

Global Lightning Hotspots and Environmental Causes

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Environmental Causes of Lightning Activity

Lightning activities are never constant and depend on some factors in the environment. Mostly, the geographical location dictates the occurrence of such events. An example can be the activities experienced in parts of the United States. Florida is one region where there are close to 100 thunderstorm days annually. That is contrary to the West Coast, which experiences close to 10 thunderstorm days a year.

Global Patterns of Tropical Lightning

That is just the United States alone. In other parts of the world, the warmth that is evident along the equator contributes to convection, and that stands as the leading cause of lightning in such areas (Juntian 77). There is a possibility of experiencing thunderstorms in such areas on a daily basis. According to the presentation on the NASA website, individuals are advised to avoid thunder regions due to the implications of staying in such areas. It is apparent that the consequences of such an occurrence are disastrous and can affect plants' and animals' lives. Moreover, the event can destroy properties of more significant value. According to the findings by NASA, it is also evident that the oceans, as well as the polar areas, are likely to experience lower incidences of lightning. The warm continental regions should be protected since the impact of lighting can be adverse in such areas, and the effect can be detrimental.

Lake Maracaibo as a Lightning Hotspot

The central question that most scientists ask themselves is the region of the world which is most prone to lightning. According to research conducted by Rabbani et al., it is known that Lake Maracaibo is more prone to lightning than any other place in the world (27). The lake is situated in Venezuela and is currently on the list of fame due to such an incident. In fact, most scientists regard the area as the lightning capital. The existence of 300 periodicals annually is such a significant figure and denotes the occurrence in almost a single day. Since the lake sits along the northern Andes Mountains, a barrier emerges. Consequently, it is possible to push such an amount of air into the atmosphere and make it possible to mix with the warm and moist air. Such warm air mostly originates from the lake. The outcome of such a reaction is usually a nocturnal thunderstorm. According to findings that some other researchers, such as Peckham et al., presented, it is apparent that the lake is likely to get close

to 630 bolts of lightning and that mostly occur per square mile annually (34).

Kabare and Other High-Frequency Locations

The second famous location, as far as lightning is concerned, is the city of Kabare. The city is located in the DRC and typically gets 531 bolts per square mile every year. The value is still high, and that denotes the need for security measures in the region as well. The only difference that causes the disparity in the numbers is the unique geography, as well as the climatology for the formation of a thunderstorm in Lake Maracaibo (Jinliang He et al. 14). The mixture of cold and warm air, is the primary justification for the establishment of lightning, and that typically takes places in the presence of a thunderstorm. One component of the heated air usually is water droplets, which are also experienced in the two areas outlined above. It is evident that droplets have crystals that rub on each other, and since there are elements of negative and positive charges, there is the formation of sound and sparkles. At the bottom of the cloud, there is the possibility of having stronger negative charges, which is the primary source of electric energy. The output comes out like lightning and mostly jumps on the ground. In a specific instance, there is the possibility of the same charges jumping to the cloud.

Surface Charge and Daily Timing

In most instances, the charges are high close to the surface of the land. The best time for their occurrence is in the afternoon. The latest research outlines that such elements are nocturnal and are less likely to be experienced over oceans. That should occur in the presence of storms. Even though Lake Maracaibo presents such outstanding features, it is evident that most occurrences in other parts of the world also offer similar attributes, bringing a unifying nature of lightning in almost every part of the world.

African Lightning Hotspots and Regional Risk

According to Gauthier and Walter, it is also apparent that Africa presents the highest number of lightning hotspots (Gauthier and Walter 20). The ability to host 6 of the top ten zones in the world makes it stand out. It is apparent that all the spots exist along the Mitumba Mountains. That places Eastern Congo on the books of records. The United States is also part of the history with most lightning occurring in Florida, as stipulated above. The ability to understand information related to lighting is critical since the occurrences can tamper with some instances on the earth's surface. Individuals should be careful in such regions and ensure they are alert in most situations.

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