# Identifying Vulnerable Facilities (Hospitals, Power Plants, Airports) Due to Extreme Weather Effects (Precipitation, High Wind, Landslides)

**Vulnerable Facilities**

**Extreme Weather Events**

Hospital Data:
• Data Gathered from Homeland Infrastructure Foundation level Data (HIFLD)

Precipitation Data:
• NASA Global Precipitation Mission (GPM)

Power Plant Data:
• Data Gathered from Homeland Infrastructure Foundation level Data (HIFLD)

Wind Data:
• NASA Goddard Earth Science (GES) Data and Information Services Center (DISC). It provides continuous streaming of wind speed data on hourly basis for specific latitude and longitude coordinates
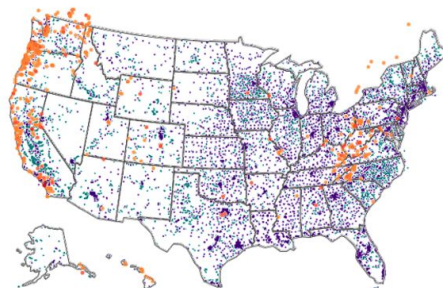
Airport Locations NY:
• HIFLD Open Data Center -It provides national foundation-level geospatial data for Airport Landing Facilities

Landslide Data:
• Global Gridded Landslide data from NASA : https://disc.gsfc.nasa.gov/datasets /Global_Landslide_Nowcast_1.1/s ummary

---

## Exploratory Data Analysis (EDA) & Cluster Analysis (Machine Learning)

Hospitals - Purple

Power Plants - Teal

Landslide Frequency - colored for severity.
• Yellow = Moderate
• Red = High

~7,500 hospitals

~11,800 power plants

~900 landslide points

**Presented the Progress/Results as Abstracts & Presentations at Fall AGU 2021**

AGU 2021 AGU Fall Meeting

**Identifying Vulnerable Healthcare Facilities Due to the Effects of Precipitation:**
https://agu.confex.com/agu/fm21/webprogrampreliminary/Paper994795.html

**A Dashboard for Identifying Flood Risks of Healthcare Facilities:**
https://agu.confex.com/agu/fm21/webprogrampreliminary/Paper992947.html

**Phase 1: July - December 2021 (Completed)**

---

**Release Assets as Open Science**

docker    jupyter    GitHub
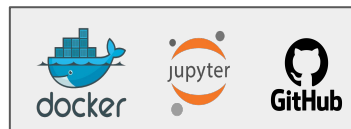
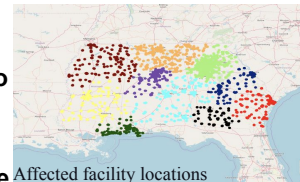**Submit Final Results to a Conference/Journal as Paper(s) & Present During ESIP Summer 2022**

**Integrate Existing Dashboard to Visualize Vulnerable Infrastructure**

Affected facility locations

Interactive Dashboard URL:
http://www.floodindex.tech/index.html

**Phase 2: January - May 2022 (Work-in-progress)**