

## Topic: Cyclone 'Vardah'

**Cyclones come in four types: tropical disturbances, tropical depressions, tropical storms and hurricanes.** Cyclones are classified according to their size and strength; wind speed is the primary differentiating factor. These storms form in the tropics, and they may arise in the Northern and Southern hemisphere alike. Of the cyclone family, tropical disturbances are the smallest. They have winds under 30 miles per hour (MPH), and produce light rain. Tropical depressions have winds less than 39 MPH and more organized centers. Tropical storms sustain wind speeds between 39 and 74 MPH, while **hurricanes are the largest of all cyclones**, and they produce winds in **excess of 74 MPH**.

### About Cyclone Vardah:

Cyclone Vardah hit the Tamil Nadu coast on Monday afternoon, making landfall in Pulicat. The Met office said the cyclonic storm would take **about six hours to completely cross** on to land, with the landfall taking about two hours. **The landfall is when the eye of the storm hits land.** The eye of Cyclone Vardah is **15 km in diameter and it hit the coast at a wind speed of 130 to 150 kmph**, bringing with it heavy rain. The weatherman has said the cyclone, classified as **"severe" and not "very severe"** will inundate low lying areas. It has followed closely on the heels of Cyclone Nada also in the Bay of Bengal, which hit the Tamil Nadu coast only last week. Vardah, which means red rose, was named by Pakistan. The name of cyclones in the Indian Ocean Region are decided by the member countries, which are India, Sri Lanka, Bangladesh, Thailand, Myanmar, Maldives and Oman. Cyclone Nada was named by Oman. **Over 16,000 people have been evacuated from low-lying areas in Tamil Nadu and Andhra Pradesh.** There has been a **lull in rain after the Cyclone** made landfall but the Met office has forecast heavy rain for about another 36 hours. **The seas will be rough and fishermen have been asked not to venture out for at least 48 hours** along and off south Andhra Pradesh, north Tamil Nadu and Puducherry. The Tamil Nadu government has requested people to stay home. The government said it has taken all precautions to protect the Kalpakkam nuclear power plant, which is in touch with the Meteorological Department. **Kalpakkam is in Kancheepuram which in coastal Tamil Nadu** and has been hit by the heavy rain and strong winds that Cyclone Vardah has brought. **19 National Disaster Response Force or NDRF teams of 35 personnel** each have been posted in Tamil Nadu and Andhra Pradesh. The **Navy has ready two ships** with doctors, water and food supplies for about **5,000 people**.

### Worst Affected Regions in India

Last year the India Meteorological Department (IMD) published the results of a study conducted on some **96 districts of the country**. Among these, about **72 are coastal districts** while the rest are close to the coastline. According to the IMD, 12 districts of the country stand to be affected most by cyclones. These districts are classified as **"very highly prone"** and all 12 are in the eastern coastal belt. These include **Yanam district in Puducherry, East Godavari, Krishna, and Nellore districts in Andhra Pradesh, Balasore, Bhadrak, Jagatsinghpur, and Kendrapara districts in Odisha, Medinipur, Kolkata, and North and South 24 Parganas in West Bengal**. Apart from these there are about 41 districts which are classified as **"highly prone"**. 30 districts are **"moderately prone"** and the remaining 13 are **"less prone"**.

The IMD also said that while all 13 states and Union Territories that are located along the coast are vulnerable but **Tamil Nadu, Pondicherry, Andhra Pradesh, Odisha, West Bengal, and Gujarat** are most prone to damages from cyclone. Only about 7 percent of the tropical cyclones in the world originate in the Arabian Sea and Bay of Bengal but these are some of the most devastating and damaging, says the IMD.

### **Worst Cyclones of Recent Times**

Two cyclones – **Cyclone Phailin and Cyclone Hud-hud** caused extreme damage to life and property in India in recent times. Cyclone Phailin was one of the most intense and most destructive cyclones to make landfall in the country in recent times. The cyclone hit India in **October 2013** and caused pronounced destruction to many villages in **Odisha**. It prompted one of the largest evacuations in the country in decades. **Over 550,000 people were evacuated** and moved to cyclone shelters. **Over 30 lives were lost** due to the cyclone. The next year in 2014, **Cyclone Hud-hud made landfall near Vishakapatnam** in the state of Andhra Pradesh and caused extensive damage to coastal regions. Total damages due to Hud-hud were estimated to be about **INR 21,908 crore**. **Some 124 deaths** were also recorded due to the cyclone. Nepal also suffered from the effects of this cyclone which triggered an avalanche in the country.

### **Cyclone Warning System in India**

The **Indian Meteorological Department** is responsible for forecasting the occurrence of cyclones, for estimating and categorizing them, and for issuing warnings when necessary. Cyclones in the Bay of Bengal and in the Arabian Sea are predicted by the Area Cyclone Warning Centres (ACWC) and the Cyclone Warning Centres (CWC) departments of the IMD respectively. The **National Cyclone Warning Centre (NCWC) in New Delhi** acts as a coordinator between the two. In 2014, the IMD launched an **SMS based cyclone warning system** that shall enable the masses to stay alert and prepared in the event of an approaching cyclone. From time to time the Indian Army and the Indian Air Force have also been roped in to rescue Indians from the devastation caused by tropical cyclones. Apart from this the National Disaster Response Force (NDRF) is responsible for relief operations.

#### **Read further:**

<http://www.thehindu.com/news/cities/chennai/Cyclone-Vardah-batters-Chennai/article16798078.ece1>

<http://www.thehindu.com/news/cities/chennai/Cyclone-Vardah-Dos-and-don%E2%80%99ts-during-a-cyclone/article16796934.ece>

<http://www.hindustantimes.com/india-news/10-killed-as-cyclone-varDAH-batters-tamil-nadu-chennai-among-worst-hit/story-vuFtfTMZpzLT2QLHA5bJqN.html>

<http://www.thehindu.com/news/cities/chennai/Cyclone-Vardah-brings-Chennai-to-a-standstill/article16798323.ece>