Multi Sensor Satellite Data to Monitor Seismically Active Region

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Multi sensor satellite data provide information about the land, ocean, atmosphere and meteorological parameters which are believed to be influenced with the buildup of stress in earthquake prone regions. It is believed that in the tectonically active regions, stress starts to build up due to plate motion, and in such areas "interplate" earthquakes occur. In a stable region, due to water injection and water withdrawal "intraplate" earthquakes are observed. The two types of earthquakes are responsible for the change in the stress regime in the hypocentral region, and as a result electromagnetic radiation and seismic waves are generated. The change in the stress regime may affect the background geomagnetic fields and may also lead to changes in the hydrological fields. Such changes may be responsible for variation of land surface temperature and release of greenhouse gases. The multi sensor data are now capable of monitoring different parameters and emission of greenhouse gases. In the present paper, we have used land, atmosphere and meteorological parameters available from multi sensor satellite data. Detailed analysis of parameters shows complementary behavior associated with past earthquakes. Use of multi sensor data and their complementary behavior in monitoring an impending earthquake event will be discussed with the possibility of minimizing damages and loss of lives. Further, the use of satellite data will be presented in identifying most probable earthquake regions using lineaments and corresponding orientation of stress fields.