



20 April 2024

National and International News

BrahMos supersonic cruise missiles

Why in news?

- India delivered the first batch of BrahMos supersonic cruise missiles to the Philippines.
- The Philippines concluded a \$375-million deal with India in January 2022 for three batteries of the BrahMos, becoming the first export customer.

Key points:

- The delivery comes amid the ongoing showdown between the Philippines and China in the South China Sea.
- Several countries have expressed interest in acquiring BrahMos systems, and discussions are in advanced stages with Indonesia and Thailand among others.

About BrahMos supersonic cruise missiles:

- **Type:** Supersonic cruise missile.
- **Developed by:** Joint venture between India's Defence Research and Development Organisation (DRDO) and Russia's NPO Mashinostroyenia.
- **Name Origin:** Named after the Brahmaputra River in India and the Moskva River in Russia.
- **Speed:** Mach 2.8 to 3.0 (supersonic speed).
- **Range:** Approximately 290-450 kilometers, with extended range versions in development.
- **Warhead:** Conventional and nuclear options, with a payload capacity up to 300 kilograms.
- **Launch Platforms:** Versatile launch capabilities from land, sea, sub-sea, and air platforms.
- **Guidance System:** Equipped with an inertial navigation system and a terminal active radar guidance system.
- **Stealth Technology:** Designed to reduce radar cross-section for stealthier approach.
- **BrahMos-II:** Development of a hypersonic version of the missile, BrahMos-II, which is expected to travel at speeds of Mach 7+.
- **Extended Range:** Ongoing efforts to extend the missile's range beyond 450 kilometers under international missile treaties.



BrahMos Cruise Missile

Air-launched variant tested

BrahMos, the world's fastest supersonic cruise missile, successful flight-tested for the first time from a Sukhoi-30MKI fighter of the Indian Air Force against a sea based target in Bay of Bengal

The missile is now capable of being launched from land, sea and air, completing the tactical cruise missile triad for India

Technical Specifications

Maximum range	400+ km	Warhead mass	200-300 kg
Velocity	Mach 2.8	Altitude	
Weight	2.5 tonnes	■ Cruise:	15 km
		■ Terminal:	10-15 metre

Special Features

- Universal for multiple platforms
- "Fire and Forget" principle of operation
- High supersonic speed all through the flight
- Long flight range with varieties of flight trajectories
- Low radar signature
- Shorter flight times leading to lower target dispersion and quicker engagement
- Pin point accuracy with high lethal power aided by large kinetic energy on impact



Compared to existing state-of-the-art subsonic cruise missiles, BrahMos has

- 3 times more velocity
- 2.5 to 3 times more flight range
- 3 to 4 times more seeker range
- 9 times more kinetic energy

National Curriculum for Early Childhood Care and Education 2024 - Aadharshila

Why in news?

- The Central government has released a curriculum for children aged **three to six-years-old**, aiming to **boost pre-school learning** in 14 lakh **anganwadis** across India.
- The **Ministry of Women and Child Development (MWCD)** has released the 'Aadharshila,' the **National**



	<p>Curriculum for Early Childhood Care and Education 2024.</p> <p>About Aadharshila:</p> <ul style="list-style-type: none"> • Aadharshila is a detailed 48-week curriculum for three to six-year-olds in anganwadis. • The curriculum aims to strengthen foundational literacy and numeracy concepts. • The curriculum includes a weekly play calendar with activities such as storytelling, singing rhymes, art and craft, and more. • The curriculum targets at least 48 weeks of learning in the duration of three years. • The curriculum helps in developing listening skill, vocabulary building, boosting imagination, narration, following instructions, creativity, social development, developing self-expression and self-esteem. • The national framework will serve as a base for States to develop their own culturally appropriate curriculums. • Training of anganwadi workers towards providing early childhood education started under the 'Poshan Bhi, Padhai Bhi' scheme by the MWCD.
<p>United Nations membership for the state of Palestine</p>	<p>Why in news?</p> <ul style="list-style-type: none"> • The United States vetoed a U.N. resolution that would have allowed full United Nations membership for the state of Palestine. • The vote in the 15-member Security Council was 12 in favour, the United States opposed, and two abstentions. <p>Key points:</p> <ul style="list-style-type: none"> • The resolution would have recommended the 193-member General Assembly to approve Palestine becoming the 194th member of the United Nations. • 140 countries have already recognized the state of Palestine, so its admission would have been approved. <p>Think:</p> <ul style="list-style-type: none"> • Know about the process for obtaining full membership of the United Nations.
<p>Fourth global mass coral bleaching</p>	<p>Why in news?</p>



- The **fourth global mass coral bleaching event** has been **triggered by extraordinary ocean temperatures**, as stated by the **US National Oceanic and Atmospheric Administration (NOAA)**.
- This event could have **serious consequences for ocean life** and **millions of people** who rely on reefs for food, jobs, and coastal defence.

Key points:

- The **primary reason** behind the **soaring temperatures** is the **rising emissions of heat-trapping greenhouse gases (GHGs)** such as **carbon dioxide** and **methane** in the atmosphere.
- Nearly 90% of the extra **heat trapped by GHGs** has **been absorbed by the oceans**.

About Corals:

- **Coral Reefs:** Coral reefs are **large underwater structures composed of the skeletons of colonial marine invertebrates called coral**.
- **Types:** The three main types of coral reefs are **fringing reefs, barrier reefs, and atolls**.
- **Composition:** Reefs are built by and made up of thousands of tiny animals called **coral polyps**, which **secrete a hard exoskeleton of calcium carbonate**.
- Corals are classified as either **hard coral** or **soft coral**. Hard corals are the architects of coral reefs.
- Coral reefs, also referred to as "**rainforests of the sea**", have existed on the Earth for nearly 450 million years.
- **Australia's Great Barrier Reef is the largest in the world**, stretching across 2,028 kilometres.

Did you know:

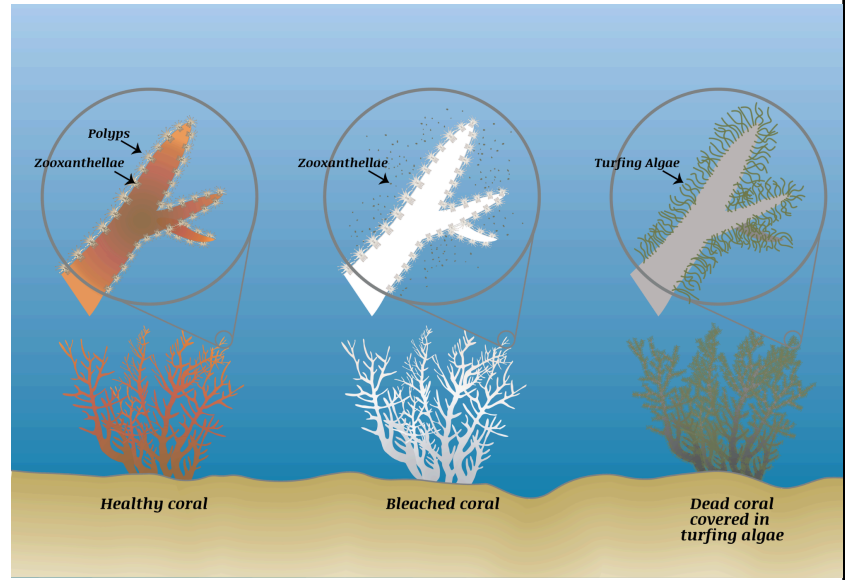
- **Coral Bleaching:** The phenomenon where **coral colonies lose their vibrant colors** due to the expulsion of **symbiotic zooxanthellae algae** from their tissues, leaving them white or pale. This is usually a **stress response**.
- **Primary Causes:** Major factors include **increased sea temperatures, solar irradiance, ocean acidification, pollution, and changes in sea level**.



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Daily Current Affairs Encyclopedia



Fossils prehistoric snake found in in Gujarat

Why in news?

- Researchers at IIT Roorkee discovered fossils of one of the **largest snakes**, named **Vasuki Indicus**, in **Kutch, Gujarat**.
- The snake likely lived 47 million years ago during the **Middle Eocene period**.

Key points:

- Vasuki Indicus belonged to the now-**extinct Madtsoiidae snake family** but represents a unique lineage from India.
- The researchers found 27 pieces of a well-preserved vertebral column of the snake at the **Panandhro Lignite Mine in Kutch**.
- The discovery could improve understanding of how the **madtsoiid species** evolved in different climates and the **factors that contributed to large body sizes**.
- **Much like present-day pythons and anacondas**, Vasuki Indicus killed its prey by suffocation.
- The name **Vasuki** refers to the mythical snake often depicted around the neck of the Hindu god Shiva.

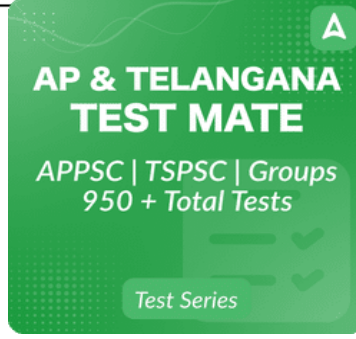


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