



Cyclone Tauktae

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Why in News

Recently, **Cyclone Tauktae** made landfall in **Gujarat**.

The cyclone has left a trail of destruction as it swept through the coastal states of **Kerala, Karnataka, Goa and Maharashtra**.

Key Points

- **About:**
 - **Named by:**
 - It is a **tropical cyclone, named by Myanmar**. It means 'gecko', a highly vocal lizard, in the Burmese language.
 - Typically, **tropical cyclones** in the North Indian Ocean region (**Bay of Bengal and Arabian Sea**) develop during the **pre-monsoon** (April to June) and **post-monsoon** (October to December) periods.
 - **May-June and October-November** are known to produce cyclones of severe intensity that affect the Indian coasts.
 - **Classification:**
 - It has **weakened into a "very severe cyclonic storm"** from the "extremely severe cyclonic storm".
 - The **India Meteorological Department (IMD)** classifies cyclones on the **basis of the maximum sustained surface wind speed (MSW)** they generate.
 - The cyclones are classified as **severe (MSW of 48-63 knots), very severe (MSW of 64-89 knots), extremely severe (MSW of 90-119 knots)** and **super cyclonic storm (MSW of 120 knots or more)**. **One knot is equal to 1.8 kmph (kilometers per hour)**.
 - **Developed in Arabian Sea:**
 - Tauktae is the **fourth cyclone in consecutive years** to have developed in the **Arabian Sea**, that too **in the pre-monsoon period (April to June)**.
 - After **Cyclone Mekanu** in 2018, which struck Oman, **Cyclone Vayu** in 2019 struck Gujarat, followed by **Cyclone Nisarga** in 2020 that struck Maharashtra.
 - All these cyclones **since 2018** have been categorised either '**Severe Cyclone**' or above.
- **Arabian Sea becoming Hotbed of Cyclones:**
 - **Annually, five cyclones on average** form in the Bay of Bengal and the Arabian Sea combined. Of these, **four develop in the Bay of Bengal, which is warmer than the Arabian Sea**.
 - In **2018**, while the Bay of Bengal maintained its average of four cyclones a year, the **Arabian Sea produced three cyclonic storms**. In **2019**, the **Arabian Sea overtook the Bay of Bengal with five cyclones to three**.
 - In **2020**, the **Bay of Bengal produced three cyclonic storms** while the **Arabian Sea generated two**.
 - In recent years, meteorologists have observed that the **Arabian Sea, too, has been warming**. This is a phenomenon **associated with global warming**.
 - It has been observed that the **sea surface temperature in the Arabian Sea has been rising** for about 40 years. The **increase** in temperature is in the zone of **1.2-1.4 degree Celsius**.

- **Tropical Cyclone:**

- A tropical cyclone is **an intense circular storm that originates over warm tropical oceans** and is characterized by low atmospheric pressure, high winds, and heavy rain.
- A **characteristic feature** of tropical cyclones is the **eye**, a central region of clear skies, warm temperatures, and low atmospheric pressure.
- Storms of this type **are called hurricanes** in the **North Atlantic and eastern Pacific** and **typhoons** in **SouthEast Asia and China**. They are called **tropical cyclones** in the **southwest Pacific and Indian Ocean** region and **Willy-willies** in north-western **Australia**.
- Storms **rotate counterclockwise** in the **northern hemisphere** and **clockwise** in **the southern** hemisphere.
- The **conditions favourable** for the **formation and intensification** of tropical storms are:
 - **Large sea surface** with **temperature higher than 27° C**.
 - Presence of the **Coriolis force**.
 - Small variations in the **vertical wind speed**.
 - A pre-existing weak low- **pressure area or low-level-cyclonic circulation**.
 - **Upper divergence** above the sea level system.

- **Naming of Tropical Cyclones:**

- According to **WMO (World Meteorological Organization) guidelines**, countries in every region are supposed to give names for cyclones.
- The **North Indian Ocean Region** covers tropical cyclones formed over Bay of Bengal and Arabian Sea.
- The **13 members**, which come under the region, are **Bangladesh, India, Maldives, Myanmar, Oman, Pakistan, Sri Lanka, Thailand, Iran, Qatar, Saudi Arabia, the UAE** and **Yemen**.
- **India Meteorological Department (IMD)**, one of the six **Regional Specialised Meteorological Centres (RSMC)** in the world, is mandated to issue advisories and name tropical cyclones in the **north Indian Ocean Region**.

It is an agency of the **Ministry of Earth Sciences**.

Source: IE