**Disaster Monitoring Dashboard**

# **1. Description**

Natural disasters are a fairly common phenomena occurring multiple times in various places. Many countries maintain a database of the occurring disasters, their severity, spatial and temporal extent. For a more comprehensive evaluation and view of the occurring disasters and to facilitate timely response, a disaster monitoring dashboard is proposed. This is suggested for the United States of America, as they currently implement a similar dashboard executed using ESRI products and built using python, they also have a well maintained dataset for the disasters that occur in the country.

# **2. Data Source**

The dataset that would be integrated in the development of the proposed web application would be retrieved from the [**Open Federal Emergency Management Agency (OpenFEMA)**](https://www.fema.gov/about/reports-and-data/openfema)**. OpenFEMA** is open government data designed to foster collaborations and citizen science contributions to disaster management across the United States of America. Disaster Information over the country is provided via the [data portal.](https://www.fema.gov/openfema-data-page/fema-web-disaster-declarations-v1) With a set of GI tools, the data will be transformed into a workable format for the OpenLayers library (GeoJSON) and further integrated into a multi-layered web map application based on cartographic principles.

# **3. Functionality**

The proposed web application will implement the following functionalities:

* Visualization of the basemap (OSM) and vector layer in the form of polygons ([US states](https://hub.arcgis.com/datasets/CMHS::states-shapefile)) showing the distribution of different types of disasters on state level in the US.
* Attribute query like a state name search or an address search.
* Spatial query which can be implemented in the form of an information pop-up when clicking on a certain state.
* Downloadable data service.
* [Integration of statistical diagrams, indicating the characteristics of distribution of disasters.](https://programmer.ink/think/5de53e2678089.html)
* [Spatial-temporal visualisation realized through a time-slider.](https://programmer.ink/think/5de53e2678089.html) (taken as a non-goal for now)