

5. India to Receive Normal Monsoon, Forecasts IMD

Prelims Syllabus: Climatology

Mains Syllabus: GS-III Important Geophysical Phenomena Such as Earth Quakes, Tsunami, Volcanic Activity, Cyclone Etc., Geographical features and their Locations-Changes in Critical Geographical Features (Including Water Bodies and Ice Caps) and In Flora and Fauna and the Effects of Such Changes.

Why in News?

- India will likely to have a normal monsoon, with a chance of 'above normal' rain in August and September, the India Meteorological Department (IMD) said recently.

About IMD:

- IMD is an agency of the Ministry of Earth Sciences of the Government of India established in 1875.
- It is the principal agency responsible for meteorological observations, weather forecasting and seismology.

Monsoon in India:

- The climate of India is described as the 'monsoon' type. In Asia, this type of climate is found mainly in the south and the southeast.
- Out of a total of 4 seasonal divisions of India, monsoon occupy 2 divisions, namely,
 - ✓ **The Southwest Monsoon Season** - Rainfall received from the southwest monsoons is seasonal in character, which occurs between June and September.
 - ✓ **The Retreating Monsoon Season** - The months of October and November are known for retreating monsoons.

Factors Influencing South-West Monsoon Formation:

- The differential heating and cooling of land and water creates a low pressure on the landmass of India while the seas around experience comparatively high pressure.
- The shift of the position of **Inter Tropical Convergence Zone (ITCZ)** in summer, over the Ganga plain (this is the equatorial trough normally positioned about 5°N of the equator. It is also known as the monsoon-trough during the monsoon season).
 - ✓ The Inter Tropical Convergence Zone (ITCZ,) is a broad trough of low pressure in equatorial latitudes. This is where the northeast and the southeast trade winds converge. This convergence zone lies more or less parallel to the equator but moves north or south with the apparent movement of the sun.

IMD's Forecast on Monsoon:

- The IMD's confidence stems largely from global weather models pointing to negligible chances of **El Nino**, a warming of the central equatorial Pacific that's associated with the drying up of monsoon rain.
 - ✓ El Nino is a name given to the periodic development of a warm ocean current along the coast of Peru as a temporary replacement of the cold Peruvian current.
 - ✓ 'El Nino' is a Spanish word meaning 'the child', and refers to the baby Christ, as this current starts flowing during Christmas.
 - ✓ The presence of the El Nino leads to an increase in sea-surface temperatures and weakening of the trade winds in the region.
- IMD has also officially **redefined the definition of what constitutes 'normal' rainfall and reduced it by 1 cm to 88 cm.**
 - ✓ "Quantitatively, the monsoon seasonal rainfall is likely to be 100% of the Long Period Average (LPA) with a model error of $\pm 5\%$. The LPA of the season rainfall over the country as a whole for the period 1961-2010 is 88 cm.
- It also gave new dates for the monsoon's onset in several cities as part of an update, which it said was essential for a variety of economic activities ranging from agricultural planning to power distribution.

Change in Dates of Monsoon:

- The **onset over Kerala**, which marks the arrival of the monsoon into mainland India, will **continue to be June 1**. However, the onset date in Mumbai — historically June 10 — will now be June 11. The **official withdrawal date is now delayed by over a week to October 8, instead of September 29**.
- The onset over Chennai has been delayed by three days — from June 1 to June 4. Ahmedabad will see the monsoon arrive nearly a week late — June 21 instead of June 14. Bhopal, too, is seeing a similar delay — to June 22 instead of June 15. Delhi, too, will see a four-day delay in the monsoon's arrival to June 27.
- "New monsoon advance dates over States like Maharashtra, Gujarat, Madhya Pradesh, Chhattisgarh, Telangana, Andhra Pradesh, Odisha, Jharkhand, Bihar and parts of Uttar Pradesh are delayed by three-seven days compared to existing normal dates". A significant delay in the withdrawal of the monsoon over northwest and central India has been observed. "Monsoon withdraws from NW India almost 7-14 days later from the existing dates. There is no change in the final withdrawal date over south India, i.e., 15th October".

What Would be the Possible Impacts?

- About 64% of people in India depend on agriculture for their livelihood and agriculture itself is based on Monsoon.
- Agricultural prosperity of India depends very much on timely and adequately distributed rainfall. If it fails, agriculture is adversely affected particularly in those regions where means of irrigation are not developed.
- The forecast on the monsoon by the IMD helps the agriculturists and farmers to do the farming activities according to the availability of Monsoon.
- All the economic activities and Power distribution can be planned according the change of the Monsoon Dates.

