

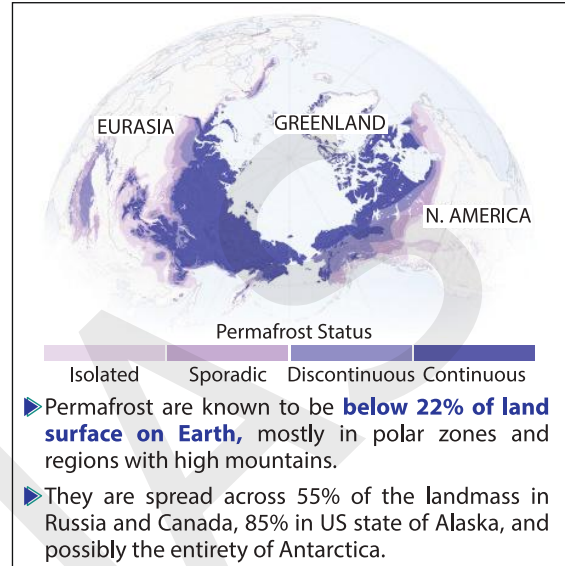
# NEWS TODAY

## OIL SPILL IN RUSSIA'S ARCTIC REGION

- Permafrost thawing is recognised as principal reason that led to **recent 20,000-tonne oil leak at an Arctic region power plant in Russia.**
  - Plant is built entirely on permafrost**, whose weakening over the years due to climate change caused the pillars supporting a fuel tank to sink.
  - Oil leaked into the local **Ambarnaya river in the Arctic region** turning the surface crimson red. The Ambarnaya river flows to the Pyasino lake and river Pyasina, which connects it to the Kara sea, a part of the Arctic Ocean.

### About Permafrost

- Permafrost is a **ground that remains completely frozen at 0°C or below for at least two years.**
- It is **composed of rock, soil and sediments held together by ice** and are believed to have formed during glacial periods dating several millennia.
- Every 1°C rise in temperature** can degrade up to 39 lakh km<sup>2</sup> of Permafrost due to thawing, which can result in:
  - Ground becoming unstable and leading to landslides, floods, infrastructure damage etc.
  - Threat to survival of indigenous people & animals.
  - Release of greenhouse gases by decomposition of organic leftover under permafrost.
  - Release of ancient bacteria and viruses into atmosphere.



## NATIONAL COMMODITY & DERIVATIVES EXCHANGE (NCDEX) TO PUBLISH TWO WEATHER-SENSITIVE INDICES

- Two indices are — the **Indian Monsoon Index (Cumulative Monsoon Index)** and **Indian Rain Index (Monthly Cumulative Rainfall Index).**
  - For this, NCDEX has tied up with **private weather forecasting company Skyspacemet.**
  - Two indices would track systematic rainfall movement in the country using rainfall data collection centres.
  - NCDEX will use **India Meteorological Department definitions on various predictions** such as normal, above normal and deficit, and compare them with actual rain on a daily basis to arrive at the value of the index.
- These indices will be useful for**
  - Economic sectors such as energy, agriculture, insurance, banking, construction, retail, etc.
  - Farmers, businesses, government institutions, etc.
- NCDEX is also seeking SEBI approval** for launching derivatives trading on the index.
  - Once the exchange shares knowledge and provides historical data, investors can take a call on their investments in the futures trading of the weather index.
- NCDEX is a **leading agricultural commodity exchange** having a broad-based bouquet of permitted commodities, including commodities such as pulses, spices and guar which are not traded on any platforms in the global scenario.

## MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE RELEASED ANNUAL REPORT 2019-20

### Key observations

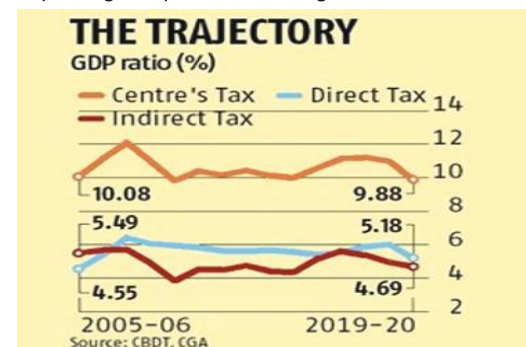
- Diversion of forest land:** 114.68 square kilometres of forest lands were diverted for other purposes in India in 2019. India continues to lose forest land to non-forestry projects.
  - More than a **third of the diversion** was in Odisha, followed by Telangana.
  - Projects included irrigation projects, road construction projects, mining projects.
- Mangrove cover:** Increase of 181 sq. km of mangrove cover in the country in 2017 compared to 2015.
- Biosphere Reserves:** Out of 18 Biosphere Reserves designated nationally, so far 11 have been included in the World Network of Biosphere Reserves of UNESCO.
- Number of Protected Areas (PA):** It has increased from a total of 771 in 2018 to 870 in 2019. Total area under PA is now 1,65,088.36 Sq.kms.
- Tigers in India:** India has **achieved the target set by the St Petersburg declaration on tiger conservation** (to double the number of wild tigers). As per the 4th cycle results, tiger estimate is 2967 vis-a-vis the estimate of 1411 in 2006.
- 100 days Action Plan** was initiated for the Restoration & Rejuvenation of 100 Wetlands across the country.

## INDIA'S TAX-TO-GDP RATIO (TGR) PLUNGES TO 9.88% IN FY20, LOWEST IN 10 YEARS

- This was **driven by a decline in collections** from custom duties and corporation tax.
  - Direct tax to GDP ratio fell** to its lowest in 14 years, while **indirect tax to GDP ratio** was at a 5-year low in FY20
  - Ratio stood at 10.97% in FY19, and at 11.22% in FY18.

### About TGR

- It is a representation of the size of the **government's tax revenue expressed as a percentage of the GDP.**
- Ratio determines the extent to which **government is able to finance its expenditure from tax collections**, it is also an indicator of tax compliance.
  - Higher TGR means that an economy's tax buoyancy is strong** as the share of tax revenue rises in sync with rise in country's GDP.
    - Higher ratio helps the government to **reduce its dependence on borrowings.**
  - Lower tax-to-GDP ratio constrains** government to **spend on infrastructure** and puts **pressure on the government to meet its fiscal deficit targets.**
  - Developed countries have a higher contribution of tax to their GDP (OECD average of 34.3%).
- It can be improved** by refining tax structure, improving compliance, reducing tax evasion etc.



# LIGHT DETECTION AND RANGING (LIDAR)

• Recently, UK based scientists **identified prehistoric sites using LiDAR** during lockdown period.

## About LiDAR

• LiDAR is a **remote sensing technology** that uses light in the form of a pulsed laser to measure ranges (distances) to a target.

> These light pulses—combined with other data recorded by the airborne system— **generate precise, three-dimensional information about the shape of the Earth** and its surface characteristics.

> It is similar to **radar and sonar** (that use radio and sound waves, respectively).

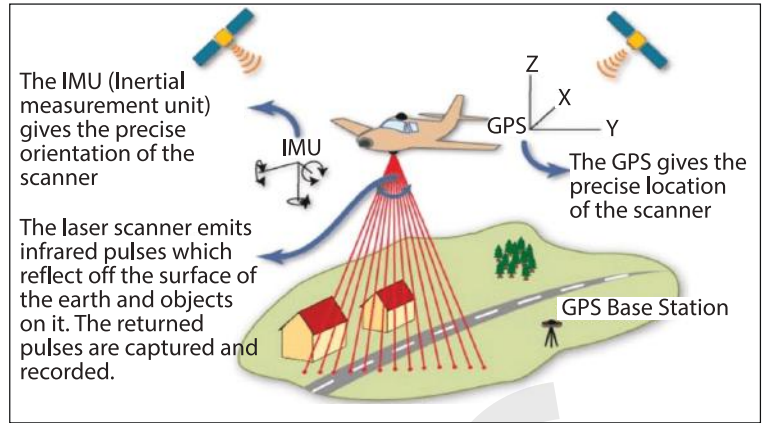
• A lidar instrument principally consists of a **laser, a scanner, and a specialized GPS receiver**.

> Airplanes and helicopters are the most commonly used platforms for acquiring lidar data over broad areas.

• Lidar systems allow **scientists and mapping professionals to examine both natural and manmade environments** with accuracy, precision, and flexibility.

> **Applications:** Land management and planning efforts, including hazard assessment, forestry, agriculture, geologic mapping, and watershed and river surveys etc.

> India uses **LiDAR for road construction projects, in Indian railways, agriculture etc.**



## ALSO IN NEWS

<p><b>Ladakh standoff</b></p>	<ul style="list-style-type: none"> <li>• <b>China is withdrawing soldiers deployed in the Galwan area of eastern Ladakh</b> and thinning out troops in the Pangong Tso sector where it was locked in a standoff with Indian military for a month.</li> <li>• The trigger for the face-off was China's stiff opposition to <b>India laying a key road in the Finger area around the Pangong Tso Lake besides construction of another road connecting</b> the Darbuk-Shyok-Daulat Beg Oldie road in Galwan Valley.</li> </ul>
<p><b>Quacquarelli Symonds (QS) World University Rankings</b></p>	<ul style="list-style-type: none"> <li>• <b>21 Indian universities</b> and institutes have found a place this year among <b>world's top 1,000</b> (Down from 25 last year).</li> <li>• <b>IIT Bombay</b> (172nd global rank), <b>IISc Bangalore</b> (185th rank), and <b>IIT Delhi</b> (193rd rank) figured in Top 200.</li> <li>• <b>Rankings are based on six indicators:</b> academic reputation, employer reputation, citations per faculty, faculty/student ratio, international faculty ratio and international student ratio.</li> </ul>
<p><b>FSSAI food safety index for 2019-20 released</b></p>	<ul style="list-style-type: none"> <li>• <b>The index ranks states on five parameters of food safety:</b> human resources and institutional data, compliance, food testing facility, training and capacity building besides consumer empowerment.</li> <li>• <b>Gujarat, Tamil Nadu and Maharashtra have topped in the list of larger states</b> on the index</li> <li>• Among the smaller states, Goa came first. Among Union Territories, Chandigarh, Delhi and Andaman Islands secured top ranks.</li> </ul>
<p><b>Assam's Baghjan Oil Well</b></p>	<ul style="list-style-type: none"> <li>• The well had blown out on May 27, 2020 and has been leaking gas for the past 14 days.</li> <li>• Environmentalists fear that this can lead to a long term impact on biodiversity and human lives.             <ul style="list-style-type: none"> <li>&gt; <b>Maguri-Motapung wetland</b> is located towards the south of the site.</li> <li>&gt; <b>Dibru Saikhowa National Park</b> is also located around two kilometres in the north.</li> </ul> </li> </ul>
<p><b>Coral Triangle</b></p>	<ul style="list-style-type: none"> <li>• June 9 is celebrated as a <b>Coral Triangle Day</b>, to celebrate and raise awareness of ocean conservation and protection, especially on Coral Triangle.</li> <li>• It is a <b>marine area located in the western Pacific Ocean</b> described as world's epicentre of marine diversity.</li> <li>• It includes waters of <b>Indonesia, Malaysia, the Philippines, Papua New Guinea, Timor Leste and Solomon Islands</b>.</li> <li>• It houses <b>nearly 600 different species</b> of reef-building corals.</li> <li>• It is <b>one of 3 mega ecological complexes</b> on Earth, together with <b>Congo Basin and Amazon Rainforest</b>.</li> </ul>
<p><b>ANANYA</b></p>	<ul style="list-style-type: none"> <li>• It is a <b>Nano-technology based disinfectant spray</b> to combat COVID-19 by disinfecting all types of surfaces.</li> <li>• It adheres very effectively to <b>fabric, plastic and metallic objects</b>, and its toxicity to humans is negligible.</li> <li>• It is a <b>water based spray</b> and will be effective for more than 24 hours after spray.</li> <li>• <b>Developed by:</b> Defence Institute of Advanced Technology, a Deemed University, Pune</li> </ul>

📞
🌐

**DELHI**

**LUCKNOW**

**JAIPUR**

**HYDERABAD**

**PUNE**

**AHMEDABAD**

**CHANDIGARH**