**Report 1 - Evaluation of an expert talk**

On a scale of millions of years, the global climate can be divided into four stages, namely Eon, Era, Period, and Ephch. There are many factors affecting climate change. We live in the climate, and understanding the climate will help us live better in nature. So what exactly causes climate change? In this assessment, we will explore what factors control changes in the earth's climate, understand the relationship between short-term climate change and long-term climate change, and how to adapt to the future climate. Variety.

**What controls Earth's climate?**

Geography, carbon cycle and sunlight.

In terms of geographical factors, plate movements have changed the distribution of land and oceans. The huge height of the Himalayas in Asia has affected atmospheric circulation and precipitation patterns, which may lead to completely different climates on both sides of the mountains. In addition, over time, rocks are gradually weathered, absorbing carbon dioxide from the atmosphere in the process, and due to the accumulation of polar ice caps, the reflected sunlight will keep the earth from being very hot, and the movement of the continents has also changed the earth's orientation. Reflectivity of sunlight. Changes in biogeography and vegetation distribution brought about by plate movement will also affect the carbon cycle and overall climate on a global scale.

Regarding carbon cycle factors, the carbon cycle is mainly reflected in the content of carbon dioxide in the air, and its content will significantly affect the climate. Volcanic eruptions, forest fires, and the decomposition of organic matter will bring huge amounts of carbon dioxide to the atmosphere, increasing global temperatures and warming the climate. In addition, oceans and forests can sequester carbon. They absorb carbon dioxide and reduce the amount of carbon dioxide in the atmosphere, which will lower global temperatures and bring about climate cooling. Therefore, the carbon cycle has a great impact on climate change. By analyzing the carbon dioxide content in the air, we can understand past climate changes and predict future changes.

In terms of lighting factors, changes in latitude and the tilt of the earth's axis will cause changes in the intensity of the sun, and the intensity of light will affect the evaporation of water resources, affect the distribution of local animals and plants, and will also follow the atmospheric circulation to redistribute heat and water around the world. Forming natural climates such as rain forests or deserts. In addition, changes in Earth's orbit and tilt over long timescales, leading to cycles of glacial and interglacial periods, can further alter Earth's climate.

The climate changes in the past million years are similar to the climate changes in the past hundred years. The intensity of sunlight is the main driver of the earth's climate change and has a huge impact. Secondly, the atmospheric circulation caused by geographical location and plate movement also affects the earth's climate regulation. The carbon cycle plays an important role on a larger time scale. The content of carbon dioxide in the air affects global temperature and climate patterns.

**Similarities**

Changes in the earth's climate are mainly determined by the natural environment, which is an internal factor. The external factors are the three major factors that control the earth's climate mentioned above: geographical factors, carbon cycle and sunlight. Due to plate movement, the distribution of land and oceans changes, affecting atmospheric circulation. In addition, atmospheric circulation affects biological distribution and diversity. However, climate change in the past century is mainly caused by humans, which means massive carbon emissions. The massive exploitation and consumption of fossil energy has rapidly increased the concentration of atmospheric carbon dioxide and accelerated global warming. Due to human factors, climate changes over the past century have been very sudden and had greater impacts on longer scales.

**Conclusion100**

Plate movement, Earth's axis deflection, geological activity, sunlight intensity and the carbon cycle are the main causes of long-term climate change. These changes affect the atmospheric circulation and Earth's temperature. Continental drift, mountain uplift, geological activity and changes in sunlight intensity are the main causes of long-term climate change. These variables influence atmospheric and ocean circulation, which in turn affects regional and global climate patterns. In the past century, due to the extensive use of fossil fuels and the destruction of forests, the amount of carbon dioxide in the air has increased, exacerbating global warming. To better prepare for future climate change, these differences must be understood. By looking at Earth's historical climate, we can better understand the connections between short- and long-term climate change. This will help us take more effective action and develop mitigation and adaptation plans. In summary, in order to more accurately predict and address upcoming problems, we need to deepen our understanding of the Earth's climate system.

**Reference**

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