Bomb Cyclone

Why in News?

Recently, a Bomb cyclone **hit the United States and Canada, which triggered** road accidents 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.**

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)

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