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## 'Not All Animals Migrate by Choice' Campaign

Ahead of the International Day of Biological Diversity celebrated on May 22, **UN Environment India and Wildlife Crime Control Bureau (WCCB) of India** has launched an awareness campaign '**Not all animals migrate by choice**' to be displayed at major airports across the country.

- The campaign aims at creating awareness and garnering public support for the protection and conservation of wildlife, prevention of smuggling and reduction in demand for wildlife products.
- **The campaign also complements worldwide action on illegal trade in wildlife through UN Environment's global campaign, Wild for Life.**

### Impact of illegal wildlife trade

- **Species face extinction** because of demands arising out of illegal wildlife trade.
- Overexploitation of the wildlife resources due to its illegal trade creates **imbalances in the ecosystem.**
- Illegal wildlife trade as part of the illegal trade syndicates **undermines the economy** of the country and thereby creating social insecurity.
- Wild plants that provide genetic variation for crops (natural source for many medicines) are threatened by the illegal trade.
- In the first phase of the campaign, **Tiger, Pangolin, Star Tortoise and Tokay Gecko have been chosen** as they are highly endangered due to illegal trading in international markets.
  - Recent media reports on seizures of illegally traded species and their parts at airports is a growing indication of rampant wildlife trafficking.
  - Some of the major wildlife species being smuggled through airports are star tortoises, live birds, Shahtoosh shawls, tiger and leopard body parts, ivory, rhino horns, pangolin and pangolin scales, sea shells, sea-horse, Sea-cucumber, red

sanders, agarwood, deer antlers, mongoose hairs, reptile skins, live snakes, lizards, corals, orchids and medicinal plants.

- **Phase two** will include more threatened species and will also consider other routes of trafficking.
- Illegal Trade in Wildlife will continue as long as there is a demand-market for it. Awareness supported by co-ordinated action of all enforcement agencies, people's participation and proper implementation of national and international wildlife law can help the fight against wildlife crime.

## UN Environment

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- **The United Nations Environment Programme (UN Environment) is a leading global environmental authority** that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system, and serves as an authoritative advocate for the global environment.
- **It is headquartered in Nairobi, Kenya.**

## Wildlife Crime Control Bureau (WCCB)

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- It is a **statutory multi-disciplinary body**, established by the Government of India **under the Ministry of Environment and Forests**, to combat organized wildlife crime in the country.
- The Bureau has its **headquarters in New Delhi.**
- **Under Section 38 (Z) of the Wild Life (Protection) Act, 1972, it is mandated to:**
  - collect and collate intelligence related to organized wildlife crime activities and to disseminate the same to the State and other enforcement agencies for immediate action so as to apprehend the criminals.
  - establish a centralized wildlife crime data bank.
  - assist foreign authorities and international organization concerned to facilitate coordination and universal action for wildlife crime control.
  - build capacity of the wildlife crime enforcement agencies for scientific and professional investigation into wildlife crimes.
  - assist State Governments to ensure success in prosecutions related to wildlife crimes.
  - advise the Government of India on issues relating to wildlife crimes having national and international ramifications, relevant policy and laws.
- It also **assists and advises the customs authorities in inspection of the consignments of flora & fauna** as per the provisions of the Wild Life Protection Act, Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and Export Import (EXIM) Policy governing such an item.

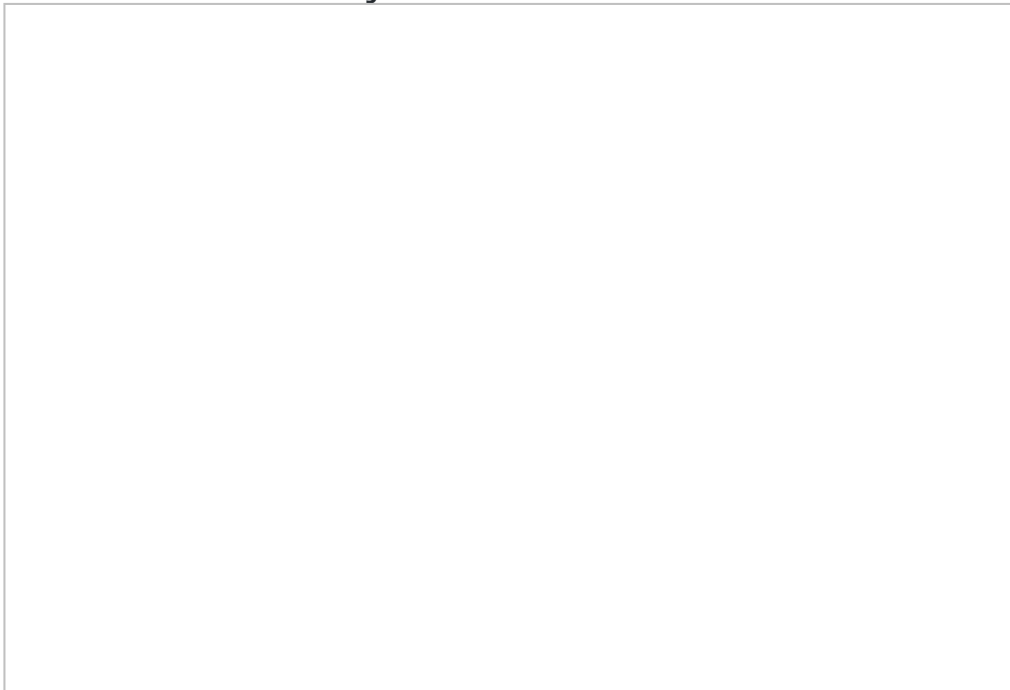
# Madden-Julian Oscillation (MJO)

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According to India Met Department (IMD), the Arabian Sea arm of south-west monsoon is counting on an itinerant Madden-Julian Oscillation (MJO) wave for normal monsoon.

- It is an oceanic-atmospheric phenomenon which affects weather activities across the globe. It brings major fluctuation in tropical weather on weekly to monthly timescales.
- The MJO can be defined as an eastward moving 'pulse' of clouds, rainfall, winds and pressure near the equator that typically recurs every 30 to 60 days.
- It's a **traversing phenomenon** and is most prominent over the Indian and Pacific Oceans.

## Phases of Madden-Julian Oscillation



- The MJO consists of two parts or phases. Strong MJO activity often dissects the planet into halves. One half within the enhanced convective phase and the other half in the suppressed convective phase.
  - **Enhanced rainfall (or convective) phase:** winds at the surface converge, and the air is pushed up throughout the atmosphere. At the top of the atmosphere, the winds reverse (i.e., diverge). Such rising air motion in the atmosphere tends to increase condensation and rainfall.
  - **Suppressed rainfall phase:** winds converge at the top of the atmosphere, forcing air to sink and, later, to diverge at the surface. As air sinks from high altitudes, it warms and dries, which suppresses rainfall.
- It is this entire dipole structure, that moves west to east with time in the Tropics, causing more cloudiness, rainfall, and even storminess in the enhanced convective phase, and more sunshine and dryness in the suppressed convective phase.

## How Does MJO Affect Indian Monsoon?

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- The Indian Ocean Dipole (IOD), El Nino and MJO are all oceanic and atmospheric phenomena, which affect weather on a large scale. IOD only pertains to the Indian Ocean, but the other two affect weather on a global scale-up to the mid-latitudes.
  - IOD and El Nino remain over their respective positions, while MJO is a **traversing phenomenon**.
  - The journey of MJO goes through **eight phases**.
    - When it is over the Indian Ocean during the Monsoon season, **it brings good rainfall over the Indian subcontinent**.
    - On the other hand, when it witnesses a **longer cycle and stays over the Pacific Ocean**, MJO brings bad news for the Indian Monsoon.
  - It is linked with enhanced and suppressed rainfall activity in the tropics and is very important for the Indian monsoonal rainfall.
  - **Periodicity of MJO:**
    - If it is nearly 30 days then it brings **good rainfall** during the Monsoon season.
    - If it is above 40 days then MJO **doesn't give good showers** and could even lead to a dry Monsoon.
    - Shorter the cycle of MJO, better the Indian Monsoon. Simply because it then visits the Indian Ocean more often during the four-month-long period.
  - Presence of MJO over the Pacific Ocean along with an El Nino is detrimental for Monsoon rains.
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## Important Facts For Prelims (21st May 2019)

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### Call Centre for Surveillance of School Teachers by Gujarat Govt.

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- **Gujarat government** is going to start a new **“real-time technology enabled” surveillance plan to monitor government school teachers** when the new academic session will start in June.
- The aim is to improve the quality of education by ensuring that teachers stick to their assigned tasks on a daily basis.
- The entire operation will be run from a tech-equipped **“command and control centre”**, which is being set up in Gandhinagar.
- Not only the teachers but also the personnel who monitor them will be handed **GPS-enabled tablets** and **tracked through geofencing** by which an alert will be triggered when a mobile device enters or leaves a specified area.
- The executives of the call centre will **ask the teachers a series of questions from a template about the location of their assignment for the day, the task, and who assigned it**.

- If they are on leave, they will have to provide details, including the number of days and the approval authority.
- Then, the data would feed into Excel sheets to record responses for each day. The call centre feedback would be verified with online data collected by other means.
- The control centre will be monitored on a daily basis by the heads of department under the Education Department, Director Primary Education, Director SSA, Gujarat Council of Educational Research and Training, Gujarat Secondary and Higher Secondary Education Board and Schools Commissioner.
- According to the officials, the **new tracking system will have "a positive impact on the teaching fraternity"**. Apart from their whereabouts and assignment, suggestions related to new teaching methods and innovation will also be taken and recorded.

## India Adopts New Standards for Measuring Kilogram

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Recently, the CSIR-National Physical Laboratory (NPL), which is India's official reference keeper of units of measurements, released a set of recommendations to update the definition of the kilogram.

- The kilogram joined other standard units of measure such as the second, metre, ampere, Kelvin, mole and candela that would no longer be defined by physical objects.
- The measures are all now **defined on the basis of unchanging universal, physics constants**. The kilogram now hinges on the definition of the **"Planck Constant", a constant of nature that relates to how matter releases energy**.
- In 2018, at the General Conference on Weights and Measures (CGPM) in Versailles (France), delegates of International Bureau of Weights and Measures (BIPM) had voted to **redefine the kilogram** in terms of **Planck constant**.
- Earlier, the kilogram derived its provenance from the weight of a block of a platinum-iridium alloy housed at the International Bureau of Weights and Measures in France.

**NOTE:** CSIR-NPL is also in the process of making its own '**Kibble Balance**', a device that was used to measure the Planck Constant.

## VAYOSHRESTHA SAMMAN

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**Department of Social Justice and Empowerment** is inviting nominations for the Vayoshreshtha Samman.

### About the Awards

- Vayoshrestha Samman is **National award for Senior citizens** conferred on the **Individuals** (eminent senior citizens) as well as the **Institutions** working for the welfare of older people.
- Vayoshreshtha Awards are presented on the eve of **International Day of Older Person**, which is observed every year on the **1<sup>st</sup> of October**.
- United Nations General Assembly adopted a resolution to observe 1<sup>st</sup> October 1999 as the International Year of Older Persons.

## Mount Thinchinkhang

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- Recently, a team consisting of 20 NCC girl cadets was flagged for mountaineering expedition to Mt. Tenchenkhang.
- **Mount Thinchinkhang (6010m)** is situated in Western Sikkim and falls under **Khangchendzonga National Park** which is a window to natural beauty, bio-diversity, sacred lakes and snow-capped Mountains.
  - It is a National Park and a Biosphere Reserve located in Sikkim, India. It was inscribed to the **UNESCO World Heritage Sites list in July 2016**, becoming the first **"Mixed Heritage" site** of India.
  - It is included in the UNESCO **Man and the Biosphere Programme**. The park gets its name from the mountain Kangchenjunga (alternative spelling Khangchendzonga) which is 8,586 metres (28,169 ft) tall, the third-highest peak in the world. The total area of this park is 849.5 km<sup>2</sup> (328.0 sq mi).

## IIT BOMBAY fabricates wearable supply capacitors

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- **IIT BOMBAY** has come up with a supercapacitor which when stitched to a fabric can generate energy ranging from microwatt to milliwatt, which can be further used for **charging GPS location-based devices, LED lamp or even small electronic devices**.
- When Supercapacitor is integrated with piezoelectric generator , it can run on its own without requiring any external power or energy.

### About Piezoelectric Currents

- Where **Piezoelectric generator** works on the principle of converting structural vibrations in the form of accumulated charge over the solid (produced by Mechanical stress) into Electricity.
- Piezoelectric effect can be seen in the solid crystal which when subjected to external pressure will generate Alternating Current.
- Piezoelectric effect is a reversible process which implies that applied External stress will result into internal generation of electricity and applied internal stress will result into external electricity.
- Most common piezoelectric materials are Quartz, Ceramic and Salts. Application of piezoelectric effect can be seen in Inkjet printing, generation of high voltages, cigarette lighters etc.
- Fabrication of Electrodes of superconductor done by **coating cotton yarn with carbon nanotubes converts** insulating yarn into metallic superconductor that further increases the electrical conductivity of the wearable superconductor and increases its energy storage capacity.

## Ongole Cattle Breed

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- The Vice President of India has lamented the neglect of the indigenous **Ongole cattle breed and called for protecting and promoting the animal**, which has become popular all over the world.
- The Ongole breed takes its name from the geographical area in **Andhra Pradesh** in which it is produced.
- It is also called the **Nellore breed** for the reason that formerly, Ongole Taluk was included in the Nellore district but now it is included in Guntur district.
- It is a **native** of the coastal districts: **Guntur, Prakasam** and **Nellore** of Andhra Pradesh.
- It is a **dual-purpose breed** that is it can be raised for the production of milk as well as for the use in field works like for ploughing etc.
- The breed is known for its **toughness, high milk yield, tolerance to tropical heat and disease resistance**.