

**Course: B.A Geography**

**Paper code: GEOG CC-409**

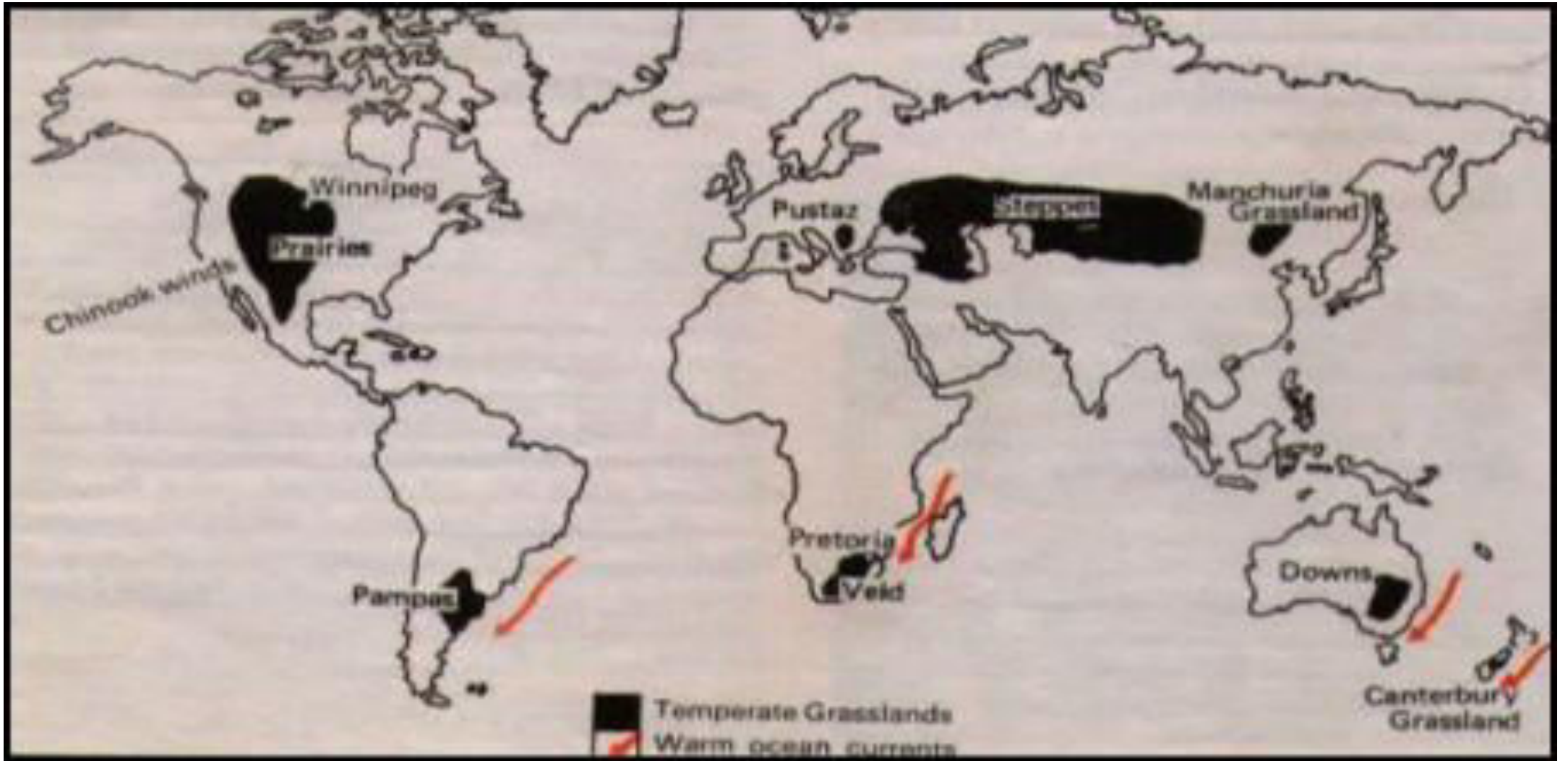
**Paper Name: Environmental Geography**

**Semester: IV**

**Topic: Human Adaptation in Temperate  
Grasslands**

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- Source: iasmania.com

# LOCATION

- The Temperate Grasslands are found between latitudes  $40^{\circ}$  and  $55^{\circ}$  North and South.
- They lie far away from the influence of the sea in the heart of the continents, and most of them are interior lowlands consisting of level, generally treeless plains.
- Those in South America and in South Africa are nearer the sea.

# AREAS

- North America (Prairies)- Southern regions in Canada and the central United States, extend from foothills of Rockies in the west to the temperate deciduous forest biome in the east.
- South America (Pampas)- the region around the River Plate from the Andes to the Atlantic Ocean.
- South Africa (Veldt)- Transvaal
- Asia- South west Siberia, Mongolia
- Australia (Downs)- the Murray-Darling basin has modifies climate of this type.
- Eurasia (Steppe)- extend for 3200km from the shores of Black sea across the Great Russian Plain to the foothills of Altai mountains. There are some isolated patches of steppe, i.e. Pustaz (Hungary) and Manchurian grasslands (in the plains of Manchuria).
- New Zealand (Canterburry)

# CLIMATE

- In the Northern Hemisphere, the Prairies and the Steppes lies in the interior part of the continent therefore experiences continental climate.
- In summer the average temperature varies from 18 °C to 24 °C. Summers are short and quite warm. There is abundant sunshine and clear sky. This provides rapid heating in day and cooling in night.
- The region falls in the zone of westerlies.
- In the winter, temperature varies between - 4 °C to 2 °C in the Northern Hemisphere and the winters are sufficiently cold for rain to be in the form of snow.
- Chinook, a hot wind that blows in the winter and raise the temperature in the prairies, making pasture land available for grazing of animals.
- Rain falls in spring and early summer and varies between 25 and 65 cm, mostly in the form of light showers.
- The southern continents are narrower in the temperate latitudes and therefore the grasslands experiences moderate climate due to proximity to the sea.

# NATURAL VEGETATION

- The temperate grassland biome is unique in the sense that it has a single layered structure of vegetation community where the upper canopy of the grasses is formed by their leaves but for a short period the flowering stalks also join the canopy and add grandeur to the top layer.
- The Eurasian steppe has following sequence of vegetation found from north to south in the region;
  - i) Forest steppe consist of trees mainly oak, elms, limes, maple, a few arboreal vegetation of Siberian Steppe such as birch with mixture of aspen and willow.
  - ii) Meadows steppe characterized by turf grasses and numerous flowering herbaceous plants.
  - iii) Grass steppe dominated by grasses.
  - iv) Semi arid xerophytic steppe dominant with fescue and feather grass species.

- North American Prairies- the entire prairies are divided into 3 sub regions; i)tall grass prairies, ii) short grass prairies, iii) mixed grass prairies.
- South American Pampas- the pampas is divided into two sub types; i)humid pampas, developed in the eastern part of Argentina and characterized by tall grasses.
- ii) sub humid pampas, developed in the western part with short grasses.
- South African Veld Biome is divided in to 3 sub types;
- i) Themeda veld ii) Sour veld and iii) Alpine veld
- And the main grasses are themeda red grass, festuca, bromus, aristida, eragrostis and hyparrhenia.

- Australian Downs has relatively warm winter season therefore grasses are found along with eucalyptus trees. Three distinct grasslands are found in Downs based on the differential mean annual precipitation and these are; i) temperate tall grasslands, ii) short grasslands, and iii) xerophytic grasslands.
- Canterbury grasslands are dominated by tall tussock grasses and short tussock grasses.



# FAUNA

- *Bisons* and *proghorns* dominate the animal community of prairies, followed by prairie dogs, hawks, eagles, rattle snakes, foxes and wolves.
- Eurasian steppes have *Saiga antelopes* and *Mongolian gazelles* (variety of wild horses) along with the rodents.
- In the pampas, pampa deer is one of the important herbivorous animal, whereas rodents such as *viscacha* and *mara* are also significant ones. *Rhea* is an important flightless bird in this region. Besides, rhea this region is enriched by seasonal migratory birds such as duck, geese and herons.
- The wild animals such as antelopes, hyaenas, jackals, lion, leopards and zebra were once dominant in Veldean grassland, but now they have been replaced by domesticated cattle.
- The Australian downs are dominated by Kangaroo (marsupials), dingo dogs and the flightless bird, *Emu*.
- The Canterbury was dominated by flightless bird, *Moas*, which have now disappeared due to hunting.

# HUMAN ACTIVITIES

- **NOMADIC HERDING-** the migratory animal grazing has almost disappeared from major grasslands. The herders were wandering tribes e.g. the Khirgiz, the Kazakhs and the Kalmuks. The wandering tribes have been made to settle down on the State and Collective farms.
- **PASTORAL FARMING-** the natural conditions suit animal farming, subsequently cattle, sheep, pigs and horses were introduced and proved to be successful.
- With the development of refrigeration ships, the temperate grasslands became major pastoral regions, exporting large quantities of beef, mutton, wool, hides, milk, butter, cheese and other dairy products.

- The farmers raise livestock as well as grow oats, barley, maize, flax and potatoes.
- Fodder crops such as alfalfa and Lucerne are grown to provide winter feed for the growing cattle's and also for their fattening purpose.
- Temperate grasslands of Australia are famous for wool production; the pampas is world's leading exporter of beef; Eurasian steppes is increasing emphasis on meat production.
- Generally sheep rearing is practiced in the drier parts of the grasslands.
- Large cattle farms are called *Ranches* which are looked after by cowboys. These ranches are known as *Estancias* in South America and *Stations* in Australia.

- **MINING-** Prairies of Canada have considerable mineral wealth. Coalfields of Alberta are among the largest in the world, petroleum and natural gas are other important energy resources while, metals such as gold, copper, zinc, nickel, and uranium are also found. Saskatchewan has large deposits of potash which is used in chemical industry.
- In prairies of USA, iron ore and coal are mined at several places. Around the Lake Superior region has very rich deposits of high grade iron ore.
- In Russian steppe, copper, iron, coal, petroleum and tin are found. The Kuznetsk Basin (Kuzbas) one of the largest coal fields of Russia.
- In South African region gold, diamonds, coal and iron are mined. Kimberley has diamonds and Witwatersrand has gold mines.

# AGRICULTURE

- The temperate grasslands are ideal for extensive wheat cultivation. The characteristic features of this type of cultivation are- i) specialization in single crop, ii) farms are large, iii) highly mechanized, iv) low yield per acre but high yield per man.
- The cool, moist spring stimulates early growth and the light showers in the ripening period help to swell the grains to ensure a good yield.
- The warm, sunny summer is not only advantageous for harvesting, but also enables the straw to be dried for farm use. In addition, the levelness of the Steppes and other temperate grasslands all over the world makes ploughing and harvesting a comparatively easy job.
- The sparsely populated temperate grasslands of the mid-latitudes produce the greatest quantity of wheat per capita amongst the world's wheat-growing nations.
- Maize is also a commercial crop in United States especially for feeding farm animals.

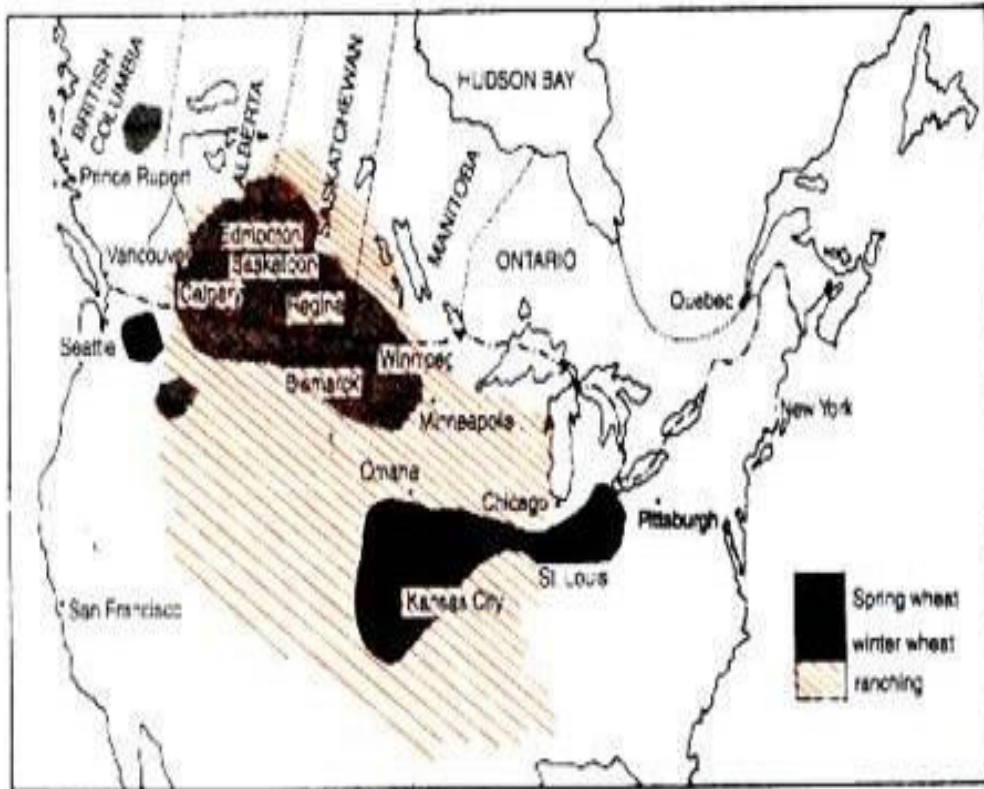


Fig. 140 Wheat and beef production in the North American grasslands

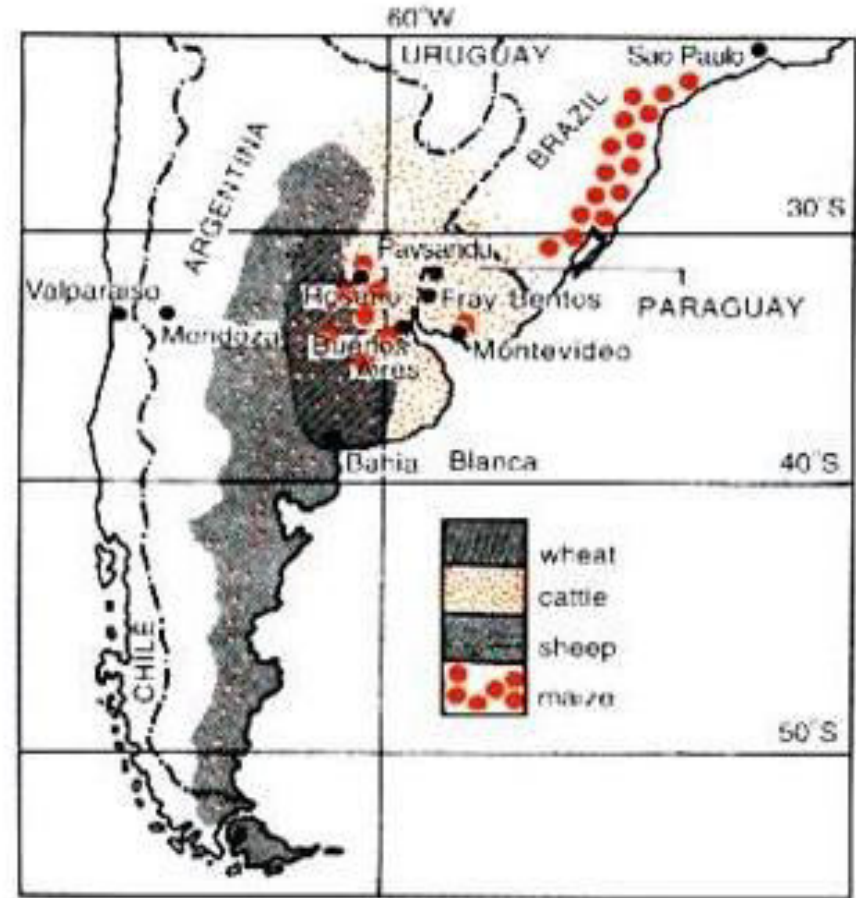


Fig. 141 Sheep, cattle, wheat and maize production in southern South America

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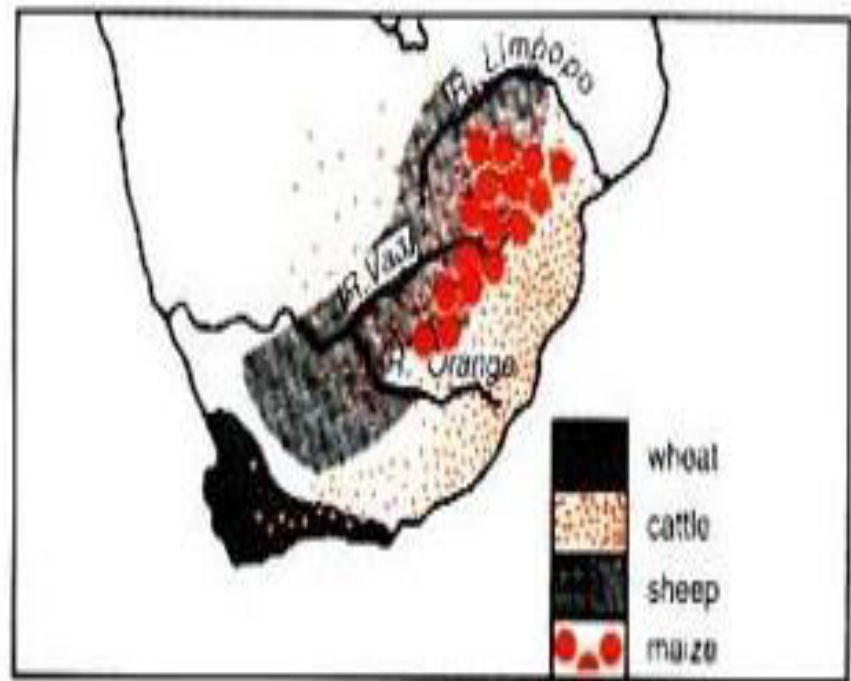


Fig. 142 Agriculture in the veld of southern Africa

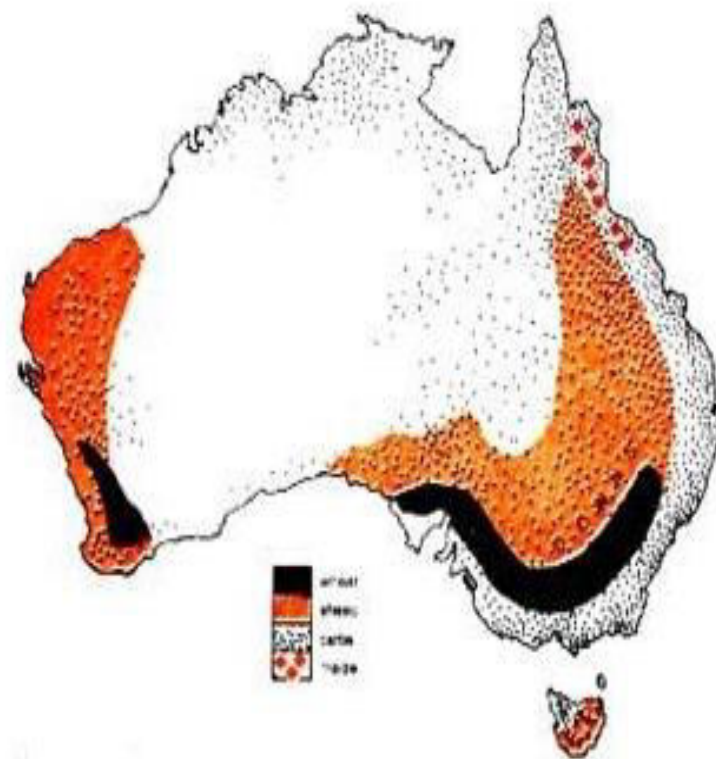


Fig. 143 The wheat, maize, cattle and sheep producing areas of Australia. Note the importance of the Downs