Monsoon Rainfall 2019

What is the issue?

- India's most torrential monsoon in a quarter century officially ended on October 16, 2019.
- The new challenges with the link between climate change and monsoon call for better understanding of the Indian Ocean's behaviour and monsoon impact.

How has the 2019 SW Monsoon been?

- This has been the most delayed withdrawal of the South West monsoon since 1961.
- Nevertheless, both the quantity and the timing have had no effect on the onset of the northeast monsoon, which officially commenced.

How is the NE Monsoon expected to be?

- At best, meteorologists have now progressed to giving a broad outlook of how the rains could pan out over the next few months.
- This year, however, is particularly significant.
- Monsoon rains in south India have been 15% above normal.
- In Andhra Pradesh, Telangana, Karnataka, Kerala and Tamil Nadu, the Central Water Commission monitors over 30 reservoirs.
- In these, water levels were 84% of their total live capacity, and much higher than the 10-year average of 66%.
- This means that excessive rains in the coming months could contribute to an episode of urban inundation.

What does this indicate?

- Among the signatures of global warming is intense rainfall being concentrated over short spells and pockets and long periods of drought.
- The El Niño phenomenon has been connected with the failure of the southwest monsoon.
- [The El Niño phenomenon refers to the abnormal warming of the equatorial waters off the central and eastern Pacific.]
- However, researchers over the years have noted that this had an opposite effect on the NE monsoon.

- In other words, El Niño phenomenon leads to more voluminous showers in the winter and particularly over South India.

What is the concern with monsoon predictions?

- The southwest monsoon has been obsessively studied for centuries and there are well established correlations for its nature.
- However, no such determining parameters exist for the NE monsoon.
- The NE monsoon rains contribute about 20% of India's annual rainfall and span October-December.
- This summer, the IMD, along with other meteorological agencies around the world, said that monsoon rains would be on the lower side.
- Possible emergence of an El Niño was said as the reason for this.
- Even after the threat of El Niño had waned, the IMD did not indicate that rains would be heavy in August and September.
- Notably, despite the warnings of lower rains, conditions in the Indian Ocean turned favourable and led to the excessive monsoon activity this year.
- This shows that there is lack of full understanding on the behaviour of the Indian Ocean and its influence on the monsoons.
- India is moving to a system where dynamical models that run on powerful computers will become the mainstay of monsoon forecasting.
- However, these too are heavily reliant on the behaviour of the Pacific Ocean and El Niño-related swings.

What should be done?

- Climate change is set to inescapably alter the ocean temperatures around the Indian neighbourhood.
- So, giving more importance to understanding the vagaries of the NE monsoon should be among India's key priority in adapting to climate change.
- India needs to step up research to improve the performance of the monsoon prediction models.

Source: The Hindu