RISK-KAN workshop

Title: Assessing the Risk and Vulnerabilities associated with the FLOOD AND COVID-19 AS A COMPOUND EVENT by using different modeling techniques in a socio-environmental system.

ABSTRACT

Floods have become more frequent across the globe in the last decade and with the pandemic COVID-19, the physical infrastructure (health and water) is falling under the combined pressure of these events. It has been reported by World Meteorological Organization, the human losses during the period of last 50 years have been by floods 58,700 deaths according to the 2021 WMO Atlas of Mortality and Economic Losses from Weather, Climate and Water Extremes (1970-2019). According to the World Health Organization, 4800375 deaths, due to COVID across globe has been reported until October 2021. These events have also led to the shifting of the population and are forced to live in the rehabilitation centers in the time of pandemic when the proper social distancing protocols have to be followed. Therefore, the occurrence of multiple extreme events has become evident and is demanding focus of the researchers in terms of risks and vulnerabilities associated with them at different temporal and spatial scales. We tried to capture the vulnerabilities associated with these events by using remote sensing products, through the lens of socio-environmental approach where the human and natural system interactions were analyzed the physical infrastructure at the city level for building the resilience framework and providing a guiding tool for the community and government so as to improve the situations. To further improve the framework, a study of the impacts of the compounded events requires exploration of the different modelling techniques such as spatial agent-based modelling; exploratory analysis for leading to a better prediction in the resilience of the community to these events.