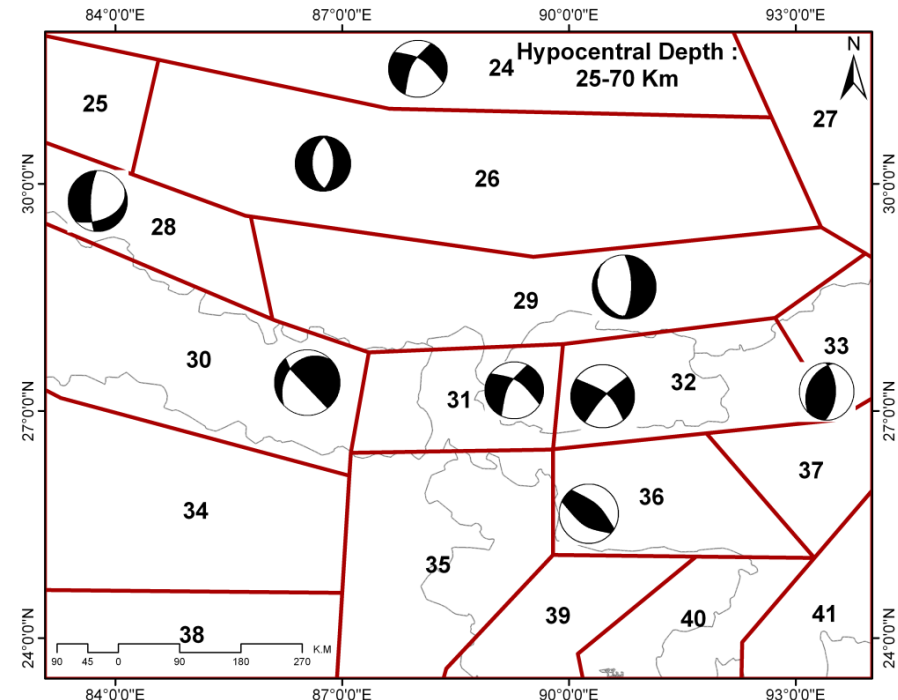
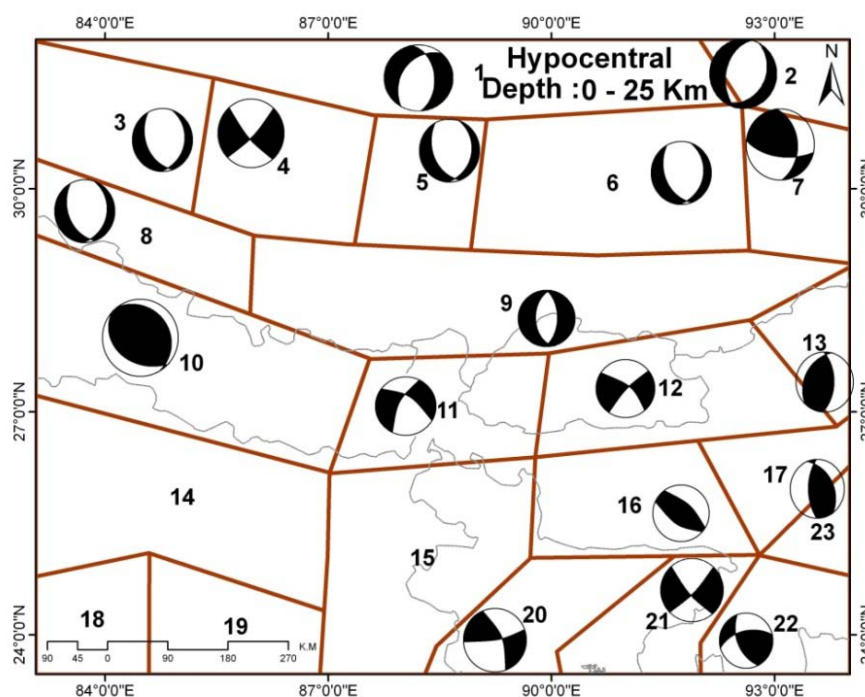


❖ Layered Seismogenic Source zones of Darjeeling-Sikkim Himalaya:

➤Based on the hypocentral depth, two hypocentral depth ranges (in km):0-25, and 25-70 are considered .

➤The source zonation is carried out on the basis of seismicity, fault patterns, and type of focal mechanisms demarcating 41 zones.



➤ Seismicity Analysis of Zone 8

Gutenberg and Richter (GR) relationship (Gutenberg and Richter 1944)

$$\log_{10} \lambda(m) = a - bm$$

The maximum likelihood method to estimate *b-value* given by Aki (1965) and Bender (1983) is as follows

$$b = \frac{\log_{10}(e)}{\left[m_{mean} - \left(m_t - \frac{\Delta m}{2} \right) \right]}$$

where m_{mean} is average magnitude, m_t is minimum magnitude of completeness, and Δm is magnitude bin size (= 0.1 in the present study).

