

NEWS AND NOTES

Institute of Seismological Research, Gujarat

Institute of Seismological Research (ISR) at Gandhinagar was formed by the Government of Gujarat in 2004 and started functioning from 2006. ISR with campus building (9000 sq m) where 500 people can work has emerged with complex (10000 sq m) facilities in a sprawling and picturesque area on the banks of Sabarmati



River. It is the only Institute in India fully dedicated to seismological research and is planned to be developed into a premier International institute. It has four major programs: (i) Earthquake Monitoring, (ii) Research on Physics of Earthquake Process and Earth Structure (iii) Seismic Hazard and Microzonation and (iv) Earthquake Prediction Research. ISR presently has strength of over 100 staff members including 60 researchers and 25 technical persons. Recruitment process is on for senior positions.



The new campus of ISR is constructed from World Bank funds of Rs.22 crores. Instruments worth Rs.30 crores are procured from World Bank, Asian Development

Bank, Govt. of India and Govt. of Gujarat funds. ISR is having 245 instruments of different types for seismological, geophysical, geodetic, geological and geotechnical investigations. ISR has established seismic data centre, OSL lab, geotechnical lab, engineering geophysics lab, gravity and magnetic lab and GPS lab in its campus. ISR is operating a network of 64 seismic stations in Gujarat. This number is more than the number of stations in any state of India. ISR is recording around 1000 earthquakes every year from Gujarat alone ranging in magnitude from 1.0 to 5.0. A total of 19 seismic stations are connected through VSAT with ISR. A 24 hour round the clock seismic data analysis centre is established in ISR for analysis and reporting of earthquake activity in Gujarat to concerned authorities. The earthquakes are reported within 10 minutes of the arrival of seismic waves. It is planned to install auto-location program to determine earthquake magnitude and location within seconds enabling early warning. The data centre and website (www.isr.gujarat.gov.in) has many upto date catalogs of earthquakes in India and is updated daily with latest earthquake information. The website is 3rd in the google list for latest earthquake information after United States Geological Survey (USGS) and European Mediterranean Seismological Centre (EMSC).

ISR has established an earthquake research centre at Bhachau and 3 multiparametric geophysical observatories (MPGO) in Kachchh for earthquake prediction research. In these, 11 types of physical parameters will be monitored round the clock by most modern and highly sophisticated instruments with data coming on-line to Gandhinagar. The instruments include super conducting gravimeter, bore-hole strainmeter, magnetometers and geochemical parameters measuring equipments. ISR has installed a network of 22 permanent GPS stations across Gujarat state to study crustal deformation and 10 more will be installed shortly. One of the major works ISR is pursuing is the seismic microzonation of important cities and industrial hubs of Gujarat besides Special

Investment Regions (SIR) and Gujarat International Finance Tech (GIFT) city. At present ISR is entrusted with the work of seismic microzonation of Gandhinagar, Dholera-SIR area, GIFT city and LNG terminal site at Mundra. ISR has the capability to do all aspects of seismic microzonation under one roof. ISR has established a geotechnical lab in its campus to carry out geotechnical investigations for seismic microzonation. ISR is also carrying out paleoseismological investigations in Kachchh region to estimate the rate of deformation of active faults and recurrence interval of large earthquakes.

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