Limiting Overshoot Report

Prelims: *Current events of national and international importance | Environment*

Why in News?

Recently, a UN report says global warming will exceed 1.5°C, demanding urgent corrective action.

- **Released by –** UN Environment Programme (UNEP)
- **Key highlight –** It identifies **"Overshoot → Peak → Decline" as** the most viable **remaining strategy** to limit climate damage and ultimately reduce global temperatures below 1.5°C.
- **1.5°C Target –** Under the **2015 Paris Agreement**, countries aim to keep the increase in global average temperature **well below 2°C** above pre-industrial levels and **pursue efforts to limit it to 1.5°C**.

Paris Agreement
• **Nature –** Legally binding international treaty on climate change. • **Adopted on –** 12 December 2015 at COP21 in Paris, France by 195 Parties. • **Entered into force –** 4 November 2016. • **Parties (as of 27 Jan 2026) –** 194 Parties (US withdrawal). • **Key Instruments** - Nationally Determined Contributions (NDCs). - Long-Term Low Emission Development Strategies (LT-LEDS).

- **Current Situation –** According to UNEP, global warming is likely to exceed 1.5°C within the next few years.
- If countries fully implement their current climate plans and net-zero targets:
- Peak warming is projected to reach **approximately 1.8°C.**
- Under current policies:
    - Warming is expected to reach around **2.6°C by 2100.**
    - The possible range is **1.9°C to 3.6°C.**

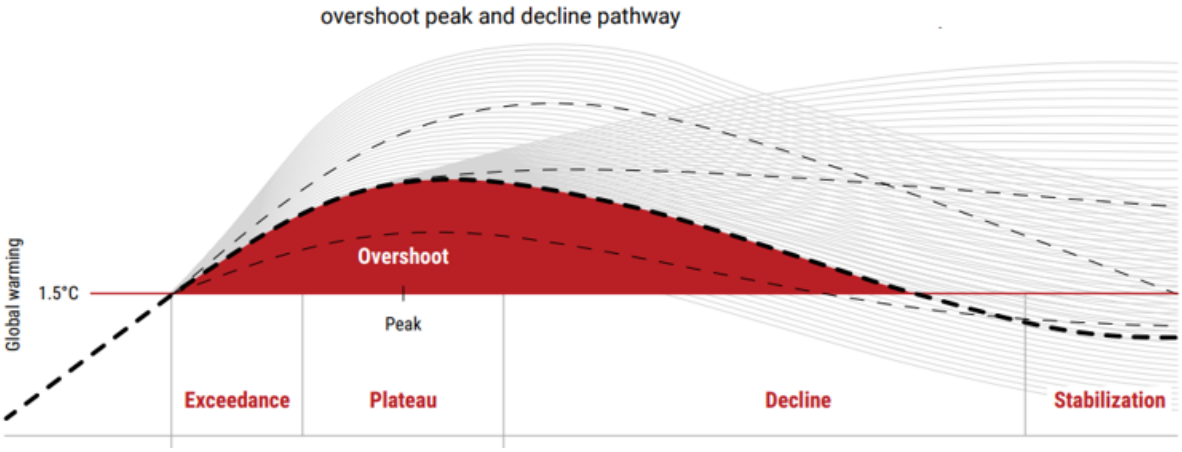
At COP30 (2025, Belém), the "Global Mutirão" decision became the first COP text to explicitly acknowledge the likelihood of a temporary 1.5°C overshoot.

It also committed to limiting the extent and duration of the overshoot and to closing adaptation gaps.

- **Climate overshoot –** It occurs when temperatures temporarily exceed the 1.5°C

threshold before being reduced.

- **"Overshoot, Peak and Decline" Pathway**
  - **Overshoot –** Temperatures are projected to exceed 1.5°C, which is now considered unavoidable.
  - **Peak –** Global warming reaches its highest point, ideally remaining as low as possible, with the best-case scenario around 1.8°C.
  - **Decline –** With net-negative emissions, temperatures are reduced below 1.5°C by 2100.



- **Compound Risks –** Additional warming will
  - Accelerate sea-level rise,
  - Increase the risk of coral collapse,
  - Cause a 25% loss of glaciers by 2100,
  - Reduce food production by 14% by 2050, and
  - Raise the likelihood of tipping points in Antarctica, Greenland, the Atlantic Meridional Overturning Circulation (AMOC), and the Amazon.
- **Hard Physics –** Every five years of high emissions increases global temperatures by approximately 0.1°C.
  - Reversing this trend requires the removal of about 220 gigatonnes of CO_2.
  - One tree absorbs roughly one tonne of CO_2 over 30 years.
- **CDR (Carbon Dioxide Removal) Limit –** A credible return to 1.5°C is only possible if peak warming remains below 2°C.
- The UN report's policy toolkit stresses deep emission cuts, rapid methane reduction, supplementary carbon dioxide removal, and transformational adaptation as the combined pathway to limit overshoot and return towards 1.5°C.

Reference

The Hindu | Global Warming Limit Breach

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