

RABINDRANATH TAGORE BIRTH ANNIVERSARY

GS Paper - 1 - Important Personalities



WHY IN NEWS?

The Prime Minister on 9th May, 2022 paid tribute to Gurudev Rabindranath Tagore on his birth anniversary.

- According to the Bengali calendar, the Tagore Jayanti falls on the 25th day of the Boishakh month.

WHAT DO WE KNOW ABOUT RABINDRANATH TAGORE?

○ **Birth:**

- He was born in **Calcutta on 7th May 1861.**

○ **About:**

- He was also referred to as '**Gurudev**', '**Kabiguru**', and '**Biswakabi**'.
- He is regarded as the outstanding creative artist of modern India and hailed by W.B Yeats, Rabindranath Tagore was a **Bengali poet, novelist, and painter**, who was highly influential in introducing Indian culture to the west.
- He was an exceptional **literary figure and a renowned polymath** who singlehandedly reshaped the region's literature and music.
- He was a **good friend of [Mahatma Gandhi](#)** and is said to have **given him the title of Mahatma.**
- He had always stressed that **unity in diversity** is the only possible way for India's national integration.
- He had spoken at the **World Parliament for Religions in the years 1929 and 1937.**

○ **Contributions:**

- He is said to have **composed over 2000 songs** and his songs and music are called '**Rabindra Sangeet**' with its own distinct lyrical and fluid style.

- He is responsible for modernising Bengali prose and poetry. His notable works include **Gitanjali, Ghare-Baire, Gora, Manasi, Balaka, Sonar Tori**, He is also remembered for his song '**Ekla Chalo Re**'.
 - He published his first poems aged 16 under the pen-name '**Bhanusimha**'.
- He not only gave the **national anthems for two countries, India and Bangladesh**, but also **inspired a Ceylonese student of his, to pen and compose the national anthem of Sri Lanka**.
- Besides all his literary achievements he was also a philosopher and educationist who in **1921 established the Vishwa-Bharati University**, a university that challenged conventional education.
- **Awards:**
 - In **1913** he was awarded the **Nobel Prize in Literature** for his work on Gitanjali.
 - He was the **first non-European** to receive the Nobel Prize.
 - In 1915 he was awarded **knighthood** by the British King George V. In 1919, following the **Jallianwalla Bagh massacre**, he renounced his Knighthood.
- **Death:**
 - He died on **7th August 1941 in Calcutta**.
- **Quotes by him:**
 - "You can't cross the sea merely by standing and staring at the sea."
 - "Don't limit the child to your own learning, for he was born in another time."
 - "If I can't make it through one door, I'll go through another door- or I'll make a door. Something terrific will come no matter how dark the present."
 - "Facts are many, but the truth is one".

[Source:PIB](#)

UNITED KINGDOM HAVE CONFIRMED A CASE OF MONKEYPOX

GS Paper - 3 - Health



WHY IN NEWS?

Recently, Health authorities in the **United Kingdom** have confirmed a case of monkeypox, a rare viral infection similar to smallpox, in an individual who recently travelled to that country from **Nigeria**.

- Monkeypox is a **viral zoonosis** (a virus transmitted to humans from animals) with symptoms similar to those seen in the past in **smallpox** patients, although it is clinically less severe.
- With the eradication of smallpox in 1980 and subsequent cessation of smallpox vaccination, it has emerged as the most important **orthopoxvirus**.
- The genus Orthopoxvirus contains four species that infect humans: variola (smallpox), monkeypox, vaccinia (includes buffalopox), and cowpox.

WHAT IS MONKEY POX?

- **About:** Monkeypox is a **viral zoonotic disease** that occurs primarily in tropical rainforest areas of **Central and West Africa** and is occasionally exported to other regions.
 - Monkeypox virus infection has been **detected in squirrels, Gambian poached rats, dormice, and some species of monkeys**.
 - Monkeypox is **caused by monkeypox virus**, a member of the Orthopoxvirus genus in the family Poxviridae.
- **Background:** Monkey Pox infection was **first discovered in 1958** following two outbreaks of a pox-like disease in colonies of monkeys kept for research — which led to the **name ‘monkeypox’**.
- **Symptoms:** Monkeypox typically presents clinically with fever, rash and swollen lymph nodes.
 - It causes the **lymph nodes to swell (lymphadenopathy)**, which smallpox does not.

- **Transmission:** Monkeypox virus is mostly transmitted to people from **wild animals such as rodents and primates**, but human-to-human transmission also occurs.
- **Human to Human Transmission:** The first human case was recorded in 1970 in the **Democratic Republic of the Congo (DRC)** during a period of intensified effort to eliminate smallpox.
 - Monkeypox virus is transmitted from **one person to another by contact** with lesions, body fluids, respiratory droplets and contaminated materials such as bedding.
- **Incubation Period:** The incubation period (time from infection to symptoms) for monkeypox is usually **7-14 days but can range from 5-21 days**.
- **Fatality Rate:** Typically, up to a tenth of people ill with monkeypox may die, with most deaths occurring in younger age groups.
- **Treatment:** The clinical presentation of monkeypox resembles that of smallpox, a related orthopoxvirus infection which was declared eradicated worldwide in 1980.
 - Vaccinia **vaccine** used during the **smallpox eradication programme was also protective against monkeypox**.
 - A new third generation vaccinia vaccine has now been approved for prevention of smallpox and monkeypox. Antiviral agents are also being developed.

[Source:IE](#)

CYCLONE ASANI

GS Paper - 1 - GS Paper - 3 - Physical Geography - Disaster Management



WHY IN NEWS?

The [India Meteorological Department \(IMD\)](#) has predicted the [Cyclone Asani](#) to intensify into a 'severe cyclone' over Southeast regions of Bay of Bengal.

- The name **Cyclone Asani** has been given by Sri Lanka. It means 'wrath' in Sinhalese.
- Cyclones that Hit India in 2020-21: [Tauktae](#), [Yaas](#), [Nisarga](#), [Amphan](#).

WHAT IS THE OCCURRENCE OF CYCLONES IN INDIA?

- India has a **bi-annual cyclone season** that occurs between **March to May and October to December**. But on rare occasions, cyclones do occur in June and September months.
 - Cyclone Gulab became the third cyclone of the 21st century to make landfall over the east coast in September, after tropical cyclone Daye in 2018 and Pyarr in 2005.
- Typically, **tropical cyclones in the North Indian Ocean region** (Bay of Bengal and Arabian Sea) develop during the **pre-monsoon** (April to June) and post-monsoon (October to December) periods.
- May-June and October-November are known to produce cyclones of severe intensity that affect the Indian coasts.

WHAT IS CLASSIFICATION?

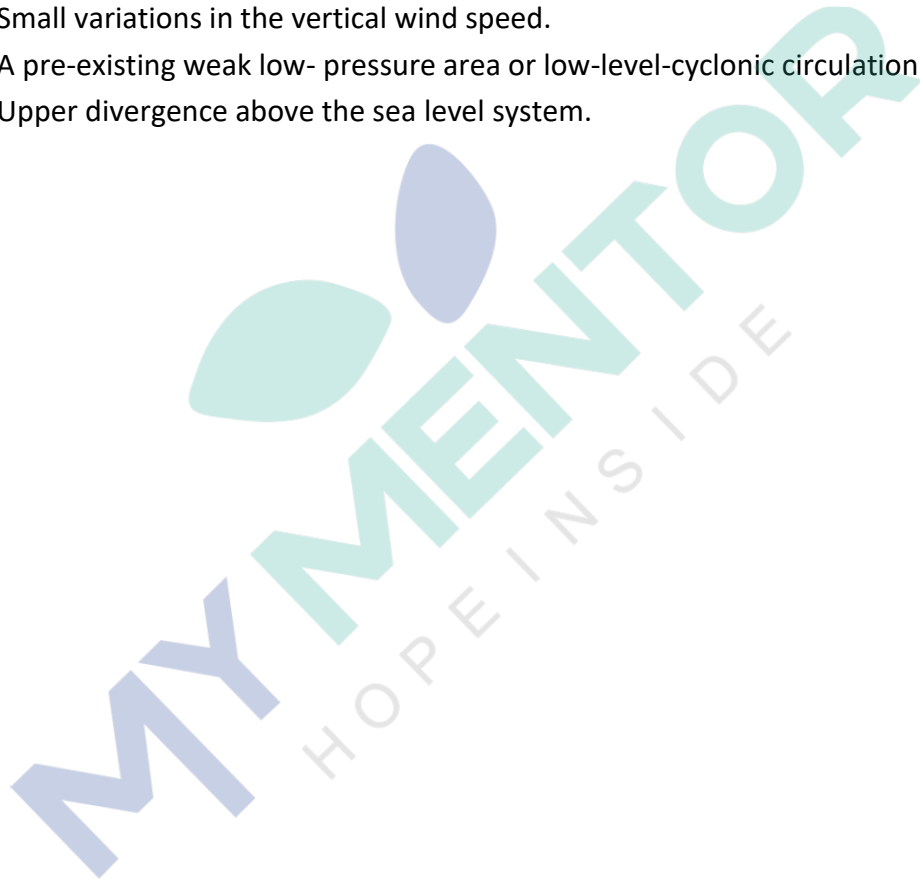
- The IMD classifies cyclones **on the basis of the Maximum Sustained Surface Wind Speed (MSW)** they generate.
- The cyclones are classified as severe (MSW of 48-63 knots), very severe (MSW of 64-89 knots), extremely severe (MSW of 90-119 knots) and super cyclonic storm (MSW of 120 knots or more). One knot is equal to 1.8 kmph (kilometers per hour).

WHAT ARE THE TROPICAL CYCLONES?

- A **tropical cyclone** is an intense circular storm that originates over warm tropical oceans and is characterized by low atmospheric pressure, high winds, and heavy rain.

- A **characteristic feature of tropical cyclones is the eye**, a central region of clear skies, warm temperatures, and low atmospheric pressure.
- Storms of this type are called **hurricanes in the North Atlantic and eastern Pacific and typhoons in SouthEast Asia and China**. They are called **tropical cyclones in the southwest Pacific and Indian Ocean region** and **Willy-willies in north-western Australia**.
- Storms **rotate counterclockwise in the northern hemisphere** and clockwise in the southern hemisphere.
- The **conditions favourable** for the formation and intensification of tropical storms are:
 - Large sea surface with temperature higher than 27° C.
 - Presence of the [Coriolis force](#).
 - Small variations in the vertical wind speed.
 - A pre-existing weak low- pressure area or low-level-cyclonic circulation.
 - Upper divergence above the sea level system.

[Source:IE](#)



NEW REVIEW OF STATE OF THE WORLD'S BIRDS

GS Paper - 3 - Conservation - Government Policies & Interventions



WHY IN NEWS?

According to the new review 'State of the World's Birds', approximately 48% of existing bird species worldwide are known or suspected to be undergoing population declines.

- State of the World's Birds is an **annual review of environmental resources**.
- Since birds are highly visible and are sensitive indicators of environmental health, **their loss signals a much wider loss of biodiversity** and threat to human health and well-being.

WHAT ARE THE KEY HIGHLIGHTS OF THE REVIEW?

- **About:**
 - **Overall:**
 - The threat has been **attributed to almost half of the 10,994 recognised extant species of birds to the expanding human footprint** on the natural world and **climate change**.
 - **While 4,295 or 39% of the species** had stable trends, about 7% or 778 species had increasing population trends. The trend of 37 species was unknown.
 - The study **reviewed changes in avian biodiversity** using data from the **International Union for Conservation of Nature's Red List** to reveal the changes in fortunes of all the global bird species.

- **India:**
 - The trend towards **declining bird diversity is just as alarming in India**, where recent annual trends have been calculated for 146 species.
 - ❖ Of these, **nearly 80% are declining in numbers, and almost 50% plummeting strongly.**
 - ❖ Just over **6% of the species studied show stable populations** and 14% show increasing population trends.
 - **Among the most threatened species** were endemic species, birds of prey, and those living in forests and grasslands.
- **Reasons for the Decline:**
 - **Degradation and loss of natural habitats as well as direct overexploitation** of many species are the key threats to avian biodiversity.
 - The **use of 37% of the surviving bird species as common or exotic pets and 14% as food** are examples of direct overexploitation.
 - Also, humans eat 14% of the world's surviving species of birds.
 - Apart from **tropical forests**, the threat of natural grasslands has been particularly worrying for North America, Europe and India.

WHAT ARE THE RECOMMENDATIONS?

- Conducting reliable estimates of population abundance and change.
- Novel and more effective solutions applied at scale for demand reduction for over harvested wild birds.
- Monitoring green energy transitions that can impact birds if inappropriately implemented
- Eradication of populations of invasive alien species.
- Shifting human societies to economically sustainable development pathways.

[Source: TH](#)

HEATWAVES AND WET BULB TEMPERATURE

GS Paper - 3 - Environmental Pollution & Degradation - Conservation

WHY IN NEWS?

The recently published [Intergovernmental Panel on Climate Change \(IPCC\) Report AR6](#) (Sixth Assessment Report) has emphasised that **humidity is very important factor** while estimating the physiological stress that extreme heat puts on the human body.

- Instead of the **“dry bulb” temperature** which is usually measured using a regular thermometer, an alternative metric known as the **“wet bulb temperature”** has been used to measure exposure to extreme heat.
- Since March 2022, the consecutive [heatwaves](#) over South Asia **have continued the disturbing tradition of breaking historical temperature records.**

WHAT ARE HEATWAVES?

- A heatwave is a period of **abnormally high temperatures**, more than the normal maximum temperature that occurs during the summer season in the North-Western and South Central parts of India.
- Heatwaves typically occur between March and June, and in some rare cases even **extend till July.**
- [India Meteorological Department](#) (IMD) classifies heatwaves according to regions and their temperature ranges.

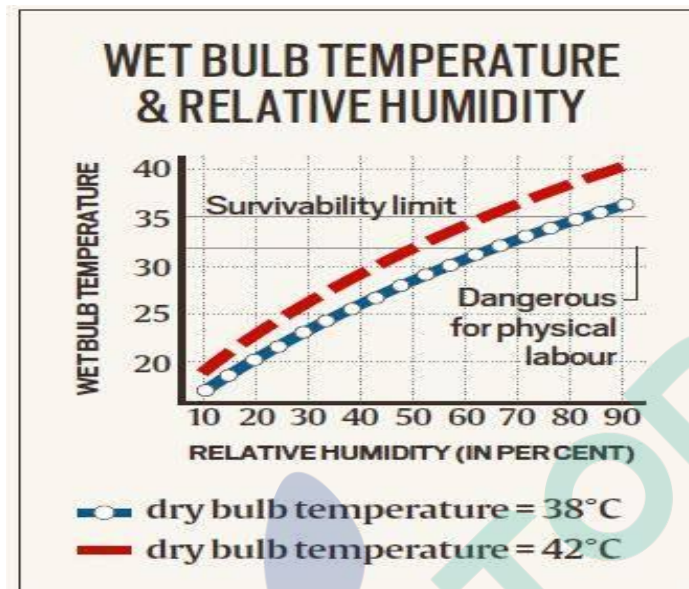
WHAT IS THE CRITERIA FOR HEATWAVES?

- The heatwave is considered when the maximum temperature of a station reaches **at least 40°C for Plains and at least 30°C for Hilly regions.**
- If the normal maximum temperature of a station is less than or equal to 40°C, then an increase of 5°C to 6°C from the **normal temperature is considered to be heat wave condition.**
 - Further, an increase of 7°C or more from the normal temperature is considered a **severe heat wave condition.**
- If the normal maximum temperature of a station is more than 40°C, then an increase of **4°C to 5°C from the normal temperature** is considered to be heat wave condition. Further, an increase of 6°C or more is considered a severe heat wave condition.
- Additionally, if the **actual maximum temperature remains 45°C or more** irrespective of normal maximum temperature, a heat wave is declared.

WHY IS HUMIDITY SUCH A CRITICAL FACTOR WHILE MEASURING HEAT EXPOSURE?

- Humans lose heat generated within their bodies **by producing sweat that evaporates on the skin.**
 - The cooling effect of this evaporation is essential in maintaining a **stable body temperature.**
- As humidity rises, sweat does not evaporate and makes it difficult to regulate body temperature. This is why humans **feel more discomfort in humid places.**
- The wet bulb temperature is usually **lower than the dry bulb temperature**, and the difference **between the two increases** dramatically as the air becomes dry.

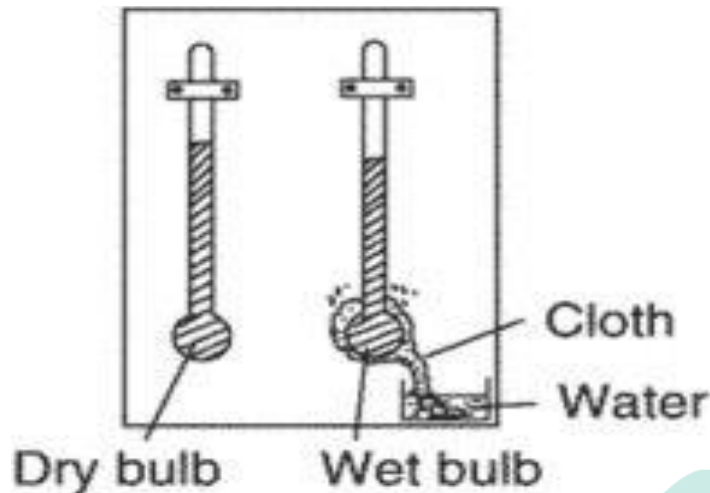
- The report mentions that sustained exposures to wet bulb temperatures **above 35°C are fatal**, while sustained exposures to wet bulb temperatures **above 32°C are dangerous for intense physical activity**.



- The humidity required to reach wet bulb temperatures in excess of 35°C over land is exceedingly **difficult to achieve**.
 - According to the report, such conditions are **rarely observed** nowadays.
- The findings also suggest that it is unlikely to experience sustained exposure to wet bulb temperatures **beyond the threshold of survivability**.
- The hype around survivability thresholds and wet bulb temperatures hides deeper issues, **both physiological and political**.
 - Firstly, the **inability of the body to stabilise its core temperature** can have multiple reasons.
 - Increased strain on the heart during periods of elevated temperature could be fatal for those with **pre-existing cardiac conditions** which is the **leading cause of deaths** during heatwaves.
 - **Pre-existing respiratory problems and diabetes** too are potential causes of death.
 - Such conditions **impair the body's ability to efficiently transfer heat to the environment**.

WHAT IS THE WET BULB TEMPERATURE?

- Wet bulb temperature is the **lowest temperature to which air can be cooled** by the evaporation of water into the air at a constant pressure.
- WBT is a limit that **considers heat and humidity beyond which humans can not tolerate** high temperatures.
- The Wet Bulb temperature is the **temperature of adiabatic saturation**. This is the temperature indicated by a moistened thermometer bulb exposed to the air flow.
 - An adiabatic process is one in which **no heat is gained or lost by the system**.
- Wet Bulb temperature can be **measured by using a thermometer with the bulb wrapped in wet muslin**.



- The adiabatic evaporation of water from the thermometer and the cooling effect is indicated by a **"wet bulb temperature" lower than the "dry bulb temperature"** in the air.
- The rate of evaporation from the wet bandage on the bulb, and the temperature difference between the dry bulb and wet bulb, **depending on the humidity of the air.**
- The evaporation is reduced when the air contains more water vapour.
- The wet bulb temperature is always lower than the dry bulb temperature but will be **identical with 100% relative humidity** (the air is at the saturation line).

WHAT IS DRY BULB TEMPERATURE?

- The Dry Bulb temperature usually referred to as **"air temperature"**, is the air property that is most commonly used. When people refer to the temperature of the air they are normally referring to the dry bulb temperature.
- The Dry Bulb Temperature refers basically to the **ambient air temperature**. It is called "Dry Bulb" because the air temperature is **indicated by a thermometer not affected by the moisture of the air.**
- Dry-bulb temperature **can be measured using a normal thermometer** freely exposed to the air but shielded from radiation and moisture.
- The dry-bulb temperature is an **indicator of heat content**.

Source:IE