

## Natural Hazards and Risk Analysis



Risk analysis is mainly oriented toward the study of natural and environmental risks and their perception in the society, particularly by studying the phenomena on earth's surface and atmosphere that induce these risks.

### **Summary**

Disasters take lives, cause devastation, impact individuals, families and communities and disrupt our socio-economic systems. On the face of it, it seems like disasters are becoming more common and more devastating. Everyone is at risk from disasters – either physically or socio-economically. However, some individuals, families and communities seem more vulnerable and experience greater losses than others. Successful disaster risk reduction involves understanding something about the processes of hazard events but also the socio-economic, political and cultural contexts in which hazardous events trigger disasters.

The NH&RA is an intradisciplinary group from the Computer Applications in Science and Engineering

Department that focuses on innovating and pushing the boundaries of the state-of-the-art science and technology to develop risk-management solutions and tools that provide technical assistance for vulnerable communities worldwide in their effort to become more resilient against disasters.

We take a holistic approach to achieving resilience by integrating science and technology into informing risk management decisions at all times:

- Pre-event -> risk-reduction measures
- Intra-event -> real-time response
- Post-event -> quick and better recovery

## Objectives

- Developing Risk-assessment technologies providing access to scalable, real-time tools to assess risks to natural catastrophes (e.g. earthquakes, volcanos, flood, wildfires) or slow-onset disasters (e.g. food insecurity, extreme weather)
- Data access and analytics to provide a unified platform to access data in a common format from international agencies worldwide
- Resilience monitoring indexes to evaluate the resiliency of communities with respect to a pre-defined set of risks
- Vulnerability and adaptive capacity;

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