

# **Koppen's Climate Classification Theory**

## **Basic Principles**

- Climate types correspond closely with vegetation distribution.
- Monthly and annual temperature and rainfall data are used.
- Climate regions are identified using letters and symbols.

## **Major Climate Groups**

### **A – Tropical Climates**

- Mean temperature of the coldest month  $\geq 18^{\circ}\text{C}$
- High rainfall
- Types:
  - Af – Tropical Rainforest (no dry season)
  - Am – Tropical Monsoon
  - Aw/As – Tropical Savanna (dry winter/summer)

### **B – Dry Climates**

- Evaporation exceeds precipitation

- Types:
  - BW – Desert
    - BWh (hot desert), BWk (cold desert)
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  - BS – Steppe
    - BSh (hot steppe), BSk (cold steppe)
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## **C – Warm Temperate (Mesothermal) Climates**

- Coldest month temperature:  $-3^{\circ}\text{C}$  to  $18^{\circ}\text{C}$
- Types:
  - Cf – No dry season (Marine West Coast)
  - Cs – Mediterranean (dry summer)
  - Cw – Humid Subtropical (dry winter)

## **D – Cold Temperate (Microthermal) Climates**

- Coldest month temperature  $< -3^{\circ}\text{C}$
- Warm summers
- Types:

- Df – No dry season
- Dw – Dry winter

## **E – Polar Climates**

- Warmest month temperature  $< 10^{\circ}\text{C}$
- Types:
  - ET – Tundra
  - EF – Ice Cap

## **(Later Addition) H – Highland Climate**

- Found in mountainous regions
- Climate varies with altitude and relief
- Not part of Köppen's original system

## **Merits of Köppen Classification**

- Simple and scientific
- Based on measurable data
- Closely linked with vegetation
- Widely used in climatology and geography

## **Limitations**

- Ignores wind, humidity, and cloudiness
- Boundaries are rigid
- Highland climates not clearly defined

## **Conclusion**

Köppen's classification provides a systematic and practical framework for understanding global climate patterns and remains fundamental in geographical studies.