



DAILY CURRENT AFFAIRS 02-09-2025

GS-1

1. Mini-cloudbursts

GS-2

2. Ramon Magsaysay award

GS-3

3. Mira Stars
4. Blue Dragon
5. Green Credit Programme

Mini-cloudbursts

Syllabus: GS-1: Indian Geography – Climate

Context:

‘Mini-cloudbursts’ are on the rise, says IMD chief.

Mini Cloudbursts in India

Definition

- A **mini cloudburst** is a sudden, intense rainfall event defined as **≥5 cm in an hour over a small area (~20–30 sq km)**.
- It is less severe than the **IMD’s official cloudburst criterion (≥10 cm/hr)**.

Criteria

- **Rainfall intensity:** ≥5 cm/hour.
- **Spatial coverage:** ~20–30 sq km.
- **Duration:** Short-lived but extremely intense.

Features

- More frequent than full-scale cloudbursts.
- **Prediction challenge:** Only short-range *nowcasting* (radar-based alerts) is possible; advance prediction remains unreliable.
- Often unrecorded due to sparse **ground-based weather stations** and limited satellite resolution.

Regions Affected

- **Himalayan States:** Himachal Pradesh, Uttarakhand, Jammu & Kashmir, Ladakh.
- **Urban Hotspots:** Chennai (Aug 30, 2025), Mumbai, Delhi NCR.
- **Orographic regions:** Mountainous terrain where moist air is forced to rise.

Implications

- **Hydrological risks:** Flash floods, landslides, river swelling.
- **Infrastructure damage:** Road collapse, washed-away bridges, urban flooding.
- **Human impact:** Severe loss of lives, displacement, crop destruction.
- **Policy challenge:** Strain on disaster preparedness, climate adaptation, and urban planning.

IMD Clarification

- **No rising trend** in major cloudbursts.
- **Increase in mini cloudbursts** linked to changing local weather patterns and urban heat island effects.

Ramon Magsaysay award

Syllabus: GS-2: International Events – Awards and Honors.

Context:

'Educate Girls' Becomes First Indian NGO To Win Ramon Magsaysay Award.

Ramon Magsaysay Award & Educate Girls (2025)

- **What it is?**
 - Asia's most prestigious award, often called *Asia's Nobel Prize*.
 - Given annually for exceptional courage, integrity, and selfless service to people.
- **Established:** 1957 by the Rockefeller Brothers Fund, in memory of Philippine President **Ramon Magsaysay** (died in 1957 plane crash).
- **Eligibility:** Individuals/organisations from Asia showing "*greatness of spirit in service of the people.*"
- **Features:**
 - Medallion with Magsaysay's image
 - Certificate
 - Cash prize
- **Indian Winners (Selected):**
 - **Vinoba Bhave (1958)** – First recipient
 - **Bezwada Wilson & T.M. Krishna (2016)** – Human Rights; Carnatic Music
 - **Bharat Vatwani & Sonam Wangchuk (2018)** – Mental health; Education
 - **Ravish Kumar (2019)** – Journalism
 - **Ravi Kannan R. (2023)** – Healthcare
 - **Educate Girls NGO (2025)** – *First Indian organisation (not individual) to win*

Educate Girls NGO

- **Full Name:** Foundation to Educate Girls Globally (*Educate Girls*)
- **Founded:** 2007, by **Safeena Husain** (LSE graduate)
- **Aim:** Break cycle of illiteracy & poverty by ensuring girls' education in rural/disadvantaged areas.
- **Motto:** "One girl at a time."

Key Initiatives

- **Community Mobilisation** – Identifying out-of-school girls, enrolling & retaining them.
- **Government Partnerships** – Collaboration with state governments to scale programmes.
- **Innovative Finance** – Launched **world's first Development Impact Bond (2015)** in education.
- **Pragati Programme** – Open schooling for young women (15–29 yrs) to complete secondary education.

Impact

- Operations: Across **30,000 villages**
- Beneficiaries: Over **2 million girls**
- Retention rate: >90%

Mira Stars

Syllabus: GS-3; Science & Technology

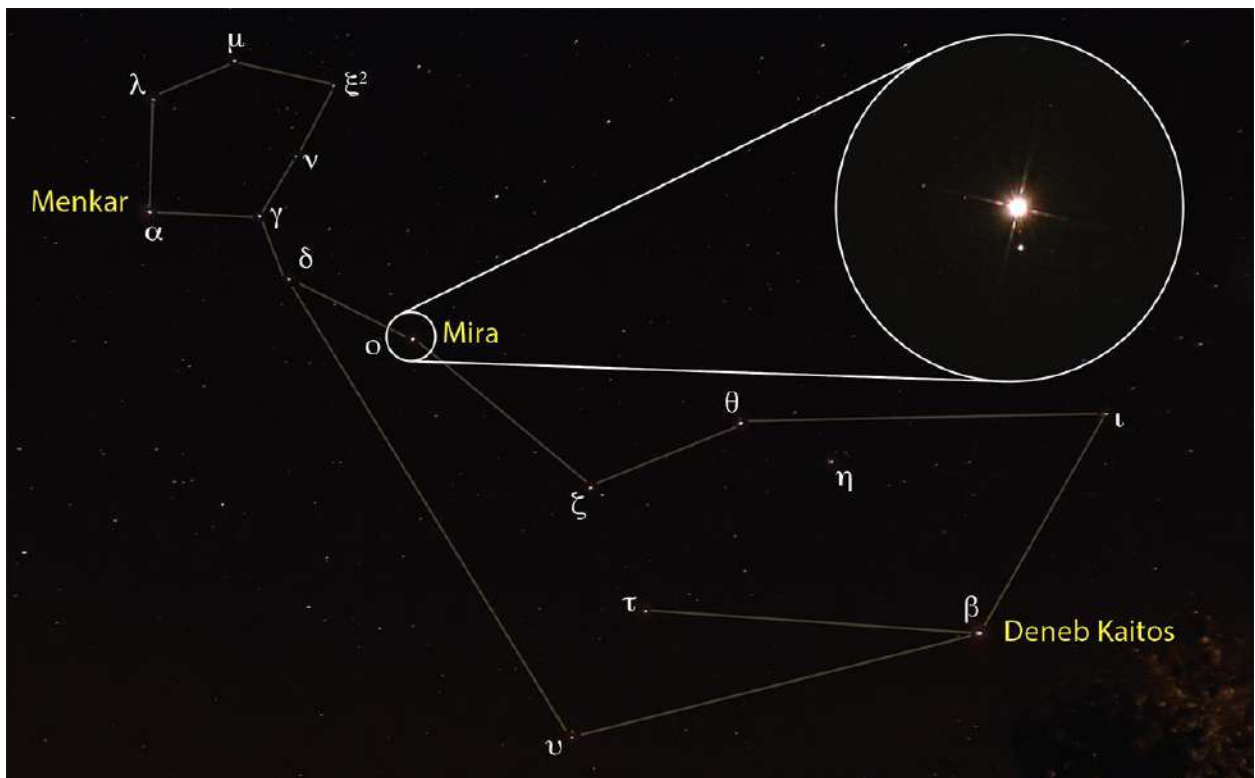
Context

- Scientists from the Inter-University Centre for Astronomy and Astrophysics (IUCAA) have achieved the most precise determination of the universe's expansion rate using cool, giant variable stars called Mira variables.

About Mira Stars:

- **Mira (Omicron Ceti):** Prototype of *Mira variables*, discovered as a variable star in the 17th century.
 - Name meaning: "Mira" = the wonderful (Latin).

- **Nature:** Red giant stars in the late stage of stellar evolution.
- **Variability:** Expand and contract in cycles → brightness varies regularly (period: **100–1,000 days**).
- **Temperature:** Relatively cool, ~**3000 K** (half of Sun's surface temperature).
- **Importance:**
 - Strong correlation between brightness and pulsation period.
 - Used as “**standard candles**” for measuring cosmic distances.
 - Crucial in the **extragalactic distance ladder**, enabling determination of the universe's expansion rate (Hubble constant).
- **Significance:** This development strengthens our ability to measure distances across the cosmos with higher precision, reducing uncertainties in the Hubble constant debate.



Blue Dragon

Syllabus: GS-3: Wildlife – Species in news.

Context:

Several beaches in Guardamar del Segura, Spain, were forced to shut down last week after an unusual invasion of blue sea dragons, a rare but venomous species of sea slug, washed ashore.



Blue Dragon (*Glaucus atlanticus*)

Classification

- Type: Mollusk (nudibranch)
- Common names: Blue sea slug, Blue angel, Sea swallow

Physical Features

- Size: Rarely grows beyond **3 cm**
- Buoyancy: Floats using an **air bubble in stomach**
- Appearance: Striking blue coloration with wing-like appendages

Distribution

- Found drifting in **Atlantic, Pacific, and Indian Oceans**
- Present in **tropical and temperate waters**

Diet & Defense Mechanism

- Prey: **Venomous siphonophores** (e.g., Portuguese man-o-war, Bluebottle)
- Immunity: Resistant to nematocysts (stinging cells) of prey

- Defense: Stores nematocysts in finger-like appendages for **self-protection**
- Sting effects on humans:
 - Nausea, pain, vomiting
 - Acute allergic contact dermatitis
 - Post-inflammatory hyperpigmentation
 - Riskier for **children and elderly**

Reproduction

- **Hermaphrodites** – possess both male and female reproductive organs

Significance

- Example of **biological adaptation** (utilizing prey's venom for own defense)
- Plays a role in **marine food chains** of surface waters
- Human relevance: **Potential medical concern** due to stings

Green Credit Programme

Syllabus: GS-3; Environmental Policies

Context

- In a new set of rules, the Union Environment Ministry will now award green credits generated for tree plantation under the Green Credit Programme (GCP) only after five years, based on a minimum canopy density of 40 per cent and tree survival.



What is the Green Credit Programme?

➤ **Definition:**

An *innovative market-based mechanism* to incentivize voluntary environmental actions by individuals, communities, industries, and companies.

➤ **Objective:**

Promote sustainable lifestyles and environmental conservation as part of the **LiFE (Lifestyle for Environment)** initiative announced at **COP26**.

Covered Activities

The GCP covers **eight categories** of activities:

1. **Tree Plantation** – Expanding green cover, tackling deforestation.
2. **Water Management** – Efficient use and conservation.
3. **Sustainable Agriculture** – Eco-friendly farming practices.
4. **Waste Management** – Reducing pollution through systematic handling.
5. **Air Pollution Reduction** – Initiatives for cleaner air.
6. **Mangrove Conservation** – Protecting and restoring coastal ecosystems.
7. **Eco-restoration of Landscapes** – Restoring degraded land and habitats.
8. **Other Environmental Actions** – Supporting biodiversity and climate goals.

Governance & Administration

- **Nodal Agency:** *Indian Council of Forestry Research and Education (ICFRE)* under MoEFCC.
- **Process:**
- Individuals/companies fund restoration on 'degraded' lands.
 - State forest departments implement plantation/restoration.
 - After **2 years**, ICFRE evaluates success → assigns *Green Credits*.
- **Utility of Credits:**
- Compliance mechanism for offsetting diversion of forest land.
 - Reporting adherence to ESG norms and CSR obligations.

Earning and Trading of Credits

- Registration of activities via dedicated portal.
- Verification by designated agency → issuance of *Green Credit Certificate*.
- **Calculation Factors:** resource needs, scope, scale, and environmental impact.
- **Green Credit Registry:** Tracks credits.
- **Trading Platform:** Allows domestic exchange of credits.

Significance

- **Domestic Policy Alignment:** Complements *Environment Protection Act (1986)*, *National Environment Policy (2006)*.
- **Climate Commitments:** Supports India's COP26 pledges; complements *Carbon Credit Trading Scheme (Energy Conservation Act, 2001, amended 2022)*.
- **Global Synergy:** Contributes to *UN Decade on Ecosystem Restoration (2021–2030)*.

Green Credits vs Carbon Credits

- **Green Credits:** Broader sustainability measures (tree plantation, water, waste, biodiversity).
- **Carbon Credits:** Tradable permits for reducing GHG emissions (1 credit = 1 tonne CO₂ eq).
- *Overlap possible* → an activity under GCP may also yield carbon co-benefits.

Challenges with GCP

- **Impact on Forest Ecology:** Risk of industrial plantations on scrublands/open forests, harming soil quality, biodiversity, and ecosystem services.
- **Green Deserts:** Monoculture plantations focusing on tree count, ignoring multi-layered forest structure.
- **Methodological Gaps:** Weak verification and regulatory gaps may compromise ecological integrity.
- **Pressure on Wastelands:** Grasslands and scrublands misclassified as “degraded” → threatens endemic species and ecological functions.

Way Forward

- **Biodiversity-Based Afforestation:** Focus on *native species restoration* over tree counts.
- **Technology Use:** Deploy *remote sensing & GIS* for accurate land identification.
- **Transparency:** Standardise terms like “*degraded land*” and “*wasteland*”.
- **Stakeholder Engagement:** Capacity building, knowledge sharing, and local community participation.