



Mains Practice Question

Q. Discuss the impact of El Nino and La Nina on global weather patterns, and how do they affect the economy of countries in the tropics? (150 words)

10 Apr, 2023 GS Paper 1 Geography

Approach

- Start your answer with a brief introduction about EL Nino and La Nina.
- Discuss impacts of the El Nino and La Nina.
- Conclude accordingly.

Introduction

- El Nino and La Nina are two climatic phenomena that occur due to changes in the temperature of the Pacific Ocean, with significant impacts on global weather patterns and the economies of countries in the tropics.

Body

The impact of El Nino and La Nina on global weather patterns

- **During El Nino**, the **warmer ocean temperatures** in the **eastern Pacific** can result in changes in atmospheric circulation patterns.
 - This can cause **reduced rainfall** in **Southeast Asia** and **Australia**, as well as **increased rainfall** in **South America** and **parts of Africa**.
 - **El Niño** can lead to **droughts, wildfires**, and **crop failures** in **Southeast Asia** and **Australia**, while causing **flooding** and **landslides** in **South America**.
- **During La Nina**, the cooler ocean temperatures in the eastern Pacific can lead to the opposite pattern.
 - This can result in **increased rainfall** in **Southeast Asia** and **Australia**, and **decreased rainfall** in **South America** and **parts of Africa**.
 - **La Nina** can cause **flooding** and **landslides** in **Southeast Asia**, while leading to **droughts** and crop failures in **South America**.
- **Temperature anomalies:** Both El Nino and La Nina can lead to temperature anomalies across the globe.
 - During El Nino, temperatures can be **warmer than average** in **the Pacific**, while **cooler** in the **Atlantic**.
 - During La Nina, temperatures can be cooler than average in the Pacific, while warmer in the Atlantic.
- **Effects on hurricanes and typhoons:** El Nino and La Nina can also have significant impacts on the frequency and intensity of hurricanes and typhoons in different parts of the world.
 - For instance, El Nino can cause **increased hurricane activity in the Atlantic**, while leading to decreased typhoon activity in the Western Pacific.

The economic impacts of El Nino and La Nina on countries in the tropics include:

▪ **Agriculture:**

- Changes in rainfall patterns during El Nino and La Nina can have significant impacts on agricultural production, which is a **major source of income** for many countries in the tropics.
- Droughts or floods can lead to **lower crop yields, higher food prices**, and lower income for farmers.

▪ **Fisheries:**

- El Nino and La Nina can also **affect fish populations**, which are an important source of protein and income for many coastal communities.
- Changes in ocean temperatures can lead to changes in fish migration patterns, reducing catch sizes and incomes for fishers.

▪ **Energy production:**

- El Nino and La Nina can also affect energy production, particularly **hydroelectric power**.
- Changes in rainfall patterns can lead to **fluctuations in water levels** in rivers and reservoirs, affecting the availability of hydropower.

▪ **Tourism:**

- Changes in weather patterns during El Nino and La Nina can also affect tourism in countries in the tropics, particularly those that rely on outdoor activities and natural attractions.
- Droughts or floods can lead to reduced tourism and lower income for tourism-related businesses.

Conclusion

- The impacts of El Nino and La Nina can be quite significant, and can include **droughts, floods**, and **changes in temperature patterns**.
 - It is **important to understand** and **monitor** these events in order to prepare for and **mitigate their impacts**.

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