

Geography Class 28

A BRIEF REVISION OF THE PREVIOUS CLASS (09:12 AM)

- Tropical Cyclones

KOEPPEN CLASSIFICATION CLIMATIC REGIONS (09:24 AM)

Table 12.1 : Climatic Groups According to Koeppen

<i>Group</i>	<i>Characteristics</i>
A - Tropical	Average temperature of the coldest month is 18° C or higher
B - Dry Climates	Potential evaporation exceeds precipitation
C - Warm Temperate	The average temperature of the coldest month of the (Mid-latitude) climates years is higher than minus 3°C but below 18°C
D - Cold Snow Forest Climates	The average temperature of the coldest month is minus 3° C or below
E - Cold Climates	Average temperature for all months is below 10° C
H - High Land	Cold due to elevation

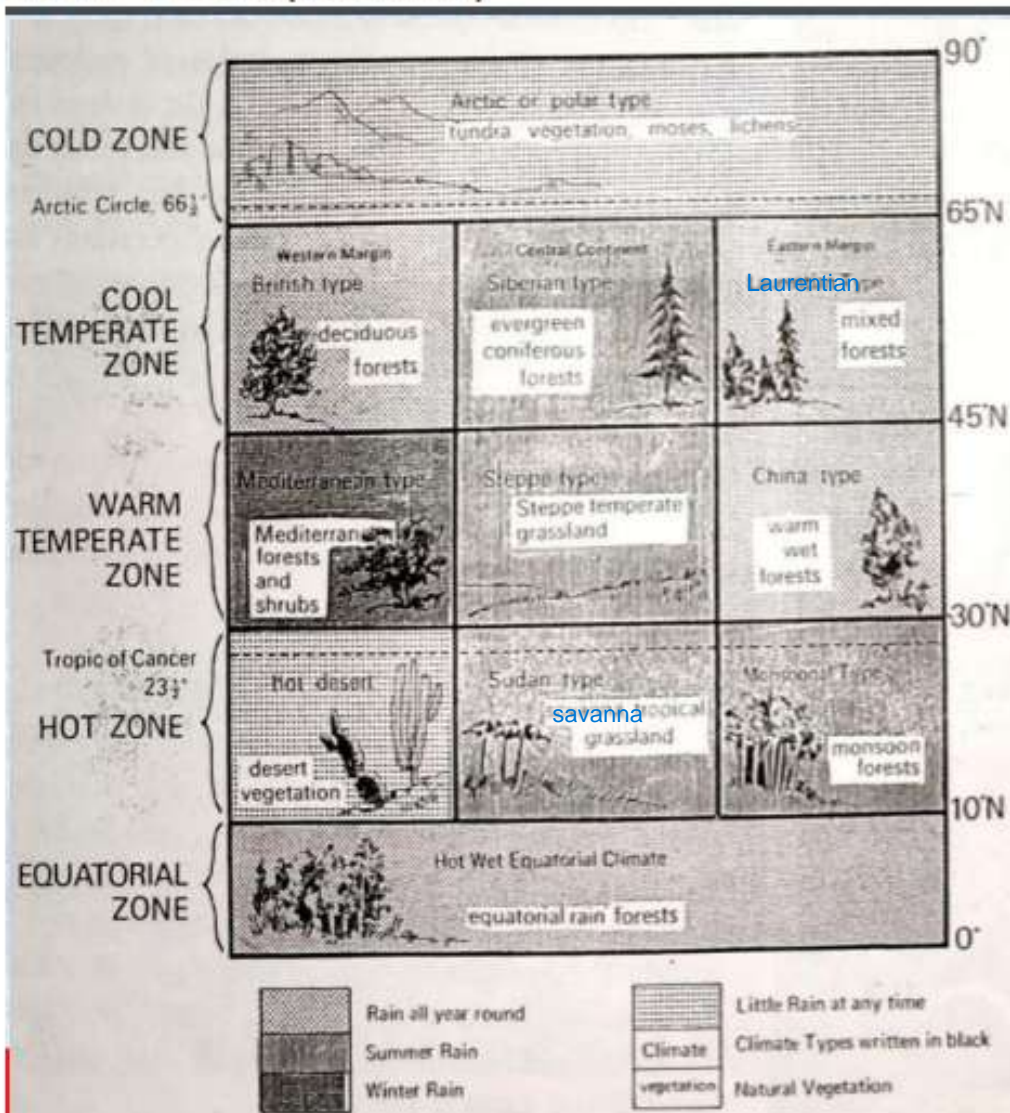
Table 12.2 : Climatic Types According to Koeppen

<i>Group</i>	<i>Type</i>	<i>Letter Code</i>	<i>Characteristics</i>
A-Tropical Humid Climate	Tropical wet	Af	No dry season
	Tropical monsoon	Am	Monsoonal, short dry season
	Tropical wet and dry	Aw	Winter dry season
B-Dry Climate	Subtropical steppe	BSh	Low-latitude semi arid or dry
	Subtropical desert	BWh	Low-latitude arid or dry
	Mid-latitude steppe	BSk	Mid-latitude semi arid or dry
	Mid-latitude desert	BWk	Mid-latitude arid or dry
C-Warm temperate (Mid-latitude) Climates	Humid subtropical	Cfa	No dry season, warm summer
	Mediterranean	Cs	Dry hot summer
	Marine west coast	Cfb	No dry season, warm and cool summer
D-Cold Snow-forest Climates	Humid continental	Df	No dry season, severe winter
	Subarctic	Dw	Winter dry and very severe
E-Cold Climates	Tundra	ET	No true summer
	Polar ice cap	EF	Perennial ice
H-Highland	Highland	H	Highland with snow cover

f:- forest
 m:- monsoon
 w:- winter dry
 S:- semi arid
 W:- arid(desert)
 h:- hot
 k:- cold
 s:- summer dry
 T:- tundra
 F:- frozen

Laurentian type: A cool temperate climate with features of both continental and maritime climates.

CLIMATE TYPES (09:32 AM)



← imp

Steppe type: The climate of a steppe is semi-arid, which means it's dry but not as dry as a desert.

Fig. 120 Scheme of the world's climatic types (with seasonal rainfall and natural vegetation also indicated)

- **Hot and Wet Equatorial type**

- Extends between 10° N-10° S of Equator.
- The high temperature throughout the year with an average of 28 degrees Celsius.
- There are no distinct seasons.
- The diurnal range of temperature is more than the annual range of temperature. daily range
- Precipitation through convectional rainfall on a daily basis.
- Annual average precipitation is above 250 cm.
- Relative humidity always remains high.
- The soil is weaker and more fragile due to heavy precipitation which causes **leaching**. Due to heavy rainfall on daily basis minerals present in upper layer of soil goes down and leaving iron and aluminum on upper layer.
- The vegetation is evergreen with rich biodiversity.
- A clear layered arrangement of trees.
- Sunlight is the limiting factor that decides the growth of vegetation.
- The species of birds, reptiles, and animals are very rich and diverse.
- **Regions-** Amazon Basin, Parts of Venezuela and Colombia, Ecuador, Congo Basin, Indonesia, Malaysia, Papua New Guinea etc.

MONSOON TYPE (HOT ZONE EASTERN MARGIN) (10:34 AM)

- Experiences seasonal reversal of winds.
- Precipitation is concentrated in the Monsoon period.
- One or more months of definite dry season. The term deciduous refers to something that sheds or loses its parts at a certain stage or season. It is most commonly used to describe trees and plants that shed their leaves annually, typically in autumn.
- Vegetation is **deciduous** in nature and sheds leaves during winter.
- **Regions-** South Asia, **Indo-China**, Northern Australia, Eastern Africa etc.
- **Tropical Marine Climate-** Combodia, Thailand, Myanmar, Vietnam
- In some regions, within Monsoon type, onshore trade winds cause rainfall throughout the year. This type of climate is called a Tropical Marine Climate.
- **Regions-** Northeast Australia, South-East Brazil, Central America.

SUDAN TYPE OF CLIMATE (HOT ZONE CONTINENTAL) (10:47 AM)

- These are the grasslands within tropical regions.
- They are also known as **Savanna grasslands**.
- Temperature remains high.
- **Precipitation**- Annual Average rainfall in 70 cms. Rainfall occurs in summer through convection.
- There is a definite dry season during winter.
- **Vegetation**- Dominant tall grass along with scattered drought-resistant trees.
- Fire is the limiting factor that checks the spread of vegetation. → because grass become dry when rain doesn't happen and catches fire and this same grass grows again when rain come again.
- A diverse range of grass-feeding animals are found.
- **Regions**- Sudan in Africa, and Savanna grasslands of Kenya, South Africa, Tanzania, Namibia, Llanos and Campos of South America, Northern Australia.

DESERT TYPE (HOT ZONE WESTERN MARGIN) (11:18 AM)

- Hot deserts are formed by three important conditions-
- i) Subtropical high-pressure belt.
- ii) Offshore trade winds. (that means winds are moving from land to ocean)
- iii) Presence of cold ocean currents.
- Therefore, hot deserts are found along the western margins of continents within the tropics.
- Precipitation is very low approx. 25 cm/annum.
- The diurnal range of temperature is very high.
- Vegetation is Xerophytic in nature which is adapted to hot and dry conditions.
- **Regions**- Sahara desert, Mohave desert, Arizona desert, Atacama desert (driest desert), Namib desert, Namib desert (highest sand dunes in world), Victoria and Gibson desert in Australia.

CHINA TYPE (WARM TEMPERATE EASTERN MARGIN) (11:32 AM)

- Summers are not too hot and winters are not too cold.
- In summer this region is majorly affected by tropical cyclones and onshore trade winds which causes good precipitation.
- In winter, they are affected by temperate cyclones therefore causing precipitation.
- Vegetation is mixed type with a mixture of evergreen and deciduous types and grows densely.
- **Regions-** Eastern China, Southeast USA, Southeast Brazil, Southeast Africa, Southeast Australia etc.

STEPPE TYPE (WARM TEMPERATE CONTINENTAL) (11:40 AM)

- Precipitation is higher than tropical grasslands and temperature is lower.
- Rainfall is moderate but throughout the year.
- In summer, precipitation is due to convection and in winter, it is due to temperate cyclones mainly in the form of snowfall.
- Soil is very fertile.
- Vegetation is short and green grass.
- **Regions-** Steppes of Central Asia and Eastern Europe, prairies of North America, Pampas, Velds of South Africa, Downs of Australia.
- This climate is known for **large-scale commercial monoculture and animal rearing,**

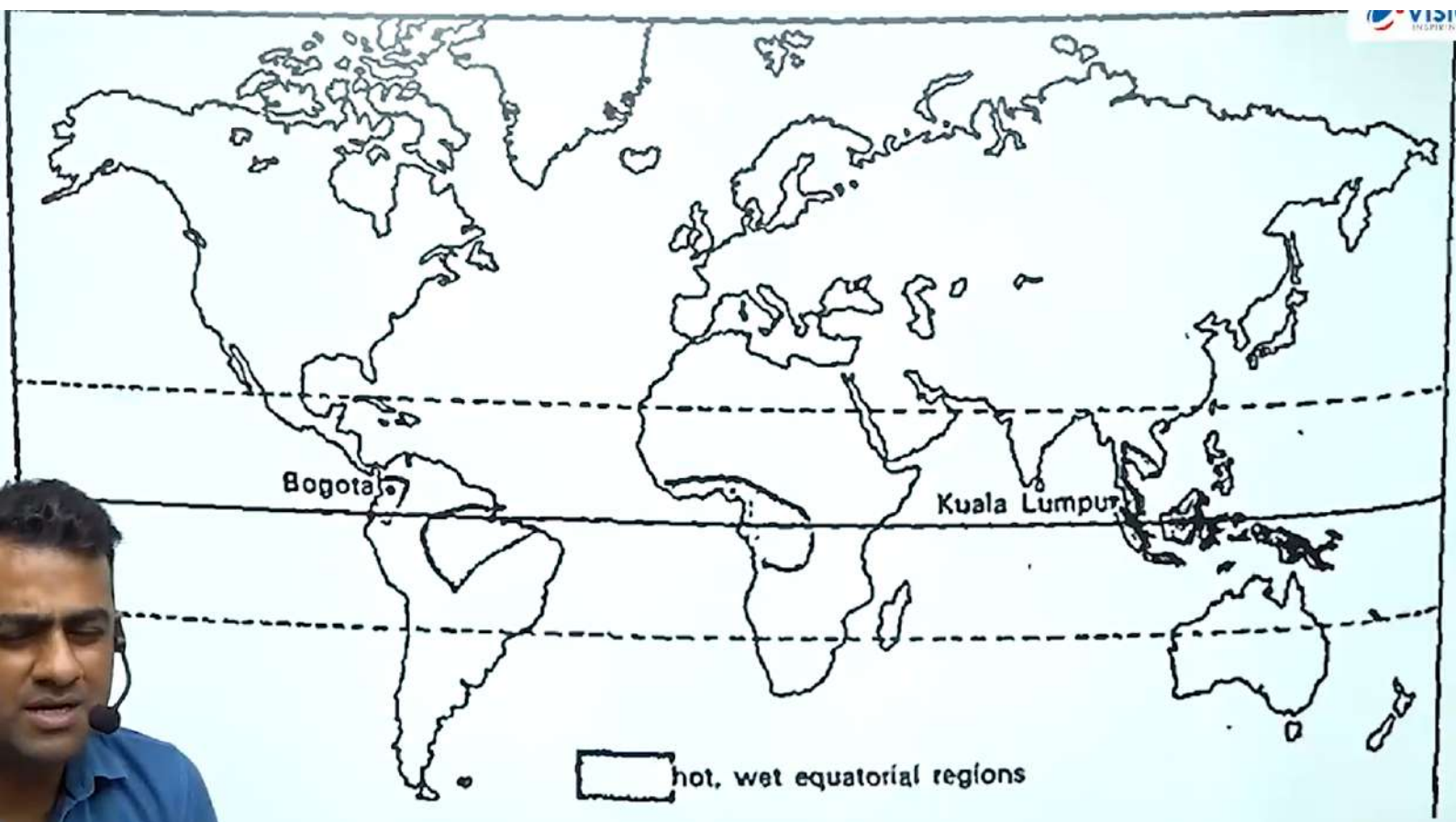
MEDITERRANEAN TYPE OF CLIMATE (WARM TEMPERATE WESTERN MARGIN) (11:49 AM)

- In summers, ITCZ shifts northward bringing offshore trade winds with dry conditions.
- In winters, ITCZ shifts south bringing on shore westerlies causing good precipitation.
- During winter, they are also under the influence of temperate cyclones.
- These regions are known for their characteristics of dry summer and wet winter.
- Vegetation is drought-resistant with a deep root system and short bushes.
- **Examples** are grapes, Olives, Oranges and other citrus fruits.
- **Regions-** Mediterranean region, California, Central Chile, Southwest Africa, Southwest and Southern Australia.

LAURENTIAN TYPE OF CLIMATE (COOL TEMPERATE EASTERN MARGIN) (12:00 PM)

- Temperature ranges between 20 degrees in summer to below 0 degrees in winter.
- Rainfall occurs throughout the year and is affected by Temperate cyclones.
- **Vegetation** is broad-leafed till 50 degrees North and Coniferous above that.
- **Regions-** Eastern Canada, Northeast USA, Northern China, Korea and Japan, Southeast Argentina

TOPIC OF NEXT CLASS- CLIMATIC REGIONS (TO CONTINUE), OCEANOGRAPHY



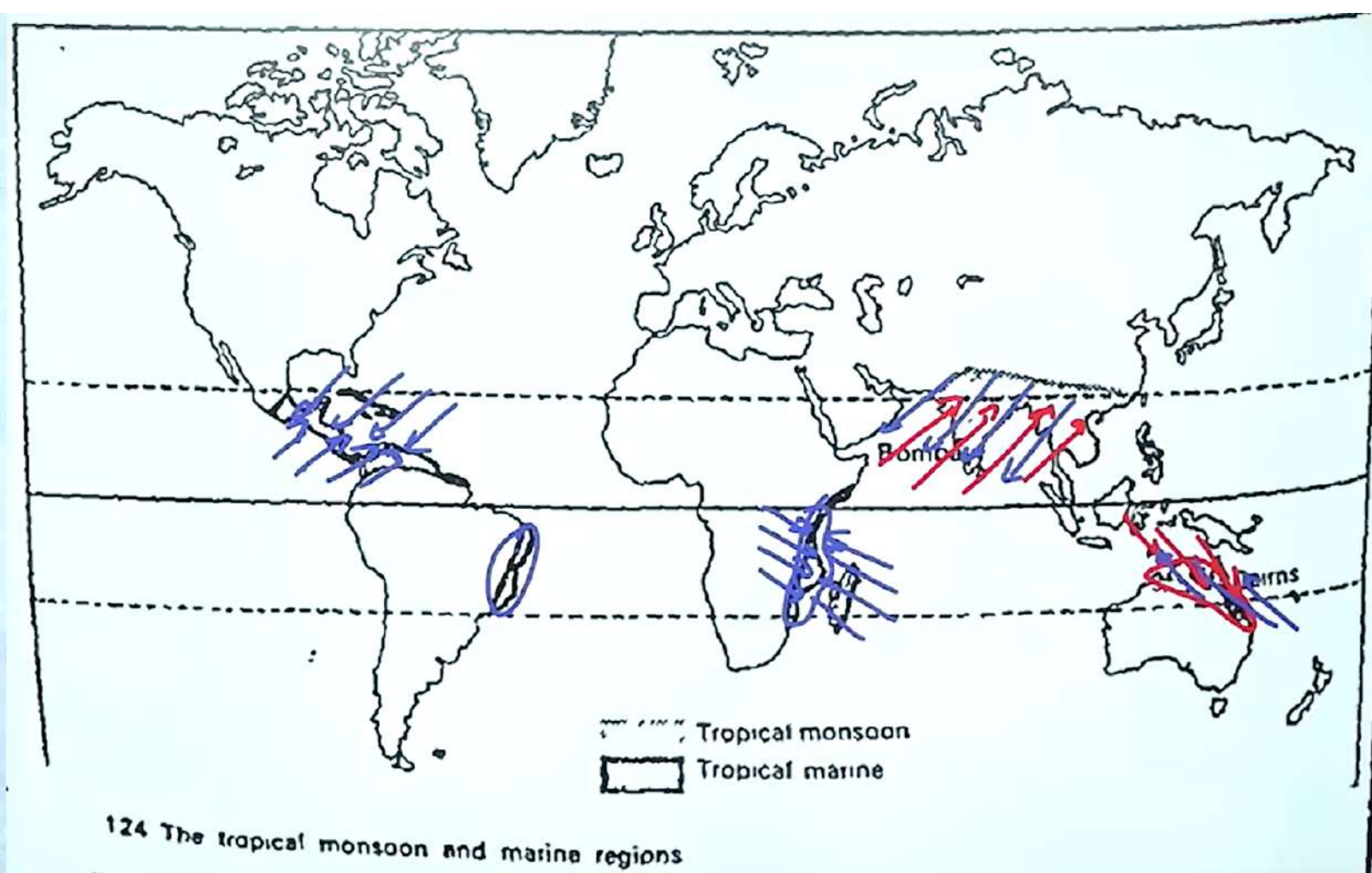
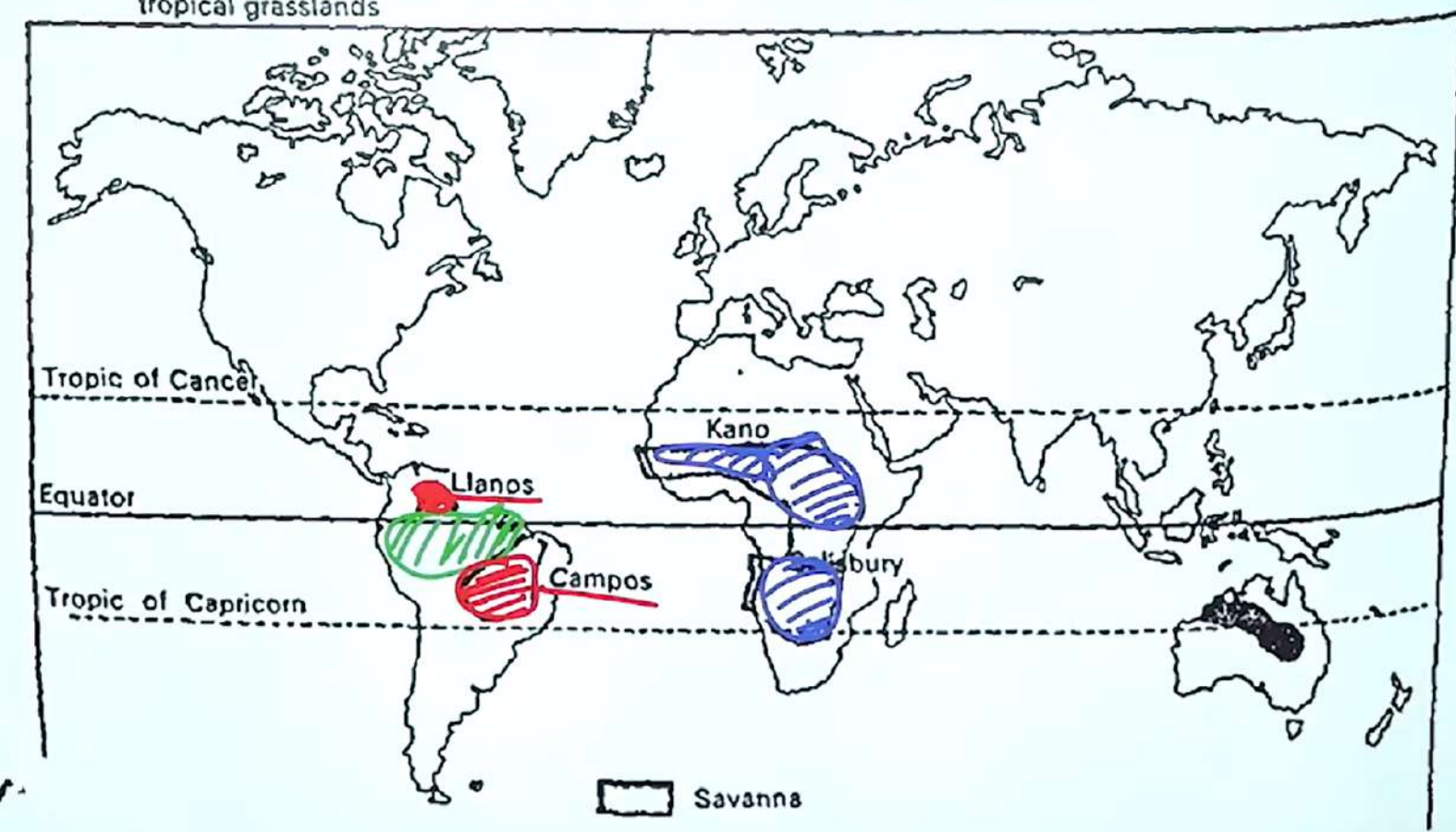
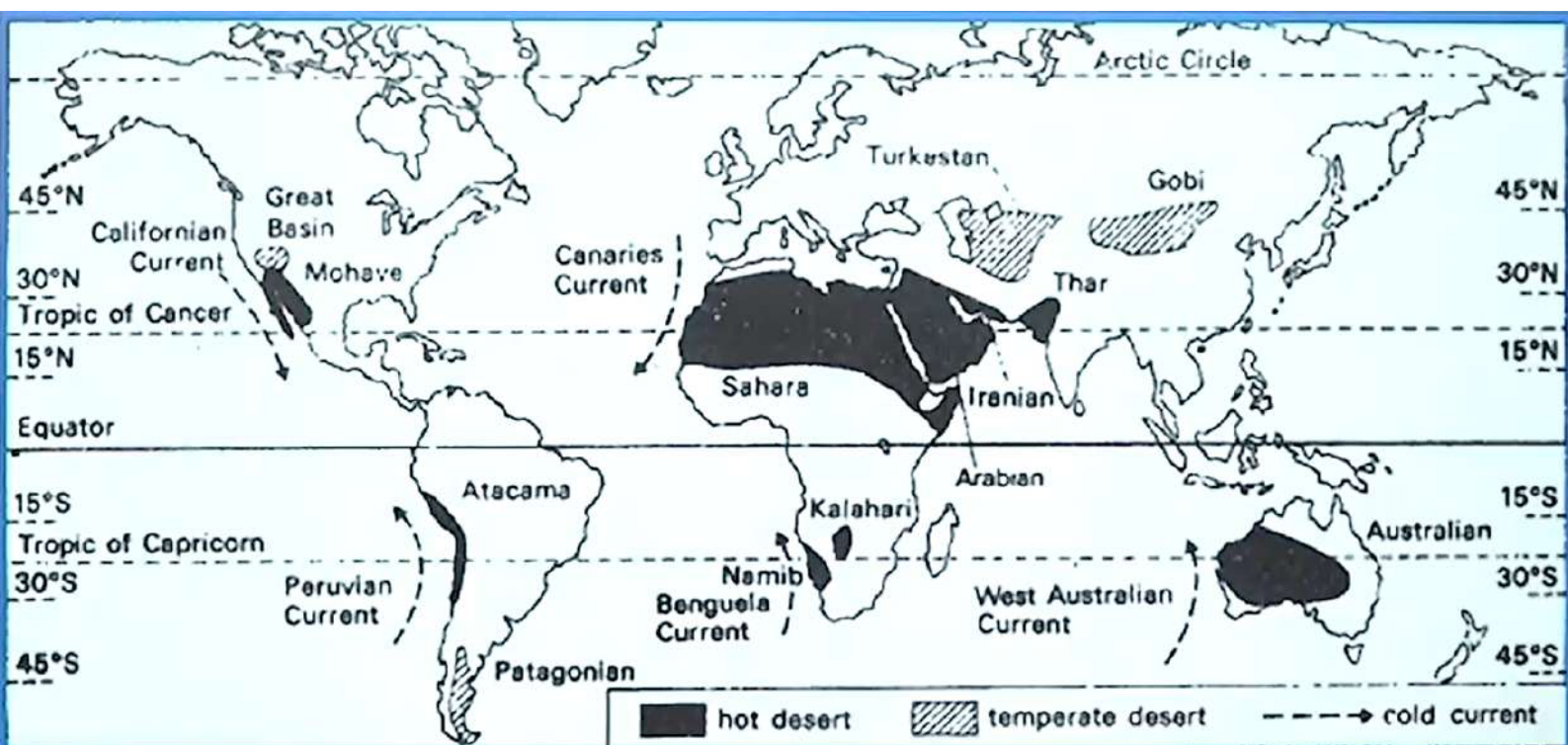


Fig 128 Regions of Sudan Climate with savanna or tropical grasslands





144 Regions with a Warm Temperate Eastern Margin Climate

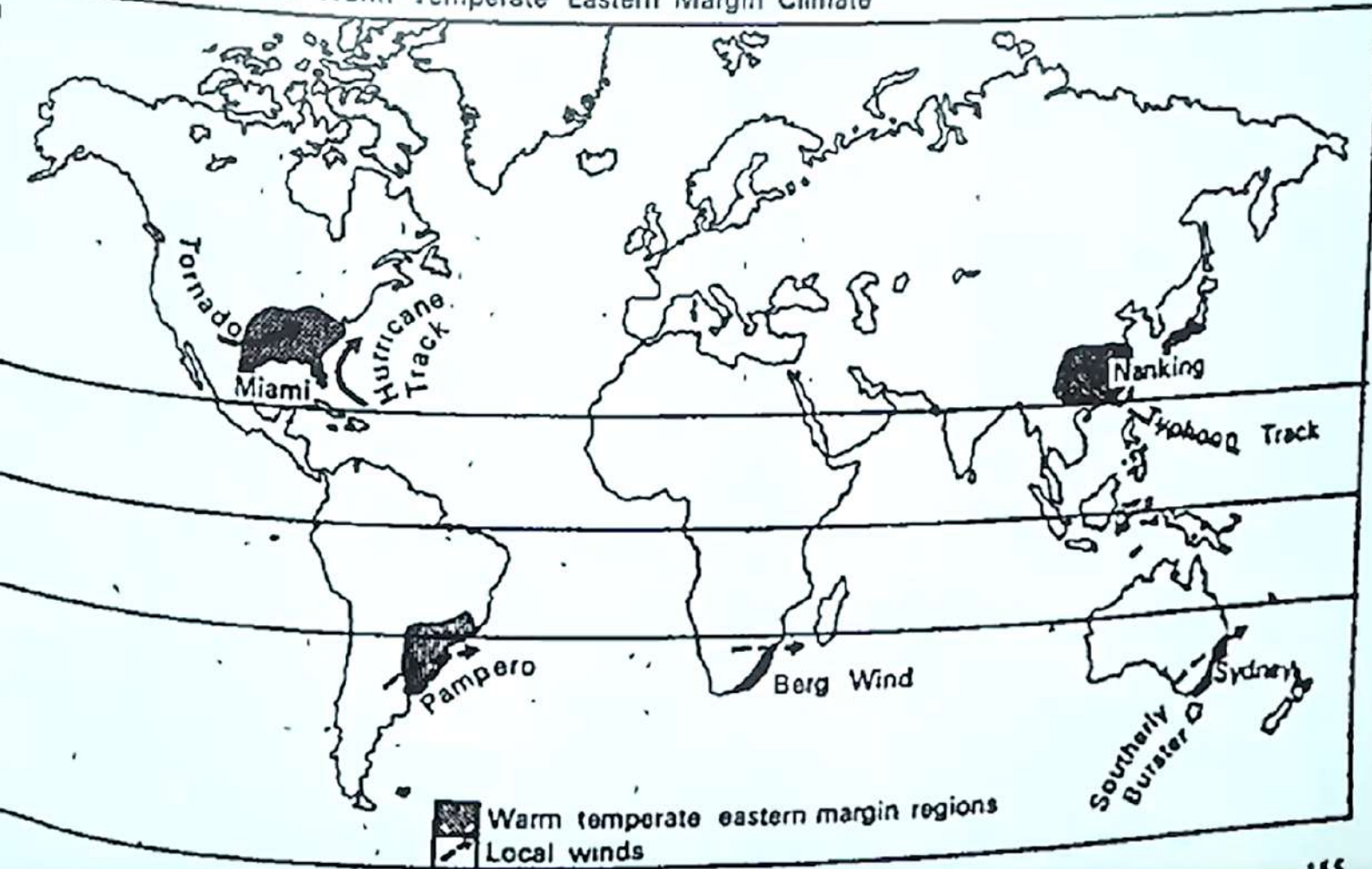
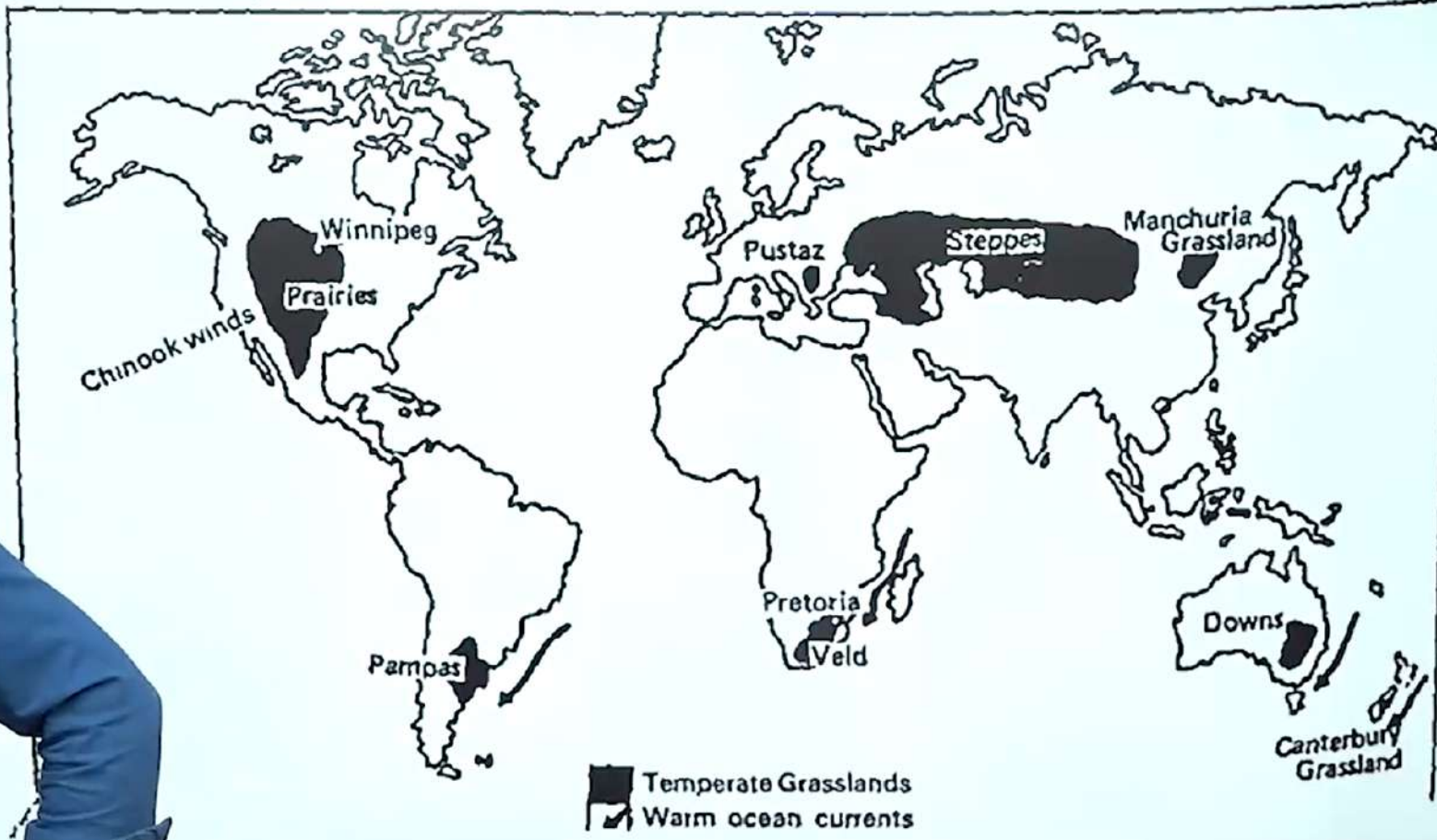


Fig 137 The Temperate Grasslands





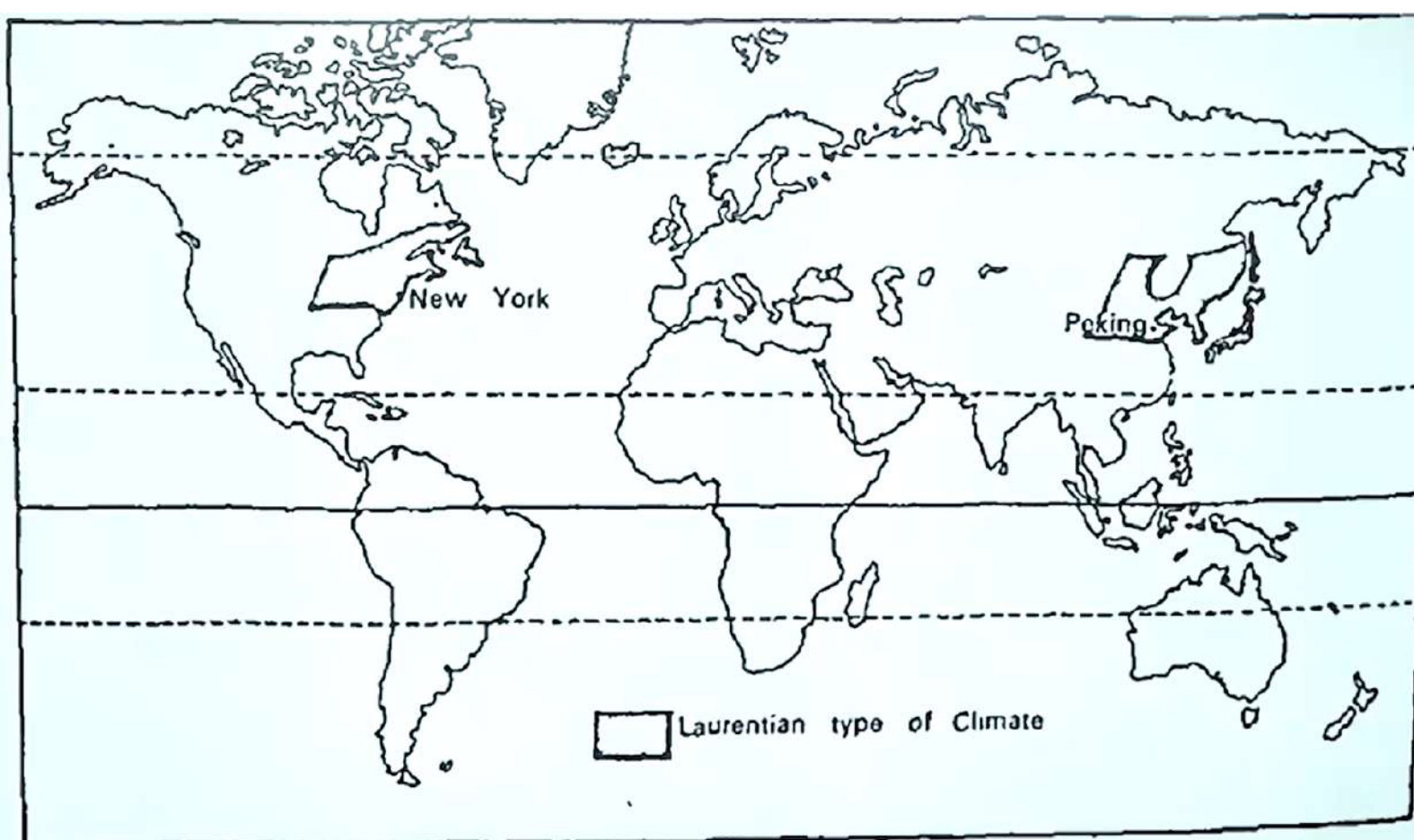


Fig. 153 Regions with a Cool Temperate Eastern Margin Climate (Laurentian type)