EARTH OBSERVATION SYMPOSIUM (B1)
Poster Session (P)

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DISASTER VULNERABILITY ASSESSMENT - CYCLONE VULNERABILITY CASE STUDY OF GUJARAT STATE, INDIA USING REMOTE SENSING APPLICATIONS

Abstract

As we live in a modern world, we have developed some tools and method with the help of which the loss due to disaster can be minimized and this approach is called disaster management. Now disaster management can be carried out in a better way using Remote Sensing and GIS compared to the traditional methods. Remote Sensing and GIS can be applied in both ways for precaution methods before the disaster and for minimizing the damage after the disaster. Through GIS one can find out the disaster prone areas by intersecting or overlaying the geographical layers.

Remote Sensing is used in detailed mapping that finds its application in creating hazard assessment maps, past scenario, and provide input data images to GIS for developing models for future prediction. Remote sensing can also be used for calculating the loss after the disaster has been happened by providing data about the intensity of the cyclone. We aim to monitor the cloud movements in Indian Ocean basin and study cyclonic movement using remote sensing images over Indian and Arabian Oceans. Based on the available geographic information data, the present study demonstrates disaster vulnerability assessment for the state of Gujarat (India) as a pilot project leading towards the cyclonic vulnerability assessment for the civilization settled in Indian Ocean Basin. The primary results are validated with disaster mitigation guidelines by Govt. of Gujarat. The analysis also provides matured level understanding of weather cycle which can be utilized for monsoon prediction and rainfall assessment, having wide applications in meteorological, agriculture, and of course, the disaster management. This study will surely add a value to strengthen the disaster mitigation plan.