



KAMARAJ IAS ACADEMY
Only IAS Academy by Grandson of "Perunthalaivar Kamarajar"

Typhoon Kalmaegi

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Typhoon Kalmaegi has killed at least 142 and left another 127 missing after catastrophic floods in the central Philippines.

About Typhoon:

A typhoon is a tropical cyclone that occurs in the Northwest Pacific Ocean, west of the dateline, and north of the equator.

Equivalent terms: Hurricane (Atlantic & Northeast Pacific) and Cyclone (South Pacific & Indian Ocean).

Conditions for Typhoon Formation

o**Warm Ocean Waters:** Sea surface temperature $\geq 26^{\circ}\text{C}$ up to a depth of at least 50 meters is necessary to provide energy through evaporation.

o**High Humidity in the Troposphere:** Moist air in the lower and middle troposphere supports condensation and latent heat release, fueling the cyclone.

o**Pre-existing Low-Pressure Area:** A disturbance or low-pressure system over the ocean acts as the initial trigger for cyclonic rotation.

o**Coriolis Force:** Sufficient distance from the equator (usually $>5^{\circ}$ latitude) is needed for the Coriolis effect to induce rotation of the system.

o**Low Vertical Wind Shear:** Weak differences in wind speed or direction with height allow the storm to develop vertically and organize, preventing its disruption.

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