Delayed Arrival of the Southwest Monsoon

Why in news?

India Meteorological Department (IMD) has predicted that the monsoon will be delayed this year.

What is southwest monsoon system?

- **Southwest monsoon** - It is a sea-breeze from the Arabian Sea and the Bay of Bengal that officially onsets over Kerala on June 1 and retreats from Rajasthan by the end of September.
- **Northeast monsoon** - It is the retreating monsoon, which is the key source of rainfall for several parts of Tamil Nadu, Andhra Pradesh and north interior Karnataka.
- **Rainfall** - Southwest monsoon brings more than 75% of India's annual rainfall.
- **Interdependent** - An early or delayed onset of southwest monsoon over Kerala does not in any way dictate monsoon performance over the rest of the season.
- **Movement** - The monsoon then moves northwards, the speed of its movement dictated by local atmospheric conditions and the development of low-pressure areas.
- **The Andaman and Nicobar Islands** - Start getting the rains at least two weeks before Kerala does.
- **No correlation** - There is no correlation between the date of arrival and intensity of the monsoon.

What are the reasons for the delayed onset of southwest monsoon?

- **Cyclone Mocha** - Have weakened the conditions for the arrival of southwest monsoon over the Bay of Bengal region.
- **Cyclone Fabien** - The twin cyclone of Mocha just below the Equator is disrupting the incoming monsoon flows.
- **Strong positive Indian Ocean Dipole (IOD)** - For the past 5 years the strong positive IOD haven been delaying the monsoon.

  The Indian Ocean dipole (IOD) is the difference in temperature between the Eastern (Bay of Bengal) and western Indian oceans (Arabian Sea).

- **El Nino** - The warming of the equatorial Pacific Ocean that impacts weather events worldwide, is likely to develop earlier than expected.
- El Nino has the effect of suppressing the Indian monsoon rainfall.
- An El Nino event can increase the risk of a delayed monsoon in India.

The interplay of the wind and the monsoon system combined with the Earth system produces twin synchronous cyclones and the twin tropical cyclones are caused by what are called equatorial Rossby waves.

What are the implications of delayed southwest monsoon?

- The delayed monsoon ***doesn't affect any crops***.
- The follow up showers after the southwest monsoon may be delayed as a result and it could ***delay sowing*** of oilseeds such as soybean.
- A prolonged dry period could result in the Government asking farmers to switch over to crops sowing to ***nutri-cereals***, which consume less water unlike paddy.

How to overcome the challenges of delayed monsoon?

- Farmers can adopt ***drought-resistant crops***.
- The government can provide ***subsidies for irrigation*** and other water-saving measures.
- The government can also ***provide food assistance*** to people who are affected by drought.

Quick facts

India Meteorological Department (IMD)
• IMD is the national meteorological agency of India. • IMD was established in 1875 as the Meteorological Office of India. • It was renamed the India Meteorological Department in 1901. • IMD has a network of over 1,000 weather stations across India. • It is a scientific department under the Ministry of Earth Sciences of the Government of India. • The IMD is responsible for providing weather forecasts, warnings, and other meteorological services to the Indian public. • IMD is a member of the World Meteorological Organization (WMO).

References

1. The Indian Express | Southwest Monsoon
2. The Hindu Business Line | Southwest Monsoon Issues

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