UPSC Daily Current Affairs | Prelim Bits 15-02-2020

NASA New Missions

- NASA announced has selected four Discovery Program investigations to develop concept studies for possible new missions, which are as follows
- **DAVINCI+** - Deep Atmosphere Venus Investigation of Noble gases, Chemistry, and Imaging Plus.
- This will analyse Venus's atmosphere to understand how it was formed and evolved, and if it ever had an ocean.
- This will advance understanding of the formation of terrestrial planets.
- **IVO -** Io Volcano Observer is a proposal to explore Jupiter's moon Io, which is extremely volcanically active.
- This will try to find out how tidal forces shape planetary bodies.
- The findings could further knowledge about the formation and evolution of rocky, terrestrial bodies and icy ocean worlds in the Solar System.
- **TRIDENT -** This aims to explore Neptune's icy moon, Triton, so that scientists can understand the development of habitable worlds in the Solar System.
- **VERITAS -** Venus Emissivity, Radio Science, InSAR, Topography, and Spectroscopy will aim to map Venus's surface to find out why Venus developed so differently from Earth.

Yara Virus

- Researchers have discovered an unusually small virus in a lake in Brazil.
- The virus has been named Yaravirus after 'Yara', a water-queen figure in Brazilian mythology.
- The Yaravirus infects amoeba and has genes that have not been described before, something that could challenge how Deoxyribonucleic Acid (DNA) viruses are classified.
- DNA viruses are classified based on the protein that makes up their shell, or capsid. The Yaravirus' capsid doesn't resemble any previously known protein.
- The Yaravirus does not infect human cells.

Thwaites Glacier

- Thwaites Glacier also known as Doomsday Glacier, it is 120 km wide, fast-moving glacier located in Antarctica.
- Because of its size (1.9 lakh square km), it contains enough water to raise the world sea level by more than half a metre.
- Its melting already contributes 4% to global sea-level rise each year. It is estimated that it would collapse into the sea in 200-900 years.
- Studies have found the amount of ice flowing out of it has nearly doubled over the past 30 years.
- It is important for Antarctica as it slows the ice behind it from freely flowing into the ocean.
- Recently, a new study has detected the presence of warm water at a vital point beneath the Thwaites glacier as the cause of its melting.
- The study has observed that the temperature of the water at the grounding zone or grounding line of the glacier is two degrees higher than the freezing point of the water.
- The grounding line is the place below a glacier at which the ice transitions between resting fully on bedrock and floating on the ocean as an ice shelf.



Indian Scientific Expedition to the Southern Ocean 2020

- The 11th expedition of an Indian mission to the Southern Ocean, or Antarctic Ocean has been started recently.
- The first mission took place between January and March 2004.
- The crew will be collecting air and water samples from around 60 stations along the cruise track.
- These will give valuable information on the state of the ocean and atmosphere in this remote environment and will help to understand its impacts on the climate.
- The data's will be analyzed National Centre for Polar and Ocean Research (NCOPR) in Goa, which works under the Ministry of Earth Sciences.
- A key objective of the mission is to quantify changes that are occurring and the impact of these changes on large-scale weather phenomenon, like the Indian monsoon, through tele-connection, the researchers said.

India's Polar Stations

- India presently has two research stations at Antarctica namely 'Maitri' and 'Bharati'.
- At both the stations, research and investigations are undertaken to understand the Polar processes and phenomenon.

- Observations and studies are carried out in atmospheric, biological, geological, ecological sciences etc.
- Maitri station has been in operation since 1989.
- Indian Arctic station 'Himadri' is located at Ny Alesund, Spitsbergen Island, Norway and serves as a hub of Indian scientific investigations since 2008.
- In Antarctica scientific studies and investigations are undertaken on the continental part and contiguous shelf ice area.
- India's Polar research vessel is still under construction, National Centre for Polar & Ocean Research; Goa has taken up the task of building the vessel.

Wainganga

- Wainganga River is one of the key tributaries of the river Godavari.
- It rises in the Mahadeo Hills in the Seoni District of Madhya Pradesh and drains Madhya Pradesh and Maharashtra.
- The Wainganga after joining the Wardha River at Chaprala in Gadchiroli district (Maharashtra) is known as the Pranahita River.
- Wardha river originates in Satpura Range in Betul District, Madhya Pradesh.
- Penganga river is a major tributary of the Wardha river and rises in the Ajanta range.
- Pranahita river empties into the Godavari River at Kaleshwaram, Telangana.
- Pranahita river is the largest tributary of the Godavari river covering about 34% of its drainage basin.
- Gosekhurdh irrigation project is being constructed on the Wainganga River.

Godavari River

- It is India's second longest river after the Ganga. Its source is in Trimbakeshwar, Maharashtra.
- It flows east for 1,465 kilometres, draining the states of Maharashtra, Telangana, Andhra Pradesh, Chhattisgarh, Odisha, and Karnataka.
- Major Tributaries: Indravati, Pravara, Wardha, Wainganga, Kanhan, Purna, Pranhita, Sabari, Manjira, Bindusara River etc.
- The Kaleshwaram lift irrigation project is an under-construction multi-purpose irrigation project on the Godavari River in Kaleshwaram, Bhoopalpally, Telangana.

- The project starts at the confluence point of Pranahita River and Godavari River.

Source: PIB, Indian Express, the Hindu

SHANKAR IAS PARLIAMENT
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