



## GEMINI Device

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The Union Minister of Earth Sciences has recently launched the **Gagan Enabled Mariner's Instrument for Navigation and Information (GEMINI)** device.

- The device is developed for effective dissemination of emergency information and communication on **Ocean States Forecast** and mapping of **Potential Fishing Zones (PFZ)** to fishermen.
  - **Ocean States Forecast** provides the accurate state of the ocean that includes the forecasts related to winds, waves, ocean currents, water temperature, etc.
  - PFZ provide information about the probable locations of fish aggregation in the seas to the fishermen, while
- GEMINI is a **portable receiver** that is linked to ISRO-satellites. With this device, the fishermen outside the signal range of their phone companies (i.e. 10-12 km) can also access warnings and alerts, as the device can send signals up to 300 nautical miles. It will facilitate satellite-based communication that will be highly useful while dealing with cyclones, high waves, and tsunamis.
- **Indian National Centre for Ocean Information Services (INCOIS)** in collaboration with the **Airports Authority of India (AAI)** utilized the **GAGAN (GPS Aided Geo Augmented Navigation)** satellite while developing the GEMINI device.

GAGAN was developed by the **Indian Space Research Organization (ISRO) and the Airports Authority of India**. It is India's first satellite-based global positioning system that relies on ISRO's **GSAT satellites**.
- The drawback of this device is that it only allows **one-way communication**, i.e, it can't be used by fishermen to make calls.

Also, it is **relatively expensive** for the average fisherman (priced at ₹9,000 per device). The attempts are being made to subsidize it by as much as 90%.

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

- INCOIS is an **autonomous organization** under the Ministry of Earth Sciences (MoES).
- It is located in **Hyderabad** & was established in **1999** under the MoES and is a unit of the Earth System Science Organization (ESSO).

- 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.

**Source: PIB**