



Traditional, vernacular and historical architecture



Erasmus+

Traditional, vernacular and historical architecture.

HS

Heritage and Society

EC

Elective Courses



Traditional, vernacular and historical architecture.



Heritage and Society



Elective Courses

1. Introduction to vernacular architecture.
2. **Main climatic areas around the world and bioclimatic strategies. Low latitude climates.**
3. Main climatic areas around the world and bioclimatic strategies. Medium latitude climates.
4. Main climatic areas around the world and bioclimatic strategies. High latitude and undefined location climates.
5. Materials and constructive systems in vernacular architecture.
6. Vernacular architecture in Europe: Mediterranean coast.
7. Vernacular architecture in Europe: Atlantic coast.
8. Vernacular architecture in Europe: Central Europe.
9. Vernacular architecture in Europe: Nordic area.
10. Vernacular architecture in Europe: High mountain areas.
11. Vernacular architecture: Singularities I: Caves.
12. Vernacular architecture: Singularities II: Architecture and production.
13. Vernacular architecture: Singularities III: External Influences.
14. Vernacular architecture and landscape.
15. Spanish traditional architecture.

Traditional, vernacular and historical architecture.

LESSON 02. Main climatic areas around the world and bioclimatic strategies: Low latitude climates.

WORLD CLIMATES

By Arthur N. Strahler

GROUP I LOW-LATITUDE CLIMATES

- 1 Wet equatorial climate
- 2 Monsoon and trade-wind coastal climate
- 3 Wet-dry tropical climate
- 4 Dry tropical climate

GROUP II MIDLATITUDE CLIMATES

- 5 Dry subtropical climate
- 6 Moist subtropical climate
- 7 Mediterranean climate
- 8 Marine west-coast climate
- 9 Dry midlatitude climate
- 10 Moist continental climate

GROUP III HIGH-LATITUDE CLIMATES

- 11 Boreal forest climate
- 12 Tundra climate
- 13 Ice sheet climate

H-UNDIFFERENTIATED HIGHLAND CLIMATES

Climate subtypes:

- a Arid
- s Semiarid (Steppe)

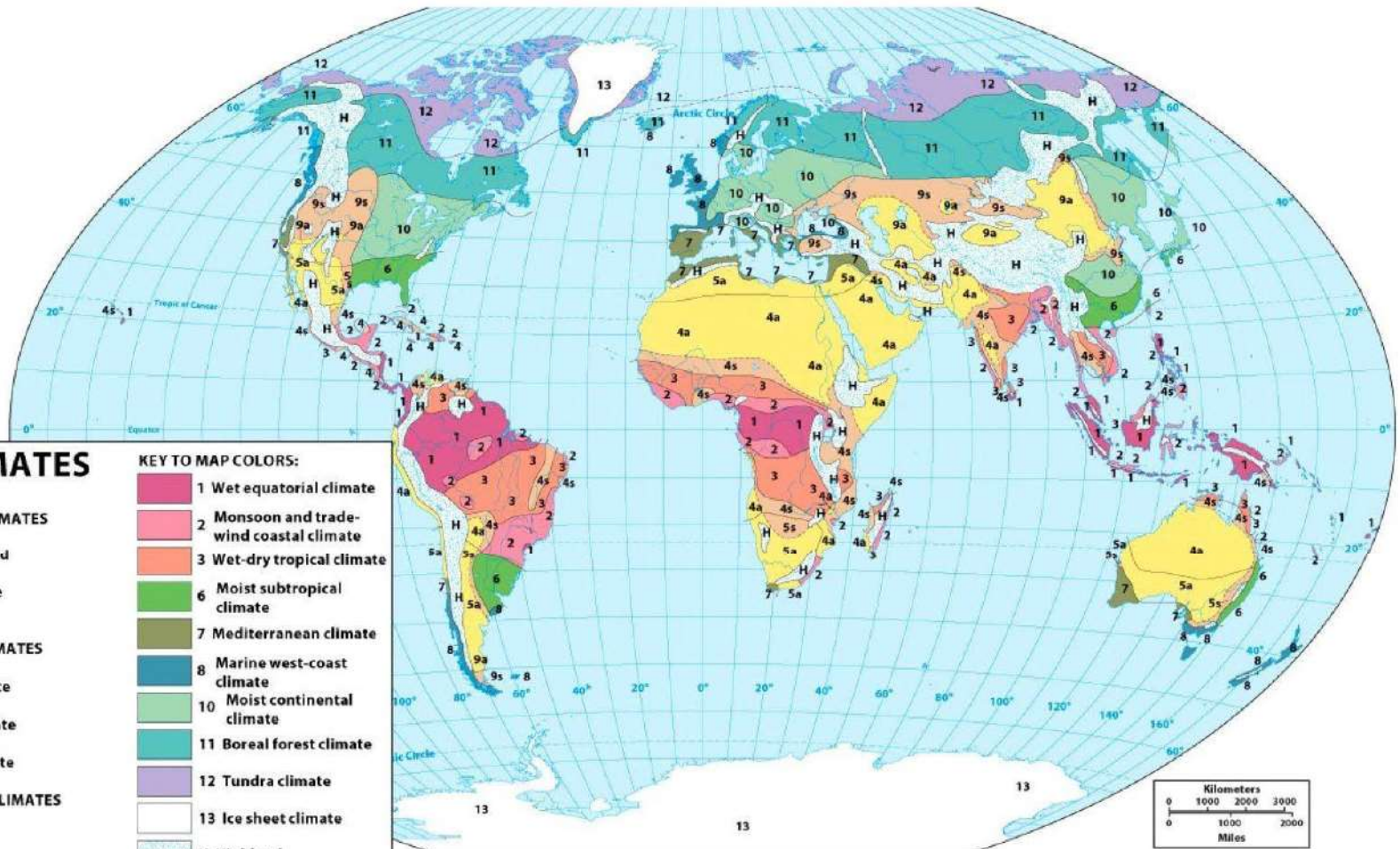
KEY TO MAP COLORS:

- 1 Wet equatorial climate
- 2 Monsoon and trade-wind coastal climate
- 3 Wet-dry tropical climate
- 6 Moist subtropical climate
- 7 Mediterranean climate
- 8 Marine west-coast climate
- 10 Moist continental climate
- 11 Boreal forest climate
- 12 Tundra climate
- 13 Ice sheet climate
- H Highland

Dry climates:

- 4 Dry tropical
- 5 Dry subtropical
- 9 Dry midlatitude

- 4s, 5s, 9s
- 4a, 5a, 9a



World climates were classified by A. N. Strahler according to the latitudes in which they exist.

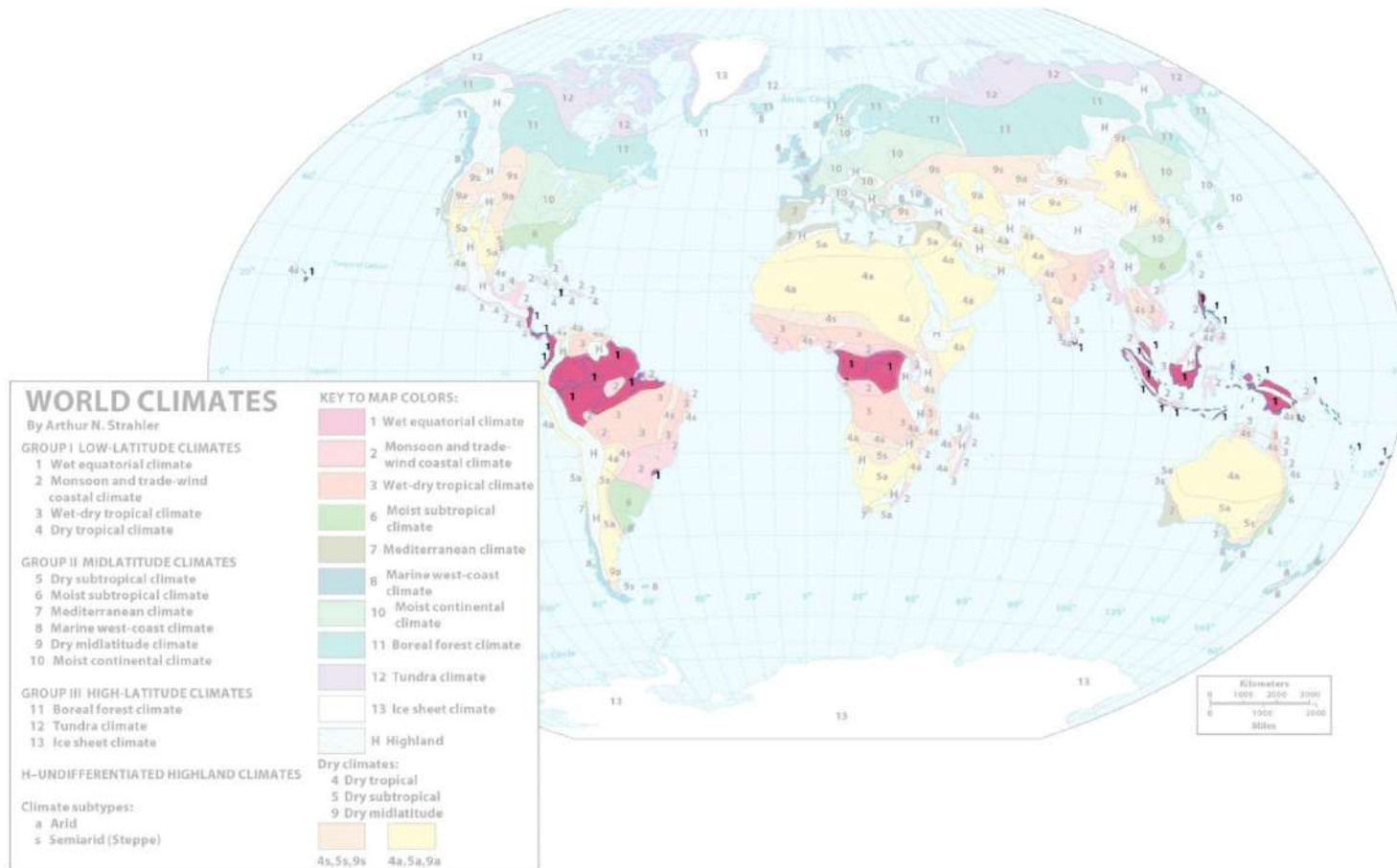
There are three main groups:

- Low latitude climates. From 0° to 23° N/S.
- Medium latitude climates. From 23° to to $50-60^{\circ}$ N/S.
- High latitude and high mountain climates. From $50-60^{\circ}$ to 90° N/S and high altitudes everywhere.

LOW LATITUDE CLIMATES:

- Wet equatorial climate
- Monsoon and trade-wind coastal climate
- Wet-dry tropical climate
- Dry tropical climate

WET EQUATORIAL CLIMATE



02. Main climatic areas around the world and bioclimatic strategies: Low latitude climates.

WET EQUATORIAL CLIMATE

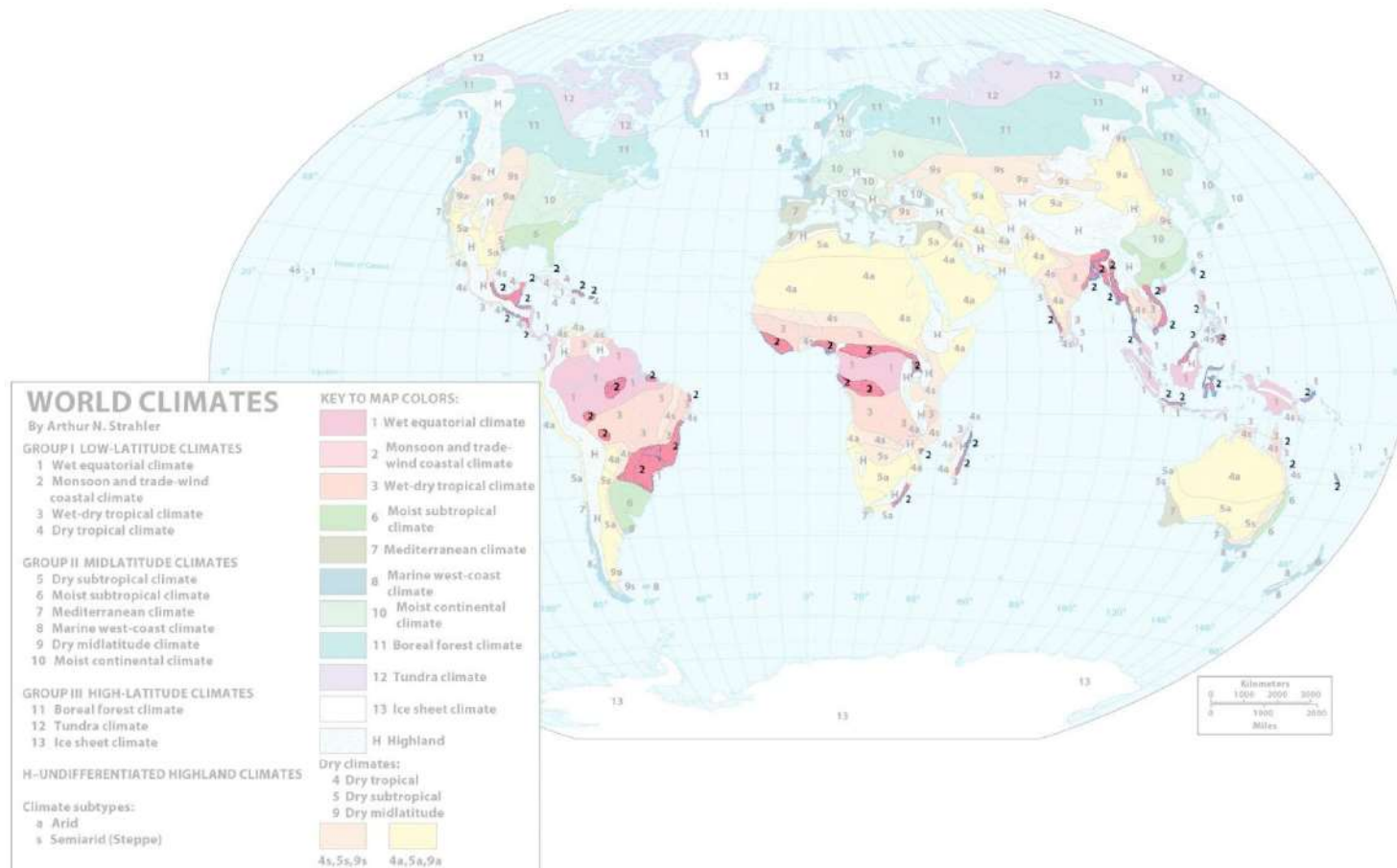
It's conditioned by tropical hot winds, humid winds from the sea and equatorial winds.

The temperatures are steady along the year.

Very rainy storms.



MONSOON AND TRADE-WIND COASTAL CLIMATE



02. Main climatic areas around the world and bioclimatic strategies: Low latitude climates.

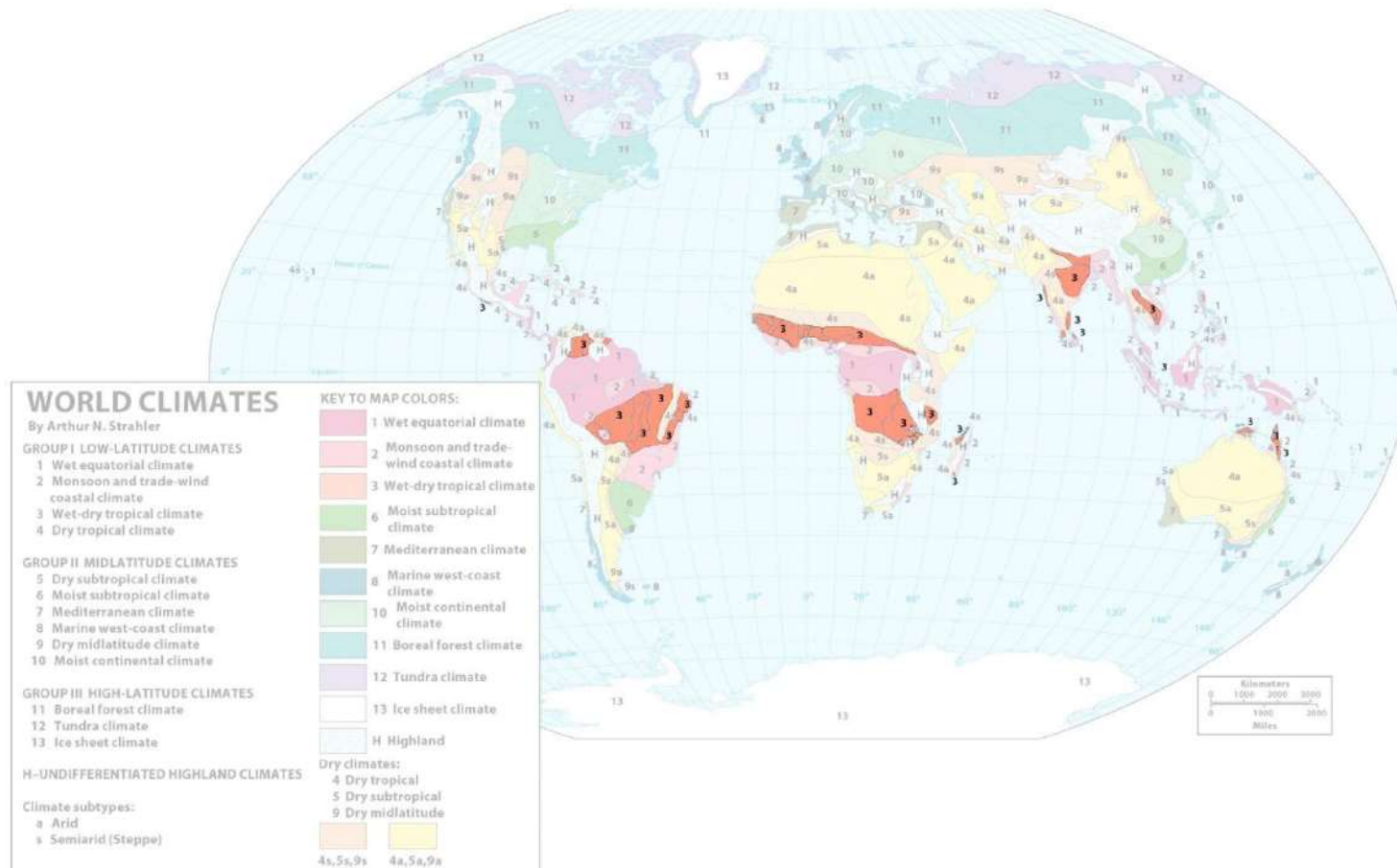
MONSOON AND TRADE-WIND COASTAL CLIMATE

It's conditioned by trade winds from east, with tropical humid air, creating seasonal rainfalls.

The temperatures are high during all year.



WET-DRY TROPICAL CLIMATE



02. Main climatic areas around the world and bioclimatic strategies: Low latitude climates.

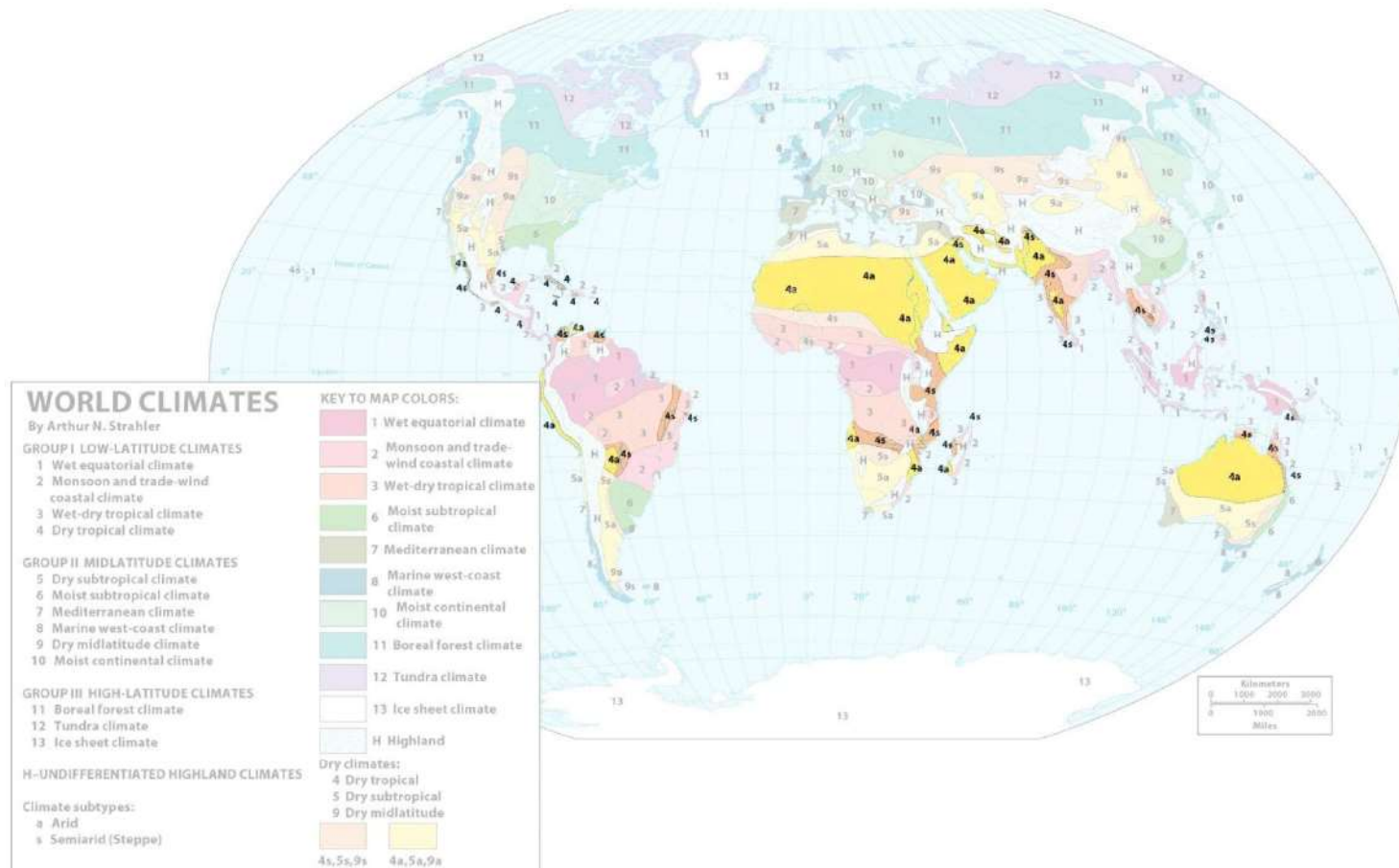
WET-DRY TROPICAL CLIMATE

It's a warm climate conditioned by humid air and dry air alternating during the year.

Moist season in summer and dry season in winter.



DRY TROPICAL CLIMATE



02. Main climatic areas around the world and bioclimatic strategies: Low latitude climates.

DRY TROPICAL CLIMATE

It's conditioned by stable dry air, with an extremely dry weather.

Small temperature variation along the year.



BIOCLIMATIC STRATEGIES

In this latitude, with hot dry climates, the main strategies to achieve comfort are:

- Protection from the sun
- Thermal inertia
- Evaporative cooling
- Radiative cooling

BIOCLIMATIC STRATEGIES

The strategies applied result in some characteristic elements used in vernacular architecture, such as:

- Patios
- Shadowing cornices
- Small and protected openings
- Thick walls
- Fountains or ponds

BIOCLIMATIC STRATEGIES

In this latitude, with hot moist climates, the main strategies to achieve comfort are:

- Protection from the sun
- Ventilation

BIOCLIMATIC STRATEGIES

The strategies applied result in some characteristic elements used in vernacular architecture, such as:

- Outdoor living spaces as part of the house.
- Cantilevers to generate shadow.
- Big openings, protected from the sun.
- Light and elevated from ground construction.



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