



# Kallakkadal

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## Why in News?

Recently, hundreds of houses have been flooded in several coastal areas of Kerala due to **high sea waves named Kallakkadal**.

- Lakshadweep and Tamil Nadu coast are other areas often affected by Kallakkadal.

## What is Kallakkadal?

### ▪ About:

- Kallakkadal refers to **coastal flooding caused by swell waves** during the **pre-monsoon** season (April-May) and sometimes during post monsoon along the southwest coast of India.
- **The term Kallakkadal**, used by local fishermen, is a combination of two Malayalam words, including **Kallan and Kadal**. “Kallan means **thief** and Kadal means sea, meaning **“ocean that arrives as a thief**.”

### ▪ Causes:

- It is caused by **waves formed by ocean swells**, which originate from distant storms such as **hurricanes** or prolonged periods of intense gale winds (**usually in the southern part of the Indian Ocean**).
- These storms **transfer significant energy from the air into the water**, resulting in the formation of extremely high waves.
  - These waves can travel vast distances from the storm center until they reach the shoreline.
- Kallakkadal **occurs without precursors or any kind of local wind activity** and as a result, it has been very difficult for the **coastal population** to get an advance warning.
- However, early warning systems like the **Swell Surge Forecast System** —launched by the **Indian National Centre for Ocean Information Services (INCOIS)** in 2020 gives forewarning seven days in advance.

## Why is Kallakkadal Different from Tsunami?

- Kallakkadal came under the spotlight after the 2004 **tsunami** and is often mistaken for a tsunami. However, **a tsunami is a series of enormous** waves created by an underwater disturbance, usually associated with **earthquakes** occurring below or near the ocean.
  - Ocean waves (like Kallakkadal) have a wavelength of only 30 or 40 meters, **tsunamis have a very long wavelength** often hundreds of kilometers long.

## Indian National Centre for Ocean Information Services (INCOIS)

- **INCOIS** is an **autonomous organisation** under the **Ministry of Earth Sciences (MoES)**.
  - It is located in **Hyderabad & was established in 1999**.
  - It is a unit of the **Earth System Science Organization (ESSO), New Delhi**.
- It is mandated to provide the best possible **ocean information and advisory services** to

society, industry, government agencies and the scientific community through sustained ocean observations and constant improvement through systematic and focused research.

## UPSC Civil Services Examination, Previous Year Question (PYQ)

### **Prelims:**

#### **Q 1. Consider the following statements: (2020)**

1. Jet streams occur in the Northern Hemisphere only.
2. Only some cyclones develop an eye.
3. The temperature inside the eye of a cyclone is nearly 10°C lesser than that of the surroundings.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 and 3 only
- (c) 2 only
- (d) 1 and 3 only

**Ans: C**

**Q. At one of the places in India, if you stand on the seashore and watch the sea, you will find that the sea water recedes from the shore line a few kilometres and comes back to the shore, twice a day, and you can actually walk on the sea floor when the water recedes. This unique phenomenon is seen at (2017):**

- (a) Bhavnagar
- (b) Bheemunipatnam
- (c) Chandipur
- (d) Nagapattinam

**Ans: C**