STRESS PATTERN USING IRS-1B DATA AND OOBSERVED SEISMICITY OF NW HIMALAYAN REGION

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In the complex mountainous terrain such as the Himalayas, development, planning and decision-making for any project requires numerous informations. Such information can be easily available through the integrated approach of remote sensing and GIS which has been recognized as a unique and highly versatile technology for evaluation, monitoring and mapping of natural hazards. Satellite images, properly enhanced by digital image processing techniques have been proved as an important tool for location of tectonic landforms such as the active and inactive faults. Other spatial data sets, such as the earthquake epicenter data, stress map, can be used in conjunction with satellite data, using Geographic Information System (GIS) module. Also using the digital topographic data in construction of digital elevation model (DEM) with subsequent exaggeration of elevation can make the subtle tectonic features clearer. These models can also be used after being superimposed by earthquake data and tectonic map, to give a good perspective view of the overall morphology. The integration of data using GIS can elucidate the relationship between seismicity and tectonic landforms and could help in evaluating seismic risk and also help in neotectonic study of any region. In the present paper, the remote sensing data has been combined with DEM and earthquake data of NW Himalayan region. The results clearly show anomalous stress pattern in the region. The implication of such anomalous pattern will be presented in the light of Uttarkashi earthquake of 1991 and recent Chamoli earthquake in the Himalayan region.