

The Cyclonic Storm 'HIKAA'

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Source: *Press Information Bureau*

The Cyclonic Storm 'HIKAA' over northeast and adjoining east central Arabian sea moved nearly westwards. And a deep depression over the Arabian Sea has intensified into a cyclonic storm 'Hikka' that will cause strong winds along the Gujarat coast.

Key highlights

- The name Hikka to this cyclone has been given by the Maldives
- The IMD mentioned that the Hikka was lying about 490 km west-southwest of Veraval in Gujarat, 520 km south-southwest of Karachi in Pakistan, and 710 km east-southeast of Masirah in Oman



What are tropical cyclones?

- Tropical cyclones are one of nature's most violent manifestations and potentially the deadliest of all meteorological phenomena. It is a unique combination of violent wind, heavy rainfall and mountainous waves in the sea.
- **A Tropical cyclone is a non-frontal, synoptic-scale, low-pressure system over tropical or subtropical waters with persistent, organized convection and a closed cyclonic circulation.**
- Tropical cyclone is a storm system characterized by a large low-pressure centre and numerous thunderstorms that produce strong winds and heavy rain. Tropical cyclones feed on heat released when moist air rises, resulting in condensation of water vapour contained in

the moist air.

Favourable conditions for their formation

There are several conditions which are favourable for the formation of a tropical cyclone.

1. Tropical cyclones develop in the vicinity of **inter tropical convergence zone (ITCZ)** or near equatorial trough where relative cyclonic vorticity is already present as a quasi-steady feature. This zone is found nearly 5° north or south of the equator.
2. Tropical cyclones develop in maritime air mass over sea areas where **sea surface temperature > 26.5°C** and overlying tropical atmosphere is convectively unstable.
3. Formation of a **well-marked low pressure** area or depression close to ITCZ /near equatorial trough which later on develops into a full-fledged tropical cyclone is favoured by the arrival of the low pressure wave from the east.
4. It is found that over the regions which are climatologically favourable for the development of tropical cyclones, the **vertical shear in the zonal horizontal flow is weak**. The cyclones generally do not form when the shear of the zonal flow between 950 and 200 hPa exceeds 10 m /s.
5. There should be enough moisture up to the mid atmospheric level.
6. There should be **pre-existing vortex** in the low level of the atmosphere which will support in the formation of tropical cyclones.