

Eternal Climate Change Patterns and the Causes and Countermeasures of Global Climate Change

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Abstract: It is an objective fact that the weather is unpredictable. Even the famous meteorologist, Academician Chu Ko Chen, has only a partial understanding of the changing laws of wind and rain. Even though ancient people summarized the 24 solar terms by observing the annual activities of the sun for a long time, because they ignored the impact of the activities of the moon on the Earth's climate change on a small scale, the 24 solar terms they summarized often could not accurately predict the change of the Earth's climate. Therefore, the author studied the influence of lunar activities on the Earth's climate change, finds out the law of the influence of lunar activities on the Earth's climate change on a small scale, and summarizes the eternal climate change pattern determined by the activities of the sun and the moon. In addition, the author also reveals the causes and countermeasures of global warming and the frequent occurrence of extreme weather as well as environmental change.

Key words: Eternal climate change patterns, global warming, extreme weather, abrupt environmental changes, causes, countermeasures.

1. Introduction

It is often said that the weather is unpredictable, which means that it is difficult for people to accurately predict the weather changes, even with the progress of meteorological observation and forecasting technology, people can only predict the weather changes for a short period of time. Academician Chu Ko Chen, a modern Chinese meteorologist, geographer and educator, was the founder of modern geography and meteorology in China. He made profound research in meteorology, geography, astronomy and other natural sciences, and made great contributions to the development of modern meteorological science in China and the study of global climate change. But he finally admitted he could not figure out when it would be windy or rainy or sunny or cloudy [1]. Although the ancient Chinese people summarized and formed the 24 solar terms through long-term observation of the

annual activities of the sun, which was hailed as "China's fifth invention" in the world, this division of solar terms only roughly revealed the changes of the season, climate, phenology and other laws in a year. It reflects the influence of the sun on the Earth's climate change on a large scale [2]. Because ancient people ignored the impact of the moon's activities on the Earth's climate change on a small scale, the 24 solar terms they summarized and formed often could not accurately predict the Earth's climate change. Therefore, to more accurately predict the weather in a certain place on a certain day of the month, it is necessary to determine not only the seasons determined by the direct position of the sun, but also the activity of the moon.

In addition, global warming and its serious consequences are increasingly attracting people's attention, and countries around the world are working together to deal with it. While some argue that human burning of fossil fuels is the cause of global warming, many scientists disagree, arguing that natural drivers are the main factor in global climate change [3, 4].

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Therefore, the author re-analyzes the factors causing global warming, finds that the change in the moon’s orbit and the retreat of polar ice is an important factor causing global warming, and puts forward the corresponding countermeasures. In addition, the author also reveals the causes and countermeasures of the frequent occurrence of extreme weathers and environmental change [5].

2. The Activity of the Sun and the Moon Determines the General Pattern of Global Climate Change

Because the Earth is an ellipsoid with a bulge at the equator and a slightly flattened pole, the radius from the center of the earth to the poles is smaller than the radius from the center of the earth to the equator and other locations, so the gravity of the earth at the poles is greater than the gravity at other locations. Due to the strong centrifugal force generated by the Earth’s rapid rotation, clouds over the equator and low latitudes are prone to fall out of their rotational orbit, and when these clouds encounter the moon’s strong attraction, they can be dragged by the Moon towards

the North or South Pole. Because the Earth’s gravity is greater at the poles than at other places, when clouds are dragged over the poles, they tend to be attracted by the gravity of the poles, and when the clouds suck in enough cold air, they become huge clouds and sink. These polar clouds form powerful “polar vortices” as the Earth rapidly rotates, as shown in Fig. 1a. Such vortices can span both the troposphere and stratosphere [6].

Just as the moon attracts ocean tides, it exerts a gravitational pull on the polar vortices. When the moon is close to the polar vortex, the moon can tilt or break the polar vortex, pouring out part of the cold air and inner subcyclones. With the rotation of the Earth and the revolution of the Moon, the polar vortex cold air is poured around the world, as shown in Fig. 1b [7]. Some of the cold air and sub-cyclones fall in the polar basin, while some of the cold air and sub-cyclones fall in the direction of the moon’s gravity with the flow of the stratosphere, and travel at speeds 50 m/s above the tropopause wind speed, reaching the latitude of the moon within a few days. It can be explained in detail in the following four cases:

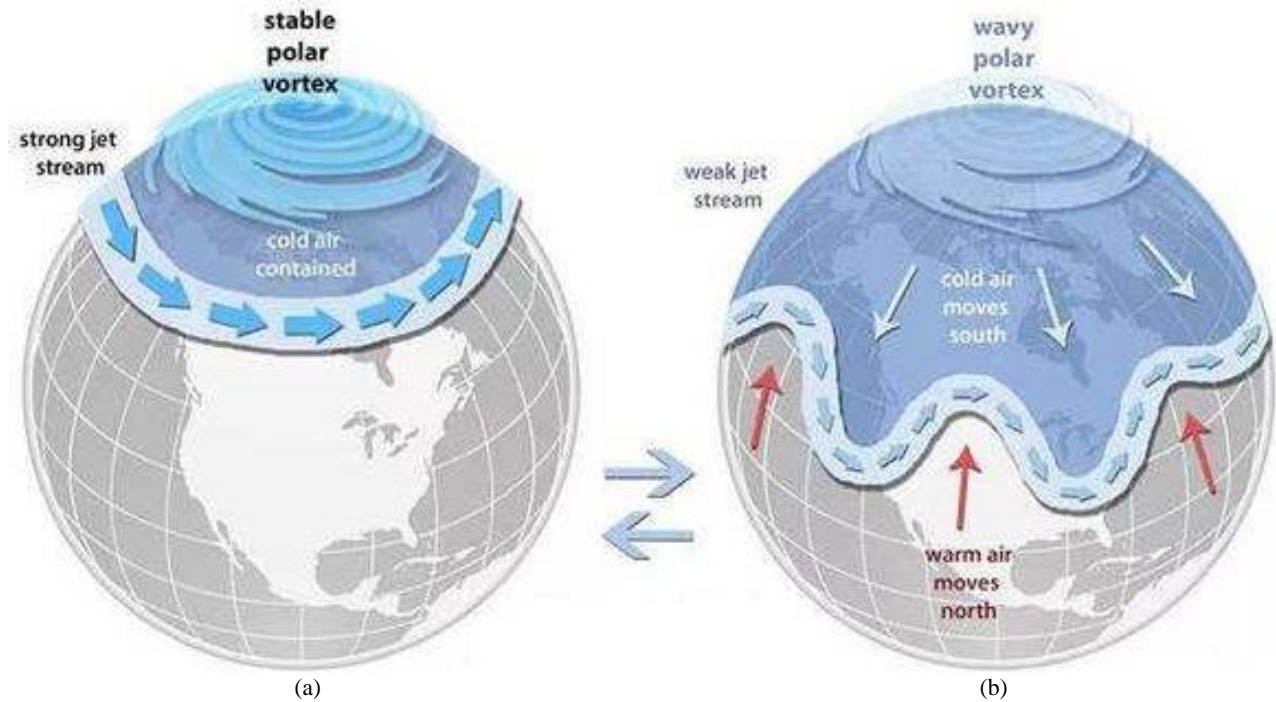


Fig. 1 State change of polar vortex.

When the spring equinox arrives every year, the direct position of the sun gradually moves from the equator to the Northern Hemisphere, so that a large amount of water vapor is evaporated in the lower latitudes of the Northern Hemisphere. Therefore, every spring, when the moon passes over the low latitude of the northern hemisphere from the first to the fourth day (or the 12th to 15th) of the lunar calendar, as shown in Fig. 2, it will attract the Arctic vortex and pour out its cold air, when this cold air reaches the low latitude under the cover of the moon, the clouds in the sky will suddenly turn into rain and fall, forming light rain, moderate rain or heavy rain weather [8].

Every time the moon comes over the North Pole from the second half of the seventh day to the first half of the eighth day of the lunar calendar, as shown in Fig. 2, the moon will support the North Pole vortex, so that it absorbs a lot of cold air and restores its strong posture. As shown in Fig. 1a, the outpouring of cold stream from polar vortex is greatly weakened, and the wind and rain in the middle and low latitudes

are temporarily stopped.

(1) Whenever the moon moves toward the South Pole from the 21st to the first half day of the 22nd lunar calendar or the moon moves north from the South Pole from the second half day of the 23rd to the 24th lunar calendar, the moon’s gravity on the South Pole vortex is large, can pour out a lot of cold air from the South Pole vortex, some of which are accompanied by the stratospheric air flow along the direction of the moon’s gravity, where the air flow, strong winds, clouds and rain, the temperature plummeted.

(2) Every summer, the sun shines directly at low latitudes, evaporating a large amount of water vapor, so from the first day to the ninth day of May lunar calendar or the first day to the sixth day of June lunar calendar, when the moon moves from low latitudes in the Northern Hemisphere to the North Pole, it attracts the Arctic vortex, pouring out a lot of cold air, some of which is accompanied by the stratospheric air flow along the direction of the moon’s gravity, and wherever the air flow goes, strong winds, clouds and rain, and temperatures drop sharply.

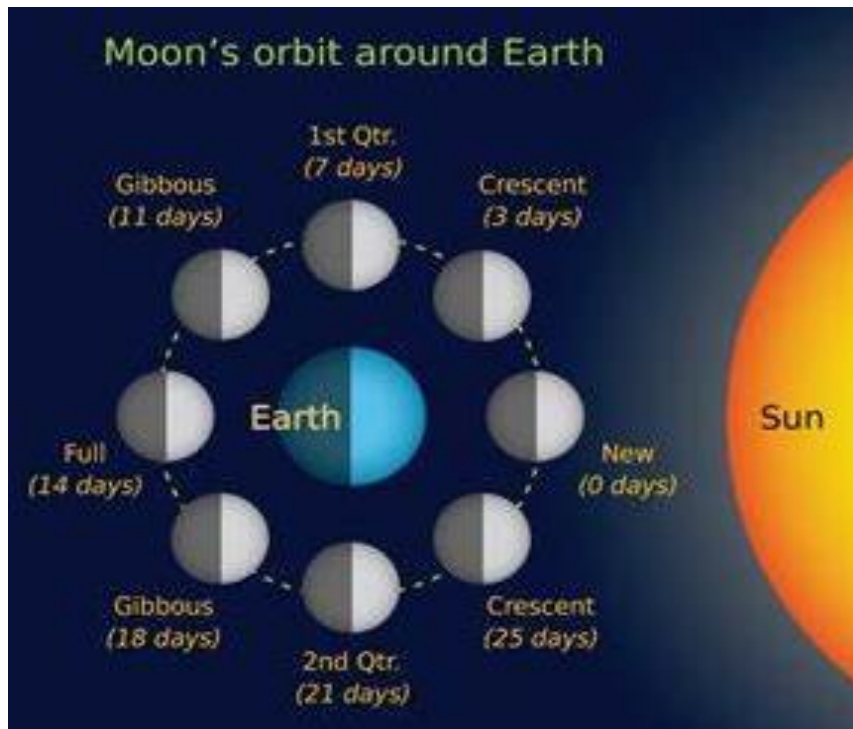


Fig. 2 Moon’s orbit around Earth.

Every lunar calendar May 13-14 or June 11-15, when the moon moves from high to low latitudes in the Northern Hemisphere, it will attract the Arctic vortex and pour out a lot of cold air, some of which pour along the direction of the moon's gravity along with the air in the stratosphere, and wherever the air goes, the wind is strong, the clouds become rain, and the temperature drops sharply.

Every lunar calendar May 27-30 or June 27-29, when the moon moves from high to low latitudes in the Southern Hemisphere, it will attract the Antarctic vortex and pour out a lot of cold air, some of which pour along the direction of the moon's gravity along with the air in the stratosphere, and wherever the air goes, the wind is strong, the clouds become rain, and the temperature drops sharply.

Every lunar June 21 to 23, when the moon moves towards the South Pole, it will destroy the South Pole vortex, pouring out a great amount of cold air, some of which are accompanied by the stratospheric air flow along the direction of the moon's gravity, where the air flow, strong winds, clouds become rain, the temperature plummeted.

Every lunar July 11 to 13, when the moon moves from high to low latitudes in the Northern Hemisphere, it will destroy the North Pole vortex, pouring out a great amount of cold air, some of which are accompanied by the stratospheric air flow along the direction of the moon's gravity, where the air flow, strong winds, clouds become rain, the temperature plummeted.

(3) With the advent of autumn every year, the direct position of the sun is gradually moving from the low latitudes in the Northern Hemisphere to the equator, but the low latitudes in the Northern Hemisphere are still in high temperature weather, and a lot of water vapor can still be evaporated. Therefore, whenever the moon moves from the Southern Hemisphere to the Northern Hemisphere from July 28 to the second day of August, the moon will attract the South Pole vortex

or the North Pole vortex, pouring out a lot of cold air, some of which are accompanied by the stratospheric air flow along the direction of the moon's gravity, where the air flow, strong winds, clouds become rain, the temperature plummeted. Therefore, areas in the northern latitude of 28°09'~29°11' (such as Nanchang) may rain during this period.

Every lunar calendar August sixth to eighth day, the moon close to the Arctic vortex, its gravity on the polar vortex is larger, can pour out a great amount of cold air from the Arctic vortex, some of which are accompanied by the stratospheric air flow along the direction of the moon's gravity, where the air flow, the wind blow, the clouds turn into rain, and the temperature plummeted. Therefore, areas in the northern latitude of 28°09'~29°11' (such as Nanchang) may rain during this period.

Every lunar calendar August 22 to August 25, when the moon is close to the South Pole vortex, its gravity on the polar vortex is larger, and a great amount of cold air can be poured out from the South Pole vortex, some of which are accompanied by the stratospheric air flow along the direction of the moon's gravity, where the air flow, the wind blow, the clouds turn into rain, and the temperature plummeted. So many places (such as Nanchang) may rain during this period.

Every lunar calendar September 16 to September 21, the direct solar point moves to the south, the southern hemisphere receives more solar radiation, and because the moon is far away from the North and South polar vortices during this period, it is difficult to pour out the cold air of the polar vortices, so there is less rain in the Northern and Southern hemispheres during this period, and most of the world is sunny.

On September 22 of the lunar calendar, the moon is close to the South Pole vortex, and it has a strong gravitational pull on the polar vortex, pouring out a lot of cold air from the polar vortex, some of which accompanied the stratospheric air flow along the

direction of the moon's gravity, where the air flow, the wind blow, the clouds turn into rain, and the temperature plummeted, so the places with more evaporation of water vapor (such as Nanchang) may have moderate/light rain.

Every lunar calendar September 23, the moon moves over the South Pole vortex, it will support the South Pole vortex, let the Pole vortex absorb the clouds brought by the moon and restore its strong posture, thus the cold flow poured out from the polar vortex is greatly weakened, and the wind and rain in the Northern and Southern hemispheres stop temporarily, many places (such as Nanchang) appear sunny.

Every lunar calendar September 24 to 29, the moon moves from the South Pole to the low latitude, it will attract the South Pole vortex and pour out a great amount of cold air, some of which accompanied the stratospheric air flow along the direction of the moon's gravity, where the air flow, the wind blow, the clouds turn into rain, and the temperature plummeted. Therefore, during this period of time, it rains in many areas of the Northern Hemisphere, and Nanchang also rains for many days. Through this heavy rain, winter begins in the Northern Hemisphere.

Due to the lower winter temperatures, less water vapor evaporates in the Northern Hemisphere. Even if the moon once approached and left the Arctic vortex, the cold air it poured out would be difficult to produce rain, so there may be no rain in the Northern Hemisphere from the first day of October to October 20 of the lunar calendar.

Every winter, the Northern Hemisphere receives less solar radiation and has lower temperatures.

Every lunar calendar October 21 to 22, the moon nears and attracts the South Pole vortex, pouring out a lot of cold air from the South Pole vortex, some of which accompanied the stratospheric air flow along the direction of the moon's gravity, where the air flow, the wind blow, the clouds turn into rain, and the temperature drops sharply, so many places with more

evaporation of water vapor (such as Nanchang) may rain.

Every lunar calendar October 23, the moon moves over the South Pole vortex, it will support the South Pole vortex, let the Pole vortex absorb the clouds brought by the moon and restore its strong posture, thus the cold flow poured out from the polar vortex is greatly weakened, and the wind and rain in the Northern and Southern hemispheres stop temporarily, many places (such as Nanchang) appear sunny.

As the moon descends from the South Pole, it becomes noticeably colder and even "heavy snow" on lunar calendar October 25, so light rain may fall continuously from October 25 to October 29 of the lunar calendar.

From the second day of November to the seventh day of November in the lunar calendar, when the moon moves from low latitudes in the Northern Hemisphere to high latitudes, it pours out the cold air of the Arctic vortex from time to time, but because the Northern Hemisphere is rarely affected by solar radiation, there is no evaporation of a lot of water vapor, so the Northern Hemisphere is sometimes cloudy, sometimes rainy, sometimes snow. However, on the eighth day of November in the lunar calendar, the moon climbs to the top of the North Pole to support the Arctic vortex, so that the polar vortex restores a strong posture, the polar vortex cold flow is greatly weakened, the wind and rain in the northern and southern hemispheres are suspended, and many places like Nanchang become sunny that day.

Every lunar calendar November 10 to November 15, the moon moves from the the high latitude to the low latitude of the Northern Hemisphere, because the evaporation of water vapor in the Northern Hemisphere is very little, and since water vapor had become rain when the moon went north the previous week, so this week when the Moon goes south, there is no raining, either sunny or cloudy.

Every November 16 to November 20 in the lunar calendar, when the moon moves from low to high

latitudes in the Southern Hemisphere, because the moon is far away from the South Pole vortex, it is difficult to attract and destroy the South Pole vortex, and there is less cold air pouring out of the South Pole vortex, so there is little rain in the Northern Hemisphere during this time of year, either sunny or cloudy. However, when the time comes to November 21 in the lunar calendar, the moon is closer to the South Pole vortex, so more cold air can be poured out from the South Pole vortex, resulting in rain weather in the Northern and Southern hemispheres where more water vapor evaporation occurred, so there is light rain in Nanchang this day.

On the 22nd day of November in the lunar calendar, areas that had rained in the Northern Hemisphere may clear up, so Nanchang is sunny that day. But on the 23rd day of November, the moon moves over the South Pole vortex, it will support the South Pole vortex, let the Pole vortex absorb the clouds brought by the moon and restore its strong posture, thus the cold flow poured out from the polar vortex is greatly weakened, and the wind and rain in the northern and southern hemispheres stop temporarily, many places (such as Nanchang) appear sunny.

Every November 24 to 29 in the lunar calendar, when the moon moves from high latitude to low latitude in the Southern Hemisphere, the influence of the moon on the South Pole vortex becomes less and less, and the cold air pouring out from the South Pole vortex becomes smaller and smaller, so there is almost no rain in the northern Hemisphere where there is less evaporation, Nanchang may only have a few days of rain during this period.

From December 1 to December 4 in the lunar calendar, the temperature is lower, and less water vapor is evaporated. When the moon moves from low latitudes to high latitudes in the Northern Hemisphere, it is far from the polar vortex, and the moon is difficult to pour out the cold air of the South Pole vortex or the North Pole vortex, so the places with less water vapor evaporation during this period are sunny

or cloudy, and the temperature is higher. However, from December 5 to 7 in the lunar calendar, the moon is close to the Arctic vortex, which can pour out more cold air from the polar vortex, so that the areas with more water vapor evaporation in the Northern Hemisphere have light to moderate rain, and the temperature drops sharply.

From the 8th to 19th of December in the lunar calendar, as the moon gradually moves away from the Arctic vortex and is far away from the South Pole vortex, the moon pours very little air out of the polar vortices, and some rain had fallen from the 5th to the 7th of December, during this period, the Northern Hemisphere is mostly cloudy or sunny. However, from December 20 to 24 in the lunar calendar, the moon is closer to the South Pole vortex, which is easy to pour out more cold air from the South Pole vortex, resulting in rainfall in the northern and southern hemispheres where there is more evaporation of water vapor (including Nanchang). From December 25 to 29 in the lunar calendar, the weather becomes clear and cloudy again.

From the first day of the lunar month to the eleventh day of the lunar month, the direct position of the sun is still in the Southern hemisphere, not near the equator, so the Northern Hemisphere is relatively cold, there is no enough evaporation of water, so when the moon moves from the Northern Hemisphere low latitude to high latitude, it can not induce wind to produce rain, so this period of time in the Northern Hemisphere is mostly cloudy or sunny. However, from the 12th to 23rd of the first lunar month, as the direct point of the sun gradually moves from the high latitude of the southern hemisphere to the equator, the northern Hemisphere gradually warms up and evaporates a large amount of water vapor. Therefore, when the moon moves from the Northern Hemisphere to the high latitude of the Southern Hemisphere, it will attract the polar vortex, pour out a lot of cold air, causing rainfall in the areas where more moisture evaporates. Therefore, this is the time when the

Northern Hemisphere begins to rain, mostly light rain, moderate rain or cloudy weather.

From January 24 to February 24 in the lunar calendar, the moon moves north from the top of the South Pole. Due to the continuous rain in the Northern Hemisphere for more than ten days before, there is a lack of water vapor over the Northern Hemisphere, even if the moon pours out the cold air of the North or South polar vortex, it will hardly bring rain to the Northern Hemisphere, so during this period, the Northern Hemisphere is generally cloudy, sunny or occasionally light rain. However, from February 25 to 30 in the lunar calendar, due to the sun's direct point moving near the equator, the temperature of the Northern Hemisphere increases, so that the Northern and Southern Hemisphere evaporate a lot of water vapor, when the moon moves north from the top of the South Pole, the South Pole vortex pours out a lot of cold air, so the rainfall increases in the Northern and Southern Hemisphere, during this period, the Northern and Southern Hemisphere are mostly light rain, moderate rain or showers, rarely sunny. This is the prelude to the spring equinox.

It can be seen that as long as the solar calendar date of a day is given, it can be converted into a lunar calendar date, and then according to the lunar calendar date and the above weather change rules can determine the approximate weather of that day. It can be seen that according to the above rules, the weather forecast for billions of years has a certain accuracy.

3. The Proximity of the Moon to the Earth Is the Main Cause of Global Warming

Due to the opening of the Arctic channel and the exploration and exploitation of oil and gas, a large number of Arctic ice sheets have melted, glaciers have been lost, the permafrost has decreased, the edge of the polar basin has subsided, and the sea level and atmospheric equipotential plane in the Arctic have also decreased significantly, resulting in the weakening of the Arctic vortex and the reduction of

the compression capacity of cloud gas, slowing down the rotation of the earth and the revolution of the moon, so that the moon gradually approaches the earth along the spiral line. In recent years, people on earth can observe that the moon is getting bigger and bigger, that is the witness of the moon's proximity to the earth. As the moon approaches the earth, the moon has a stronger attraction to the polar vortices closer to it, making these polar vortices pour out more and more violent airflow, thus blowing out larger ozone holes in the stratosphere and blowing away more clouds in the troposphere, exposing a wider space, allowing the sun to shine strongly, thereby warming a wider area. In addition, as the moon approaches the earth, more and larger clouds will move closer to the moon and follow the moon. In this way, many places originally covered by clouds will be exposed to stronger sunlight, thus warming and raising the global average temperature. In addition, as the moon approaches the earth, more greenhouse gases with large molecular weight (such as carbon dioxide, methane and nitrous oxide) deposited on the ground will be attracted to higher space by the moon, resulting in a sharp increase in the concentration of greenhouse gases in the air, so as to enhance the greenhouse effect and increase the global average temperature [5].

4. The Proximity of the Moon to the Earth Is a Major Cause of Extreme Weather

The earth has two groups of vortices, located at the South pole and the North pole respectively, which can span troposphere and stratosphere. This kind of vortex structures exists throughout the four seasons, reaching maximum strength in winter. When the Arctic is in summer and its vortex structure becomes weaker than in winter, the Antarctic is in winter and its vortex becomes stronger than in summer, and vice versa. So these two vortex structures have complementary advantages.

Since the clouds involved in polar vortex are numerous and revolve downward rapidly in a spiral

manner, a series of parallel thick spiral cloud bands can be formed, which facilitate not only the downward flow of heavier negatively charged water droplets but also the transfer of charge, as is shown in Figs. 3 and 4. Hence, this kind of cloud band is a good circuit with excellent electrical conductivity. Since the clouds involved in polar vortex are numerous and revolve rapidly, it is easy to have violent frictions and collisions among clouds, making the vortexes filled with positive ions and negative ions. Water droplets in the cloud must first absorb negative ions in the atmosphere,

causing the droplets to be negatively charged, and the larger cloud droplet falls toward the lower part of the cloud or even the lower portion of the vortex along a spiral cloud band, while the lighter positive ions are gradually brought up by the updraft to the upper part of the cloud or even the upper portion of the vortex along the spiral cloud band, forming a current from the lower portion of the vortex to the upper portion of the vortex along the spiral cloud band, as is shown in Fig. 4. In addition, since the clouds along the spiral cloud path are numerous and revolve rapidly, it is easy



Fig. 3 Earth's polar vortex.



Fig. 4 Earth's polar spiral currents.

to have violent frictions and collisions among clouds, producing frequent electrical discharge or thunderstorms. Each electrical discharge or thunderstorm acts as an electrostatic motor, which can send currents to the upper portion of the vortex and the lower portion of the vortex, forming a series of electrical circuits along the spiral cloud bands. Because of the frequent flow of currents in these cloud band circuits, huge amounts of heat are generated, therefore the warm-core structure of the vortex is formed. Consequently, the air of the warm-core expands and rises; when the warm vapor rises to the condensation section of the eye-wall, it condenses into droplets, enhancing the conductivity of spiral cloud bands and increasing the intensity of current, therefore the rising speed of air in the warm-core is further accelerated and the condensation of rising water vapor becomes more and more intense. When water vapor condenses into droplets, its volume decreases by more than 1,000 times, therefore a low-pressure center is formed, and the cooler air around it flows rapidly to it, forming a violent atmospheric vortex, as is shown in Fig. 3.

In recent years, some parts of North America have been hit by extremely cold weather, and the temperature in the Midwest of the United States has even dropped below minus 50 degrees Fahrenheit (about -45.6 degrees Celsius). Experts attributed the cause of this extremely cold weather to the “polar vortex moving south”. It is suggested that the activity of polar vortex is an important cause of extreme cold weather. So what is the real cause of polar vortex movement? In fact, every winter (December to February), when the moon passes south over the North Pole, it can draw a lot of cold air and some sub-cyclones from the polar vortex, resulting in a sharp drop in temperature in the middle and low latitudes of the Northern Hemisphere. In particular, as the moon gets closer to the Earth, the cyclones that the moon draws out of the polar vortex become larger and larger, resulting in a series of extremely cold weather

attacks in some parts of North America.

The Canadian wildfire, which began on May 28, 2023, is also a disaster caused by the moon's attraction on pole vortex. Since May 28, 2023 coincides with the tenth day of April in the lunar calendar, the moon has just come down from the North Pole, closer to the Arctic vortex, its gravitation on the Arctic vortex is very large, so that it drew a large amount of air currents and child cyclones from the vortex, which drift to the low latitude under the gravitational action of the moon. But it was spring in Canada, and low humidity along the way made it difficult for the cyclones to strengthen. But as the Earth rapidly rotated from west to east, the cyclone was carried over Nova Scotia's River Valley Basin. Due to the high temperature of the valley, more water vapor evaporates, but it is difficult to escape because of the surrounding mountains, so clouds can only form over the valley. Therefore, when a southbound cyclone drifts over such a valley, it immediately absorbs the cloud gas that evaporates from the valley to strengthen into a tornado, then crashes into the valley, degenerating into a fire tornado to ignite forest fires. If the Moon's orbit were farther from the Earth, the moon's gravitational pull on the Arctic vortex would be smaller, it would draw less air out of the polar vortex and the sub-cyclones would also be smaller, and the sub-cyclones would need to drift farther to the lower latitude over the ocean to absorb enough water vapor to form a tornado. Therefore, the sub-cyclones would be less likely to become a land tornado and less likely to cause forest fires. Therefore, to reduce the frequency or harm of this kind of forest fires, the moon should be held up so that its orbit is farther away from the Earth [9].

From the 17th to the 22nd lunar calendar, when the moon moves from low latitudes in the Southern Hemisphere to high latitudes in the Southern Hemisphere, as the distance between the Moon and the South Pole vortex becomes closer and closer, the moon's gravitational



Fig. 5 Tropical Cyclone Catarina.

pull on the South Pole vortex also becomes greater and greater, forcing the South Pole vortex to pour out more and more cold air and larger and larger sub-cyclones. For example, Tropical Cyclone Catarina, which formed off the coast of southeastern Brazil on March 12, 2004 and made landfall on the southern coast of the state of Santa Catarina in southeastern Brazil, was the result of the moon attracting the South Pole vortex, as shown in Fig. 5. Since March 12, 2004 coincided with the 22nd day of the lunar calendar, the moon was closer to the South Pole vortex, its gravitational pull on the polar vortex is very large, and the sub-cyclone drawn from the polar vortex is also large, so it eventually developed into a destructive storm above hurricane level, equivalent to a typhoon above category 14 [10].

5. The Proximity of the Moon to the Earth Is Also an Important Cause of the World's Major Earthquakes

The moon's orbit close to the earth will also cause changes in the earth's environment. For example, many undersea earthquakes are caused by the gravitation of the moon approaching the earth.

Because the seafloor has been eroded by seawater for a long time, the seafloor crust has become thinner and many rock formations have broken. When the lunar orbit is close to the earth, the gravity of the moon on the seabed rock strata becomes larger, and the dislocation between the rock strata is easy to occur, so that a large amount of seawater enters the mantle and contacts with high-temperature magma, causing violent explosions and strong earthquakes, even setting off a huge tsunami. For example, since the early morning of May 21, 1960, a strong earthquake with a magnitude of 9.5, which was rare in the history of the world earthquake, suddenly occurred on the seabed near port Monterey, Chile, and the resulting tsunami affected Japan and other places. In fact, May 21st, 1960 happened to be April 26th of the lunar calendar, and the moon just moved northward from the top of the south pole to the sky over port Monterey. Therefore, the moon was close to the epicenter and had a strong attraction to the rock strata on the seabed of the epicenter, so it was easy to cause the dislocation of the rock strata on the seabed of the epicenter, which eventually led to the submarine earthquake [5].

6. Main Causes of Extreme Rainfall in Recent Years

From July 29 to August 2, 2023, Beijing suffered a heavy rainstorm, which affected 1.29 million people, collapsed 59,000 houses, severely damaged 147,000 houses, and affected 225,000 mu of crops. It was the heaviest rainfall in the Beijing area in 140 years of instrumental records. The meteorological department was wrong to attribute the disaster to the typhoon. In fact, the heavy rain was mainly a coincidence of seasonal changes. Because the first half of July 2023 (July 1 to July 17) is still in May 14 to May 30 (in the lunar calendar), and has not reached the hottest June, the water vapor evaporating from rivers and oceans is limited and mainly distributed in the low altitude of the Beijing Plain, and the water vapor reaching the high altitude (1,000~1,500 m) is still less. Therefore, even if the moon passes over the top of the South Pole in the first half of July (May 16-29 in the lunar calendar), the cold flow it attracts from the South Pole cyclone can only cause sporadic light rain in the Beijing area (May 23-26 in the lunar calendar). However, in the second half of July 2023 (July 18 to August 1), it enters the hottest time of the year (June 3 to June 15 in the lunar calendar), and a large amount of water vapor evaporates from rivers and oceans and rises to kilometers in the air. Therefore, when the moon passes over the North Pole (June 3 to June 15 in the lunar calendar), it attracts Arctic cyclones and pours out a lot of cold air, which can not only produce typhoons such as Dusuri but also drop thick clouds over the Beijing area and form extremely heavy rain. It can be seen that the extreme rainfall in Beijing in July 2023 is mainly a coincidence of seasons. In the last 100 years, the odds are slim. However, the analysis of future years shows that 2024, 2025, 2027, 2029 and 2030 are less likely to experience very heavy rainfall, but 2026 and 2028 have a climate pattern similar to 2023, which is more likely to encounter very heavy rainfall and

needs to strengthen defenses.

7. Strategies to Prevent Global Warming and Environmental Change

Through the above analysis of the causes of global climate change anomalies, it can be seen that due to the massive melting of the Arctic ice sheet and the retreat of glaciers [11], the Arctic vortex becomes thin and the compression capacity of cloud gas decreases, which slows down the rotation of the earth and drives the moon to slow down, so that the moon gradually approaches the earth along a spiral line, and finally leads to global warming and other climate change anomalies. In order to solve these problems, we should prevent the massive melting of the Arctic ice sheet and the retreat of glaciers, restore the strong trend of the Arctic vortex, enhance the compression capacity of the polar vortex to the cloud gas, accelerate the rotation of the earth and drive the revolution of the moon, so as to keep the moon away from the earth appropriately, to reduce the global average temperature and environmental change. Since the retreat of polar glaciers is caused by human activity in the polar regions, global warming should be prevented by controlling human behavior. Therefore, people should take the following measures:

(1) Reinforce the embankment along the Arctic channel to prevent ice sheet melting and glacier loss.

(2) Fill the exploration and mining areas with stones, sand or wood to stabilize the ice base, so as to prevent the melting of the Arctic ice sheet and the decline of the permafrost layer.

(3) Reduce people's activity in the polar regions (such as tourism and oil and gas exploration), so as to keep the polar ice sheets from melting, not rise the temperature, and prevent the subsidence of the edge of the polar basin.

(4) Control the population and prevent excessive reclamation, protect forests, prevent deforestation and promote forest regeneration plans.

8. Conclusions

Because ancient people ignored that the moon is an important part of the Earth system and the moon's activities have an important impact on the Earth's climate change, they could not accurately predict the change of the Earth's climate. Therefore, the author studies the effects of the moon's activities on the Earth's climate change, finds the law of the moon's activities on the Earth's climate change on a small scale, and summarizes the eternal climate change pattern determined by the sun and the moon's activities. In addition, global climate and environmental changes are making people increasingly uneasy. The author analyzes the various factors that cause global climate and environmental sudden change, and finds that the moon is gradually approaching the Earth due to the retreat of polar glaciers, which causes global changes and a series of environmental sudden changes. In order to solve these problems, the author puts forward corresponding countermeasures.

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