

# FEMARepViz

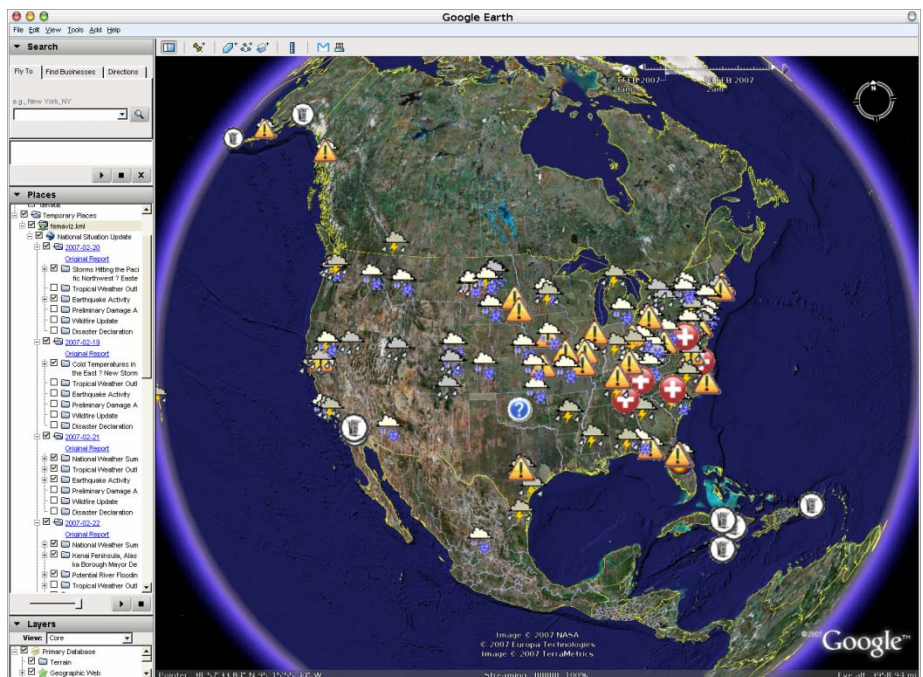
## Automatic Information Extraction for Geo-temporal Visualization

**Benefit:** *FEMARepViz supports nation-wide and regional crisis situation assessment by visualizing FEMA situation updates geographically. It achieves this by automatically extracting place and event information from the reports and plotting them on web-based maps that make it easy to see the distribution of events and responses, and to drill down to relevant details.*

During emergencies, response personnel are often overwhelmed by vast amounts of information. Processing data manually is not feasible when decision makers are under time pressure. Hence, automatically extracting useful pieces of information from large volumes of textual data is vital for such scenarios.

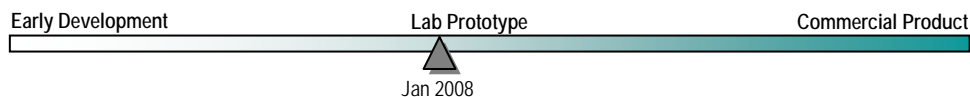
FEMARepViz is a visualization generation Web service that demonstrates the application of our methods to FEMA National Situation Updates. The daily FEMA National Situation Updates are text documents containing information from multiple sources including federal agencies, state and local governments, and the media. Situation reports generally include location names to indicate where incidents happened, as well as persons or organizations involved in the incidents. FEMARepViz fetches the daily reports from the FEMA website, and then the reports are processed using two of NEVAC's newly-developed tools, FactXtractor and GeoTagger. Processed reports are stored in a repository and can be retrieved by a Web interface. The output is a KML document that provides dynamic updates and interactive visualization that can be presented with applications such as Google Earth. The system provides an intuitive way to browse and visualize FEMA situation updates.

Since there is no computational approach that can achieve human level accuracy for complex information extraction tasks, visualization could bridge the gap between a fully automated system and manual data processing. Our extraction and visualization system can benefit users who need to analyze massive sets of geotemporal information in an efficient manner. There are many applications that can be built on top of our system, such as emergency situation pattern analysis and real-time emergency update monitoring.



Processed FEMA Situation Updates from Feb 3-6, 2007 displayed in Google Earth

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