

Impacts and trends of El Nino and La Nina

El Nino and La Nina are known to have severe effects on environment (atmospheric pressure, rainfall patterns and the global atmospheric circulation) and economy.

1. Environmental impacts of El Nino

The main impacts of El Nino occur in and around the Tropics. The following are some of the effects El Nino has on the weather in this part of the world:

- In South America, there is a drastic increase in the risk of flooding on the western coast, while there is an increase in the risk of droughts on parts of the eastern coast. In eastern countries, like India and Indonesia, there is an increase in droughts. In general, El Nino causes vast amounts of rainfall in the eastern parts of the Pacific (the western coast of South America), and very dry weather on the western parts (India, Indonesia).
- With all the extra heat at the surface of the Pacific Ocean, energy is released into the atmosphere, causing an overall warming of the global climate temporarily. Years in which El Nino occurs tend to feature higher temperatures across the globe. The effects of El Nino on the weather peak in December and can last for several months after that.

2. Economic Effects of El Nino

- In Asian countries that harvest rice, water is needed, and the lack of rain can have a huge impact on their rice production. Because rice production is of great importance in many of these Asian countries, El Nino has a negative impact on these countries' economies.
- In non-Asian countries that are impacted by these El Nino related droughts, such as Australia, the droughts can cause a decrease in the harvesting of other crops, like wheat. For farmers and exporters of these crops, El Nino has a very negative economic impact, like that of rice production and exportation in the Asian countries.

- Meanwhile, the dramatic increase in rainfall on the eastern side of the equatorial Pacific drastically increases the chances of flooding in countries in that area. This flooding can cause property damage to the point where people must leave their homes and seek shelter elsewhere. The flooding can also cause damage to crop, leading to a similar impact economically that occurs with the droughts on the western part of the equatorial Pacific.
- Fishing in equatorial coastal countries becomes difficult, as fish in the waters near these countries tend to disappear in the months of December and January.
- Overall, the drastic change in weather that occurs due to El Nino has a negative economic impact on many countries near the equator.

3. Environmental impacts of La Nina

- La Nina is described by lesser than average air pressure across the western Pacific. The low-pressure zones contribute to increased rainfall in the Southeast parts of the world like Southeast Asia in countries like India that benefit from the increased rainfall for agricultural purposes.
- Extreme La Nina events are known to cause disastrous floods in northern parts of Australia. For example, following the strong La Nina events in 2010, Queensland, Australia experienced the worst floods ever. As a result of this catastrophic event, over 10, 000 people were displaced and forced to evacuate.
- Over the eastern and central Pacific, La Nina is characterized by over normal pressure. This leads to reduced cloud formation and subsequently reduced rainfall in that region. This phenomenon also causes drier conditions across equatorial East Africa during the months of December to February.

4. Economic impacts of La Nina

The effects of La Nina are experienced globally. With catastrophic floods, hurricanes and cyclones in countries on the western part of the Pacific and, on the other hand, bushfires and droughts along the west coast of the USA and East Africa, farms are adversely affected, and crops cannot be

produced as expected. This causes food and agricultural produce shortage. Agricultural produce is considered by many a primary production material. And if this is affected, imports and exports will also be affected leading to an increase in the cost of importing or exporting other products.

5. Trends of El Nino and La Nina

It is commonly expected that La Nina will follow immediately on from an El Nino event, but this is not always the case. Typically, both occur every three to five. Both phenomena last between nine and twelve months.