

An aerial photograph of a winding asphalt road that curves through a dense, lush green forest. Several cars are visible on the road, including a white car, a blue car, and a dark car. The road has white dashed lines for lane markings. The overall scene is vibrant and scenic.

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DAILY NEWS DECODE

19.10.21

China launched 1st Solar Exploration Satellite



- China has successfully launched its 1st solar exploration satellite into space from the Taiyuan Satellite Launch Center in northern Shanxi Province aboard a Long March-2D rocket.
- The satellite was named as 'Xihe' (Xihe is the goddess of the sun who created the calendar in ancient Chinese mythology), also known as the Chinese H α Solar Explorer (CHASE).
- The satellite has been developed by the China Aerospace Science and Technology Corporation (CASC).

NASA launches Lucy Mission to study the Jupiter Trojan asteroids



The US space agency NASA has launched a first-of-its-kind mission called 'Lucy Mission' to study Jupiter's Trojan asteroids. The mission life of Lucy is 12-year, during which the spacecraft will fly by a total of eight ancient asteroids to study about solar system's evolution.

- These will include one main-belt asteroid and seven Jupiter Trojan asteroids.
- The Lucy mission will mark NASA's first single spacecraft mission in history to explore so many different asteroids.
- The Lucy probe was launched on a United Launch Alliance (ULA) Atlas V rocket from Space Launch Complex 41 at Cape Canaveral Space Force Station in Florida on October 16, 2021.
- Jupiter's Trojan asteroids are two large clusters of space rocks that scientists believe are remnants of the primordial material that formed the solar system's outer planets.

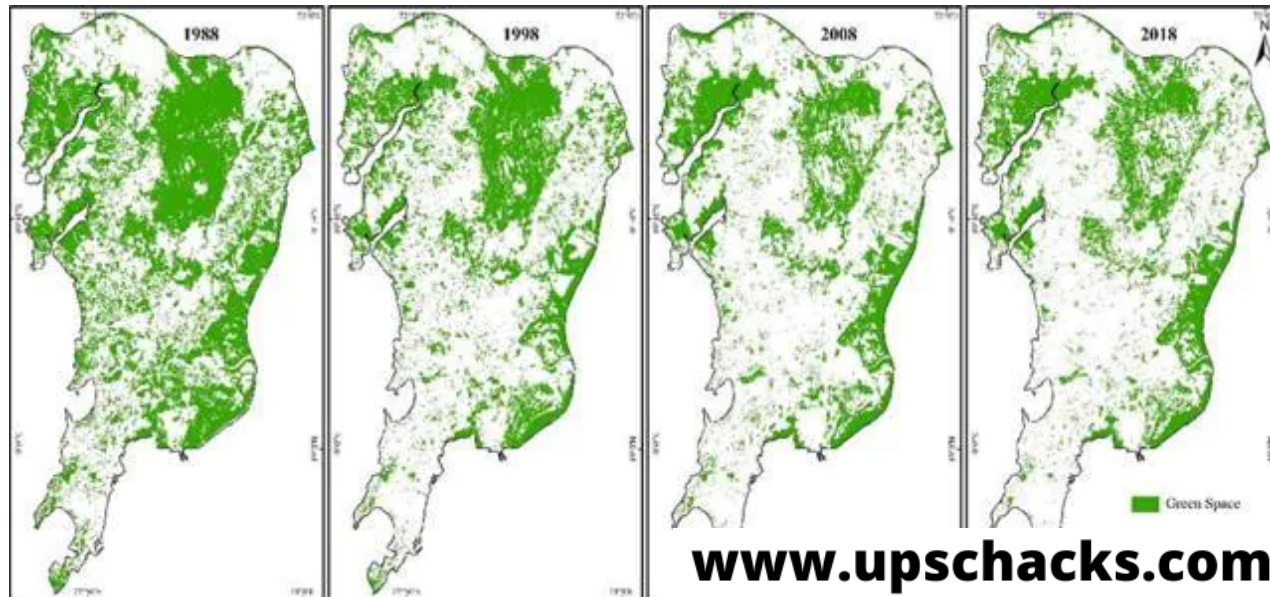
TIBETOLOGY



- **With a view to orienting its officers and men posted along the Line of Actual Control (LAC) in Tibetan culture and also preparing them to better understand the information warfare, the Army has begun a course in Tibetology in a tie-up with the Central Institute of Himalayan Cultural Studies in Arunachal Pradesh.**
- **The first batch of 15 participants was trained from March to May this year.**
- **Understanding Tibetan traditions, cultural peculiarities, democracy and political influence and so on empowers our men and officers to understand where we are going and where we are operating,” said a senior Army officer.**

- **The Army's Training Command, ARTRAC, has identified seven institutes for Tibetology across the country, two of which are in the northeast. The other one is the Namgyal Institute of Tibetology in Sikkim.**
- **During the 42 days of the preliminary course, Tibetan history, geopolitics and current political dynamics were covered in the form of lectures and case studies, the officer added. Lamas who were proficient in Tibetan issues were hired from the Bomdila Monastery to teach the course.**

MUMBAI GREEN COVER



- Mumbai lost 81% of its open land (barren spaces without any vegetation), 40% green cover (forests & scrublands) and approximately 30% of its water bodies (lakes, ponds, floodplains) between 1991 and 2018, while the built-up area (areas developed upon) rose by 66% in the same period, says a recent study.
- It concludes that the city witnessed a 2-degree Celsius average temperature rise across 27 years.
- With this pace of urbanisation and landscape transformation, it is expected that the Urban Heat Island intensity will further increase in the city.
- The extreme heat that one experiences while strolling through any urban landscape is caused by the Urban Heat Island effect, a micro-climatic phenomenon.

- This is due to a number of causes, the most prominent being the usage of materials such as concrete
- This will not only deteriorate the urban thermal environment but also increase the serious risks to health for city dwellers.
- This rise in heat intensity in Mumbai is linked to the declining green cover in the city, which is the result of the large-scale transformation of the green cover into built-up land for the infrastructural development in the city.

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ALLIUM NEGIANUM



- A plant discovered in Uttarakhand in 2019 has been newly confirmed as a new species of Allium — the genus that includes many staple foods such as onion and garlic, among 1,100 species worldwide. The new species is described in journal PhytoKeys.
- In 2019, Dr Anjula Pandey, Principal Scientist at ICAR-National Bureau of Plant Genetic Resources in New Delhi, together with scientists Drs K Madhav Rai, Pavan Kumar Malav and S Rajkumar, came across plants of this onion species, which they have named Allium negianum, in the border area of Malari village, in Chamoli district of Uttarakhand.

ARCTIC ICE



- According to a new study, If carbon emissions continue at current levels, summer ice will disappear by 2100 — and, along with it, creatures such as seals and polar bears
- In winter, most of the Arctic Ocean surface freezes, and scientists expect this to continue for the foreseeable future, even as climate warms.
- In summer, when some of the ice melts, winds and currents carry it for great distances — some of it into the North Atlantic, but much of it into the Arctic's farthest-north coasts, along Greenland and the Canadian islands.
- This results in a rich marine ecosystem. On the Arctic ice, algae bloom. These feed tiny animals, which in turn feed fish, which in turn feed seals, which feed polar bears at the top of the chain.

- The irregular topography also helps create lairs for seals, and ice caves for polar bears during the winter.
- But with a warming climate, summer sea ice has been shrinking fast, and now consistently spans less than half the area it did in the early 1980s.

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INTERNATIONAL SOLAR ALLIANCE

GENERAL ASSEMBLY

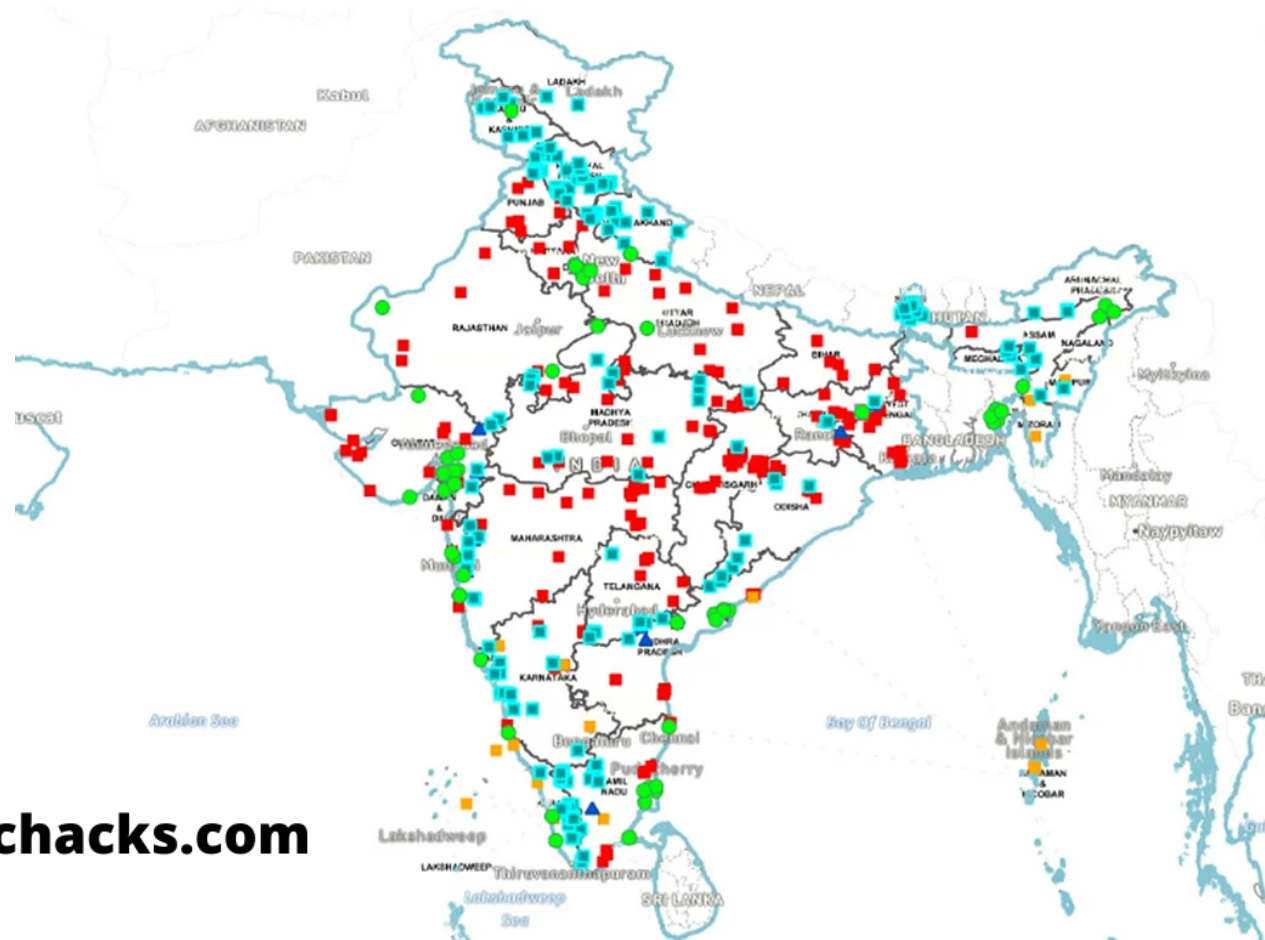


- The fourth general assembly of The International Solar Alliance (ISA), is to be held virtually between October 18th and October 21st, 2021, and will be presided over by Shri R.K. Singh, Minister for Power, New and Renewable Energy, Government of India and the President of the ISA Assembly.
- The ISA Secretariat has planned a series of technical sessions on various strategic initiatives of the ISA on October 18th, 2021, and technical sessions on various emergent issues in the solar and clean energy sector in partnership with partner and other organizations on October 20th and 21st, 2021.
- The Fourth Assembly of the ISA will deliberate on the key initiatives around the operationalisation of the OSOWOG initiative, the \$1 trillion Solar Investment Roadmap for 2030, and approval of a Blended Financial Risk Mitigation Facility.

- **World leaders of ISA member countries will also discuss the strategic plan of the ISA for the next five years encompassing a Country Partnership Framework, Strategy for Private Sector Engagement, and initiatives such as Viability Gap Financing scheme to facilitate affordable finance for solar energy projects across ISA's membership.**
- **The ISA will also discuss the partnership with Global Energy Alliance (GEA) to scale up technical and financial support to LDCs and SIDS.**
- **The Assembly is the apex decision-making body of ISA, in which each member country is represented.**

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GEOSPATIAL ENERGY MAP OF INDIA



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- Geospatial Energy Map of India was launched by Dr Rajiv Kumar (Vice Chairman, NITI Aayog), Dr V K Saraswat (Member, NITI Aayog), and Shri Amitabh Kant (CEO, NITI Aayog) on 18 October 2021.
- NITI Aayog in collaboration with Indian Space Research Organisation (ISRO) has developed a comprehensive Geographic Information System (GIS) Energy Map of India with the support of Energy Ministries of Government of India.

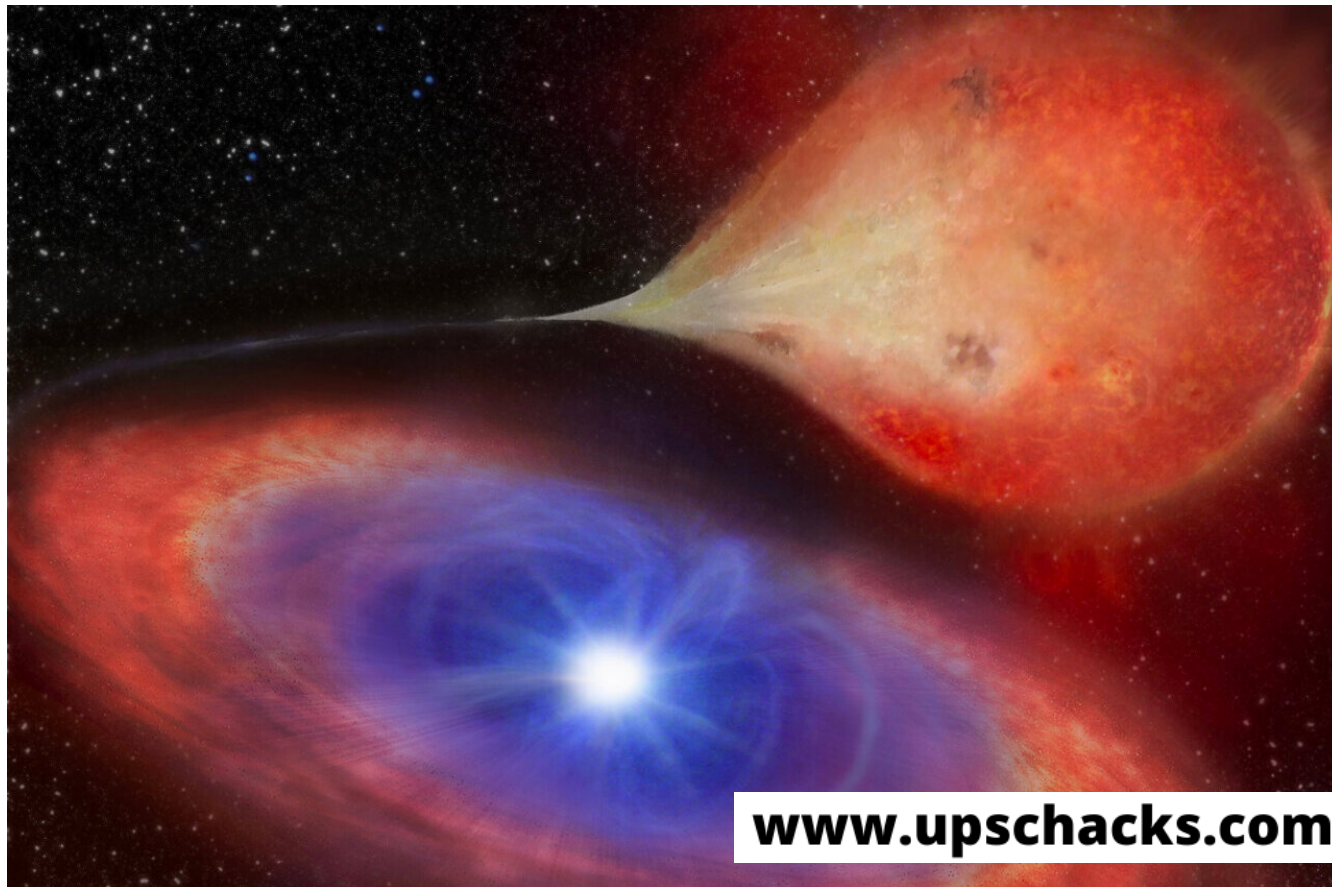
- **The GIS map provides a holistic picture of all energy resources of the country which enables visualisation of energy installations such as conventional power plants, oil and gas wells, petroleum refineries, coal fields and coal blocks, district-wise data on renewable energy power plants and renewable energy resource potential, etc through 27 thematic layers.**
- **The map attempts to identify and locate all primary and secondary sources of energy and their transportation/transmission networks to provide a comprehensive view of energy production and distribution in a country**

AI algorithm that detects subtle signs of heart failure made in US



- An AI-based computer algorithm that can identify subtle changes in ECGs to predict whether a patient is experiencing heart failure has been developed by researchers at US' Mount Sinai Health System.
- "Diagnosing these type of heart conditions requires expensive and time-consuming procedures. We hope that this algorithm will enable quicker diagnosis of heart failure," the study's senior author said.

White dwarf seen switching on & off for the 1st time: Astronomers



- **Researchers led by Durham University have seen a white dwarf abruptly switching on and off for the first time.**
- **The white dwarf observed by the team is known to be accreting, or feeding, from an orbiting companion star.**
- **Astronomers saw it lose brightness in 30 minutes, a process which has earlier been observed to occur over several days to months.**