NOR'WESTER

Prelims: *Current events of national importance | Geography*

Why in News?

Severe Nor'wester storm caused damage and casualties in Odisha IMD issued orange and yellow warnings.

- Nor'westers are ***intense pre-monsoon thunderstorms*** occurring in the late afternoon over East India (especially West Bengal & Assam) and Bangladesh from March to May.
- It is also Known as **Kalbaisakhi**.
- **Type –** Convective thunderstorm system.
- **Wind Pattern** – **Northwest → Southeast**. Hence the name Nor'wester.
- **Mechanism Key Components**
- **Thermal Instability-** Intense solar heating of the land surface, specifically over the ***Chota Nagpur Plateau and adjoining areas***, creates convective instability.
- **Moisture Influx -** Warm, moist air is transported from the Bay of Bengal into the lower atmosphere over West Bengal and Bangladesh.
- **Atmospheric Interaction -** Dry, cold winds from the north/northwest intersect with the warm, moist southerly air, creating high instability.
- **Vertical Lifting & Shear -** Strong vertical wind shear allows for the ***formation of large Cumulonimbus clouds*** with heights reaching 18-20 km.
- **Trigger Mechanism -** Localized mesoscale processes (like sea breeze convergence) trigger the sudden release of this instability, causing explosive convective development.

Positive Effects	Negative Effects
Provide relief from pre-monsoon heatwaves.	Cause damage to houses and infrastructure.
Bring short bursts of rainfall.	Lead to strong winds (50–100 km/h).
Support agriculture (jute, early paddy).	Result in crop damage.

Positive Effects	Negative Effects
Maintain soil moisture before monsoon.	Uproot trees & electric poles.
Help release atmospheric heat via convection.	Cause lightning-related deaths/injuries.
Indicate pre-monsoon transition phase.	Disrupt power supply & transport.

- **Associated Weather Warnings –**
  - **Green** – No warning
  - **Yellow Warning** – Be aware
  - **Orange Warning** – Be prepared
  - **Red Warning** – Take Action

India is among the most lightning-prone regions during pre-monsoon season.

Reference

Nor’westers | Indian Express

Nor'westers | TOI

