Underthrusting of the Indian plate beneath the Himalaya has been the cause of many hazardous thrust-faulting earthquakes along the arc. Moderate earthquakes with magnitudes of \( \leq 5 \) occur frequently in this region, releasing the elastic strain accumulated over many years around the plate boundary. These events can be attributed to slip deficits where the Indian and Eurasian plates are locked during interseismic periods. Geodetic measurements can help discriminate the distribution of the interlocking areas and the steadily slipping areas beneath the Himalaya. In order to understand the deformation across the Central and Western Himalaya and the associated slip on thrust faults, campaign-mode GPS data were collected in the Garhwal-Kumaun region of the Western Himalaya. GPS sites velocities show that the deformation is currently concentrated between the Lesser and Higher Himalaya. The estimated dilatational strain indicates that the northern part near the Main Central Thrust (MCT) is more compressional than the southern part. The maximum shear and dilatational strain rates are about 1.0 and 0.5 \( \mu \)strain/yr. It is seen that the distribution of high shear strain spatially correlates with seismicity. For the estimation of slip distribution, a model of the interseismic surface deformation caused by buried non-uniform creep dislocation (NUC) on a curved fault surface by using ABIC approach. The slip distribution shows that there might be structural discontinuity on the fault between the Kumaun and Garhwal regions of the Himalaya. The estimated slip rate at the depth around 20-40 km in the Central Himalaya and at the depth of \( \sim 15 \) km in the Western Himalaya is 10 mm/yr. The NUC model indicates that the shallow part (< 20 km) of the thrust fault system along the plate boundary is almost locked. The locking depth appears to be deeper in the Central Himalaya than the Western Himalaya.