



C.A Dated On 04-09-2018

General Studies-1

Typhoon Jebi:

[Japan](#) issued evacuation advisories for almost 300,000 people and cancelled hundreds of flights in the face of strong winds and heavy rain as typhoon Jebi roared north and was set to make landfall later on Tuesday.

About Jebi:

- Jebi - whose name means "swallow" in Korean - is the latest harsh weather to hit Japan this summer following deadly rains, landslides, floods and record-breaking heat that killed hundreds of people.
- The storm was bearing down on western Japan and set to make landfall on Shikoku, the smallest main island, before raking across the western part of the largest main island, Honshu, and Osaka, the nation's second-largest city, later on Tuesday.
- Wind gusts of up to 166 km/h (103 mph) were recorded in one part of Shikoku, with forecasts for gusts as high as 216 km/h (135 mph).
- Around 87 mm (3.4 inches) of rain drenched some areas in an hour on Tuesday morning, with as much as 500 mm (20 inches) set to fall in the 24 hours to Wednesday morning.

What is Typhoon?

- A **typhoon** is a mature [tropical cyclone](#) that develops between [180°](#) and [100°E](#) in the [Northern Hemisphere](#).
- This region is referred to as the [Northwestern Pacific Basin](#), and is the most active tropical cyclone basin on [Earth](#), accounting for almost one-third of the world's annual tropical cyclones.
- A typhoon differs from a cyclone or hurricane only on the basis of location.
- A [hurricane](#) is a [storm](#) that occurs in the [Atlantic Ocean](#) or northeastern [Pacific Ocean](#), a typhoon occurs in the northwestern Pacific Ocean, and a [tropical cyclone](#) occurs in the south Pacific or [Indian Ocean](#).

General Studies-2



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Drug Resistant Bacteria

A superbug resistant to all known antibiotics that can cause "severe" infections or even death is spreading undetected through hospital wards across the world, scientists in [Australia](#) warned on Monday.

Researchers at the [University](#) of Melbourne discovered three variants of the multidrug-resistant bug in samples from 10 countries, including strains in Europe that cannot be reliably tamed by any drug currently on the market.

About the Superbug:

- The bacteria, known as *Staphylococcus epidermidis*, is related to the better-known and more deadly MRSA superbug.
- It's found naturally on human skin and most commonly infects the elderly or patients who have had prosthetic materials implanted, such as catheters and joint replacements.
- It can be deadly, but it's usually in patients who already are very sick in hospital... it can be quite hard to eradicate and the infections can be severe.

What is Superbug?

- **Antimicrobial resistance (AMR or AR)** is the ability of a microbe to resist the effects of medication that once could successfully treat the microbe.
- The term **antibiotic resistance (AR or ABR)** is a subset of AMR, as it applies only to [bacteria](#) becoming resistant to [antibiotics](#).
- Resistant microbes are more difficult to treat, requiring alternative medications or higher doses of antimicrobials.



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- These approaches may be more expensive, [more toxic](#) or both. Microbes resistant to multiple antimicrobials are called [multidrug resistant](#) (MDR).
- Those considered extensively drug resistant (XDR) or totally drug resistant (TDR) are sometimes called "superbugs".

Tsunami mock exercise

India, along with 23 other Indian Ocean nations, is participating in a major tsunami mock exercise — IOWave18 — being organised by the Intergovernmental Oceanographic Commission (IOC) of UNESCO on September 4 and 5, first on the west coast and then the east coast the following day.

It will involve the evacuation of over 1.25 lakh people from the coastal communities of Odisha, Andaman & Nicobar Islands, Andhra Pradesh, Tamil Nadu, Puducherry, Maharashtra, West Bengal, Gujarat and Goa.

About the Drill:

In the latest drill, an earthquake with a magnitude of 9.0 will be simulated in the Makran Trench south of Iran on September 4 at 11.30 a.m. and the second on September 5 at 8.30 a.m. will simulate the magnitude of 9.3 at Northern Sumatra, Indonesia.

Objectives of exercise:

- The aim of the exercise is to increase tsunami preparedness, evaluate response capabilities in each state and improve coordination throughout the region.
- A training workshop and tabletop exercises to enable national stakeholders to streamline their standard operating procedures (SOPs) has been done while a manual comprising specifics of conducting the tsunami exercise, along with the detailed bulletins and feedback forms was also prepared.

About India Tsunami warning center:

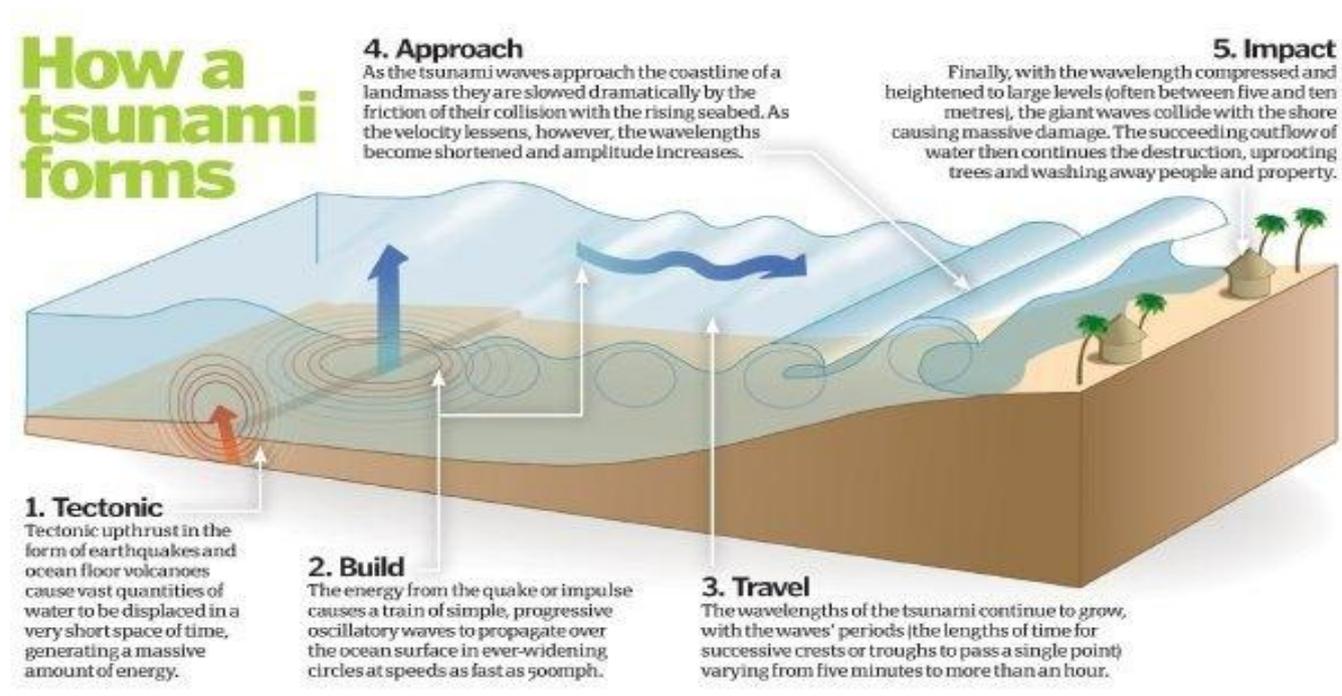


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The Indian Tsunami Early Warning Centre (ITEWC), based out of INCOIS, is capable of detecting tsunamigenic earthquakes within 10 minutes of the occurrence of earthquake on the seabed and issue timely tsunami advisories to disaster management officials as well as to vulnerable communities.

ITEWC provides operational tsunami information to all Indian Ocean rim countries and will be participating in the IOWave18 exercise as both National Tsunami Warning Centre (NTWC) and Tsunami Service Provider (TSP) for the region.

How Tsunami Waves Form?



General Studies- 3

Dedicated Freight Corridor:

Ateli, a small town in Haryana, etched its name in Indian Railways freight history with the flagging off of the inaugural freight train on the 3,360-km-long Dedicated Freight Corridor from here in August.



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The first 190-km stretch of the Dedicated Freight Corridor — touted as one of the biggest infrastructure projects, at a cost of ₹81,459 crore, undertaken in India — from Ateli to Phulera in Rajasthan was opened on August 15.

Background:

- The work to build the two dedicated freight corridors — the Eastern DFC (from Punjab to West Bengal) and the Western DFC (from Uttar Pradesh to Maharashtra) — is on in full swing.
- Over 98% of the land has been acquired and almost all contracts for projects, ranging from building of bridges to electrification, have been awarded.
- While some train movement has started on the first opened section, any tangible benefit from the corridor will be seen only after completion of the 1,000-km rail track, an official of the Dedicated Freight Corridor Corporation of India said.

Benefits Of Freight Corridor:

- Once the corridor becomes operational, freight trains will be able to run at a maximum speed of 100 km/hour as against the current maximum speed of 75 km/hour on the Indian Railways tracks.
- Consequently, the average speed of the freight trains will also increase from the existing 26 km/hour on Indian Railways lines to 70 km/hour in the dedicated freight corridors.
- Also, the goods train will run as per a set time table, much like the passenger trains.
- The corridor is poised to become a game changer for the Indian Railways whose share in freight [logistics](#) and transportation has been constantly declining due to competition from roads, and to some extent from waterways.
- The share of Indian Railways in freight transportation has come down to 28% from 60% a few years ago.

Importance of Freight Routes:

- According to a report by IBEF, around 1,107.10 million tonnes of freight was transported via trains in the financial year 2017 and 2,165 million tonnes is expected to be transported in 2020.



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- These include goods such as mineral ores, iron, steel, fertilisers, petrochemicals and agricultural produce.
- Freight continues to remain the major revenue earning segment for Indian Railways, accounting for 64.32% of total revenues in the financial year 2017.
- Profits from the freight segment are used to cross-subsidise the passenger segment, the IBEF pointed out in its report.

Money Laundering:

India and [Cyprus](#) on Monday signed two agreements on combating money laundering and cooperation in the field of environment as President Ram Nath Kovind met his Cypriot counterpart Nicos Anastasiades and held wide-ranging talks here.

About Money Laundering:

Money Laundering generally refers to 'Washing' of the proceeds or profits generated from :-



Prevention of Money Laundering Act:



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- **Prevention of Money Laundering Act, 2002** is an [Act](#) of the [Parliament of India](#) enacted by the NDA government to prevent [money-laundering](#) and to provide for confiscation of property derived from money-laundering.
- PMLA and the Rules notified there under came into force with effect from July 1, 2005.
- The Act and Rules notified there under impose obligation on banking companies, financial institutions and intermediaries to verify identity of clients, maintain records and furnish information in prescribed form to [Financial Intelligence Unit - India](#) (FIU-IND)

The PMLA seeks to combat money laundering in India and has three main objectives:

- To prevent and control money laundering
- To confiscate and seize the property obtained from the laundered money; and
- To deal with any other issue connected with money laundering in India

Opporunity Rover:

Why in News?

With no news from the Opportunity rover for over 2 months, scientists have now resorted to asking her fans to send postcards to help wake up the rover.

Background :

Opportunity went silent on June 10 following a massive dust storm on Mars and no signal has been heard despite repeated attempts to connect with it.



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A release from NASA on August 31 said that the storm is starting to lose intensity and the skies are clearing up over Perseverance Valley — Opportunity's resting spot.

"If we do not hear back after 45 days, the team will be forced to conclude that the Sun-blocking dust and the Martian cold have conspired to cause some type of fault from which the rover will more than likely not recover.

About Opportunity Rover:

Opportunity, also known as **MER-B (Mars Exploration Rover – B)** or **MER-1**, is a [robotic rover](#) active on [Mars](#) since 2004.

Opportunity has continued to move, make scientific observations, and report back to Earth for over 55 times its designed lifespan. As of January 23, 2018, the rover had traveled 45.09 kilometers (28.02 miles)

The scientific objectives of the Mars Exploration Rover mission are to:

- Search for and characterize a variety of rocks and soils that hold clues to past water activity. In particular, samples sought will include those that have minerals deposited by water-related processes such as [precipitation](#), [evaporation](#), [sedimentary cementation](#) or [hydrothermal activity](#).
- Determine the distribution and composition of minerals, rocks, and soils surrounding the landing sites.
- Determine what [geologic processes](#) have shaped the local terrain and influenced the chemistry. Such processes could include water or wind erosion, sedimentation, hydrothermal mechanisms, volcanism, and cratering.
- Perform calibration and validation of surface observations made by [Mars Reconnaissance Orbiter](#) instruments. This will help determine the accuracy and effectiveness of various instruments that survey [Martian geology](#) from orbit.



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- Search for iron-containing minerals, identify and quantify relative amounts of specific mineral types that contain water or were formed in water, such as iron-bearing carbonates.