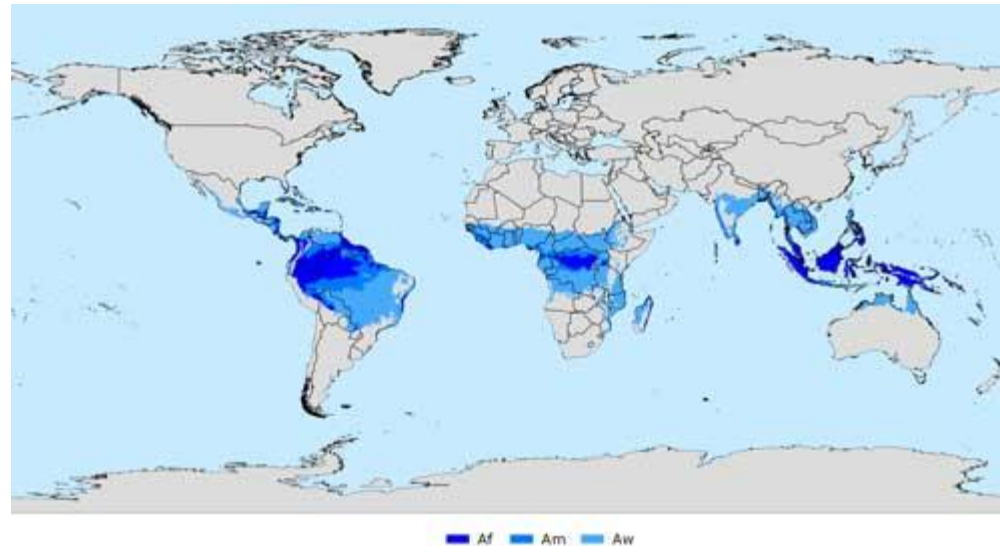


## **Köppen Climate Classification Definition**

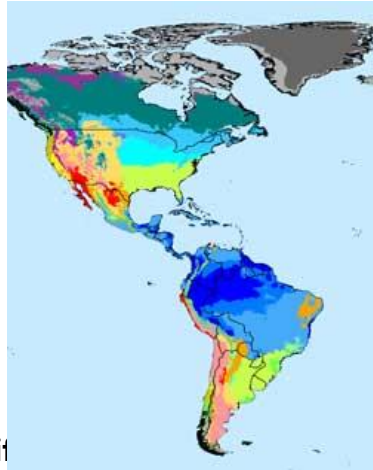
### **Köppen first climatic classification 1900 and after that second classification 1918**

It is already clear that vegetation, temperature, and [precipitation](#) are the three main components involved in defining the Köppen Climate Classification.

Before looking in more detail at the different climate regions identified by this system, as well as the role each component play, one needs to obtain a clear and concise definition first of what the Köppen Climate Classification is:



## What Is The Köppen Climate Classification Definition?



The Köppen Climate Classification system that divides the global climate into five climate zones primarily based on vegetation.

1.Megatherm 2. Xerophytes 3.Hekistotherms 4. mesotherm  
5.microtherm

Developed by Wladimir Köppen at the end of the 19th century, the system uses precipitation and temperature as the two key components to classify the climate of a region, as they are the determining factors for the type of vegetation that occurs.

The close correlation between climate and vegetation, already mentioned in the introduction, forms the bases for this popular classification system.

Late in the 19th century, climatologist and botanist Wladimir Köppen developed a climate classification system based on vegetation. He used the correlation between vegetation and climate in different regions to divide the world's climate into specific zones.

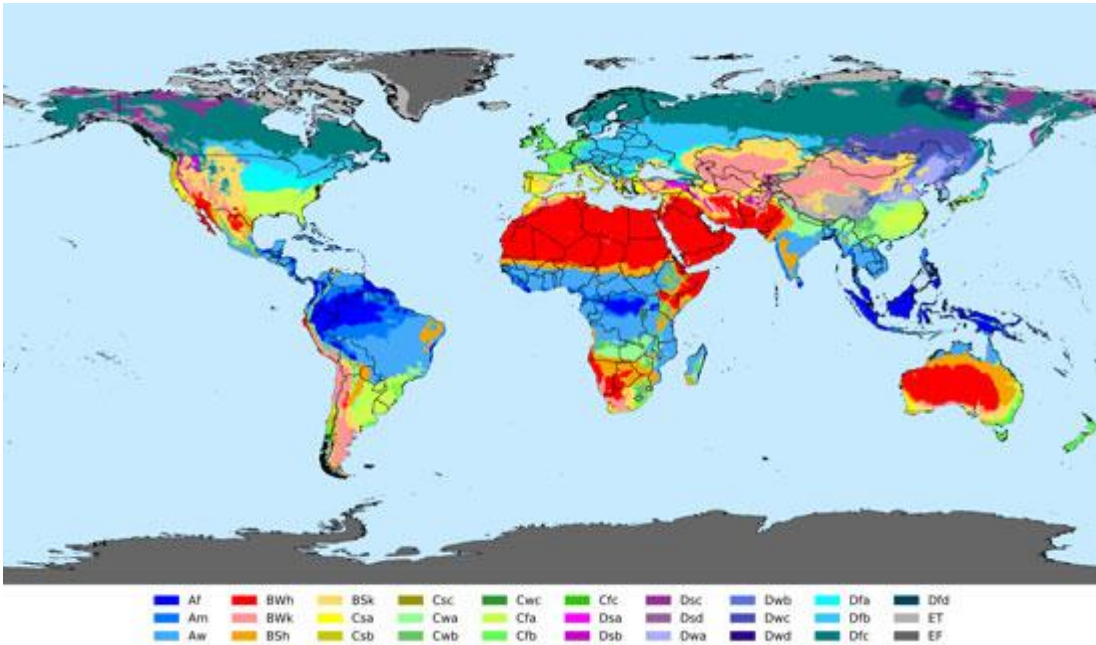
**The resulting Köppen Climate Classification categorizes the global climate into five distinct zones, primarily based on the temperature and precipitation experienced by each one.**

Köppen continued to change and refine his classification system, with two of the most important amendments made in 1918 and 1936.

Climatologists continued to make amendments to Köppen's climate classification. Rudolf Geiger was probably the most influential in making important amendments, and the subsequent Köppen-Geiger Classification System is one of the most widely used today.

## Climate Zones Of The World

According to the Köppen Climate Classification, the global climate can be divided into five primary zones. These climate zones are based on regional vegetation and defined by the temperature and precipitation that is responsible for its formation.



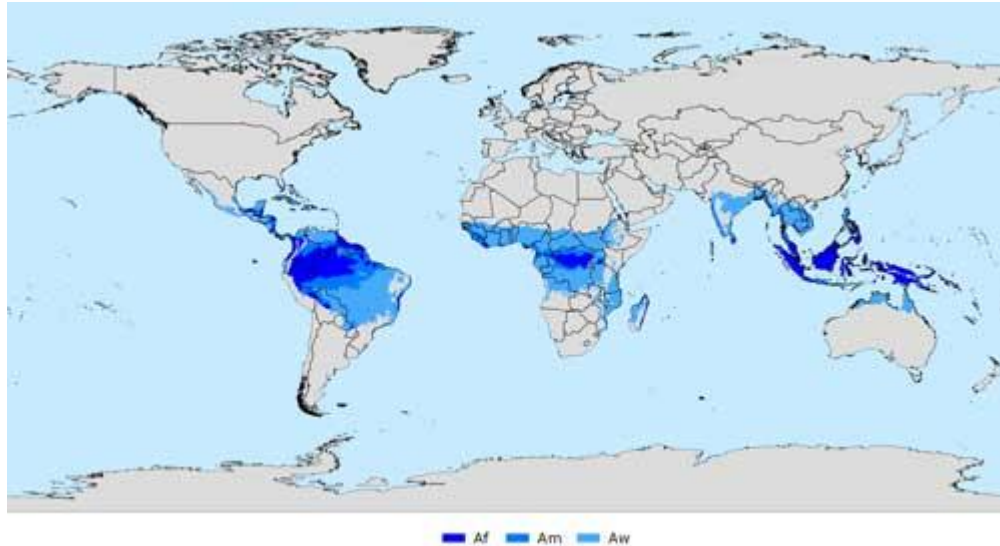
The zones are defined by the capital letters A, B, C, D, and E. The climate zones defined by each letter are:

- A) Tropical Climates**
- B) Dry Climates**
- C) Temperate Climates**
- D) Continental Climates**
- E) Polar Climates**

Each of the five major climate zones covers a vast region and is divided into smaller categories to describe the more specific climate types within each zone.

To best understand each climate type and its characteristics, is to look at it within the primary climate zone in which it falls.

## A) Tropical Climates



Tropical (also known as equatorial) climates occur in regions situated around the equator and expand to latitudes of 15° to 25° to the north and south. It can be defined by the following characteristics:

- It is the warmest of all the climate zones.
- Regions in this zone have an average monthly temperature of higher than 18° Celsius (64.4° Fahrenheit.)
- Annual precipitation exceeds 1 500 millimeters in this zone.
- High humidity levels and warm temperatures result in a frequent, almost daily occurrences of cumulus or larger cumulonimbus cloud formations.

This zone is divided into three subcategories, which are classified according to temperature and dryness.

1.1

**2.Af - Tropical Rainforest Climate** (no dry season.)

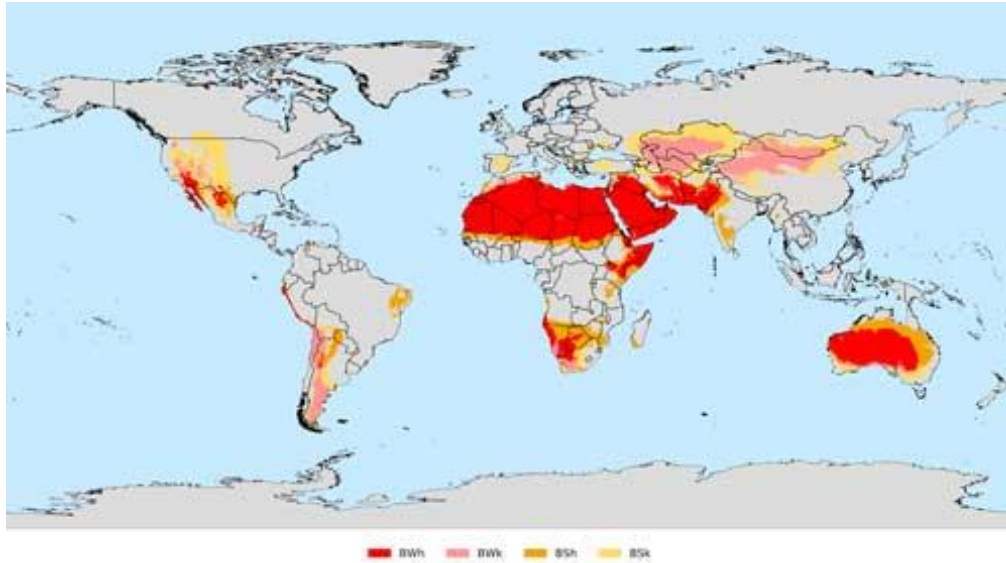
3.2

**4.Am - Tropical Monsoon Climate** (short dry season)

5.3

**6.Aw/As - Tropical Savanna Climate** (winter dry season)

## B) Dry Climates



Dry (or arid) climates occur in regions situated at latitudes between 20° to 35° north and south of the equator. It can be defined by the following characteristics:

- The main feature of this climate zone is the complete absence or extremely low levels of annual precipitation.
- The very dry atmospheric conditions are the result of the combined evaporation and transpiration levels exceeding the total amount of precipitation.
- Vegetation is sparse or completely absent as a result of the dry climate with very little precipitation.

This climate zone is divided into [desert](#) (BW) and semi-arid (BS) regions, according to vegetation type. It is further categorized into hot (h) and cold (k) zones:

1.1 **BWh - Hot Desert Climate**

2.2 **BWk - Cold Desert Climate**

3.3 **BSh - Hot Semi-Arid Climate**

4.4 **BSk - Cold Semi-Arid Climate**

## C) Temperate Climates

Temperate (or mesothermal) climates occur in regions situated at latitudes between 30° to 50° north and south of the equator. It can be defined by the following characteristics:

- Regions in this climate zone typically experience warm summers with high levels of humidity and mild winter seasons.
- During the year, the warmest month is at least 10° Celsius (60° Fahrenheit) or higher, while the coldest month is lower than 18° Celsius (64.4° Fahrenheit) but higher than -3° Celsius (26.6° Fahrenheit).
- These climate zones are typically located on the edges of continents, along the eastern and western coastlines.

Temperate climate zones are divided into three main categories according to precipitation: mild temperate dry winters (Cw), mild temperate dry summers (Cs), and mild temperate humid (Cf) climates. All three subcategories are further divided according to temperatures:

1.1 **Cfa - Humid Subtropical Climate**

2.2 **Cfb - Temperate Oceanic Climate**

3.3 **Cfc - Subpolar Oceanic Climate**

4.4 **Csa - Hot-Summer Mediterranean Climate**

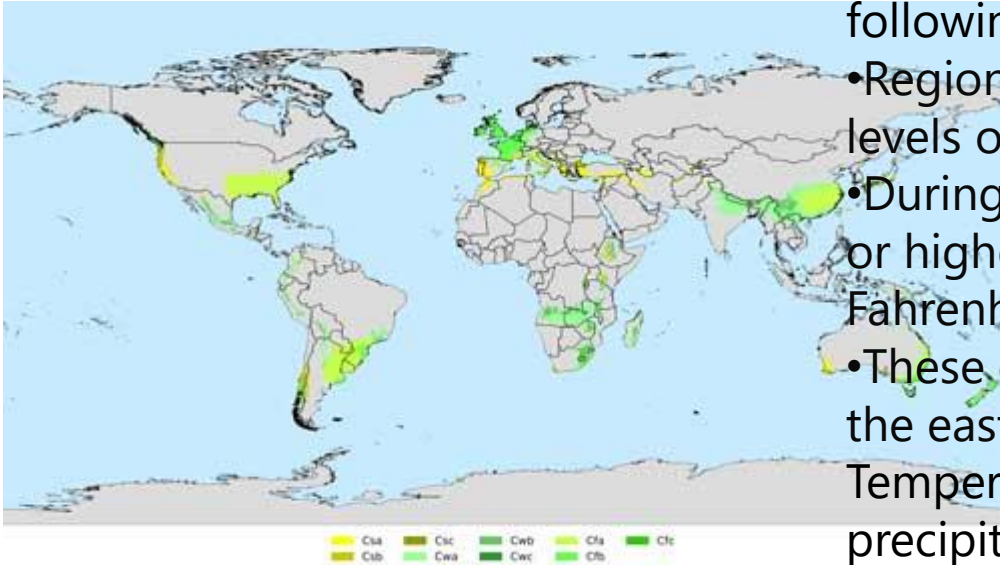
5.5 **Csb - Warm-summer Mediterranean**

6.6 **Csc - Cold-summer Mediterranean Climate**

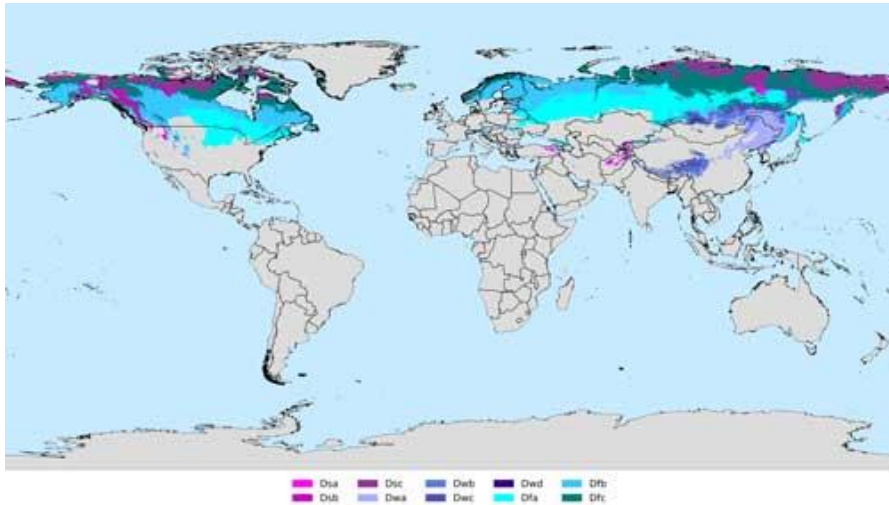
7.7 **Cwa - Monsoon-Influenced Humid Subtropical Climate**

8.8 **Cwb - Subtropical Highland Climate**

9.9 **Cwc - Cold Subtropical Highland Climate**



## D) Continental Climates



Continental climates typically occur in regions situated at latitudes between 40° and 75° north and south of the equator. (Although this type of climate is rare in the Southern Hemisphere.) It can be defined by the following characteristics:

- The average temperature of the warmest month is above 10° Celsius (50° Fahrenheit), while the coldest month is below -3° Celsius (26.6° Fahrenheit).
- This climate type is usually found in the interior of continents.
- Regions in this zone experience summers with warm to cool temperatures, while the winters are generally cold.

Continental climate zones are divided into three main categories according to precipitation: continental dry summer (Ds), continental dry winter (Dw), and continental humid (Df) climates. Like temperate climates, they are further divided according to temperature:

- 1.1 **Dfa - Hot-Summer Humid Continental Climate**
- 2.2 **Dfb - Warm-Summer Humid Continental Climate**
- 3.3 **Dfc - Subarctic Climate**
- 4.4 **Dfd - Extremely Cold Subarctic Climate**
- 5.5 **Dsa - Hot Dry-Summer Continental Climate**
- 6.6 **Dsb - Warm Dry-Summer Continental Climate**
- 7.7 **Dsc - Subarctic Climate**

- 1.8 **Dsd - Very Cold Subarctic Climate**
- 2.9 **Dwa - Monsoon-Influence Hot-Summer Humid Continental Climate**
- 3.10
- 4. **Dwb - Monsoon-Influence Warm-Summer Humid Continental Climate**
- 5.11
- 6. **Dwc - Monsoon-Influence Subarctic Climate**
- 7.12
- 8. **Dwd - Monsoon-Influence Extremely Cold Subarctic Climate**

## E) Polar Climates

Polar climates are located at latitudes above 70° over the Arctic, Greenland, and Antarctica. It is characterized by its all-year-round cold temperatures and little to no vegetation. The following characteristics define it more precisely:

- The warmest month of the year is below 10° Celsius (50° Fahrenheit).
- Polar climate regions are extremely dry, with annual precipitation of less than 25 cm (10 inches).

Polar climates are divided into two categories according to vegetation:

1.1

**2.ET - Tundra**

3.2

**4.EF - Ice Cap Climate**

Tundra Climates consist of very little vegetation (mainly loose shrubs, mosses, and dwarf trees) over a surface where the soil is frozen for several hundred meters. (A condition known as permafrost.) Ice Cap Climates are completely covered by ice or snow.

### Conclusion

As clearly illustrated throughout this article, several smaller climate regions exist within each of the five major climate zones. **Vegetation, temperature, and precipitation have been the key factors used in determining each subcategory.**

Most countries throughout the world experience multiple sub-climates, and many larger regions are influenced by five or more different climate types at any given time. To explain all the climate zones affecting every country/region, though, will fill an encyclopedia.

**This post provided a broad and thorough overview of the five climate regions as defined by the Köppen Climate Classification.** It highlighted the characteristics of each one, as well as laying out their subcategories and how they were defined.

