

Seismological Network Around Tehri Region

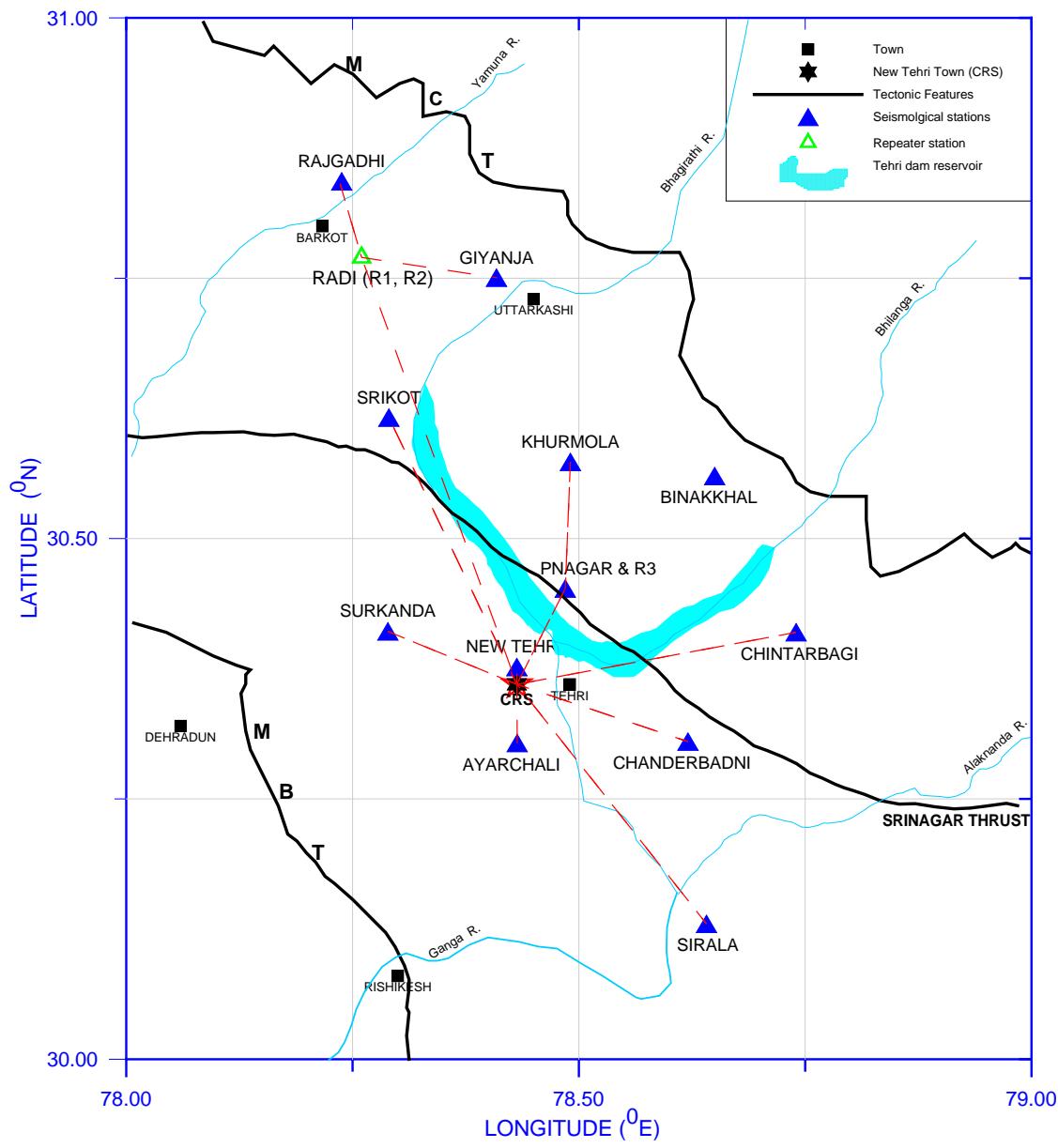
Operated and Maintained by
DEQ, IIT Roorkee

Sponsored by
**Tehri Hydro Development
Corporation India Ltd.**



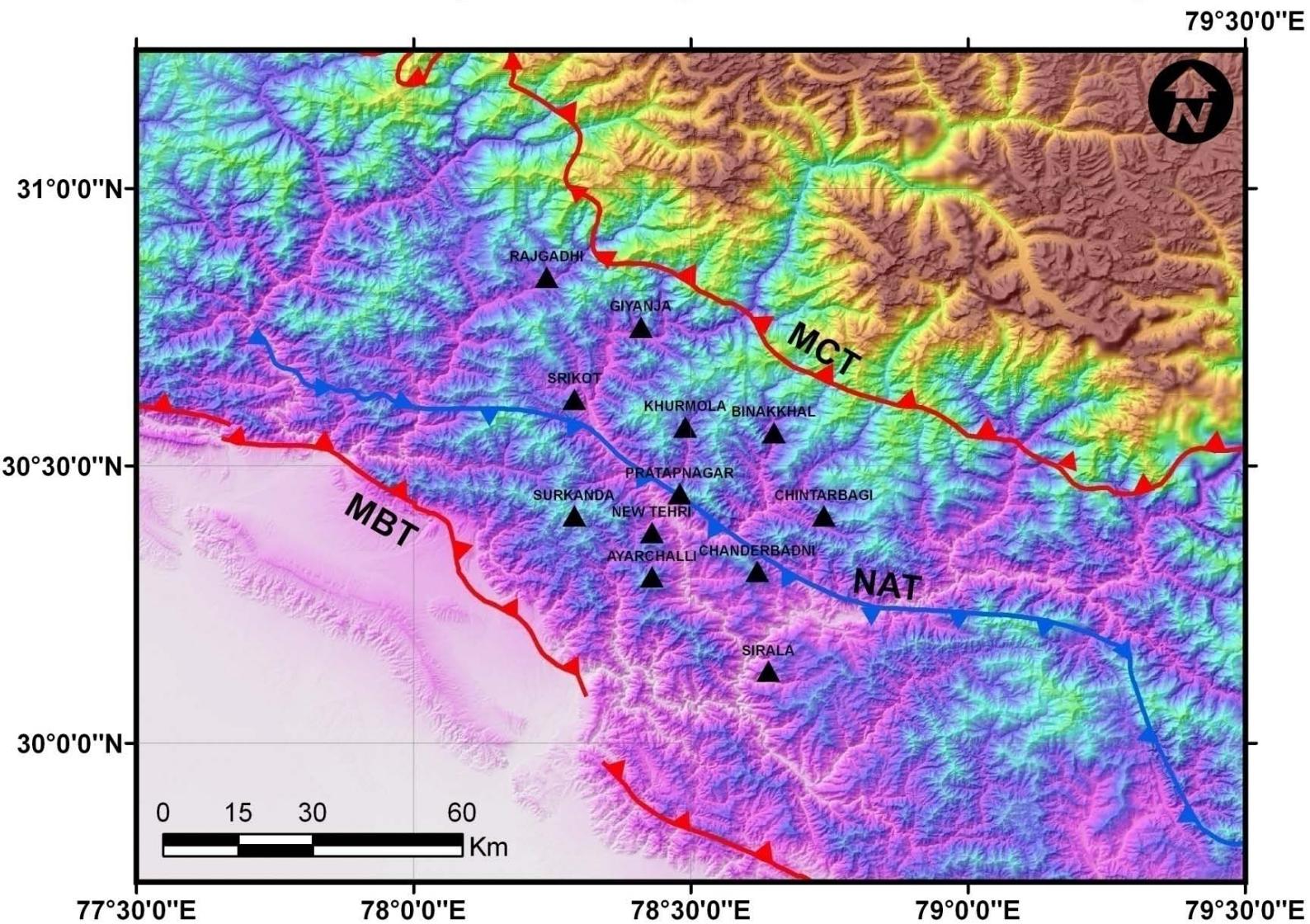
Objectives

- To monitor local seismicity in environs of Tehri dam
- To delineate active seismic source zones
- To study source parameters
- To study attenuation characteristics of the region
- To study reservoir induced seismicity



12-station telemetry network around Tehri region

Twelve Station Digital Telemetry Network Around Tehri Region



Salient features of the Network

- Number of stations -- Twelve
- Linked through radio telemetry using Spread Spectrum technology
 - (Transmission Frequency range 2.4-2.5 GHz)
- Seismometer Short Period Triaxial (**CMG 40T-1**)
 - (Frequency range 1sec – 100 Hz)
- Commissioned in November 2007
- Central recording station (CRS) at New Tehri

Instrumentation



Installation of Surkanda Station



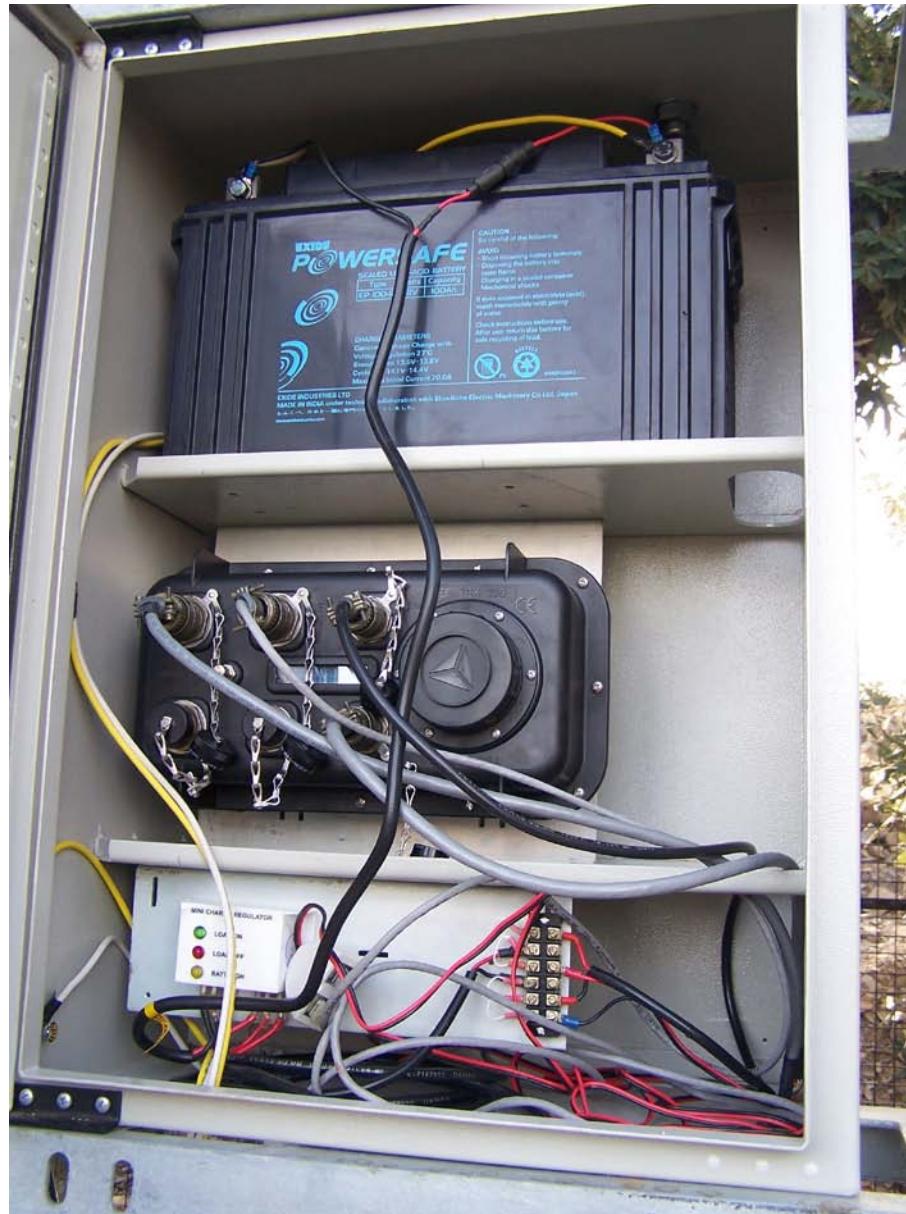
Antenna Tower at Central Station Station, New Tehri



View of Sirala Station



Installation of Seismometer at Sirala Station



of Surkanda Station





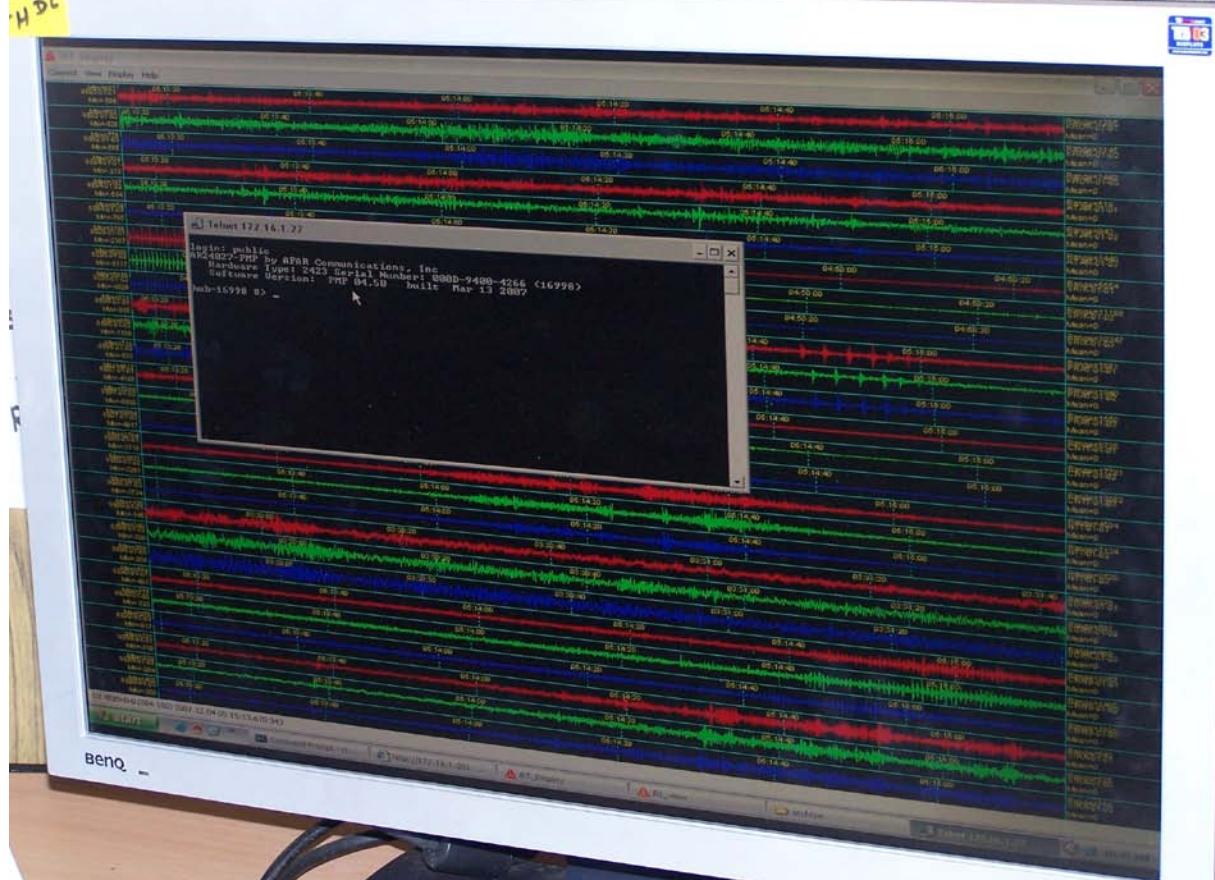






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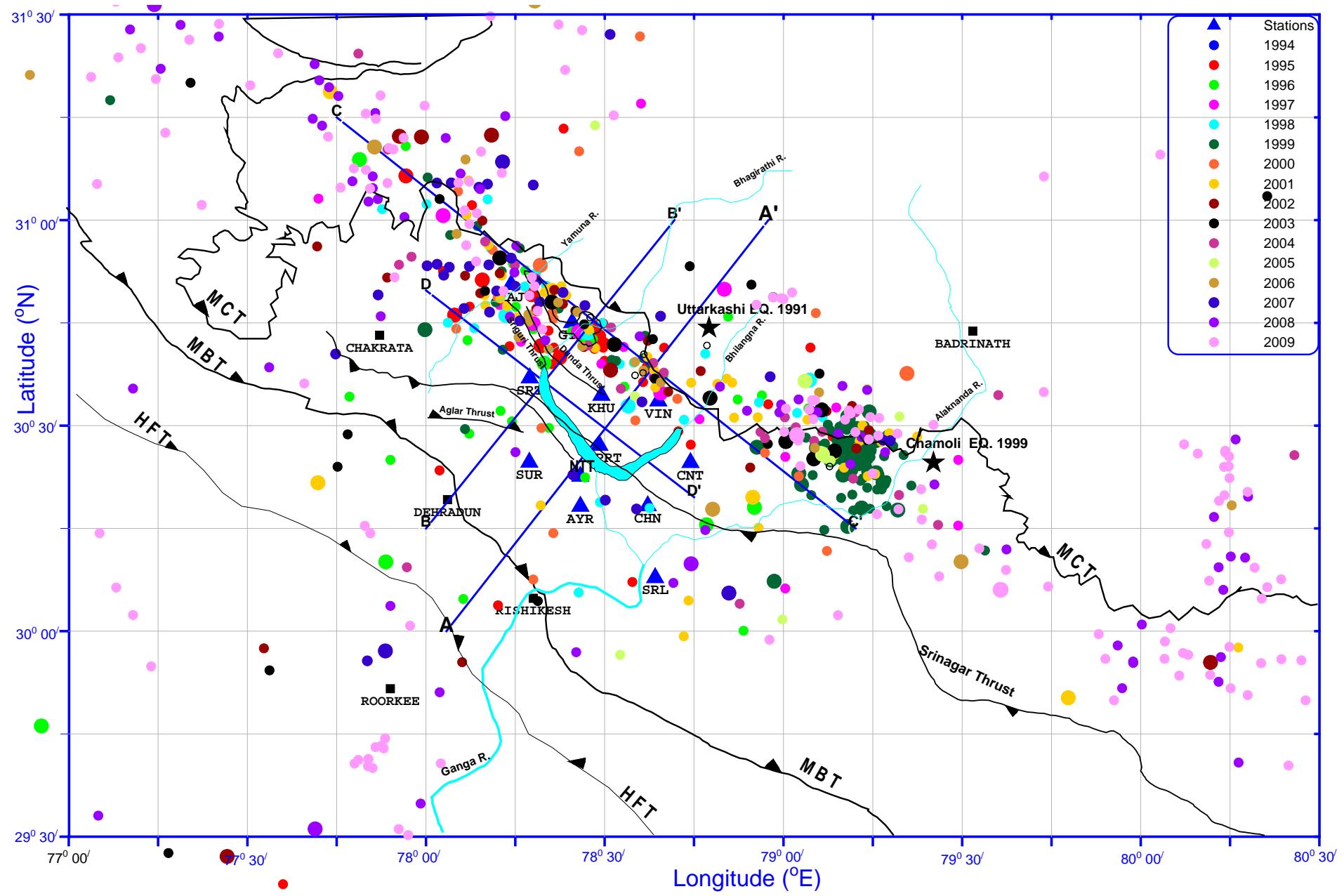
HDL



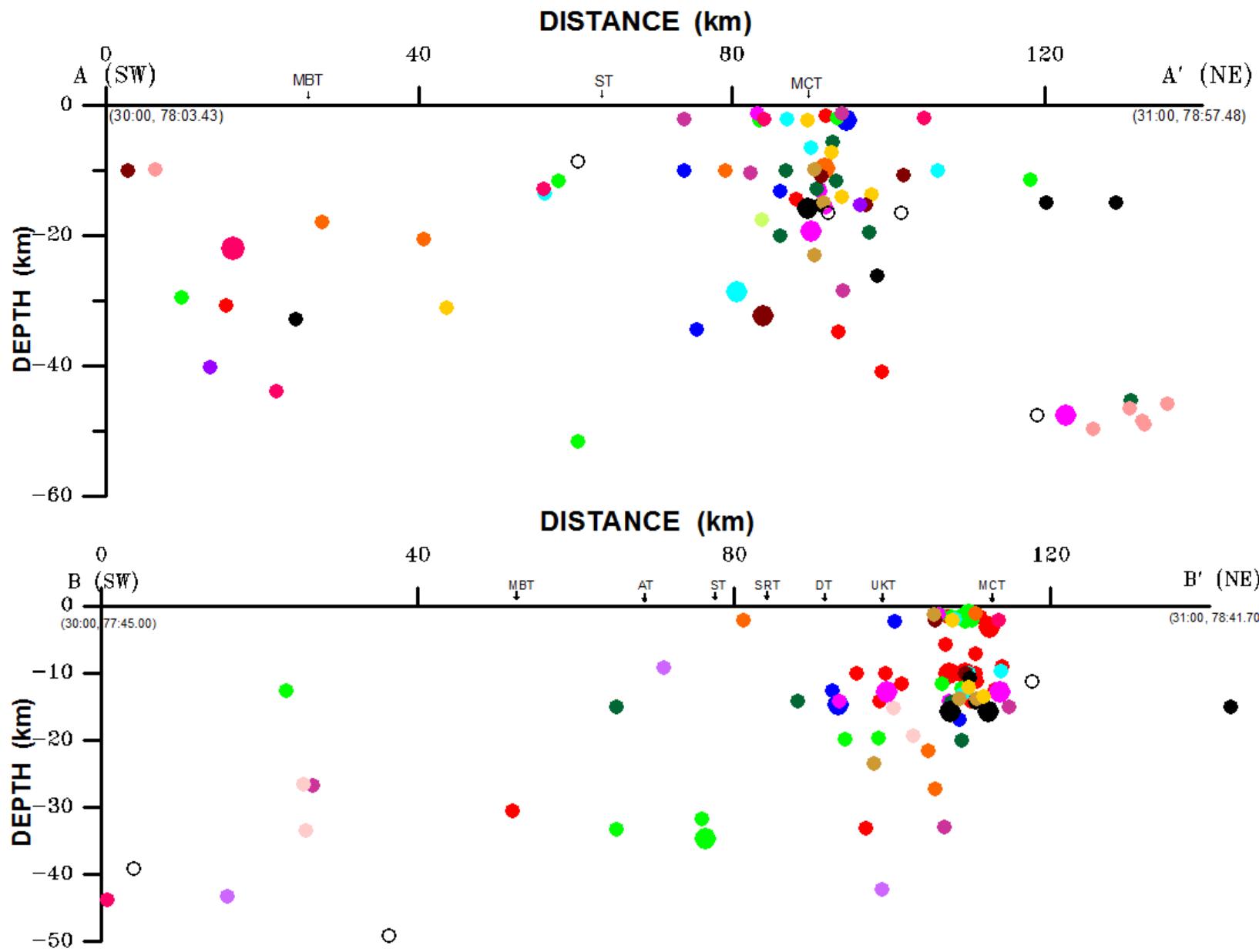
Results

Distribution of events ($M_L \geq 1.0$) recorded during 1995-09

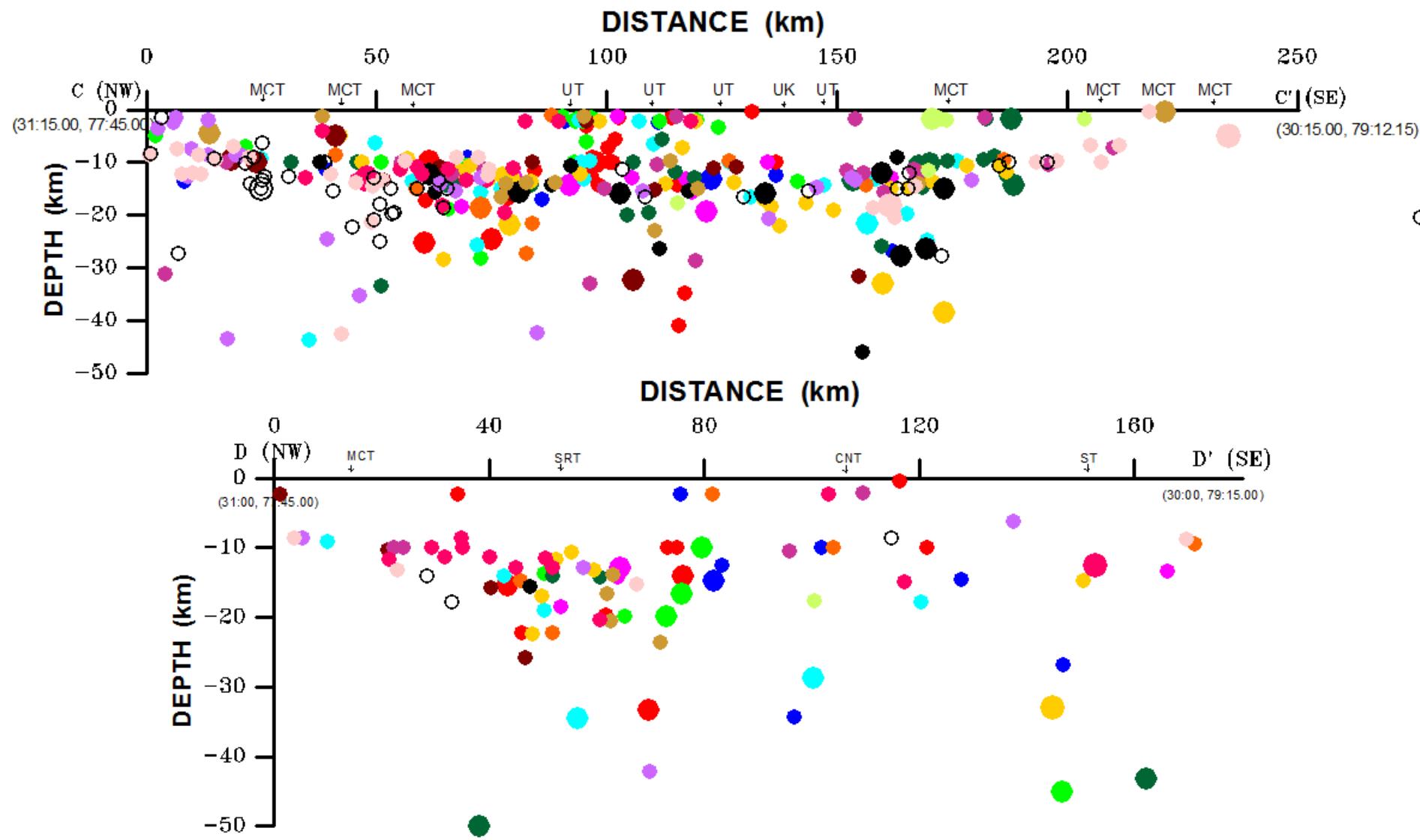
Year	No. of events	
	$M_L \geq 1.0$	$M_L \geq 2.0$
1995	555+45 (Swarm)	229
1996	411+127 (Swarm)	172
1997	268	107
1998	298	138
1999	204+404 (Chamoli EQ.)	110
2000	291	104
2001	299	118
2002	179	91
2003	218	92
2004	207	108
2005	208	76
2006	233	75
2007	326 (Digital stations)	109
2008	457	201
2009	570	286



Epicenter of events $M_L \geq 2.0$ located during 1994 to 2009

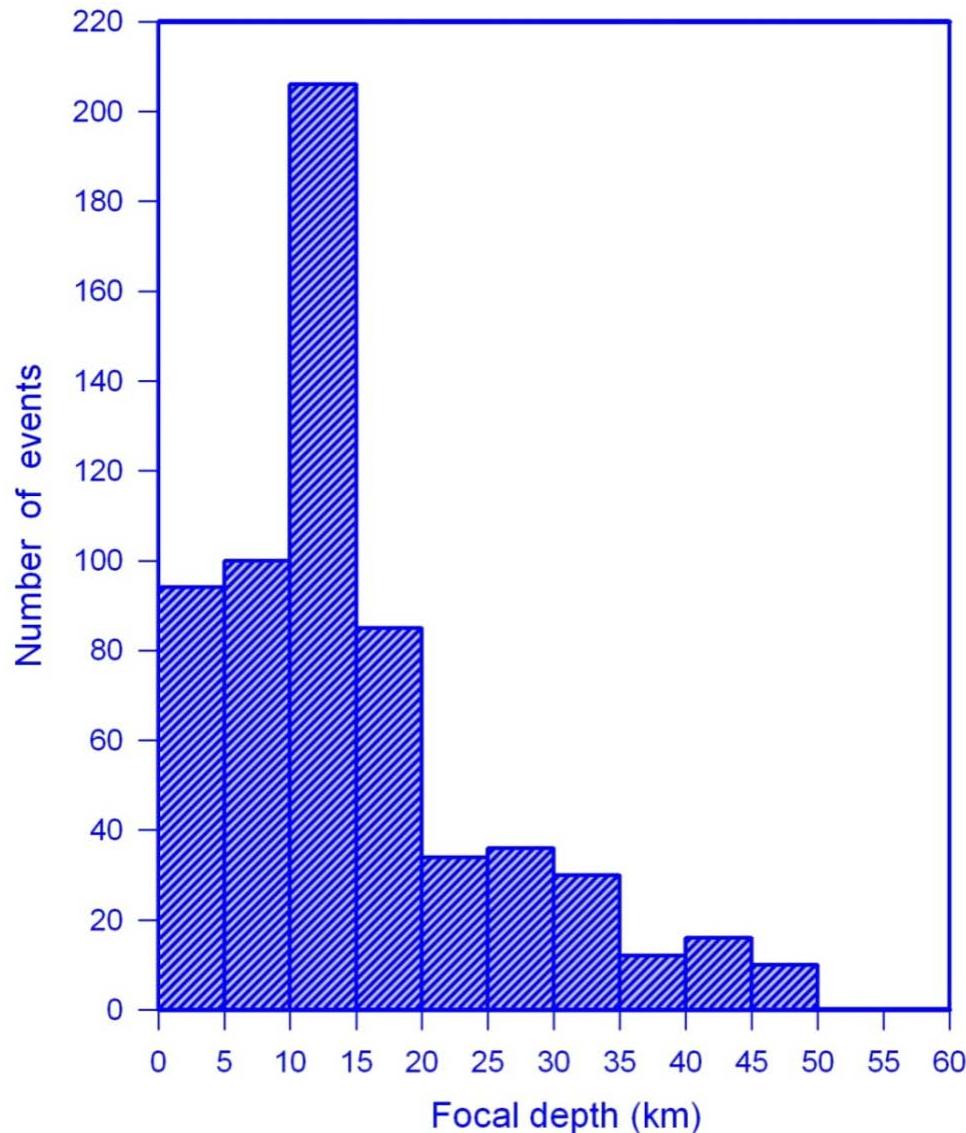


Depth cross section of seismic activity accross the tectonic features.

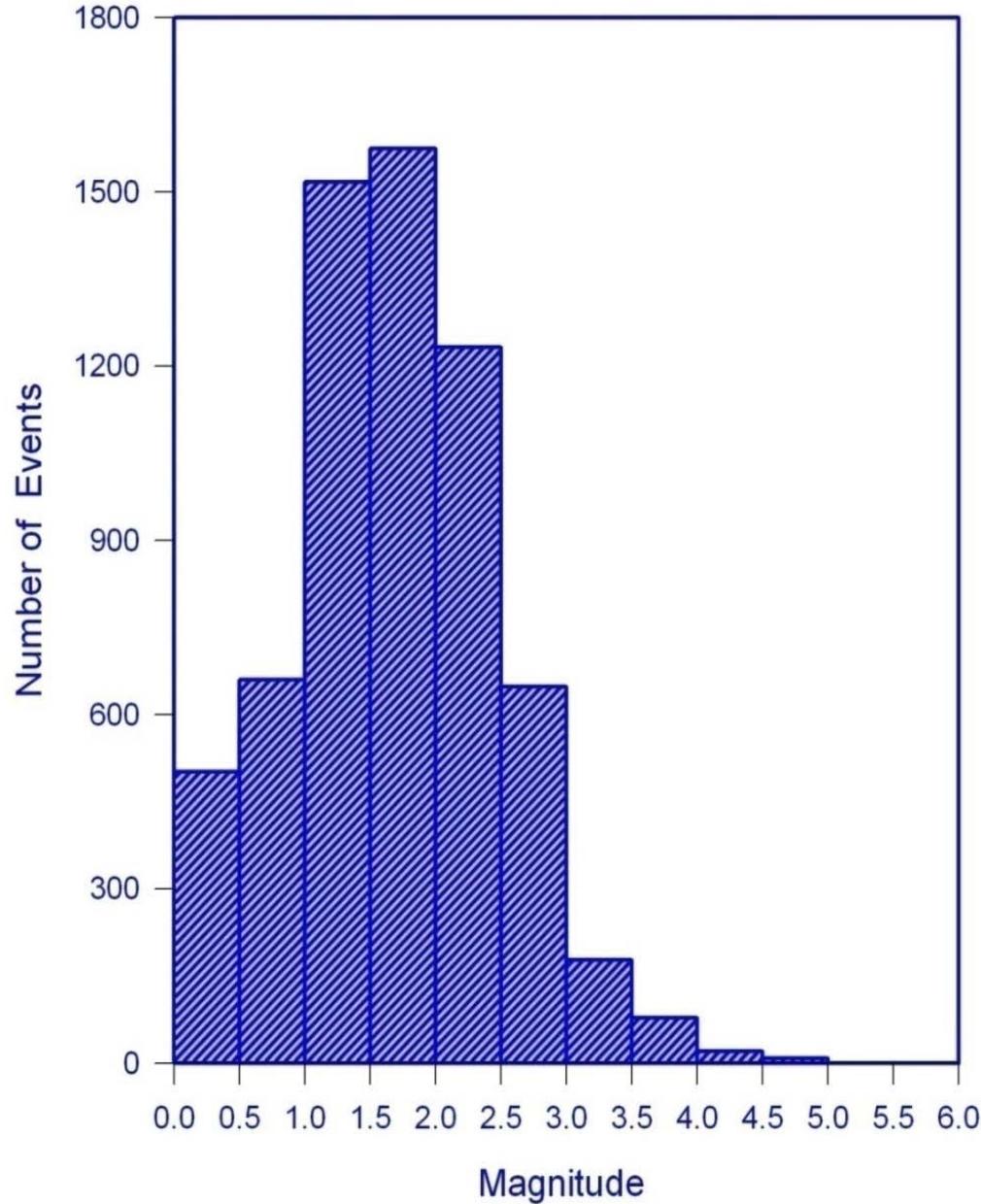


Depth cross section of seismic activity along tectonic features.

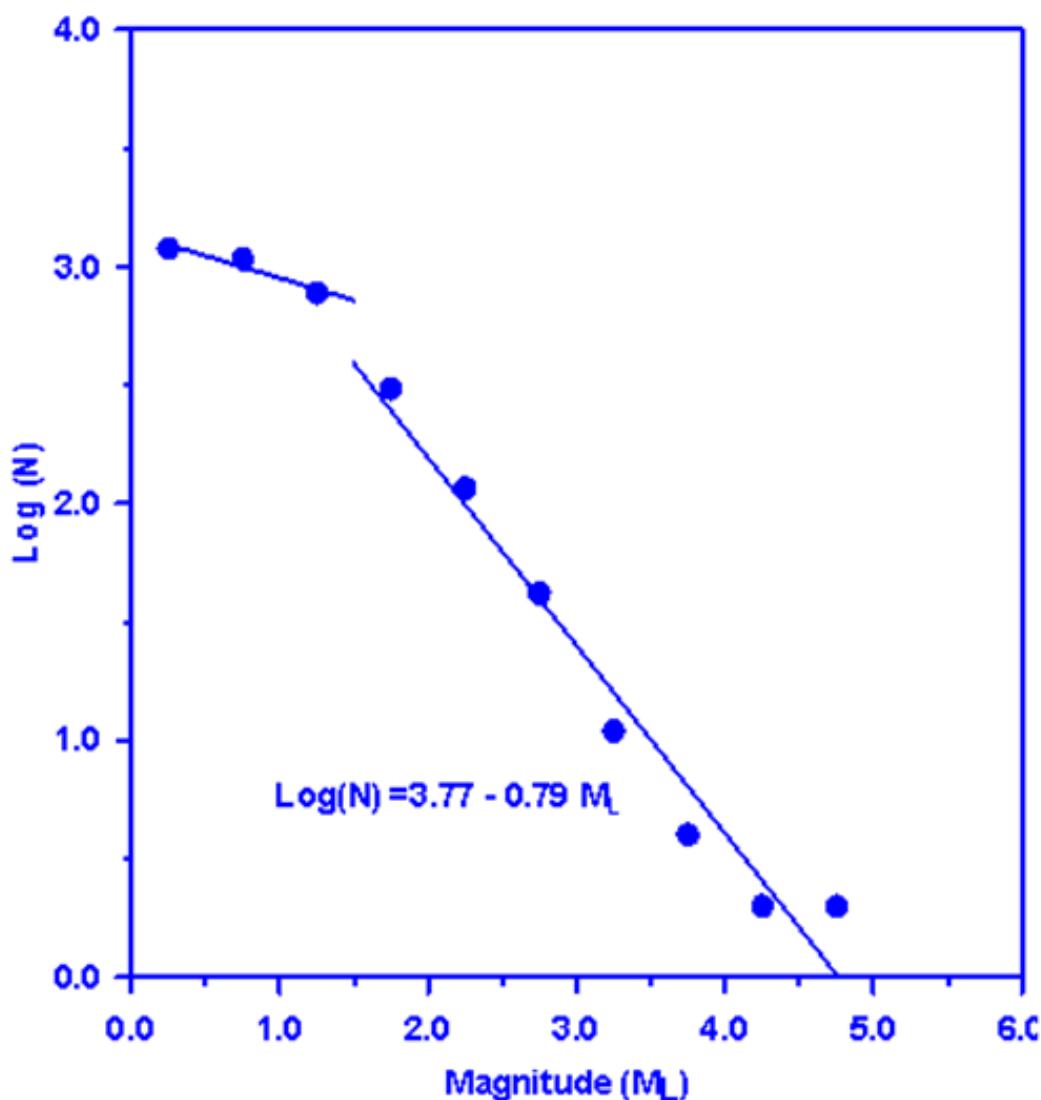
Focal depth distribution of events ($M_L \geq 2.0$)

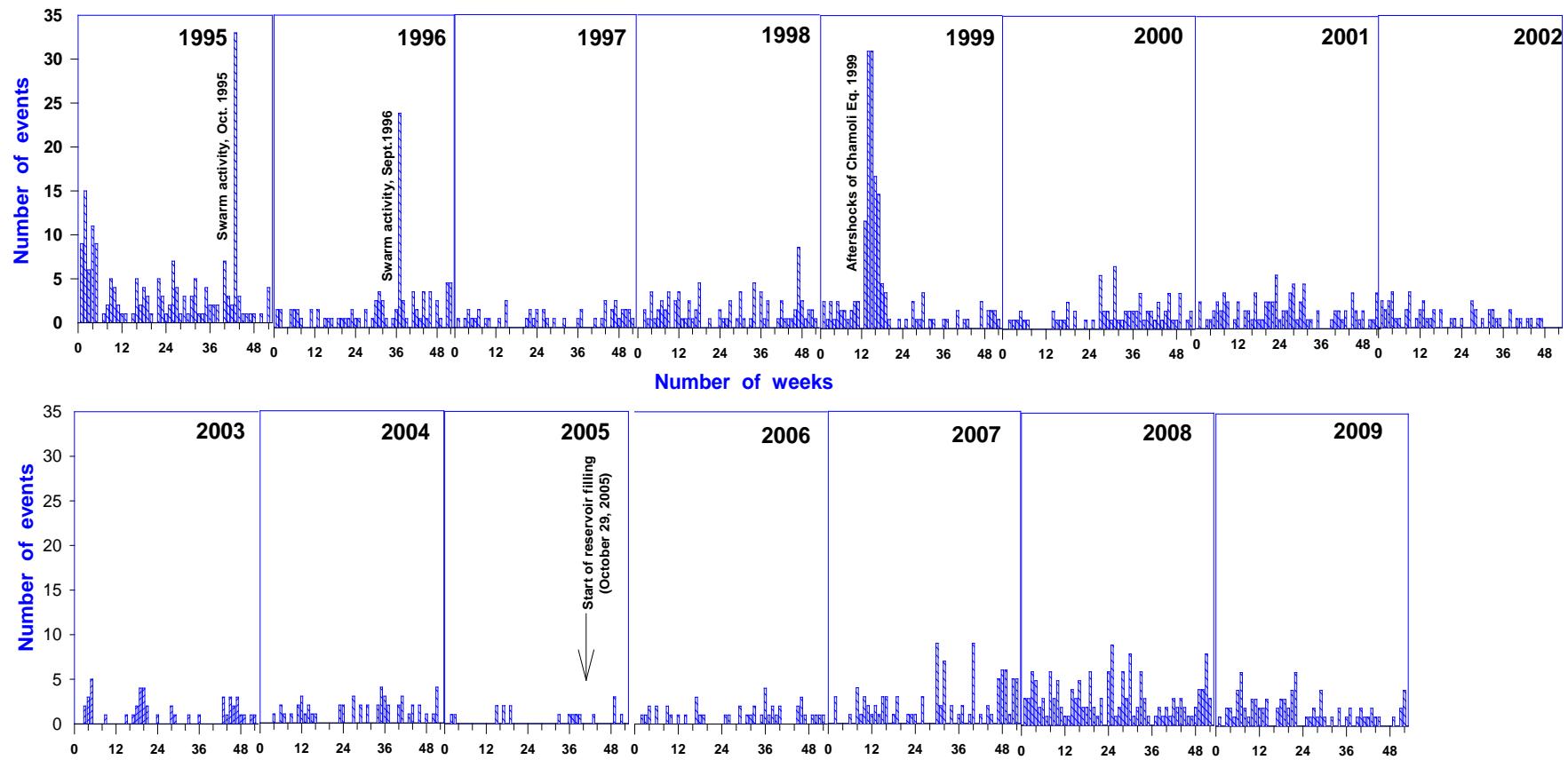


Distribution of events recorded during 1995-09



Recurrence relationship for the region around Tehri using data recorded during 1994-09





**Temporal distribution of local seismicity ($s-p < 5.0$ sec, $M_L \geq 1.0$)
around Tehri region using data recorded during 1995-09.**

Thank you