



VAJIRAM & RAVI
Institute for IAS Examination

The Analyst

CURRENT AFFAIRS Handout

21st April 2025



What is Cloudburst?

CONTEXT: The Jammu and Kashmir grappled with the trail of destruction left behind by cloudbursts and flash floods, with at least five people feared dead and hundreds more left stranded.

WHAT IS A CLOUDBURST?

Cloudburst is a sudden, very heavy rainfall, usually local in nature and of brief duration. Cloudbursts are especially common in mountainous areas.

Cloudbursts occur only via orographic lift i.e. a situation when a warm air parcel mixes with cooler air, resulting in sudden condensation.

Orographic Lifting And Cloudburst

- Moist air encounters a mountain or hill and is forced to rise
- Rising air cools and condenses; clouds develop
- Violent upward flow of air prevents the condensing raindrops from falling to the ground
- Lack of upward air prevents dissipation of moisture
- Whole of the stored water falls at one time
- Steep slope causes flash floods

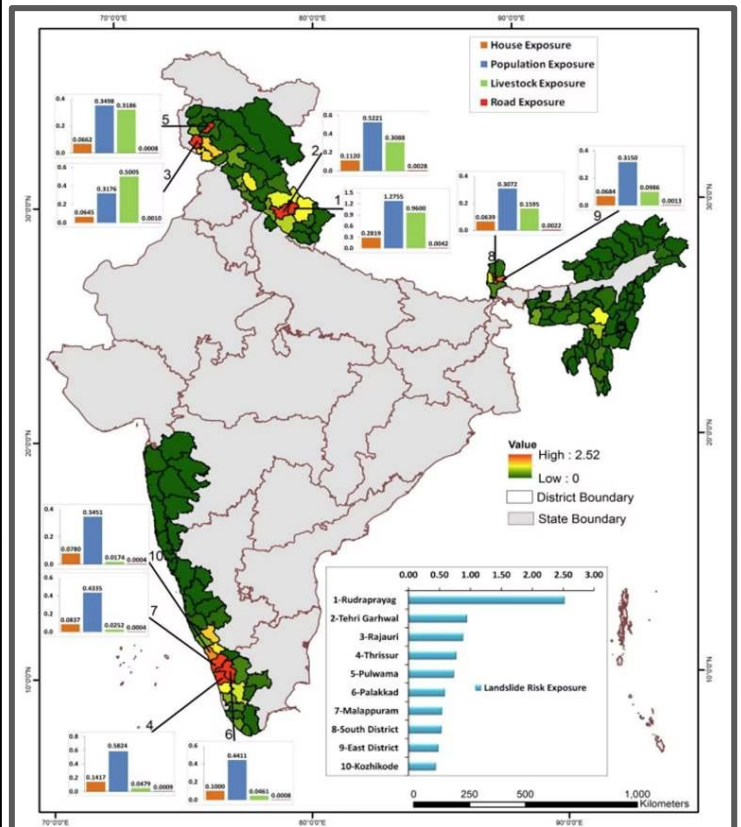
NEWS18 creative

Consequences of Cloudbursts

- Landslides**
 - Rapid movement of rock, soil, or debris down a slope.
 - Triggers:** Heavy rain, erosion, and weathering.

Impact in India:

- 8% of global landslide deaths occur in India (847 fatalities from 2001–2021, IIT-Madras).
- 13.17%** of India's land is landslide-prone; **4.75%** is "very highly susceptible."
- Sikkim** (most vulnerable), **Kerala** (14% in "very high" risk zone).



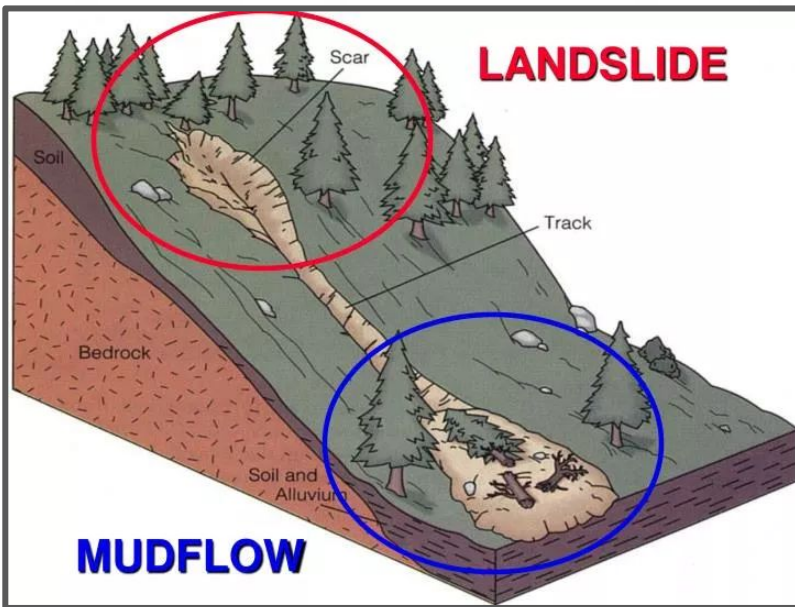
2. Flash Floods

- Sudden, localized water surges due to intense rainfall (typically within 3–6 hours).
 - Causes:** Heavy thunderstorms, dam/levee breaches, or mudslides.
 - Factors:** Rainfall intensity, terrain, soil type, land use, and water saturation levels.
-

CONTEXT: The Jammu and Kashmir grappled with the trail of destruction left behind by cloudbursts and flash floods, with at least five people feared dead and hundreds more left stranded.

3. Mudflows

- Thick, fast-moving slurry of water, silt, and debris.
- **Characteristics:**
 - High viscosity, carries coarse sediment.
 - Shorter travel distance than normal water flow.
 - Causes irreversible soil displacement.



Mitigating Cloudburst Impact – NDMA Guidelines

- Early Warning: Doppler radars, satellite data, mobile alerts, community warnings
- Infrastructure: Drainage systems, retaining walls, embankments
- Land-Use: Hazard mapping, zoning laws, construction restrictions
- Reforestation: Indigenous trees, soil conservation, slope stabilization
- Training: Community capacity building, rescue, first aid

- Awareness: Public education, emergency kits, evacuation plans
- Coordination: Multi-agency collaboration, unified response

UPSC PYQ 2016

Q. With reference to the National Disaster Management Authority (NDMA) guidelines, discuss the measures to be adopted to mitigate the impact of recent incidents of cloudbursts in many places of Uttarakhand.

Mains Practise Question

Cloudbursts are becoming increasingly frequent and destructive in India's hilly and urban regions. In this backdrop discuss the causes and impacts of cloudbursts. (10 Marks, 150 words)



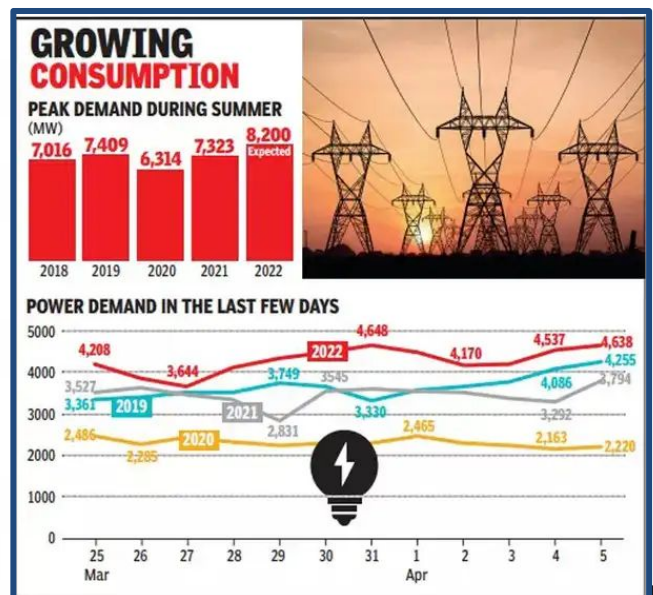
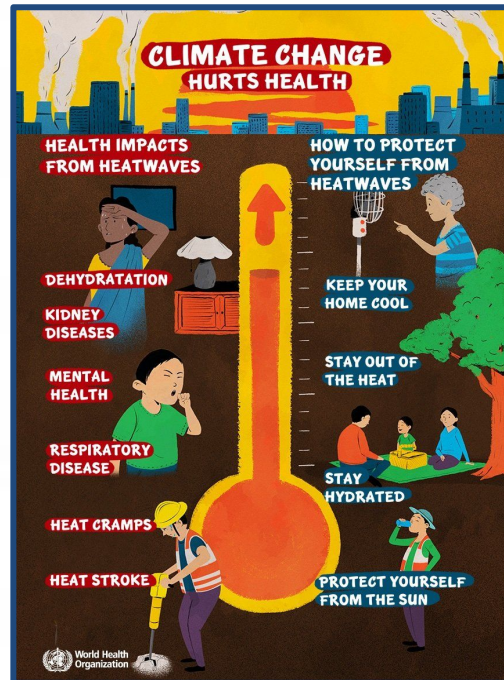
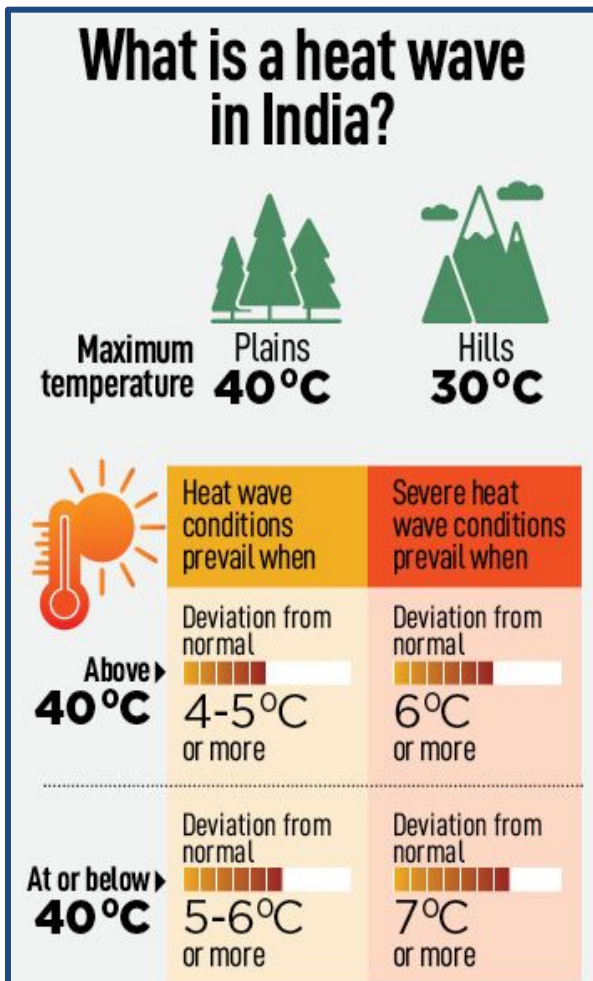
Tackle Heatwaves with short & long term Measures

CONTEXT: A write up has appeared covering various aspects of heatwaves.

- **March 15, 2025: First severe heatwave**, 20 days earlier than in 2024.
- **2024:** Hottest year on record globally (1.55°C above pre-industrial levels, WMO).
- **India: Hottest December in 2022 since 1901.**
- **Heatwaves-** abnormally high temperatures compared to a location's average.
- **Heatwaves** -common in summer, climate change - leading to more frequent, intense, and prolonged.

Impacts of Heatwave

- **Health impacts**
- **Impact on Agriculture, livestock :** Yield
- **Impact on other Construction :** economic cost is estimated at 3-5% of GDP
- **Increase in peak power demands**
- **The Equity Dimension**



Tackle Heatwaves with short & long term Measures



CONTEXT: A write up has appeared covering various aspects of heatwaves.

Policy Response: Heat Action Plans (HAPs)

- Ahmedabad (2013): **First Indian city** with a HAP.
- Now: 23 States & 140+ cities with HAPs.
- Supported by **NPCCHH and NDMA** for advisories.
- Still needs better implementation & coordination.

Key Elements of an Effective HAP

- Early warning systems & alerts
- Community awareness & education
- Health system readiness
- Cooling strategies: green spaces, white rooftops
- Data monitoring: morbidity, mortality, heat stress

What Needs to Be Done

- Update & **localize HAPs based on vulnerability assessments.**
- Factor in **humidity and nighttime** temps.
- Use **real-time warning systems** for thermal comfort.
- Promote **cool roofs, green infrastructure**, and cold shelters.
- Provide **financial aid to informal workers** during extreme heat.
- Improve **data collection and public access** to drinking water.
- Allow **staggered work hours for heat-exposed jobs.**

Mains Practise Question

"Heatwaves are no longer a seasonal anomaly but a growing public health and development challenge in India."
Discuss the multifaceted impacts of heatwaves in India and suggest a comprehensive way forward. (10 Marks, 150 words)



Jal Jeevan Mission

SYLLABUS: Prelims: Important Government Schemes
GS Paper 2: Government Policies and Intervention
Newspaper : The Indian Express, **Page No : 01**

Expenditure Secretary-chaired panel says gap in funding, estimated at over ₹1.25 lakh cr, should be borne by states

HARIKISHAN SHARMA
NEW DELHI, APRIL 20

SHARPLY HIGHER COSTS amid concerns that some states may have approved inflated work contracts to provide tap water connections to rural households under the Jal Jeevan Mission have led an Expenditure Secretary-led panel to propose a 46 per cent cut in the Centre's funding assistance

to the Jal Shakti Ministry's demand for four years ending December 2028.

The onus to bridge this liability — estimated to be over Rs 1.25 lakh crore over the four years — may fall on states, which may then approach the Union government, said officials closely involved in the discussions. "As many as 16 states are ruled by BJP and its allies and this may force the Centre's

CONTINUED ON PAGE 2

Justify increase in cost of tap to ₹1,37,500 from ₹30,000, says Finance

SHYAMLAL YADAV
NEW DELHI, APRIL 20

NO SOONER did the Jal Shakti Ministry propose a revised outlay of Rs 9.10 lakh crore for the Jal Jeevan Mission (JJM) and sought more funds in February this year than the Finance Ministry raised many red flags, asking it to first

justify the sharp increase in the cost of installing a tap connection to Rs 1,37,500 now from Rs 30,000 during 2019-24.

The JJM, launched by the Prime Minister on Independence Day in 2019, aimed to provide tap water connections to 16.36 crore households by December 31, 2024.

CONTINUED ON PAGE 2

Jal Jeevan Mission - Har Ghar Jal

Ministry of Jal Sakthi.
Centrally sponsored Scheme.

Objective : 'No one is left out', thus ensuring tap water supply to every rural home by 2024

JAL JEEVAN MISSION

- Piped water supply to all rural households by 2024
- Integrated demand and supply side management of water at the local level
- Will converge with other Central and State Government Schemes
- Creation of local infrastructure for rainwater harvesting, groundwater recharge and management of household waste water for reuse in agriculture

Union Budget 2025: Jal Jeevan Mission gets extension till 2028 with outlay of Rs 67k crore

Jal Jeevan Mission
Vision - Aligned with SDGs

- Adequate Quantity**: 55 Litres per capita/ day
- Reliability**: Regular and Safe
- Equity & Inclusivity**: No one should be left behind
- Sustainability**: Source, system and financial
- Affordability**: Reasonable user charges
- Quality**: BIS:10500

JJM is perhaps the world's largest programme to achieve SDG-6 targets ahead of time with 'speed and scale'



ISRO Satellites forecast Wheat Production



SYLLABUS: GS Paper 3: Agriculture, Science and Technology
Newspaper : The Hindu, Page No : 06

The Indian Space Research Organisation (ISRO) in a study using its satellites has estimated that the total wheat production from eight major wheat-growing States will be 122.724 million tonnes as on March 31, 2025.

According to the space agency, the Comprehensive Remote Sensing Observation on Crop Progress (CROP), a semi-automated and scalable framework, developed by the ISRO's National Remote Sensing Centre (NRSC), enables the near real-time monitoring of crop sowing and harvesting during the Rabi season across India.

Systematic assessment

The ISRO said that using this approach, the progress of wheat sown areas and the overall crop condi-



A woman harvesting wheat in a field in Lucknow, Uttar Pradesh, one of the major wheat-growing States in India. SANDEEP SAXENA

tion across the States were systematically assessed, using Optical and Synthetic Aperture Radar (SAR) remote sensing datasets from EOS-04 (RISAT-1A), EOS-06 (Oceansat-3), and Resourcesat-2A, for the Rabi season, 2024-25.

The eight major wheat-growing States are Uttar Pradesh, Madhya Pradesh, Rajasthan, Punjab, Harya-

na, Bihar, Gujarat and Maharashtra.

It added that the spatial distribution of the wheat crop as of March 31 across the country is 330.8 lakh hectares.

“The wheat sown area derived from satellite data by March 31 stands at 330.8 lakh hectares, which is close to the statistics generated by the Ministry of

... as on February 1, 2025,” it added.

Parameters

The ISRO said that experimental assessment of wheat production, at the national scale, is done by assimilating satellite-derived parameters such as crop area, sowing date information, and in-season crop condition in a process-based crop growth simulation model at 5x5 km spatial resolution.

“The multi-source data integration is expected to enhance the accuracy of production estimation at a finer spatial level, supporting precise and scalable estimation of wheat production. The total wheat production from eight major wheat-growing states of India as on March 31 is estimated to be 122.724 million tonnes,” the ISRO said.

KHARIF	RABI	ZAID
Monsoon crop (High water requirement)	Winter crop	Summer crop
July - October	October - February	March - June
Rice, Maize, Jowar, Bajra, Soyabean, Cotton, Groundnut, Jute, Urad Dal, Moong Dal, Tur Dal	Wheat, Barley, Gram, Peas, Mustard	Watermelon, Muskmelon, Cucumber, Vegetables and Fodder crops



ISRO Satellites forecast Wheat Production



SYLLABUS: GS Paper 3: Agriculture, Science and Technology
Newspaper : The Hindu, Page No : 06

Wheat	Cool growing season and bright sunshine at time of ripening Temp - 10-15 C	50-75 cm, medium rainfall	Well drained loam & clayey soils , moderate water retention	Rabi
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1. **2nd most imp Cereal crop**
2. **2nd largest producer in the world.**
3. **India accounts for less than 1% of the global wheat trade.**

(Uttar Pradesh > MP > Punjab) As per Economic Survey 2024-25
Can be grown in dry areas through irrigation



First Confirmed Image of Colossal Squid

SYLLABUS: GS Paper 3: Environment and Ecology
Newspaper : The Indian Express, Page No : 14

ALIND CHAUHAN
NEW DELHI, APRIL 20

IN THE Age of Sail, when much of the world's oceans were still uncharted, the mythical Kraken, a gigantic tentacled sea monster with a taste for human flesh, was a sailor's worst nightmare.

"Below the thunders of the upper deep; Far, far beneath in the abysmal sea; His ancient, dreamless, uninvaded sleep; The Kraken sleepeth: faintest sunlight flees..." wrote Lord Alfred Tennyson in his 1830 poem, *The Kraken*.

But the Kraken was not just a product of superstition. Today, it is well-known that its descriptions were probably based on sightings of real animals, namely the giant squid (*Architeuthis dux*) and colossal squid (*Mesonychoteuthis hamiltoni*), the largest

cephalopods (class of marine animals including octopii and cuttlefish), and possibly the largest invertebrates, in the world.

Despite their size, these deep-sea creatures remain elusive. Until very recently, a century after it was first identified and named, there was still no image of the colossal squid in its natural environment.

This changed last month when scientists on board a research vessel in the South

Atlantic recorded a juvenile colossal squid, only a foot long, 2,000 feet under the ocean's surface. The footage taken near the South Sandwich Islands was released on April 15.

EXPLAINED SCIENCE

Underwater enigmas

Colossal squid have been nearly impossible to spot, especially on camera. This is probably because their large, sensitive eyes make them stay away from research equipment that can be bright and loud. Dr Kat

understanding of the creature comes from dead or dying specimens found within the stomachs of whales and seabirds, or when younger ones turn up in trawl nets.

The cephalopod was first discovered in 1925 when scientists found arm fragments from two squid in the belly of a sperm whale.

Although also elusive, more is known about the giant squid, identified in 1857. A live specimen was captured on camera only in 2004, and on video in 2016. Giant squid too live in the frigid depths of the ocean, between 600 to 3,000 feet, in tropical and temperate waters. They are known to eat deep-sea fish and other squid species.

Secret to size

Beyond their habitat, the two massive squid differ in shape and size. However, reports have often exaggerated just how big they are.

Experts believe that colossal squid can

be as long as seven metres or 23 feet, and weigh up to 500 kg. The giant squid are thought to grow up to 13 metres or 43 feet, and typically weigh up to 275 kg.

"Colossal squid have a huge body but relatively short arms and tentacles, which means their body plan is in some ways opposite to giant squid," said Jon Ablett, a curator at the Natural History Museum, London, according to a report on the museum's website.

Researchers suggest their massive size increases the number of animals they can prey on, and reduces the number of species who can prey on them. Once fully grown, the only animal that can eat them is the sperm whale, the largest toothed predator in the world. Their eyes — roughly the size of basketballs — help them spot their primary adversary, according to some experts.

But unlike many other squid species, giant and colossal squid likely take years to mature. "Most squid live fast and die young," Ablett said. Researchers believe gi-

ant squid live anywhere between two and 12 years. There is no clear agreement on the average lifespan of the colossal squid.

A significant sighting

The high-resolution video footage of the colossal squid can help resolve several mysteries around the animal — from how they spend their time to where they travel to mate or spawn, and how long they live.

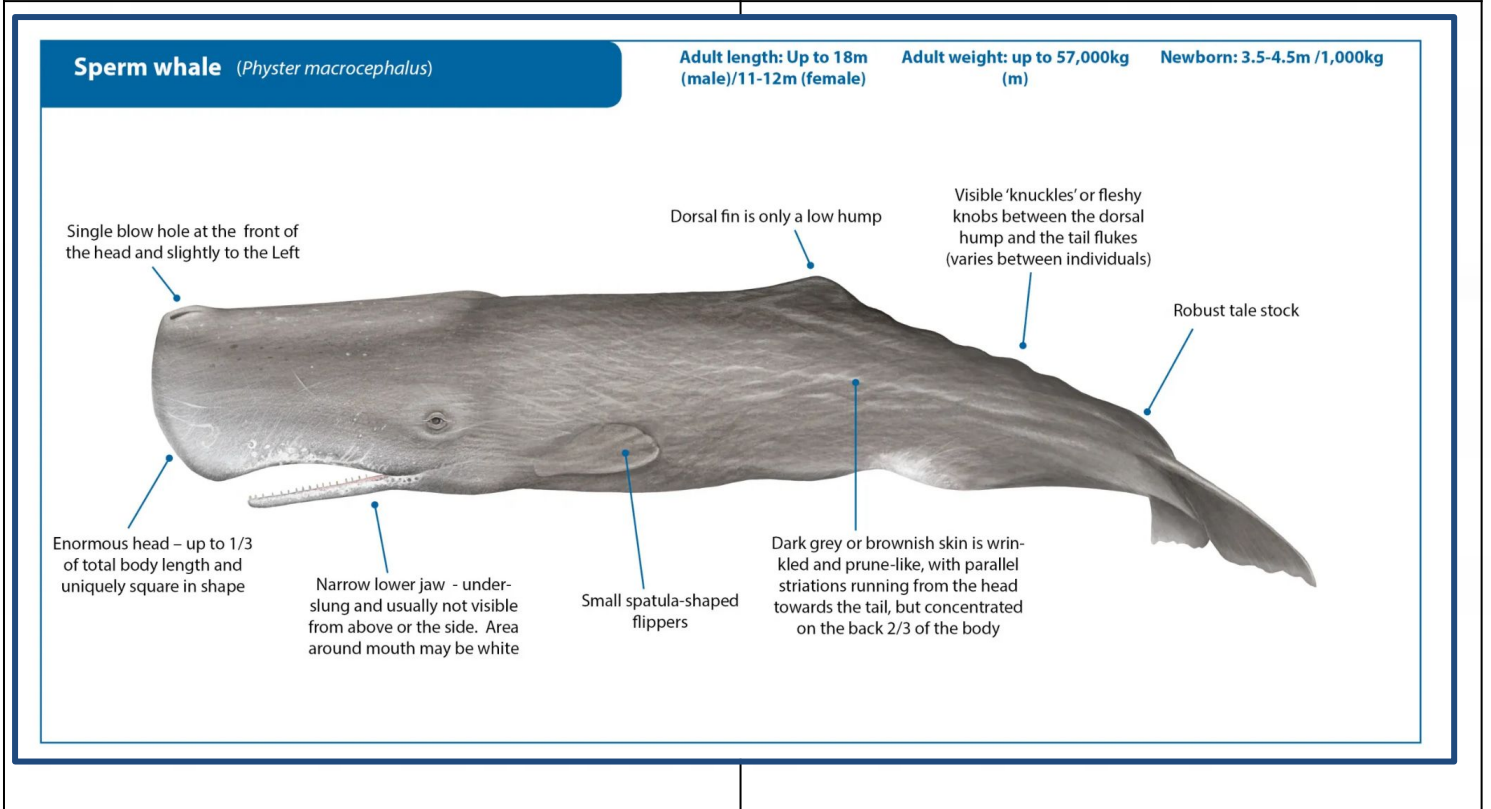
Speaking about the observed juvenile colossal squid, Dr Aaron Evans, an independent researcher who was not part of the expedition, told CNN: "For us to see this kind of midrange size in between a hatchling and an adult is really exciting because it gives us the opportunity to fill in some of those missing puzzle pieces to the life history of this very mysterious animal."

Researchers highlighted that the sighting can also inform decisions about human activities such as deep-sea mining, known to harm marine life.



First Confirmed Image of Colossal Squid

SYLLABUS: GS Paper 3: Environment and Ecology
Newspaper : The Indian Express, Page No : 14



Two Cheetahs move to new home in MP

SYLLABUS: GS Paper 3: Environment and Ecology
Newspaper : The Hindu, Page No : 6

Two cheetahs, Prabhas and Pawak, moved to their new home as Madhya Pradesh Chief Minister Mohan Yadav released them into the Gandhi Sagar Wildlife Sanctuary on Sunday.

The six-year-old males are from the batch of cheetahs brought to the Kuno National Park from South Africa in February 2023.

They will now sprint in their 64-sq. km enclosure at Gandhi Sagar that is spread between Mandsaur and Neemuch districts, with the Chambal river cutting the sanctuary into almost two equal halves.

tahs are being reintroduced," he said. Mr. Yadav said efforts were on to bring more cheetahs from South Africa, Kenya, and Botswana.

Four to arrive

Four cheetahs are scheduled to be translocated to Gandhi Sagar from Botswana in May, while four will arrive later in the second phase, the State government had said in a state-

ment on April 18.

Mr. Yadav claimed that following the intercontinental translocation, Kuno had recorded the highest number of cheetah births in the world.

Earlier in the day, a 20-member team, led by Kuno's Chief Conservator of Forest (CCF), Uttam Kumar Sharma, transported the two cheetahs by road to Gandhi Sagar, located over 250 km away from Kuno.

The team will spend seven days at the sanctuary, during which the Gandhi Sagar staff, who have received extensive training at Kuno, will get accustomed to handling the big cats.

With the movement of two of its cats, Kuno now has 24 cheetahs – 14 in the wild and 10 in enclosures.

Over the past year, the State wildlife authorities have increased the prey base of the sanctuary.



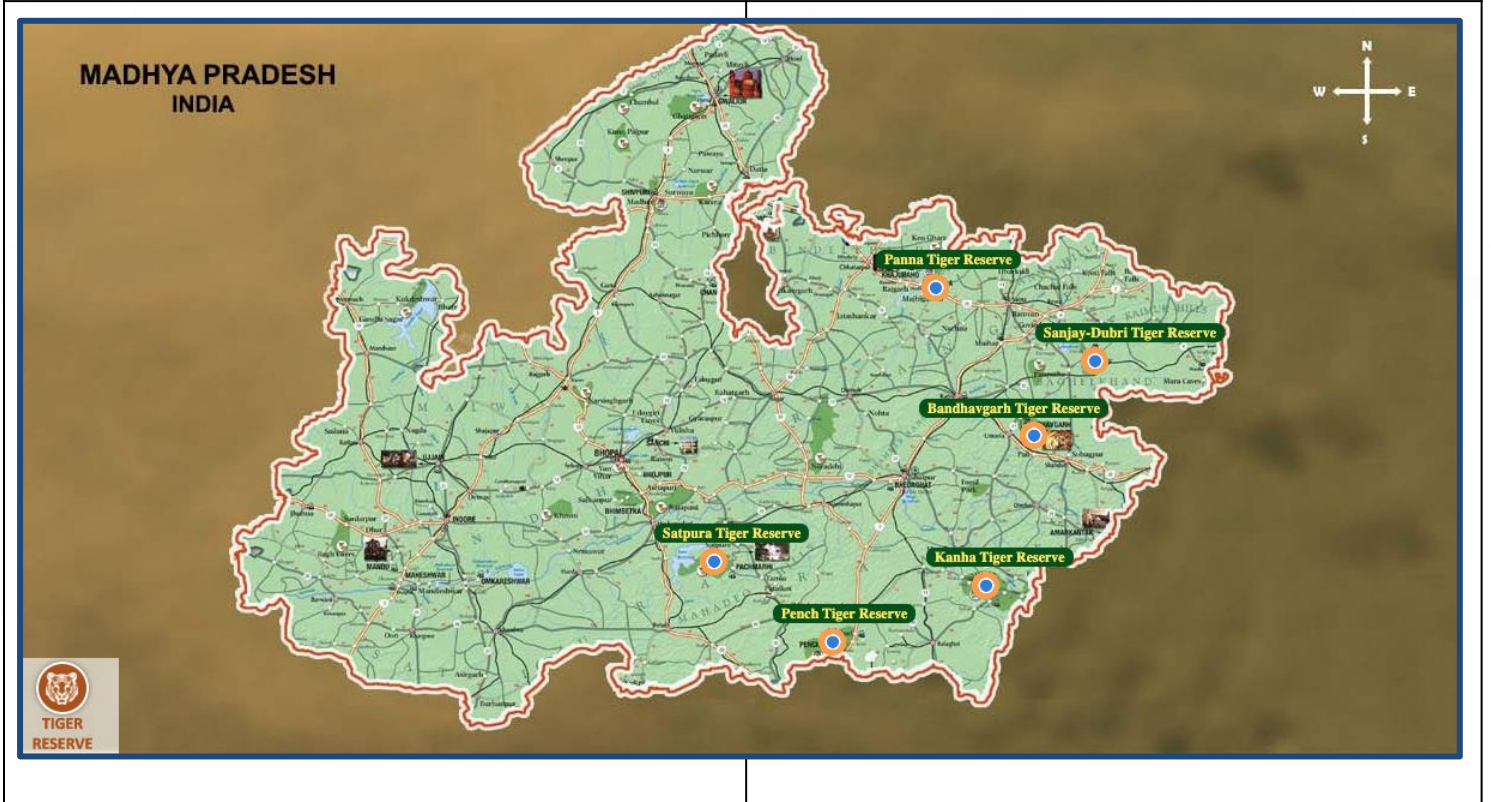
Prelims Pointers

- Second home for cheetahs in India after Kuno National Park
- Located on the **northern border of Mandsaur and Neemuch** districts .
- Vast **open landscapes with sparse vegetation and rocky terrain**, small patches of dense forests.
- **Chambal river**
- **Flora-** Salai, Kardhai, Dhavada, Tendu, Palash etc.
- **Fauna-** Chinkara (Indian Chikara), Nilgai and Sambhar.



Two Cheetahs move to new home in MP

SYLLABUS: GS Paper 3: Environment and Ecology
Newspaper : The Hindu, Page No : 6



Mapping: El-Fasher and Sudan



SYLLABUS: Prelims: Places in news
Newspaper : The Hindu, **Page No : 15**

sa Said, 27, said speaking via satellite connection under a total communications blackout. "But his arm is swollen and he cannot sleep at night from the pain."

Like an estimated one million more people trapped in the city under a year-long siege by the paramilitary Rapid Support Forces (RSF), Mr. Said cannot get to a hospital for emergency care.

Humanitarian operations in El-Fasher have been severely disrupted due to "access constraints, a critical fuel shortage and a volatile security environment," with health services particularly affected, the United Nations' humanitarian agency OCHA said.

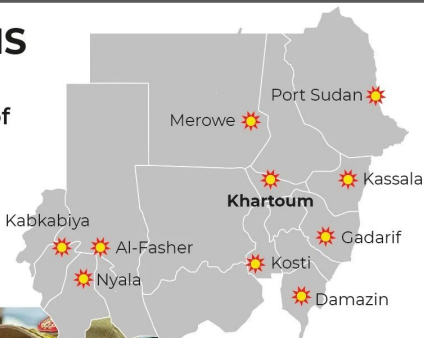
Mr. Mohamed, an aid coordinator who fled to El-Fasher after getting shot in the thigh during an RSF at-



SUDAN CRISIS

Fighting in Sudan between the forces of two rival generals erupted on April 15.

• Around 180 people have been killed and 1800 people injured in three days of fighting



Abdel Fattah al-Burhan,
Army chief

Mohamed "Hemedti" Hamdan Daglo,
Commander of the paramilitary (RSF)

- Battles have increased, engulfing Khartoum and its twin city Omdurman.
- Around 10,000 and 20,000 people have fled to Sudan's western neighbour Chad
- Analysts warn the conflict could draw in foreign armed groups and regional powers



POLSTRAT

INDIA'S EXPATRIATE

EVACUATION OPERATIONS

Bringing the Diaspora Home

The Indian Government launched 'OPERATION AJAY', an ongoing operation conducted by the Indian Armed Forces to evacuate Indian citizens from Israel during the on going Israel-Hamas war.

Till Now **1,204 Indian Nationals** brought back from Israel on **5 flights**

Government of India has successfully conducted **total 12 Rescue and evacuation Operations** since 2014



Mapping: El-Fasher and Sudan

SYLLABUS: Prelims: Places in news
Newspaper : The Hindu, Page No : 15

POLSTRAT

Evacuation Operations by the Modi Government

2015

Operation Maitri
A joint relief and rescue operation by the Indian government and the Indian Armed forces in the aftermath of the 2015 Nepal earthquake.

2016

Operation Sankat Mochan
The operation was carried out in response to the 2016 clashes in Juba, South Sudan to evacuate Indian Citizens and other foreign nationals.

2015

Operation Raahat
Under this operation, India evacuated nearly 5,600 people from War Torn Yemen.

2016

Brussels Evacuation
A total of 242 Indians, including 28 crew members, returned to India on a Jet Airways flight after Brussels terror attacks.

2017

Operation Insaniyat
Due to the large influx of Rohingya refugees into Bangladesh, India's Ministry of External Affairs launched Operation Insaniyat to assist Bangladesh in overcoming the humanitarian crisis.

2018

Operation Nistar
It is an Indian Naval operation to evacuate 38 Indian nationals from Yemen's cyclone-ravaged Socotra island.

UPSC Prelims 2023

In the recent years Chad, Guinea, Mali and Sudan caught the international attention for which one of the following reason common to all the them?

- a) Discovery of rich deposits of rare earth elements
- b) Establishment of Chinese military bases
- c) Southward expansion of Sahara Desert
- d) Successful coups

UPSC Prelims 2024 Questions

87. Consider the following pairs :

	Country	Reason for being in the news
1.	Argentina	Worst economic crisis
2.	Sudan	War between the country's regular army and paramilitary forces
3.	Turkey	Rescinded its membership of NATO

How many of the pairs given above are correctly matched ?

- (a) Only one pair
- (b) Only two pairs
- (c) All three pairs
- (d) None of the pairs

97. Consider the following statements :

Statement-I :

Recently, Venezuela has achieved a rapid recovery from its economic crisis and succeeded in preventing its people from fleeing/emigrating to other countries.

Statement-II :

Venezuela has the world's largest oil reserves. Which one of the following is correct in respect of the above statements ?

- (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I
- (b) Both Statement-I and Statement-II are correct, but Statement-II does **not** explain Statement-I
- (c) Statement-I is correct, but Statement-II is incorrect
- (d) Statement-I is incorrect, but Statement-II is correct

91. Consider the following statements :

Statement-I :

There is instability and worsening security situation in the Sahel region.

Statement-II :

There have been military takeovers/coups d'état in several countries of the Sahel region in the recent past.

Which one of the following is correct in respect of the above statements ?

- (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I
- (b) Both Statement-I and Statement-II are correct, but Statement-II does **not** explain Statement-I
- (c) Statement-I is correct, but Statement-II is incorrect
- (d) Statement-I is incorrect, but Statement-II is correct



Q1. Consider the following statements regarding heatwaves:

1. The year 2024 has been declared the hottest year globally, with temperatures 1.55°C above pre-industrial levels, according to WMO.
2. Delhi was the first Indian city to implement a Heat Action Plan in 2013.
3. India recorded its hottest December in 2022 since 1901.

Which of the above statements are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Answer: c

Q2. Consider the following statements regarding the Jal Jeevan Mission:

1. The mission aims to supply piped water to all urban households by 2024.
2. It includes creating local infrastructure for rainwater harvesting and managing household waste water for reuse in agriculture.
3. The mission promotes convergence with other Central and State Government schemes for water resource management.

How many of the statements given above is/are correct?

- a) Only One
- b) Only Two
- c) All Three
- d) None

Answer: b

Q3. Regarding wheat cultivation in India, consider the following statements:

1. India is the world's largest wheat producer.
2. Wheat is a Kharif crop that requires a cool growing season and bright sunshine during ripening.
3. Uttar Pradesh, Madhya Pradesh, and Punjab are the top three wheat-producing states.

How many of the statements given above is/are correct?

- a) Only One
- b) Only Two
- c) All Three
- d) None

Answer: a

Q4. Consider the following statements regarding Gandhi Sagar Wildlife Sanctuary:

1. It is the first site for the reintroduction of cheetahs in India.
2. Flora includes species like Salai, Kardhai, Tendu, and Palash.
3. Chinkara, Nilgai, and Sambhar are among its prominent fauna.

Which of the statements given above are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2, and 3

Answer: b

Q5. Which of the following countries share a border with Sudan?

1. Egypt
2. Libya
3. Eritrea
4. Algeria

Select the correct answer using the code below.

- a) 1, 2 and 4 only
- b) 1 and 3 only
- c) 2, 3 and 4 only
- d) 1, 2 and 3 only

Answer: d





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