

# **Bomb Cyclone**

## Why in News?

Recently, a <u>Bomb cyclone</u> **hit the United States and Canada, which triggered** <u>road accidents</u> that results in the death of more than 30 people.

## What is a Bomb Cyclone?

- About:
  - A bomb cyclone is a large, intense midlatitude storm that has low pressure at its center, weather fronts and an array of associated weather, from blizzards to severe thunderstorms to heavy precipitation.
  - Bomb cyclones put forecasters on high alert because they can produce significant harmful impacts.
- Reasons for the Formation:
  - Storms form when a mass of low-pressure air (warm air mass) meets a high-pressure mass (cold air mass). The air flows from high pressure to low, creating winds.
  - It occurs when a midlatitude cyclone rapidly intensifies, dropping at least 24 millibars over 24 hours.
    - A millibar measures atmospheric pressure.
  - This quickly increases the pressure difference, or gradient, between the two air masses, therefore making the winds stronger.
    - The formation of this rapidly strengthening weather system is a process called bombogenesis.

#### How does a Bomb Cyclone Differ from a Hurricane?

- Hurricanes tend to form in tropical areas and are powered by warm seas. For this reason, they're most common in summer or early fall, when seawater is warmest.
- Bomb cyclones generally occur during colder months because cyclones occur due to cold and warm air meeting.
  - During the summer, there's generally not much cold air across the atmosphere; this means a bomb cyclone is much less likely to occur.
- Hurricanes form in tropical waters, while bomb cyclones form over the northwestern Atlantic, northwestern Pacific and sometimes the Mediterranean Sea.

#### **UPSC Civil Services Examination Previous Year Questions (PYQs)**

#### Consider the following statements: (2020)

- 1. Jet streams occur in the Northern Hemisphere only.
- 2. Only some cyclones develop an eye.
- 3. The temperature inside the eye of a cyclone is nearly 10°C lesser than that of the surroundings.

## Which of the statements given above is/are correct?

- (a) 1 only
- **(b)** 2 and 3 only
- **(c)** 2 only
- (d) 1 and 3 only

Ans: (c)

**Source: IE** 

