



LA NINA AND INDIA - GS I AND III MAINS

Q. What do you mean by La Nina? Discuss its characteristics and its impact on the Indian Climate. (10 marks, 150 words)

News: *El Niño out, La Niña in*

What's in the news?

- The year 2023 was the warmest on record based on measurements done by different agencies such as the National Aeronautics and Space Administration (NASA) of the U.S., the National Oceanic and Atmospheric Administration.

La Nina:

- La Niña La Niña is the opposite of El Nino. It is a climate pattern characterized by **cooler-than-average sea surface** temperatures in the central and eastern tropical Pacific Ocean.
- During La Nina years, the monsoon rains are typically stronger than normal, which can lead to **increased rainfall**.

Feature:

- Stronger trade winds over the Pacific Ocean.
- The cold **phase of the ENSO cycle**.
- Positive impact on coastal fisheries due to increased upwelling of nutrient-rich cold water
- Lasts for several months to a couple of years

Outcomes of La Nina:

- On the **American west coast**, upwelling increases, bringing **nutrient-rich water** to the surface.
- Pacific cold waters close to the Americas push **jet streams** — narrow bands of strong winds in the upper atmosphere — **northwards**.
- This leads to drier conditions in Southern U.S., and heavy rainfall in Canada.
- La Niña has also been associated with heavy floods in Australia.
- Two successive La Niña events in the last two years caused intense flooding in Australia, resulting in significant damage.

Effects of La Nina on India:

- **Increased Rainfall:** La Nina conditions often lead to heavier than average monsoon rainfall across India, which is beneficial for agriculture.



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- **Regional Variations:** While overall rainfall increases, the distribution might not be uniform. Some regions, like the Western Ghats, might receive average or even below-average rainfall during La Nina.
- **Winter Effects:** La Nina can also influence winter weather patterns in India. It can bring colder than normal temperatures to the northern plains and extend the winter season. Additionally, snowfall over the Western Himalayas might be less than usual.
- **Overall Benefit:** Despite the regional variations, La Nina is generally considered a positive phenomenon for India. The increased monsoon rainfall is crucial for replenishing water resources and supporting agricultural productivity.

Further Reference - [El Nino and La Nina](#)

