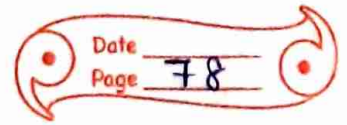


CLIMATE

Hw
6/11/21

Odm Connect Homework



Q1. Describe the El Nino mechanism in your own words. 14

Ans) The periodic development of a warm ocean current along the coast of Peru as a temporary replacement of the cold Peruvian current, is known as El Nino.

In the Normal year, the current of the Western continent i.e. the Peruvian current remains cold current. From the southern sea, they take the cold water to the equatorial part and in equator it heats up to form the warm water. Also, the ~~trade~~ intensity of the trade winds is maximum in these year for which it push up the water to different directions, instead of western coast therefore rainfall does not occur in the western part of the continent.

But once in a 4 years i.e. in the El Nino year, when the apparent position of the Earth gets distracted, the intensity of the trade winds gets reduced and unable to push the cold ~~current~~ ^{water} to the equator. So the hot water starts moving backward to the Peruvian coast resulting ~~at~~ warm current once in a 4 year. Hence, low pressure is created there that leads to rainfall once in a 4 years in the western part of every continent.

Q2. How does the presence of Tibetan Plateau influence the arrival of monsoon in Indian? 13

Ans) The Tibetan plateau gets intensely heated during summer, which results in strong vertical air currents and the formation of low pressure over the plateau at about 9 km above sea level.

The Tibetan plateau which is also known as Roof of the world has a great altitude i.e. 9 km above sea level. It also attracts more amount of insolation i.e. amount of sun rays that we received from the sun. It heats up quickly as these plateau is located in certain heights. In Himalayas, it has tapered (pointed) ends so insolation received is very less but in Tibetan plateau, the surface area is not pointed so it heats up to high extent creating low pressure over there. Thus, High pressure in the ocean attracts low pressure in the land that leads to rainfall.

Q3. What are 'Jet streams'? | 2

Ans) These are narrow belt of high altitude (above 10,000 m) westerly winds in the troposphere. Their speed varies from about 110 km/h in summer to about 184 km/h in winter. A number of separate jet streams have been identified. The most constant are the mid-latitude and the sub-tropical jet stream.