATED TERMS

- Geographic Information Systems
- Evacuation
- Wildland Fire



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#### PRIMARY DISCIPLINES

- Public Information
- Emergency Management

## LESSON LEARNED

### Public Information: Releasing Geographic Information System Maps to the Media and Public

#### SUMMARY

Jurisdictions should consider releasing Geographic Information System (GIS) maps to the media and public during major events. This will ensure that the public receives the most timely, accurate information available from a trusted source.

#### DESCRIPTION

##### *2003 Wildfires*

The San Diego, California, area suffered one of the most destructive fires in the state's history up to that time in October 2003. The Cedar Fire began in the Cleveland National Forest, Cedar Creek area, in the late afternoon of October 25, 2003. The City of San Diego Fire-Rescue Department (SDFD) initially committed 2 Strike Teams to support fire operations across 116,000 acres in neighboring jurisdictions. The rapidly spreading wildland/urban interface fire entered the City of San Diego the following morning and consumed more than 28,000 acres within the city and Marine Corps Air Station Miramar. The SDFD response included several hundred personnel and one hundred apparatus. The large fire required 2 days of sustained operations before the SDFD chief declared it contained.

During the fires, the emergency operations center's (EOC) Technical Support Unit provided information technology (IT) support to the county's EOC personnel. The Unit included GIS and IT staff members from the San Diego County Department of Public Works, the Department of Planning and Land Use, and the private sector. The Unit's GIS and IT staff members developed several geospatial maps that outlined the firestorms' geographic boundaries as the firestorms passed through the county.

However, difficulties with GIS operations prevented these geospatial maps from being readily available until much later in the incident. GIS and IT volunteers lacked guidance from the EOC and Sheriff's Department Operations Center regarding what needed to be mapped. SDFD did not have the adequate depth of IT personnel with expertise in setting up networks, equipment, and databases to support the incident. GIS and IT volunteers encountered numerous IT problems. The EOC received GIS and IT support on an ad hoc basis due to staffing issues.

San Diego County made several improvements to GIS operations after the 2003 fires. The Operational Area Emergency Operations Center (OAEOC) created a GIS Section with its own room, workstation, dedicated plotters, and other hardware and software. The OAEOC also established permanent, trained GIS and IT support positions in the Technical Support Unit. The Office of Emergency Services similarly established GIS positions for day-to-day operations and OAEOC response during an incident.

## **2007 Wildfires**

In October 2007, the San Diego area faced the largest wildfire incident in its history, far surpassing the 2003 fires in intensity and duration. The first of 7 wildfires broke out on Sunday, October 21, near the US-Mexico border. The San Diego County Office of Emergency Services began preparing for potential wildfires the week prior to the start of the firestorms due to an ongoing drought and forecasts of Santa Ana winds and low humidity. The response to the 7 wildfires required more than 6,200 personnel. The San Diego Sheriff's Department issued evacuation orders for 515,000 county residents, resulting in the largest single fire evacuation in the nation's history. The fires caused 10 civilian deaths, consumed approximately 369,000 acres—or about 13% of the county's total land mass—and destroyed 1,600 homes.

Several San Diego County government agencies utilized GIS technology throughout the incident to monitor fire activity and to share information among response personnel. The OAEOC established a dedicated room for GIS equipment and technicians. GIS maps combined evacuation data with county demographic data to assist the OAEOC with making evacuation decisions. With the help of GIS maps, county staff members identified hazardous materials in the path of fires; assessed damage to property, assets, and habitat; and monitored vital information such as flood risk and burned structures.

As in the 2003 incident, residents had questions about the location of the fires, whether to evacuate, and how quickly the fires were spreading. Public information officers (PIO) had difficulty communicating this information to the public without visual aids. In response, the OAEOC director, county PIO, and GIS unit leader decided on the afternoon of Sunday, October 21, to make GIS maps available to the media and public. These maps provided images of evacuation zones, fire perimeters, road closures, areas open for repopulation, local assistance center locations, and shelter locations. The county PIO emailed GIS maps to print, radio, and television news agencies. In addition, San Diego County's emergency Web site hosted GIS maps in portable document format files. GIS analysts produced new, updated maps that were distributed to the media and public every 3 to 4 hours.

The release of GIS maps to the media and public provided San Diego County residents with the most accurate, up-to-date wildfire information available. GIS maps helped residents to determine whether they were under any threat from the fires and to decide whether to follow precautionary evacuation orders.

The maps also dispelled rumors of false fire sightings. As a result, there were fewer complaints about the availability of information in 2007 than in 2003, and residents seemed much calmer partially due to the spatial information that was made available.

Jurisdictions should consider releasing GIS maps to the media and public during major events. This will ensure that the public receives the most timely, accurate information available from a trusted source.

The [San Diego County Emergency Homepage](#) provides residents with information about evacuation centers, health alerts, utility outages, and disaster planning.

## **CITATION**

ESRI Press Release. *ESRI Recognizes San Diego County Officials for GIS Work during Wildfires*. 03 Mar 2008.

[http://www.esri.com/news/releases/08\\_1qtr/san\\_diego\\_wildfires.html](http://www.esri.com/news/releases/08_1qtr/san_diego_wildfires.html)

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