



CURRENT AFFAIRS



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CYCLONES AND MONSOONS

This article covers "Daily Current Affairs" and the topic details "Cyclones and Monsoons". The topic "Cyclones and Monsoons" has relevance in the Environment section for the UPSC CSE exam.

Relevance of the topic "Cyclones and Monsoons":

For Prelims:

What are cyclones?

What are the initial conditions for the onset of monsoons?

For Mains:

GS 3: Environment

What is the relation between cyclones and monsoons?

What are the recent changes are observed in the pattern of monsoons in relation to cyclones?

Way forward

Why in the news?

What are cyclones?

Cyclones are powerful tropical storms characterized by low-pressure systems and strong winds that circulate around a central eye. They typically form over warm ocean waters near the equator.

What are the initial conditions for the onset of cyclones?

1. Warm ocean waters (at least 26.5°C or 80°F)
2. Atmospheric instability with temperature and moisture differences
3. Coriolis effect, more pronounced at 5-30 degrees latitude
4. Low vertical wind shear
5. Disturbance or tropical wave as a trigger
6. Pre-existing low-pressure system

What is the relation between cyclones and monsoons?

Monsoons play a role in the formation of cyclones. The seasonal reversal of wind patterns during monsoons can contribute to the development of cyclones. As monsoon winds bring in moisture from the ocean, it enhances the atmospheric conditions necessary for cyclone formation.

Cyclones can impact the progress and intensity of monsoon seasons. Cyclones bring intense rainfall and can disrupt normal monsoonal circulation. They can alter wind patterns, temporarily stall or weaken the monsoon, or bring excessive rainfall leading to flooding.

What are the recent changes observed in the pattern of monsoons in relation to cyclones?

Cyclones can have both positive and negative impacts on the onset of monsoons. The location of the origin of the cyclone is important for the impact on the monsoon winds. It depends on whether the cyclone is originating in the Arabian Sea or the Bay of Bengal.

The southwest monsoon in India is influenced by the movement of cyclones in the Bay of Bengal. The monsoon trough, which is a low-pressure area, plays a crucial role in the onset and progression of the monsoon.

When a cyclone is located further north in the Bay of Bengal, the counter-clockwise circulation around the cyclone creates strong southwest winds on its western side. These winds can interact with the monsoon trough and help in pulling it forward. As a result, the southwest winds associated with the cyclone can strengthen the prevailing monsoon winds, aiding in the advancement and onset of the monsoon over the Indian subcontinent.

The onset of the Monsoons: Since the direction of the cyclone movement is anti-clockwise the back winds as a result of the cyclones aid in the onset of the monsoon winds which also flow from southwest to northeast.

When a cyclone is positioned farther north in the Bay of Bengal, the southwest-to-northeast back winds can have a positive impact on the monsoon. These winds help in pulling the monsoon trough forward, aiding in the timely onset of the monsoon season.

1. For example, Cyclone Mocha formed in the Bay of Bengal had a trajectory from northwest to east. Its back winds aided the timely onset of monsoon over the Andaman and Nicobar Islands.

Source:

<https://www.thehindu.com/sci-tech/energy-and-environment/monsoon-onset-cyclone-biparjoy-climate-change-explained/article66945760.ece>

PRELIMS QUESTIONS

Q.1 Consider the following statements about the cyclonic back-winds that play a significant role in the onset of the monsoon season:

1. They hinder the onset of the monsoon.
2. They have no impact on the monsoon.
3. They assist in the onset of the monsoon.
4. They cause cyclones to form.

Select the correct answer from the code given below:

1. 1 only
2. 2 only
3. 3 only
4. None of the above

Answer: (c)

Q.2 Consider the following statements about the initial conditions for the onset of cyclones:

1. Warm ocean waters above 26°C-27°C
2. Atmospheric stability with minimal temperature and moisture differences.
3. Coriolis effect, more pronounced at 5-30 degrees latitude

4. High vertical wind shear.

Select the correct answer from the code given below:

1. 1 only
2. 1 and 2 only
3. 1 and 3 only
4. All of the above

Answer: (c)

Mains Question

1. **Discuss the relationship between cyclone formation and the onset of monsoons with suitable examples.**

Mohit Pratap Singh

TECHNOLOGY IN GOVERNANCE

This article covers "Daily Current Affairs" and the topic details "Technology in Governance". The topic "Technology in Governance" has relevance in the governance section of the UPSC CSE exam.

Relevance:

For Prelims:

Projects related to Technology in Governance in India?

For Mains

GS 2: Governance

Leveraging technology in governance?

Challenges for India in adopting Technology in Governance?

Solutions to the challenges?

Why in the news?

The Prime Minister, Shri Narendra Modi shared articles, videos, graphics and information on '9 years of tech for growth'.

The Prime Minister tweeted :

"India embraced technology to revolutionize governance and uplift service delivery. Technology has brought efficiency and convenience to the lives of people. It also enhanced efforts to build a digitally empowered India. #9YearsOfTechForGrowth"

Projects related to Technology in Governance in India?

- **Aadhaar:** The Aadhaar project is a biometric identification system that assigns a unique 12-digit identification number to each resident of India. It enables efficient delivery of government services and benefits, facilitates financial inclusion, and streamlines identity verification processes.
- **Goods and Services Tax Network (GSTN):** The GSTN is a technology platform that facilitates the implementation of the Goods and Services Tax (GST) in India. It serves as the IT backbone for GST-related processes, including registration, return filing, and tax payments, ensuring seamless and transparent tax administration.

- **DigiLocker:** DigiLocker is a digital document storage platform that provides citizens with a secure online space to store and access their important documents. It eliminates the need for physical documents, promotes paperless governance, and enables easy sharing of verified documents with government agencies.
- **BharatNet:** BharatNet aims to provide broadband connectivity to all gram panchayats (village councils) in India. It involves the laying of optical fiber cables across the country, enabling digital connectivity in rural areas and supporting e-governance initiatives, digital services, and rural development programs.
- **UMANG (Unified Mobile Application for New-age Governance):** UMANG is a mobile application launched by the Government of India to provide citizens with a single platform for accessing various government services and schemes. It offers a wide range of services, including passport applications, income tax filing, and accessing government documents.
- **e-NAM (National Agriculture Market):** e-NAM is an online trading platform for agricultural commodities that aims to create a unified national market for farmers. It enables farmers to sell their produce online, access real-time market information, and connect with buyers and traders across the country, promoting transparency and better price realization.
- **Smart Cities Mission:** The Smart Cities Mission aims to transform cities in India into sustainable and citizen-friendly urban centers. The mission incorporates the use of technology in areas such as urban planning, waste management, intelligent transportation systems, and e-governance to enhance the quality of life for citizens.
- **DigiGaon (Digital Village) Initiative:** The DigiGaon initiative aims to transform select villages into digital hubs, providing digital infrastructure and services to rural communities. It includes setting up Wi-Fi hotspots, digital literacy programs, access to e-commerce platforms, and telemedicine services, bridging the digital divide and empowering rural citizens.

Leveraging technology in governance?

- **E-Government:** Technology enables governments to provide online services to citizens, such as e-filing of taxes, online registration for permits and licenses, and access to government information and resources. E-government initiatives improve administrative efficiency, enhance transparency, and make public services more accessible to citizens.
- **Open Data:** Governments are increasingly adopting open data policies, making large amounts of public information freely available to the public in machine-readable formats. This allows individuals, researchers, and businesses to analyze and utilize the data to make informed decisions and develop innovative solutions.
- **Digital Identity and Authentication:** Digital identity systems help establish and verify the identity of citizens, businesses, and government officials online. These systems streamline interactions with government services, enable secure online transactions, and reduce the risk of identity fraud.
- **Data Analytics and Decision Making:** Governments collect vast amounts of data, and technology enables the analysis of this data to gain insights and make informed decisions. Data analytics can be used for policy development, resource allocation, predicting and preventing issues, and measuring the impact of government programs.
- **Smart Cities:** Technology is utilized to create smart city infrastructure, leveraging data and connectivity to enhance urban management and improve the quality of life for residents. Smart city solutions include intelligent transportation systems, energy-efficient buildings, real-time monitoring of utilities, and smart governance platforms.

- **Civic Engagement and Participation:** Technology enables governments to engage with citizens in more meaningful ways. Online platforms and social media facilitate public consultations, citizen feedback mechanisms, and participatory decision-making processes. This fosters transparency, inclusivity, and collaboration in governance.
- **Cybersecurity and Privacy:** As governments adopt digital solutions, ensuring cybersecurity and protecting citizens' privacy become crucial. Governments invest in robust cybersecurity measures, including encryption, secure communication channels, and protocols to safeguard sensitive data and critical infrastructure from cyber threats.
- **Artificial Intelligence and Automation:** Governments are exploring the potential of artificial intelligence (AI) and automation in various domains. AI-powered systems can improve service delivery, automate routine tasks, enhance decision-making processes, and detect patterns in large datasets, aiding in fraud detection and law enforcement.
- **Blockchain Technology:** Governments are exploring the use of blockchain technology for secure and transparent transactions and record-keeping. Blockchain can be applied to areas such as land registry, supply chain management, voting systems, and identity verification, providing tamper-proof and decentralized solutions.

Challenges for India in adopting Technology in Governance?

- **Digital Divide:** India has a significant digital divide, with a large population still lacking access to basic internet connectivity and digital devices. Unequal access to technology can create disparities in accessing government services and hinder the effective implementation of technology-driven initiatives.
- **Infrastructure Limitations:** The successful adoption of technology in governance relies on robust and reliable infrastructure, including internet connectivity, power supply, and data centers. India faces infrastructure challenges, particularly in rural areas, which can impede the seamless implementation of digital solutions.
- **Data Privacy and Security:** The adoption of technology in governance involves the collection and processing of vast amounts of personal data. Ensuring data privacy and implementing robust cybersecurity measures are critical to protect citizens' sensitive information from unauthorized access and cyber threats.
- **Skill Development and Capacity Building:** Effective utilization of technology in governance requires a skilled workforce capable of managing and implementing digital solutions. Enhancing digital literacy, providing training programs, and fostering a culture of innovation and technology adoption are vital for building the necessary human capital.
- **Interoperability and Standardization:** The integration of various technology systems used by different government departments and agencies can be challenging. Ensuring interoperability and standardization of systems and data formats is crucial for seamless information exchange and collaboration between different entities.
- **Legal and Regulatory Framework:** The legal and regulatory framework must adapt to the rapid advancements in technology to address emerging challenges adequately. Regulations related to data protection, cybersecurity, digital transactions, and electronic signatures need to be developed and updated to ensure accountability, privacy, and trust in technology-driven governance.
- **Resistance to Change:** Resistance to change and the inertia of traditional bureaucratic systems can hinder the adoption of technology in governance. Addressing resistance and promoting a culture of innovation, transparency, and accountability are essential for successful implementation.

- **Cost and Sustainability:** Technology adoption in governance requires significant investments in infrastructure, software, and human resources. Ensuring the financial sustainability of technology initiatives, cost-effectiveness, and long-term maintenance and support can be a challenge for governments, particularly in resource-constrained environments.

Solutions to the challenges?

- **Bridge the Digital Divide:** Focus on expanding internet connectivity and improving access to digital devices, particularly in rural and remote areas.
- **Enhance Digital Literacy:** Implement comprehensive digital literacy programs to ensure citizens have the necessary skills to effectively utilize technology and access government services.
- **Strengthen Infrastructure:** Invest in robust and reliable digital infrastructure, including internet connectivity, power supply, and data centers, to support the seamless implementation of technology-driven initiatives.
- **Ensure Data Privacy and Security:** Establish stringent data protection laws and cybersecurity measures to safeguard citizens' personal information and address concerns related to data privacy and security.
- **Promote Skill Development:** Provide training programs and capacity building initiatives to develop a skilled workforce capable of managing and implementing technology solutions.
- **Foster Interoperability and Standardization:** Establish standards and protocols to ensure interoperability and seamless integration of different technology systems used by various government departments.
- **Update Legal and Regulatory Framework:** Review and update existing laws and regulations to address emerging challenges and enable a conducive environment for technology adoption in governance.
- **Encourage Innovation and Collaboration:** Foster a culture of innovation, transparency, and collaboration among government agencies, private sector partners, and citizens to drive technological advancements in governance.
- **Prioritize Cost-effectiveness and Sustainability:** Ensure cost-effective implementation and long-term sustainability of technology initiatives by leveraging public-private partnerships and exploring innovative funding models.

Source:

<https://pib.gov.in/PressReleaseDetail.aspx?PRID=1930910>

Q.1 Which of the following statements regarding technology in governance is/are correct?

1. E-governance initiatives aim to improve administrative efficiency and make public services more accessible to citizens through online platforms.
2. The digital divide refers to the unequal access to technology and internet connectivity, which can hinder the effective implementation of technology-driven governance initiatives.
3. Data privacy and security are not significant concerns when adopting technology in governance, as government systems are inherently secure.
4. Interoperability and standardization of technology systems are not essential for seamless information exchange and collaboration between different government entities.

Choose the correct option(s):

- (a) 1 and 2 only

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

Answer: (a)

Q.2 Consider the following statements:

1. Aadhaar is a biometric identification system that assigns a unique 10-digit identification number to each resident of India.
2. GSTN serves as the IT backbone for the implementation of the Goods and Services Tax (GST) in India.
3. BharatNet aims to provide broadband connectivity to all villages in India.
4. UMANG is a mobile application launched by the Government of India to provide access to various government services and schemes.

Choose the correct statement(s):

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

Answer: (b)

Q.3 “Examine the role of technology in promoting transparency, efficiency, and citizen-centric governance in India, highlighting the challenges and potential solutions.”

Rishabh

