# **Daily News Juice**

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## 1. Mission Mausam launched: What is it, how it will help Indians

#### **Mission Mausam Explained**

Established in 1875, the India Meteorological Department (IMD) has completed 150 years of service. To mark the occasion, Prime Minister Narendra Modi inaugurated Mission Mausam.

'Symbol of India's scientific journey': PM Modi launches 'Mission Mausam' on 150 years of IMD

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PM Modi praised IMD as a cornerstone of India's scientific progress during its 150th foundation day celebration and released a postage stamp and a special commemorative coin to mark the occasion. He launched "Mission Mausam," an initiative aimed at making India a climate-smart nation while bolstering weather prediction and monitoring systems.

#### What is Mission Mausam?

The mission will aim to upgrade the capabilities of India's weather department in forecasting, modelling, and dissemination. Mission Mausam will have a budget of Rs 2,000 crore for the first two years of its implementation.

It will invest heavily in improving weather surveillance, modelling, forecasting to directly benefit key sectors — from agriculture, aviation and defence to disaster management, tourism and health, according to a statement by the government.

Mission Mausam aims to cover all aspects of weather and forecasting services offered in the country. A similar boost to monsoon prediction took place in 2012, with the launch of Mission Monsoon. It had targeted the improvement of India's long-range

#### forecasts.

Currently, IMD forecasting of an extreme event such as heatwaves up to 24 hours in advance is about 97.99 per cent accurate. The accuracy for heavy rainfall forecasts, however, stands at only about 80 per cent.

# What else will Mission Mausam do?

The mission will also 'manage' certain weather events, and on-demand, enhance or suppress rainfall, hail, fog and, later, lightning strikes.

For effective weather modification, one of the most important areas is cloud physics, in which India will have to strengthen research. Towards this end, India is establishing a first-of-its-kind cloud chamber at the Indian Institute of Tropical Meteorology (IITM), Pune.

A cloud chamber resembles a closed cylindrical or tubular drum, inside which water vapour, aerosols, etc. are injected. Under the desired humidity and temperature inside this chamber, a cloud can develop.

The Pune facility will allow scientists to study the seed particles that form cloud droplets or ice particles sustainably.

Many countries have basic cloud chambers, which have limited functionalities and scope to perform specific studies.

With Mission Mausam, however, India will build a cloud chamber with convection properties, as required to study Indian monsoon clouds. Globally, there are only a handful of convective cloud chambers.

## Who will oversee Mission Mausam?

Mission Masum will be spearheaded by three institutions funded by the Ministry of Earth Sciences — the IMD, the Indian Institute of Tropical Meteorology, Pune, and the National Centre for Medium-Range Weather Forecasting, Noida.

Relevance: GS Prelims; Environment Source: Indian Express

## 2. India Launches National Turmeric Board

## A Major Step for India's Turmeric Industry

India, the world leader in turmeric production, accounting for over 75% of global output, has launched a National Turmeric Board with ambitious plans to boost turmeric exports to \$1 billion by 2030. This initiative aims to expand export markets and ensure fair prices for farmers while highlighting the medicinal and economic value of turmeric.

# Inauguration by Union Minister Piyush Goyal

The Turmeric Board was inaugurated by Union Minister for Commerce and Industry, Piyush Goyal, in Nizamabad, Telangana. Nizamabad, a significant turmeric hub in northern Telangana, will serve as the headquarters for this initiative. The board's establishment underscores the government's commitment to strengthening the turmeric sector and promoting its value globally.

## **Collaborative Efforts for Sectoral Growth**

Modeled on the Tobacco Board, which successfully regulates tobacco farming and trade, the Turmeric Board will collaborate with the Spice Board and other government agencies. Its objectives include providing leadership on turmeric-related matters, developing strategies to enhance production and processing, and supporting farmers and exporters.

## Focus on Research and Value Addition

The Board will prioritize research and development to create new turmeric products, emphasizing value addition to boost the global appeal of turmeric and its derivatives. By enhancing awareness of turmeric's medicinal properties, the initiative aims to position Indian turmeric as a premium product in international markets.



# Vision for a \$1 Billion Export Milestone

Turmeric exports from India are set to rise significantly, with the government targeting the \$1billion milestone by 2030. The new Board is expected to play a pivotal role in achieving this target by promoting innovation, improving farming practices, and ensuring competitive pricing in international markets.

# Conclusion

The establishment of the National Turmeric Board marks a significant milestone for India's turmeric sector. By fostering research, innovation, and global outreach, the government aims to solidify India's dominance in the global turmeric market and empower farmers with sustainable and profitable opportunities.

Relevance: GS Prelims; Economics Source: The Hindu Business Line and PIB

# 3. INS Nilgiri, INS Surat and INS Vaghsheer commissioned: Three cheers for Indian Navy

# Introduction

Three frontline combatants — INS Nilgiri, lead ship of the Project 17A stealth frigate class, INS Surat, fourth and final ship of the Project 15B stealth destroyer class, and INS Vaghsheer, sixth and final submarine of the Scorpene-class project — were commissioned in the Indian Navy at the Naval Dockyard in Mumbai.

# **INS Nilgiri**



of ships has an "integrated construction" philosophy, which involves extensive pre-outfitting at the block stages to reduce overall building periods.

The multi-mission frigates are capable of operating in a "blue water" environment — in the deep seas far from the coast — and deal with both conventional and non-conventional threats.

With their versatile weapons and capabilities, these ships can play a crucial role in anti-surface, anti-air, and anti-submarine warfare.

The ships are fitted with a supersonic surface-to-surface missile system, a Medium Range Surface-to-Air Missiles (MRSAM) system, a 76 millimetre upgraded gun, and a combination of rapid-fire close-in weapon systems.

The keel of INS Nilgiri was laid on December 28, 2017, and the ship was launched into water on September 28, 2019. It sailed out for maiden sea trials in August last year, and underwent a comprehensive schedule of trials in harbour and at sea, leading up to its delivery to the Navy on December 20 last year.

The other six ships of this class — Himgiri, Taragiri, Udaygiri, Dunagiri, and Vindhyagiri — are at various stages of construction at MDL, Mumbai, and GRSE, Kolkata.

## **INS Surat**



The fourth and final stealth guided missile destroyer under Project 15B follows INS Visakhapatnam, INS Mormugao, and INS Imphal, which were commissioned over the past three years.

INS Surat is the Indian Navy's first AI (artificial intelligence) enabled warship, which will utilise indigenously developed AI solutions to enhance its operational efficiency manifold.

Over the past decade, guided missile destroyers of the Kolkata class built under the project codenamed 15A — INS Kolkata, INS Kochi, and INS Chennai — have been commissioned into the Navy.

To build an advanced variant of the Kolkata class, a contract for the construction of four more guided missile destroyers under the project codenamed 15B was signed in January 2011.

Designed by the Warship Design Bureau, the Indian Navy's in-house warship design unit, and built by MDL, the four ships under Project 15B are named after major cities in the four corners of the country.

Destroyers are a category of warships that have high speed and manoeuvrability, greater strike capability, and longer endurance, because of which they are a key asset in various types of naval operations, mainly offensive.

With their modern sensors and communication facilities, these ships are a key asset in "network-centric" warfare, in which information technology and computer networking tools are used to form networks of various force elements that are in play in conflict scenarios.

A guided missile destroyer with a displacement of 7,400 tonnes and overall length of 164 metres, INS Surat is a potent and versatile platform equipped with state-of-the-art weapons and sensors, including surface-to-air missiles, anti-ship missiles, and torpedoes.

Powered by a Combined Gas and Gas (COGAG) propulsion set comprising four gas turbines, it has achieved speeds in excess of 30 knots (56 km/h) during sea trials.

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## **INS Vaghsheer**



It's for the first time that a destroyer, a frigate, & a submarine are being commissioned together. Above all, these frontline platforms are '**Made-in-India**'

PM Modi dedicated INS Surat, INS Nilgiri & INS Vaghsheer to the Nation 15 January 2025



INS Vaghsheer is the sixth and final submarine of the modern stealthy Kalvari class built under Project 75.

The design of the Kalvari class of submarines is based on the Scorpene class designed and developed by the French defence major Naval Group (formerly DCNS), and the Spanish state-owned entity Navantia.

They have diesel electric transmission systems, and are primarily "attack" or "hunter-killer" submarines — which means they are designed to target and sink adversary naval vessels.

According to officials, this is one of

the world's most silent and versatile diesel-electric class of submarines. It is designed to undertake a wide range of missions, including anti-surface warfare, anti-submarine warfare, intelligence gathering, area surveillance, and special operations.

The submarines are armed with wire-guided torpedoes, anti-ship missiles, and advanced sonar systems, and feature modular construction that allows for future upgrades such as the integration of Air Independent Propulsion (AIP) technology.

The AIP systems, which significantly enhance the submerged endurance of a diesel electric submarine, are expected to be installed on this class of submarines from 2026 onward.

The submarines in the current Kalvari class take their names from now-decommissioned classes of submarines named Kalvari — including Kalvari, Khanderi, Karanj — and the Vela class, which included Vela, Vagir, Vagshir. The erstwhile Kalvari and Vela classes were one of the earliest submarines of the Indian Navy after Independence, which belonged to the Soviet-origin Foxtrot class of vessels.

Vaghsheer is named after a type of sandfish found in the Indian Ocean.

## Three vessels together

Prime Minister Narendra Modi, who presided over the commissioning ceremony, said that for the first time, a destroyer, a frigate, and a submarine were joining the Indian Navy together. "It is a matter of pride that all the three frontline platforms are made in India," he said.

A Navy veteran said: "If we consider the journeys of these three categories of ships, the time taken from the drawing board design to the commissioning is anywhere between 10 and 15 years. Which means that work on the ships that were commissioned today started that long ago."

The Navy veteran said the addition of these three vessels was "a step towards achieving the force level required for the Navy to be a formidable deterrent against any regional threats, and to bolster India's strategic maritime influence in the Indian Ocean Region and beyond".

In his speech at the commissioning ceremony, the PM said: "India has emerged as the first responder in the Indian Ocean Region."

The Indian Navy has in recent times saved hundreds of lives and secured national and international cargo worth thousands of crores, increasing global trust in India, the Indian Navy, and the Coast Guard, the Prime Minister said.

The PM emphasised the dual importance of commissioning of the three ships from both the military and economic perspective.

Relevance: GS Prelims; Internal Security Source: The Indian Express