

Heat Dome

By IASToppers | 2024-06-10 15:30:00



Heat Dome

Cities across southern and western states in the United States issued warnings and opened cooling centres to deal with **heatwaves** caused by the **Heat dome**.



[Ref: reuters]

About Heat Dome:

The 'heat dome'

Occurs when the atmosphere traps hot ocean air like a lid or cap

1 In summer, the **jet stream** (which moves the air) shifts northward

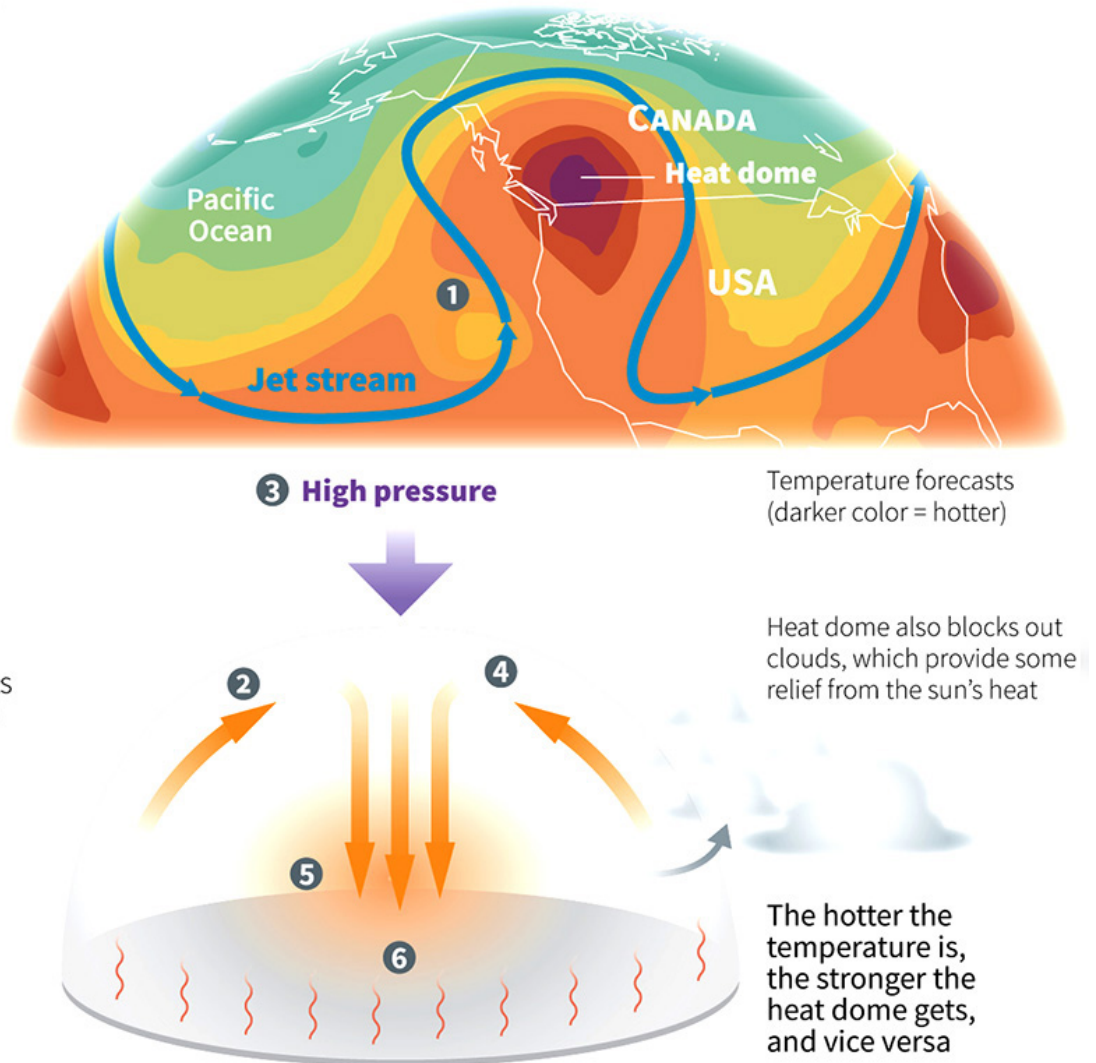
2 Hot and stagnant air **expands** upwards

3 Strong and **high-pressure** atmospheric conditions combine with influences from La Nina act like a dome or cap

4 In a process known as **convection**, hot air attempts to escape but high pressure pushes it back down

5 Under the dome, the air sinks and **compresses**, releasing more heat

6 As winds move the hot air east, the jet stream traps the air where it sinks, resulting in **heat waves**



[Ref: inf.news]

- A heat dome is a meteorological phenomenon where **high-pressure atmospheric conditions** trap warm air, causing prolonged periods of **high temperatures**.
- **Formation:** Heat domes form when strong, high-pressure systems remain over an area for an extended period, compressing and heating the air below.
- **Climate Change Impact:** Climate change is intensifying heat domes, making them more frequent and severe.
 - Warmer global temperatures contribute to the persistence and strength of high-pressure systems.
- **Recent Examples:** The North American heat dome in 2021 caused record temperatures and severe health impacts. Similar events have been observed worldwide.
- **Consequences:**
 - Extreme heat waves,
 - Increasing the risk of heat-related illnesses,
 - Wildfires, and
 - Infrastructural damage.

