

Effects of solar wind on typhoon

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1. Interaction between solar wind and Earth's atmosphere

The earth's climate is caused by the Earth's daily rotation and solar irradiation. However, the effects of solar wind are ignored in conventional explanations. The concept of "bow shock" is often misused as "solar wind is slowed down by the repulsive force of geomagnetism". However, the solar wind collides with the planet's ions by a chain of magnetic bonds. The density peak of hydrogen (H) is about 80 km at an altitude of 10^{13}m^{-3} , and the altitude of oxygen atoms is about 100 km. 10^{17}m^{-3} . There is a peak of density, even though it is escaping from the Earth's gravity. Since H^+ is supplied continuously via the solar wind, the seawater of the Earth has been kept almost constant from the early days of the Earth up to now.

2. Weather rotating around the Earth faster than Earth's rotation

The daily weather moves along the latitude, and spreads in the same latitude area. And it rotates in a cycle of several days from west to east along longitude. There are explanations on the movement of such weather based on the "Coriolis force" caused by the Earth's rotation. Coriolis force is an apparent force of a rotating sphere. The force is weak at the equator and maximize in the North and South Poles. The power of Coriolis cannot explain the movement of atmosphere around the equator. Furthermore, the thermal convection cannot explain the phenomenon of continuing to orbit the Earth in one direction faster than the surface of Earth in the equatorial region.

3. Solar wind drives Earth's weather from west to east

Moving charged particles exert a local magnetic effect on the other charged particles in motion. The individual electrons in the coil are constantly changing their direction, and the generated static magnetic field is the result of the line integration of the current in the closed circle. Many atmospheric molecules at upper boundary the Earth collide with the solar wind H^+ to ionize, and locally magnetic interaction among the motioning charged particles. The atmospheric flows link with solar wind by magnetic coupling among moving charged particles. The solar wind passing at high speeds through the east side of Earth's atmosphere has a large acceleration effect due to the magnetic coupling while the west side has a small deceleration effect due to repulsive magnetic coupling. So, the weather moves from west to east. Westerly winds are driven by the solar wind, so the westerly winds become faster as those get higher.

4. Trade wind driven by solar wind

Solar wind has the anticlockwise rotational speed of 1.89 km/s by the rotation of the Sun. When the solar wind hits the front of Earth, the winds from east to west blow via a gear mechanism. The clockwise trade wind is driven by collision of anticlockwise rotational velocity of solar wind at day hemisphere.

5. Daily changes of weather in equatorial area

The most irradiated area in the summer solstice is around 23.4 degrees north latitude. Trade winds blow near 23.4 degrees north latitude at the daytime in the end of June. The trade winds occur when counterclockwise solar wind collides with the upper atmosphere. However, the solar wind drives the counterclockwise flow of the atmosphere in the night hemisphere. So, it rains in the evening in this area.

6. The mechanism of typhoon

Westerly winds in the counterclockwise direction occur on both sides of the trade wind. Because the Earth's axis of rotation tilts at 23.4 degrees the solar wind has a moving component of north direction. So, when water vapor uprises at the westerly region that is the southern region of the trade wind in the Pacific Ocean of the northern hemisphere in the summer, the vapor of water moves northwest in the westerly winds of counterclockwise rotation and collides with the trade wind of clock rotation. The collision forms

an anticlockwise vortex. In the vortex, water vapor condenses, and rains, causes a tropical cyclone. This tropical cyclone moves northwest while developpes into a typhoon in a clockwise trade wind. The typhoon then collides with the westerly winds of counterclockwise rotation and travels northeast direction. The Earth's axis of rotation has changed slowly over a 26,000-year' s period of precession movement and is now approaching the maximum angle tilt.

7. Conclusion

The atmospheric movements, such as trade winds and westerly winds, is driven by the solar wind. Therefore, typhoons are also born and developed under the influence of solar wind.

Keywords: Typhoon, Solar wind, Westerlies, Trade wind, Magnetic coupling, Coriolis force.

