

# Main Himalayan Thrust

April 10, 2021

## Main Himalayan Thrust (MHT)

- The Main Himalayan Thrust (MHT) is a décollement under the Himalaya Range.
- This thrust fault follows a NW-SE strike, reminiscent of an arc, and gently dips towards the north, beneath the region.
- It is the largest active continental megathrust fault in the world.
- The MHT accommodates crustal shortening of India and Eurasia as a result of the ongoing collision between the Indian and Eurasian plates.
- Deformation of the crust is also accommodated along splay structures including the Main Frontal Thrust (MFT), Main Boundary Thrust (MBT), Main Central Thrust (MCT) and possibly the South Tibetan Detachment.
- All these three faults (MCT, MBT, and HFF/T) conjoin along the basal detachment plane called the Main Himalayan Thrust (MHT).
- The MHT defines the thrust interface between the subducting Indian and the overriding Eurasian plates where there is a plane of detachment from the Indian lithosphere.
- On the far Tibetan side of the Himalayas, there is another fault system called the South Tibetan Detachment (STD).
- All these four thrusts form the base of the Tethyan Sedimentary Series of the Himalayas.
- In April 2015, a section of the MHT produced a blind rupture earthquake, killing nearly 9,000 Nepalese.

## Main Central Thrust (MCT) Zone

- This separates the Higher Himalayas in the north from

lesser Himalayas in the south.

- Important role in the tectonic history of these mountains.

### **Main Boundary Thrust (MBT) Zone**

- It is a reverse fault of great dimensions which extends all the way from Assam to Punjab and serves.
- Separate the outer Himalayas from the lesser Himalayas.

### **Himalayan Frontal Fault/Thrust (HFF/T)**

- It is a series of reverse faults that demarcates the boundary of the Shivalik from the Himalayan province from the alluvial expanse of the Indo-Gangetic plains.