

Weather and climate

There is often confusion between **weather and climate**. Weather is the condition of the atmosphere at a particular place over a short period of time, whereas climate refers to the weather pattern, using statistical data, of a place over a long enough period to yield meaningful averages.^{[1][2]}

Meteorology studies weather, while climatology studies climate; both are atmospheric sciences. Climate is an important physical element because it indicates the atmospheric condition of heat, moisture and circulation; it plays a dominant role in shaping vegetation and soil; and it ultimately affects all forms of life, as a result of the very definition of the word, which is a scientific prediction, based on evidentiary statistics, sustained over a long period.

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Elements

There are many elements that make up both the weather and the climate of a geographical location. The most significant of these elements are temperature, atmospheric pressure, wind, solar energy, humidity, precipitation, and topography. The greatest influence of climatic change is associated with not only natural, but also artificial factors, which can be measured in terms of both short-term and long-term climate change.

Modifying factors

The most important factors affecting climate are latitude, altitude, distance to the ocean or sea, orientation of mountain ranges toward prevailing winds, and the ocean current.

See also

- Extreme weather
- Outline of meteorology

References

1. Arthur Newell Strahler (1960).*Physical Geography*. New York: John Wiley & Sons, Second Edition, p. 185
2. F. J. Monkhouse (1978).*A Dictionary of Geography*. London: Edward Arnold (Publishers) Ltd.

External links

- NASA: What's the Difference Between Weather and Climate?
- What's the Difference Between a Meteorologist and a Climatologist?

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