



## Climate Tipping Points

**For Prelims:** Climate Tipping Points, Greenland Ice, Coral Reef, Amazon Forest

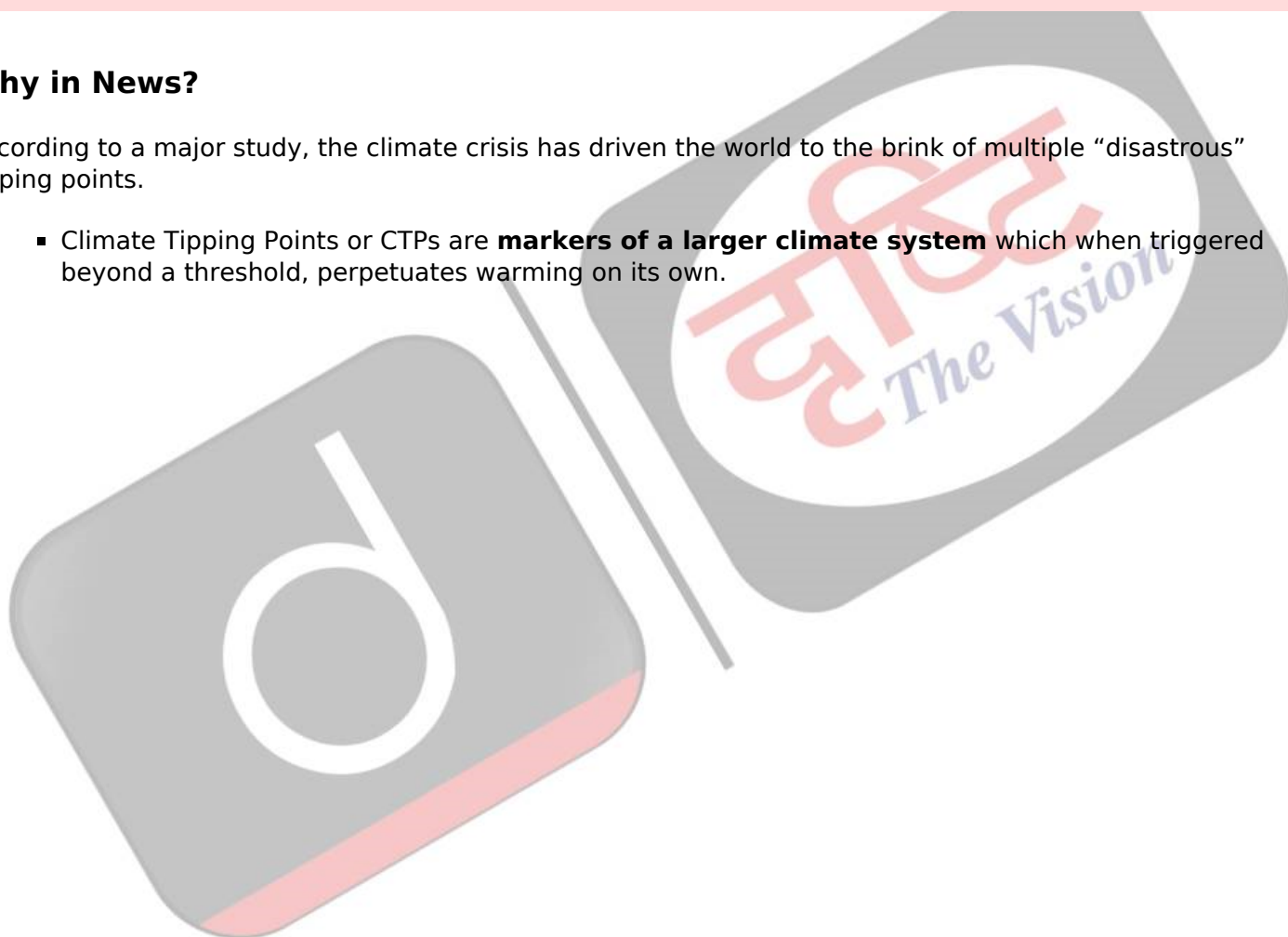
**For Mains:** Government Policies & Interventions, Environmental Pollution & Degradation

### Why in News?

According to a major study, the climate crisis has driven the world to the brink of multiple “disastrous” tipping points.

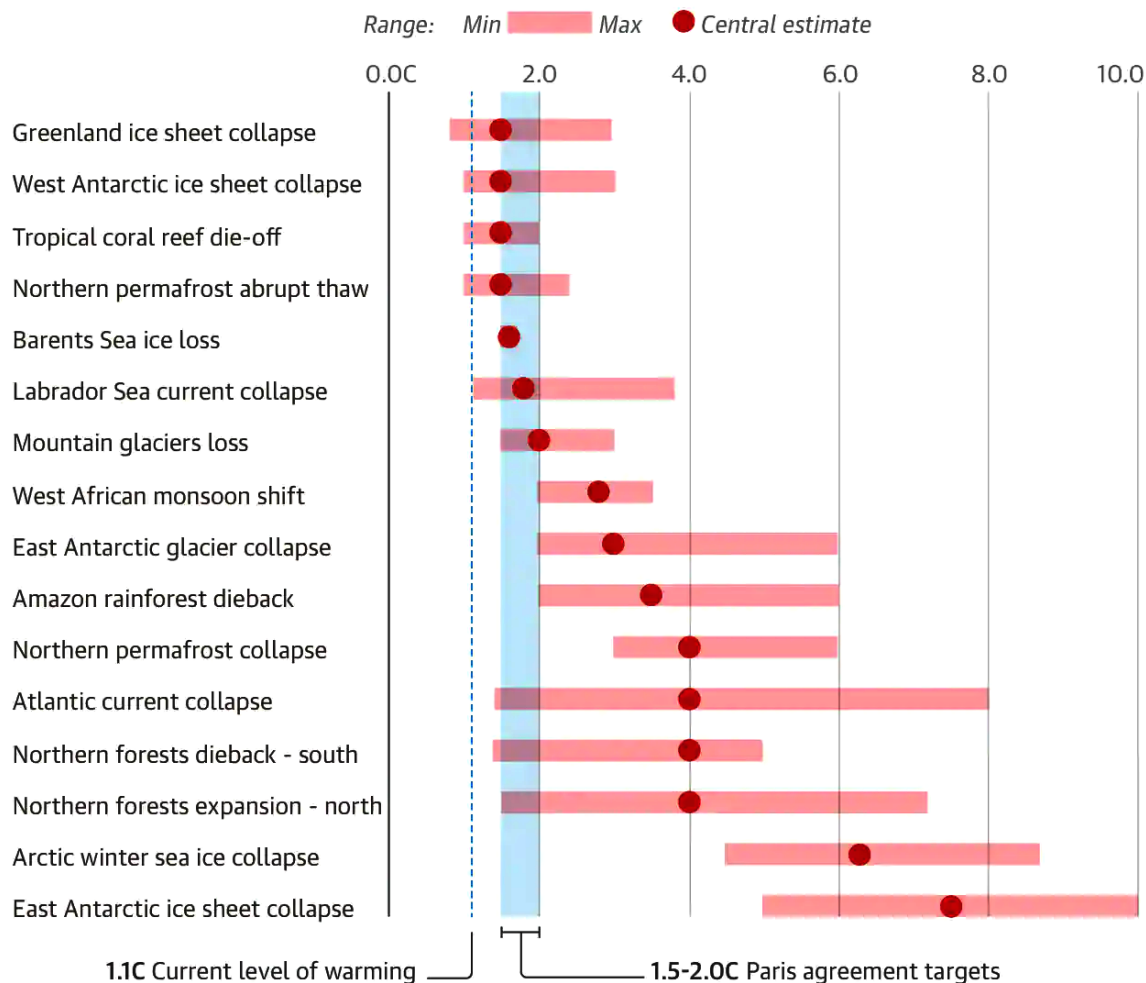
- Climate Tipping Points or CTPs are **markers of a larger climate system** which when triggered beyond a threshold, perpetuates warming on its own.

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# The risk of climate tipping points is rising rapidly as the world heats up

Estimated range of global heating needed to pass tipping point temperature



## What are the New Findings of the Study?

- According to the Study, five dangerous tipping points may already have been passed due to the 1.1° C of global heating caused by humanity to date.
  - These include the collapse of [Greenland's ice cap](#), eventually producing a huge [sea level rise](#), the collapse of a key current in the north Atlantic, disrupting rain upon which billions of people depend for food, and an abrupt melting of carbon-rich [permafrost](#).
- At 1.5° C, **five tipping points become possible**, including changes to vast northern forests and the loss of almost all mountain glaciers, the die-off of tropical [coral reefs](#) and changes to the west African monsoon.
- In total, the researchers found evidence for 16 tipping points, with the final six requiring global heating of at least 2° C to be triggered.
  - The tipping points would take effect on timescales varying from a few years to centuries.
- At more than 2° C, the **nine global tipping points identified** are the collapse of Greenland, West Antarctic, and two parts of the east Antarctic ice sheets, the partial and total collapse of [Atlantic Meridional Overturning Circulation \(AMOC\)](#), Amazon dieback, permafrost collapse and winter sea ice loss in the Arctic.
- Other potential tipping points still being studied include the loss of ocean oxygen and major shifts in the Indian summer monsoon.

## Way Forward

- The assessment provides strong scientific evidence for urgent action to mitigate climate change.
- Currently the world is heading toward ~2 to 3°C of global warming, at best, if all net-zero pledges and nationally determined contributions are implemented it could reach just below 2°C.
  - This would lower tipping point risks somewhat but would still be dangerous as it could trigger multiple climate tipping points.

### UPSC Civil Services Examination Previous Year Question (PYQ)

**Q.** Assess the impact of global warming on the coral life system with examples. **(2019)**

**Source:** [DTE](#)

PDF Reference URL: <https://www.drishtiias.com/printpdf/climate-tipping-points>

