



Cyclone Tauktae

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](#)