

NSDI 2010 CAP GRANTS  
CATEGORY 6

---

ENHANCEMENT OF THE GEOSPATIAL DATA MODEL ADOPTION FOR EMERGENCY RESPONSE

---

**Date:** November 4, 2010

**Agreement Number:** G10AC00229

**Project Title:** 2010 CAP, Category 6 – Enhancement of the Geospatial Data Model Adoption for Emergency Response

**Organization:**

California Emergency Management Agency  
3650 Schriever Avenue  
Mather, CA 95655

Homeland Security Regional Technology Center  
5250 Campanile Drive, MC 1940  
San Diego, CA 92182-1940

**Principal Investigator:**

Diane Vaughan  
GIS Manager, Technology Information Division  
(916) 845-8542, [Diane.Vaughan@calema.ca.gov](mailto:Diane.Vaughan@calema.ca.gov)  
[www.calema.ca.gov](http://www.calema.ca.gov)

**Collaborating Organization:**

Paul Hardwick  
Regional GIS Project Manager  
(619) 594-8992, [phardwick@homelandsecurity.sdsu.edu](mailto:phardwick@homelandsecurity.sdsu.edu)  
<http://rtc.sdsu.edu/>

**Executive Summary**

The California Emergency Management Agency (Cal-EMA), in partnership with the Homeland Security Regional Technology Center (RTC) housed at San Diego State University Research Foundation (SDSURF), are reviewing critical incident data types to identify which features (point, line, and polygon) will be selected to develop NEIM compliant IEPD's that will be part of Cal-EMA's new Enterprise GIS. A change in direction from DHS has necessitated a modification of the original SOW, in order to meet the emerging NIEM standards for geospatial data. The RTC was intending to use the Schema Generation Tool (called GDM-O-Matic). The direction change at DHS also took this tool off-line, however, in subsequent conference calls with the Department of Homeland Security (DHS) and the USGS, it was agreed that the server that housed the tool would transfer ownership to the server that housed the GDM-O-Matic to Cal-EMA to make accessible to RTC.

## **Project Narrative**

The project team held a kickoff meeting in July at the ESRI Users Conference. Participants included the RTC, Cal-EMA, USGS, NAPSG, and ESRI. In the ensuing months, the RTC has identified relevant local data that is used during an incident or disaster. Also identified were data sets that are not currently available in the region but are considered desirable during an incident. This data was then matched to the DHS GeoData Model (GDM) schema level 3 to identify a minimal set of attributes for each piece of data. The RTC then compared that list to the existing Cal-EMA data folder structure that is used while monitoring incidents from around the State. Finally, the RTC compared the feature type (point, line, polygon, raster) for each of the data sets. A spread sheet was created to identify data gaps and discrepancies between local, state, and federal geospatial data sets.

Currently, the RTC is researching National Information Exchange Model (NIEM), and how the data model works with geospatial data. In discussions with DHS we have identified a point, line, and polygon feature that will be transposed into the NIEM format. An important step will be to keep a standardized naming convention like those that are provided in the GDM. By identifying these naming conventions it will allow for jurisdictions to quickly share data in a standard format and during an emergency and it will help reduce the initial time spent learning another jurisdiction's geospatial data.

Cal-EMA has deployed the development server that will be used to test the data model within the ArcGIS Server database. On November 4, 2010, Cal-EMA, in conjunction with Farallon Geographics<sup>1</sup> deployed the first iteration of the Enterprise GIS, with a preliminary database of regional, state and local datasets. The deployment was without problems, and user testing will begin the week of November 15<sup>th</sup>. Adam Lodge, Farallon Geographics, will begin to work more closely with the RTC project team to coordinate the data modeling for the incident data to be aligned and eventually incorporated into the ArcGIS Server environment at Cal-EMA.

To date, Cal-EMA is still waiting to hear from DHS what the status is on taking ownership of the Schema Tool and server from DHS. We are still interested in using this for schema development for this project as well as Cal-EMA's current project to deploy an enterprise GIS in the next few months.