**Team Name: TheShield**

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**Study Area: Visakhapatnam, Andhra Pradesh**

**Topic: Natural Calamities**

## Methodology

This project was completed using QGIS, which is an open-source GIS software. The map of India, along with its different states and district boundaries had been obtained. From the link provided for Bhuvan (Indian Geo-Platform of ISRO), relevant data was obtained from “Disaster Management Support Services” under “Maps & OGC services”. Since the district of Visakhapatnam of Andhra Pradesh is most affected by cyclones, data for zones prone to cyclones was required. From the tab “Near Real Time Cyclone Monitoring” under “Cyclone”, all the required information (coordinates of the places) could be found. From the left panel, the tabs with the names of the cyclones were selected. Clicking on the “Track” buttons displayed the various affected zones on the map, which was zoomed to Andhra Pradesh. Putting the maps precisely on top of the red circles, which fell on the lines of the cyclone tracks, the respective coordinates of the places were noted down and entered into a spreadsheet. The spreadsheet was saved in .txt (delimited) format. All the required points were added on the map by going to “Layer” -> “Add Layer” -> “Add Delimited Text Layer”. The points were joined in order and the tracks of the cyclones that have struck Visakhapatnam were obtained. From Google Earth, the coordinates for different hospitals, cyclone relief center and cyclone warning center were obtained and plotted in a way mentioned above. Learning the fundamentals and getting familiar with the interface of QGIS has been an interesting journey.

## Application

Due to its location and the coastline which runs along the boundary of the district of Visakhapatnam, the phenomena of cyclones and storms are frequent. It can come in use for studies conducted regarding the effects of past cyclones on the economy of the district, and how preventive measures can be taken for the future and also regarding those that have been already developed. Since it is mostly prone to disasters like cyclones, this map can be of particular use as it highlights the tracks of the cyclones “Hudhud” and “Phethai” which had run through the district in 2014 and 2018 respectively.