

<p>New craters on Mars</p>	<p>Why in the news?</p> <ul style="list-style-type: none">● Scientists from the Physical Research Laboratory (PRL) in Ahmedabad have made a discovery on Mars.● They have found three new craters on the planet. <p>Key points:</p> <ul style="list-style-type: none">● These craters are located in the Tharsis volcanic region (around 21.0 S, 209 W) on Mars.● The International Astronomical Union (IAU) Working Group for Planetary System Nomenclature has approved the naming of these three craters, based on the recommendation of the PRL. <p>About International Astronomical Union (IAU):</p> <ul style="list-style-type: none">● Formation Date: The IAU was founded in 1919.● Headquarters: Paris, France.● Objective:<ul style="list-style-type: none">○ To promote and safeguard the science of astronomy through international cooperation.○ To coordinate, develop, and promote astronomical research.○ To ensure that astronomical observations and theoretical studies are shared and discussed globally.● Membership:<ul style="list-style-type: none">○ Comprises over 13,500 individual members from 107 countries.○ Members are professional astronomers.● Major Functions:<ul style="list-style-type: none">○ Naming and defining astronomical objects and phenomena.○ Organizing scientific meetings, such as the General Assembly held every three years.○ Providing guidelines and recommendations on astronomical standards and practices.
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Nitrous oxide (N₂O) emissions	<p>Why in the news?</p> <ul style="list-style-type: none">● Nitrous oxide (N₂O) emissions increased by 40% between 1980 and 2020.● The largest emitter of N₂O is China, followed by India and the US. <p>Key points:</p> <ul style="list-style-type: none">● The Global Carbon Project, a network of climate scientists, conducted a study.● The study found that 74 per cent of the nitrous oxide emissions in the past decade were due to agriculture.● The main sources of these emissions were the use of nitrogen fertilizers and animal manure in agriculture.● The top 10 emitters are China, India, the US, Brazil, Russia, Pakistan, Australia, Indonesia, Turkey, and Canada.● N₂O is the third most significant greenhouse gas after carbon dioxide and methane and is 273 times more potent than CO₂ over 100 years.● To keep the global temperature rise below 2 degrees Celsius, N₂O emissions from human activities must decrease by at least 20% from 2019 levels by 2050.
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Atomic Clock

Why in the news?

- Researchers have built a **portable optical atomic clock**.
- This clock can be **used onboard ships**.
- According to the researchers, it is the **most performant optical clock at sea**.

About Atomic Clock:

- An atomic clock is a **device that measures time using the vibrations of atoms**.
- It specifically **uses the oscillations of the electrons in atoms** to keep time.
- It is the **most accurate time-keeping device available**, with a **margin of error of just a few billionths of a second per day**.
- Atomic clocks are far **more precise than conventional clocks** because atomic oscillations have a much higher frequency and are much more stable.
- They are **used in** many applications that require very precise timing, such as **GPS systems, telecommunications networks** and **scientific research**.

<p>Notified disasters</p>	<p>Why in the news?</p> <ul style="list-style-type: none"> ● There is an ongoing spell of extreme heat in many parts of the country. ● This situation has reopened discussions on the inclusion of heatwaves as one of the notified disasters. ● This inclusion is being considered under the Disaster Management (DM) Act, 2005. <p>About Notified disasters:</p> <ul style="list-style-type: none"> ● The Disaster Management Act, 2005 in India defines a disaster as a catastrophe, mishap, calamity or grave occurrence arising from natural or man-made causes. ● The Act includes 12 categories of notified disasters: Cyclone, Drought, Earthquake, Fire, Flood, Tsunami, Hailstorm, Landslide, Avalanche, Cloudburst, Pest attack, Frost and cold waves. ● These notified disasters are eligible for relief assistance under the State Disaster Response Fund (SDRF) and National Disaster Response Fund (NDRF). ● Heatwaves are not currently included as a notified disaster under the Act, despite being a significant concern in India. ● Criteria for notifying a disaster under the Act: <ul style="list-style-type: none"> ○ The event must be a catastrophe, mishap, calamity or grave occurrence. ○ It must arise from natural or man-made causes. ○ It must result in substantial loss of life, destruction of property, or damage to the environment. ○ It must also be of such nature which is beyond the coping capacity of the community.
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International Organization of Migration (IOM)

Why in the news?

- A boat carrying migrants capsized off the coast of Yemen.
- The U.N. migration agency, the **International Organization of Migration (IOM)**, reported the incident.

About IOM:

- **Establishment:** The International Organization for Migration (IOM) was established in **1951**.
- **Headquarters:** IOM's headquarters are located in **Geneva, Switzerland**.
- **Membership:** As of now, IOM has 175 member states and 8 observer states.
- **Objective:** The primary objective of IOM is to **promote humane and orderly migration for the benefit of all**, by providing services and advice to governments and migrants.