



## Synchronizing Action through Geohazard Information Platform

link.od

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# LGU:

**Stay safe  
and dry!**

(or maybe evacuate)



**WARNING**



**What am I  
supposed to do?**

A red triangular warning sign containing a black icon of a funnel or whirlpool, symbolizing a warning or caution.

**WARNING**

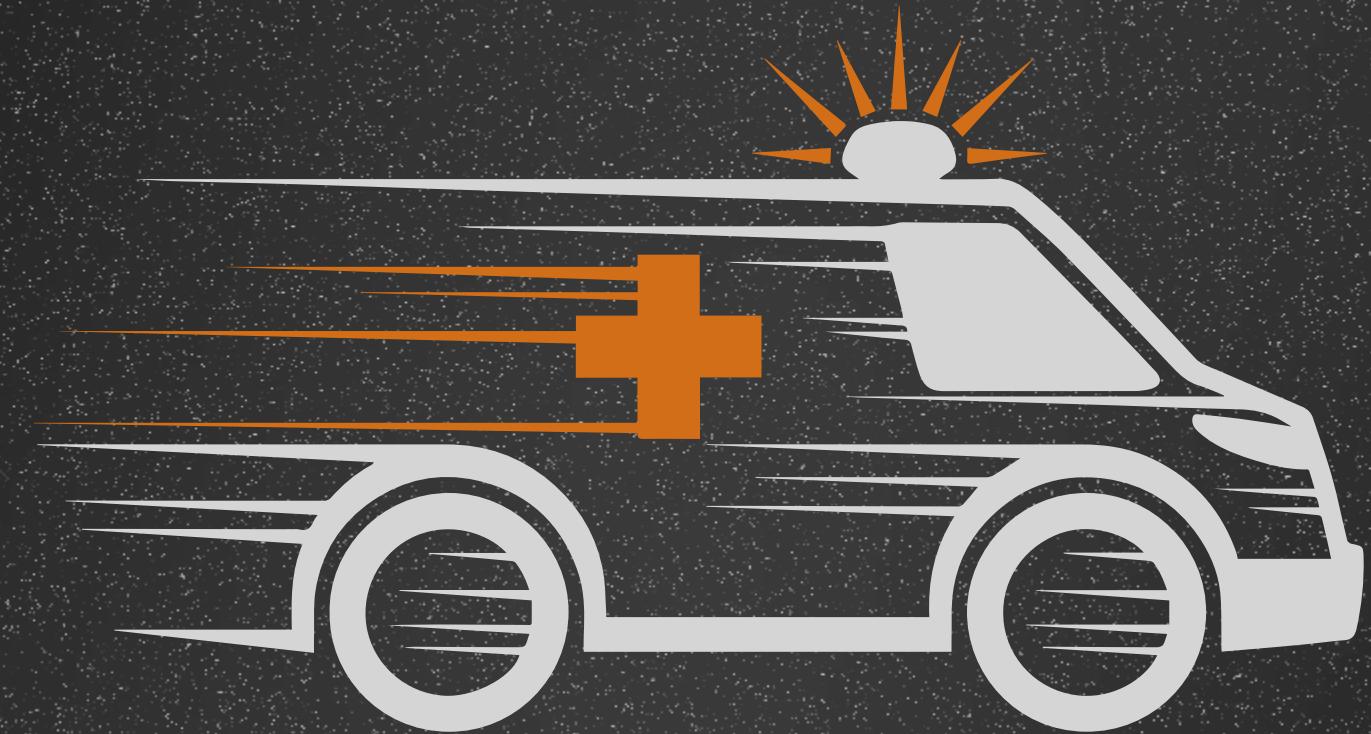


## 2024 Statistics of National Disasters in the Philippines



Each year, around **20 tropical cyclones** enter the Philippine Area of Responsibility, and the country endures an average of **20 earthquakes** every single day.

Tagud, J., et al (2025)



Casualty count suggests that **warnings are not effectively translating** into timely and safe community evacuation at the local level.

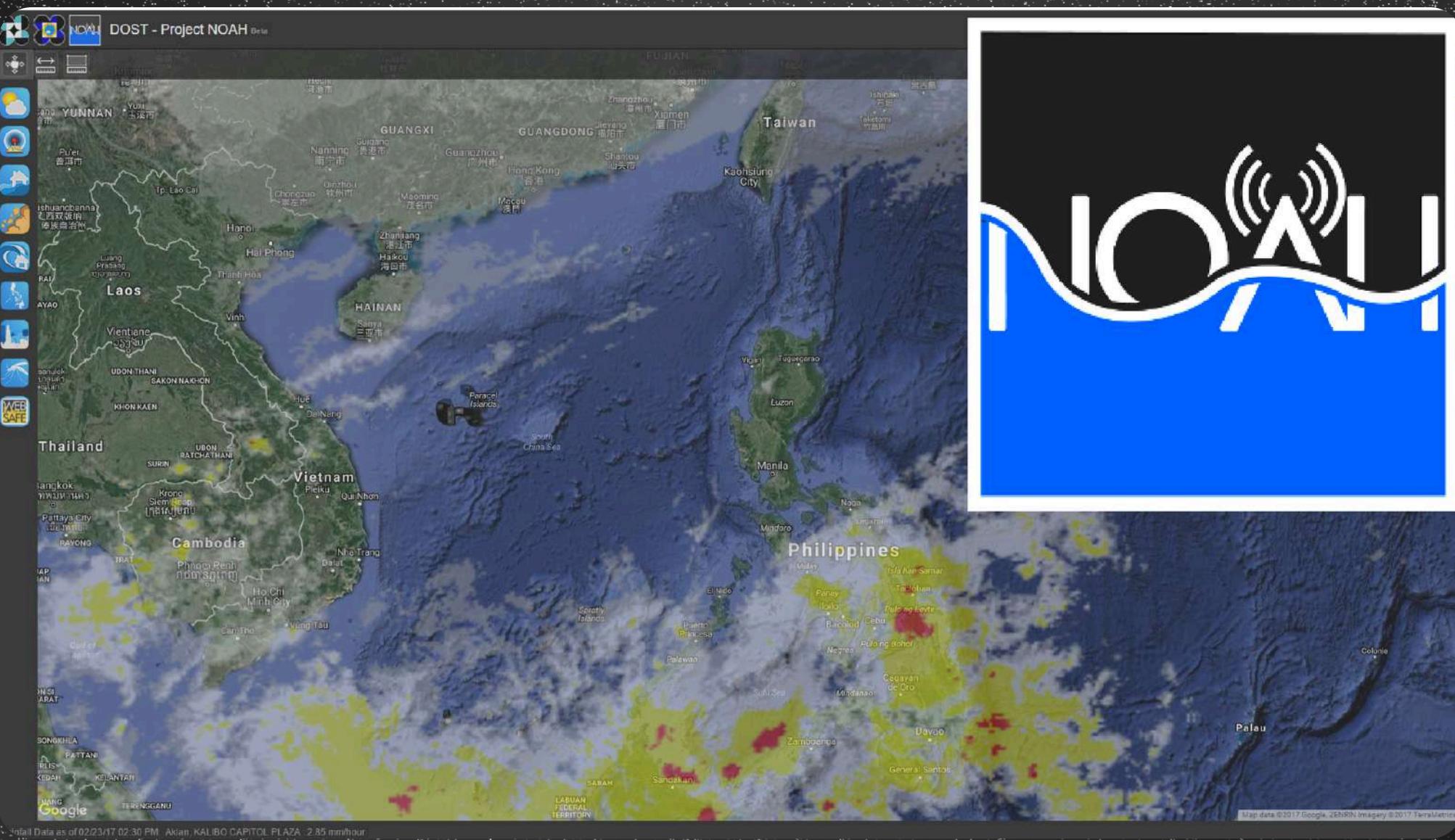


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Geohazard Information Platform**

# SOLUTION OVERVIEW

- Establish a comprehensive **historical hazard risk profile**.
- Develop an **interactive, geospatial risk visualization dashboard** (LGU-facing and public-facing).
- Provide stakeholders with essential **data visualizations and summaries** required for strategic decision-making.

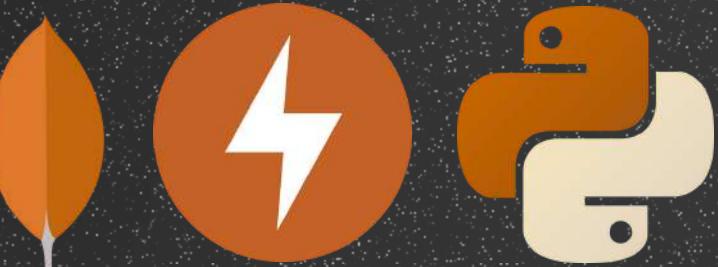
# DATASET



# METHODOLOGY

## TECH STACK

NextJS, Leaflet, GeoJson, Python, FastAPI,  
MongoDB, PWA



## IMPLEMENTATION

Multi-platform information exchange of  
data-driven plans



# METHODOLOGY

## DATA PREPROCESSING

SHP files from Project NOAH dataset are converted to GeoJSON

## DATA MAPPING

Mapped the converted GeoJSON on a GIS dashboard

## ENABLE DATA-DRIVEN PLANNING

Provide interactivity and preparation of plans to disseminate to the community

# LIVE DEMONSTRATION



# RESULTS AND IMPACT

- **Increased community safety** with offline-first PWAs providing maps, alerts, and emergency guidance even without signal.
- **More inclusive response** as unreachable or high-risk areas are automatically flagged for priority rescue.
- Strengthened **data-driven disaster preparedness**, shifting LGUs from reactive to proactive operations.





**THANK  
YOU!**