G20 Climate Risk Atlas

Why in News

Recently, a report named **G20 Climate Risk Atlas** from the **Euro-Mediterranean Center on Climate Change** (CMCC) has said that **G20 (Group of 20) countries** including the wealthiest like the US, European countries, and Australia will bear extreme impacts of **climate change** over the coming years.

- The **first study of its kind**, it provides climate scenarios, information, data and future changes in climate across the G20 countries.
- The report came two days ahead of the **G20 summit in Rome** at the end of October 2021.

Key Points

- **Impact on G20 Countries:**
    - **Heatwaves:**
        - **Heatwaves** could last at least ten times longer in all G20 countries, with heatwaves in Argentina, Brazil and Indonesia lasting over 60 times longer by 2050.
            - In Australia, **bushfires**, **coastal floods** and **hurricanes** could raise **insurance** costs and reduce property values by 611 billion Australian Dollars by 2050.
    - **GDP Loss:**
        - **GDP (Gross Domestic product)** losses due to climate damage in G20 countries increase each year, rising to at least 4% annually by 2050. This can reach over 8% by 2100, equivalent to twice the bloc's economic losses from **Covid-19.**
            - Some countries will be even worse hit, such as Canada, which could see at least a 4% decrease in its GDP by 2050 and over 13% by 2100.
    - **Sea Level Rise:**
        - The **sea level rise** could wreck coastal infrastructure within 30 years, with Japan set to lose 404 billion euro and South Africa 815 million euro by 2050, on a high emissions pathway.
    - **Flooding**
        - Expected annual damages from **riverine flooding** by 2050 are estimated to be **376.4 billion Euro** under a low emissions scenario and rise to 585.6 billion EUR under a high emissions scenario.
- **Impact on India:**
    - **Emission Scenarios:**
        - **Low Emission** (emissions lower than in present):

        - Projected **temperature** variations will remain contained **under 1.5 degree celsius , both by 2050 and 2100.**
    - **Medium Emission** (same as present):
        - Between 2036 and 2065, the maximum temperature of the warmest month in India could **rise by at least 1.2 degree celsius in a medium emission pathway.**
    - **High Emission** (higher than present):
        - By 2050 under a high emission scenario **average temperature could rise to 2 degree celsius.**
- **Rainfall:**
    - **Annual rainfall** is likely to record **a steep increase by 2050 with an 8% to 19.3%** increase in **all emission scenarios.**
- **Economic Impact:**
    - In India, declines in **rice and wheat** yields due to climate change could lead to economic losses between 43 and 81 billion EUR (or 1.8-3.4% of (GDP) by 2050.
    - **Water demand for agriculture is likely to rise** around about 29% by 2050 – meaning yield losses are likely to be underestimated.
- **Heatwaves:**
    - Heatwaves in India will last 25 times longer by 2036-2065 if emissions are high (4°C), over five times longer if global temperature rise is constrained to about 2°C, and one and a half times longer if emissions are very low and temperature rise only reaches 1.5°C.
- **Agricultural Drought:**
    - On a pathway to 4°C global heating, **agricultural drought will become 48% more frequent** by 2036-2065.
    - On a 2°C pathway (the maximum temperature agreed by the **Paris Agreement**) this drops to 20% more frequent, and constraining temperature rise to 1.5°C (the aspirational goal of the Paris Agreement), agricultural drought will still be 13% more frequent.
- **Flooding**:
    - Under **18 million Indians could be at risk of river flooding** by 2050 if emissions are high, compared to 1.3 million today.
- **Labour:**
    - Total **labour is expected to decline by 13.4%** under a low emissions scenario by 2050 due to the increase in heat, and by 24% under a medium emissions scenario by 2080.
- **Food Security:**
    - In India, **declines in rice and wheat production could spark economic losses** of up to Euros 81 billion by 2050 and a loss of 15% of farmers' incomes by 2100.

Way Forward

- The window to act is closing fast. As the **G20 countries incentivize economic recovery from Covid-19** and prepare climate plans ahead of COP26, they face an urgent choice to protect the global economy and make a rapid transition to a **low-carbon future**; or derail the global economy by pursuing polluting policies.
- It's time for the **G20 to make its economic agenda a climate agenda. Rapid action is needed to tackle emissions** and adapt to climate change will limit the severe impacts of climate change.
- G20 governments should listen to science and put the world on a path to a **better, fairer and**

more stable future.