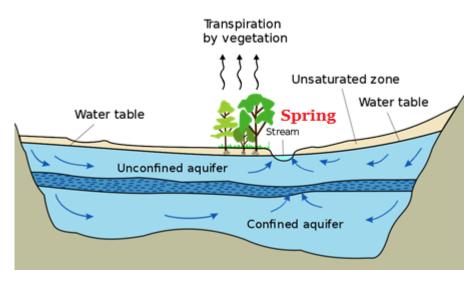


Reduction of springs in Himalayas

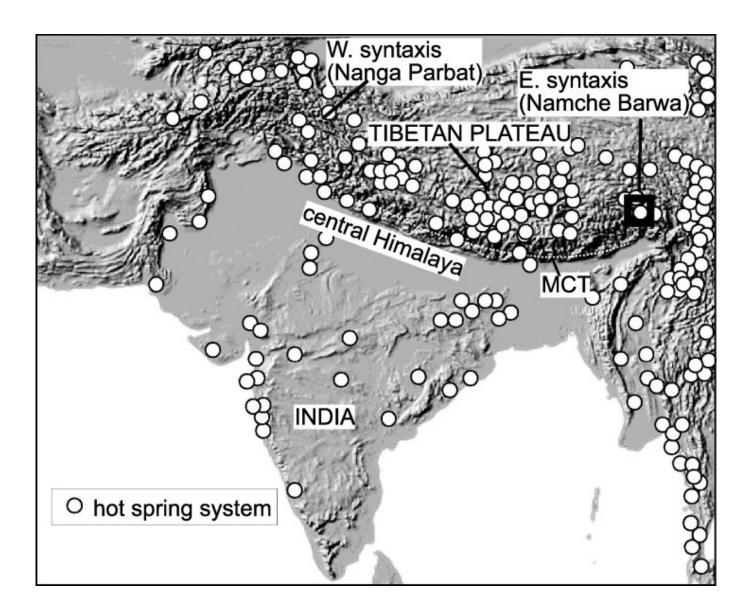
Why in news?

A Recent study showed that the spring system in Himalayan region, especially in Himachal Pradesh sees drop due to climate change

- **Springs** It occurs when *water pressure causes a natural flow of groundwater* onto the earth's surface.
- **Mechanism** As rainwater enters or "recharges" the aquifer, pressure is placed on the water already present.



- This *pressure moves water through the cracks and tunnels* within the aquifer, and this water flows out naturally to the surface at places called springs.
- **Hot springs** Spring with *water at temperatures substantially higher than the air temperature* of the surrounding region.
- Causes of heating
 - Volcanic activity By shallow intrusion of magma
 - \circ Convective circulation Percolation of groundwater deep reaching hotter rocks
- Hot springs of the Himalaya They are located in the *zones of deep faults* that define tectonic boundaries
 - Indus Tsangpo Suture Between the Himalayan province and mainland Asia
 - Main Central Thrust Between the Great Himalaya and Lesser Himalaya
 - $\circ\,$ Main Boundary Thrust Between the Siwalik domain and the Lesser Himalaya



In the Eastern Himalayas Meghalaya has the most villages with springs, while Sikkim with the highest density. In the Western Himalayas, Jammu & Kashmir leads in both the number of villages and spring density.

- **Importance of springs** Natural springs acts as a source of water for both <u>drinking</u> <u>and irrigation</u>.
 - In Himalayan region It serves 64% of the cultivable land for irrigation.
- Reduction in springs In the western Himalayas, over <u>45% have completely dried</u> <u>up</u> in the past 4 decades.
- Over <u>26% have become semi-active</u>, transitioning from perennial springs which depend on the monsoon.
- Cause of decline of Spring
 - $\circ\,$ Rising temperatures
 - $\circ\,$ Altered precipitation patterns
 - $\circ\,$ Decreasing snowfall and rainfall
- **Impacts** The rural communities will face shortages in drinking water, agriculture, and daily household needs.

Reference

The New Indian express |Climatic Impacts on spring in the Himalayas

