

# Earthquake Analysis: An Important Role in Disaster Management in Bangladesh.

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## Introduction

Because Bangladesh lies in active tectonic boundaries, it is particularly vulnerable to earthquakes. As cities expand and their sensitive infrastructure builds out in perilous places, understanding seismic hazards becomes fundamental. Analysis of earthquake can help identifying high risk area, help in better disaster response, and aid in resilient development. In mitigation of risk and the protection of community's Bangladesh, this poster reemphasizes the importance of these assessments.

## Methodology

Our strategy combines seismic data analysis with vulnerability assessment. We use ArcGIS 10.8.2 to map seismic risk zones in Bangladesh, combining data from the USGS and UNDP to conduct a full vulnerability assessment. Our study is based on data from the World Bank and the National Office of Disaster Service, which enables us to identify high-risk areas and effectively inform disaster preparedness strategies.

## Objectives

- Identify earthquake risk areas in Bangladesh
- Emphasize the significance of earthquake analysis
- Raise awareness of preparedness requirements.

## Results

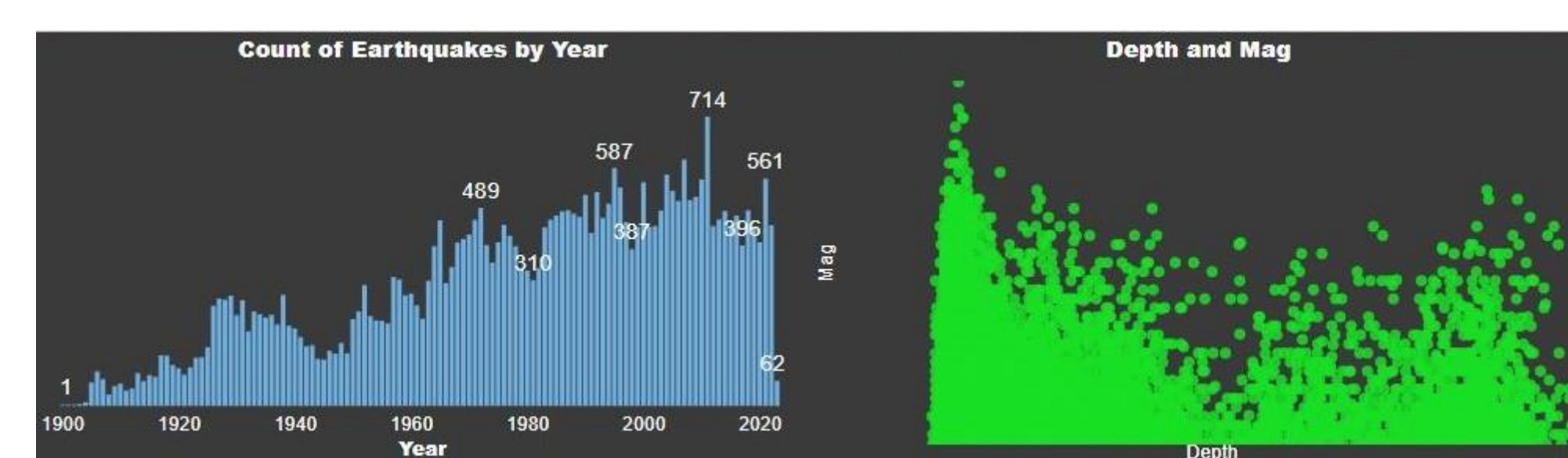


Figure : Count of Earthquake per year(1900-2020) with depth and magnitude

## Visualization of Map

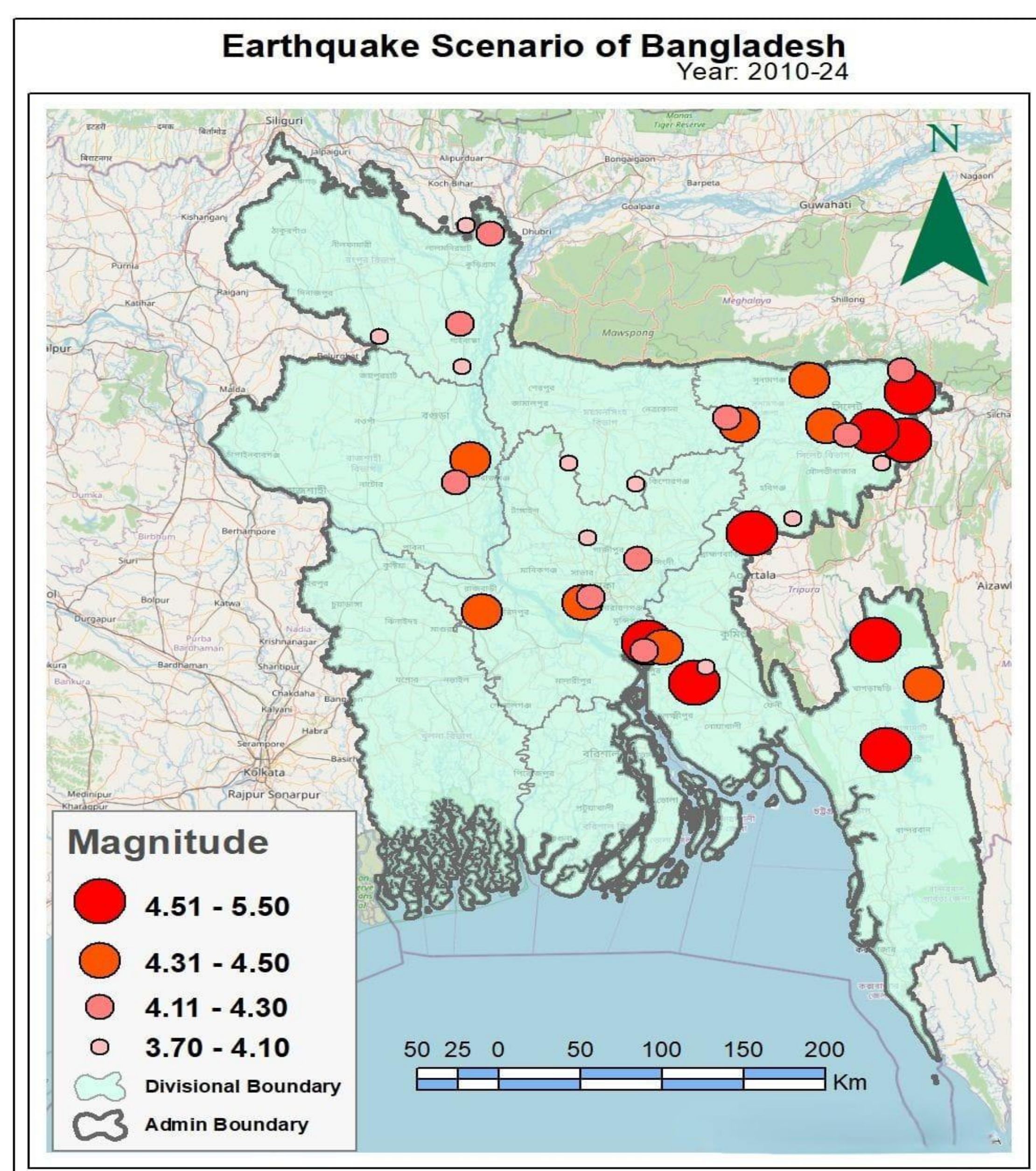


Figure : Earthquake Scenario of Bangladesh from 2010-24

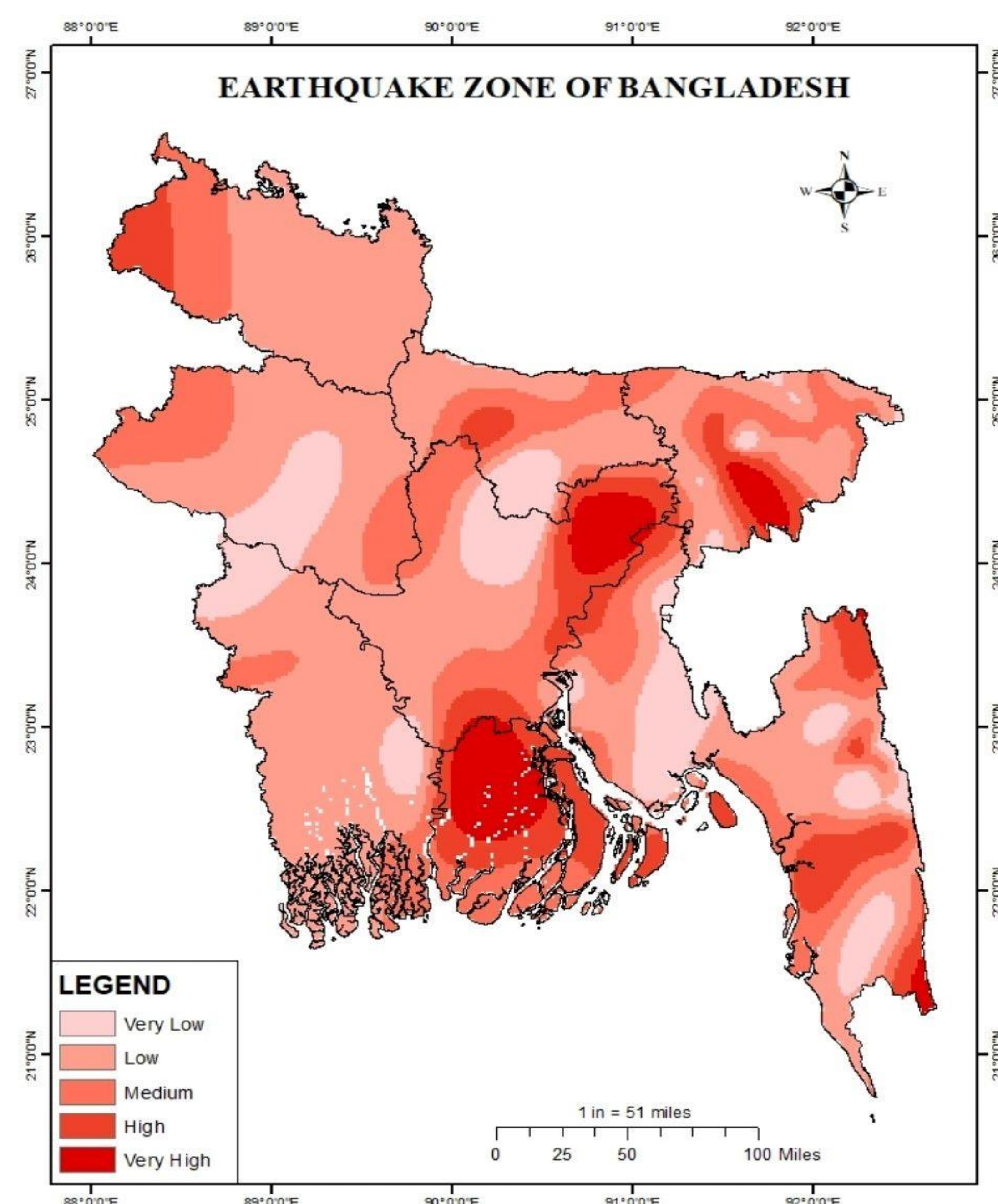


Figure: Earthquake zone of Bangladesh in map

## Conclusions

Effective earthquake analysis is critical for Bangladesh's communities and infrastructure. Understanding seismic risks enables us to increase preparedness, advise safer construction practices, and assist quick response activities, ultimately leading to a more resilient nation.

### Reference

- 1) Arc GIS 10.8.2
- 2) <https://www.worldbank.org/ext/en/home>
- 3) <https://www.undrr.org/organization/national-office-disaster-services>
- 4) <https://www.usgs.gov/programs/earthquake-hazards>