



Robert W. RIDGE B.A. B.Sc. Ph.D.

Professor

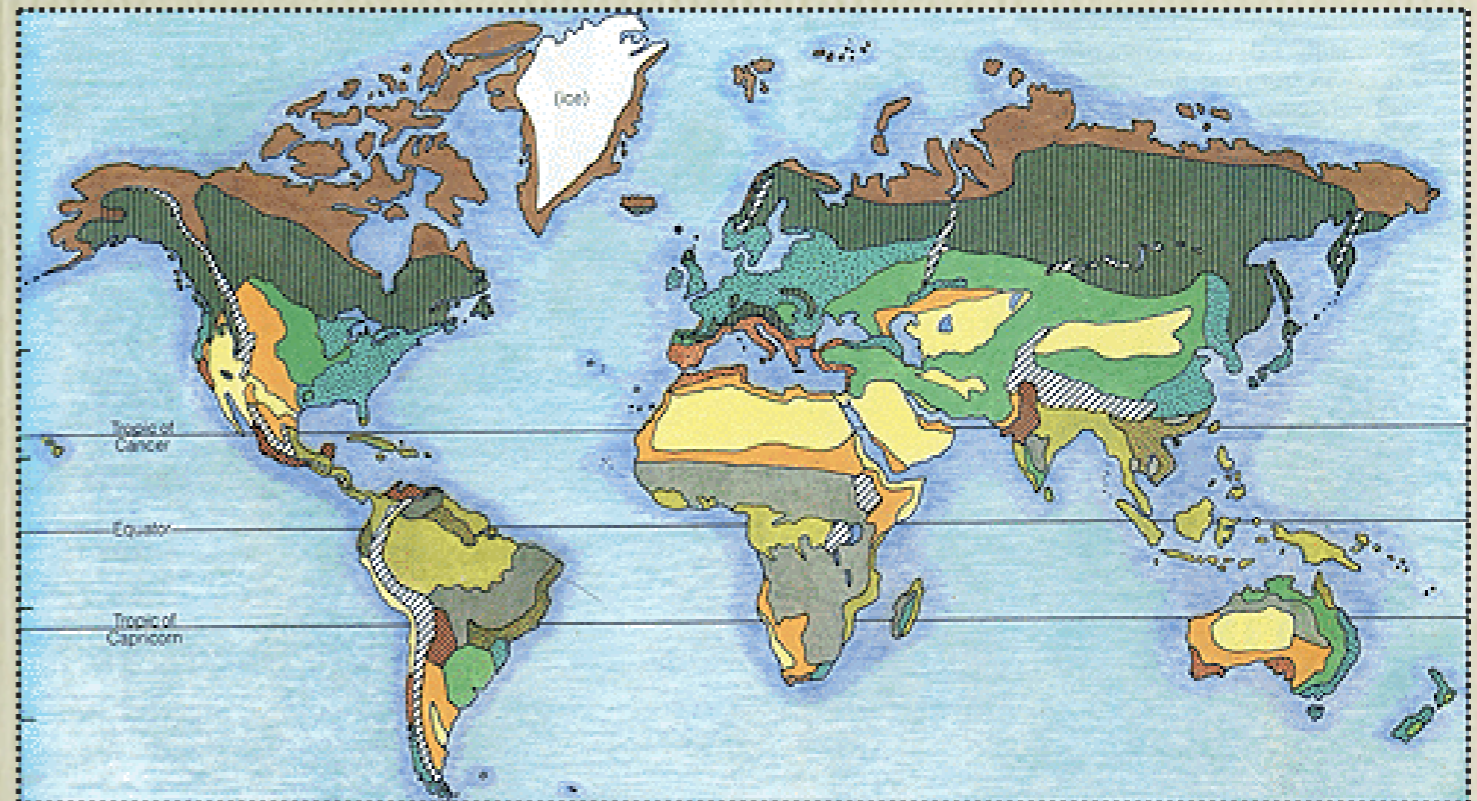
Undergraduate Teaching:

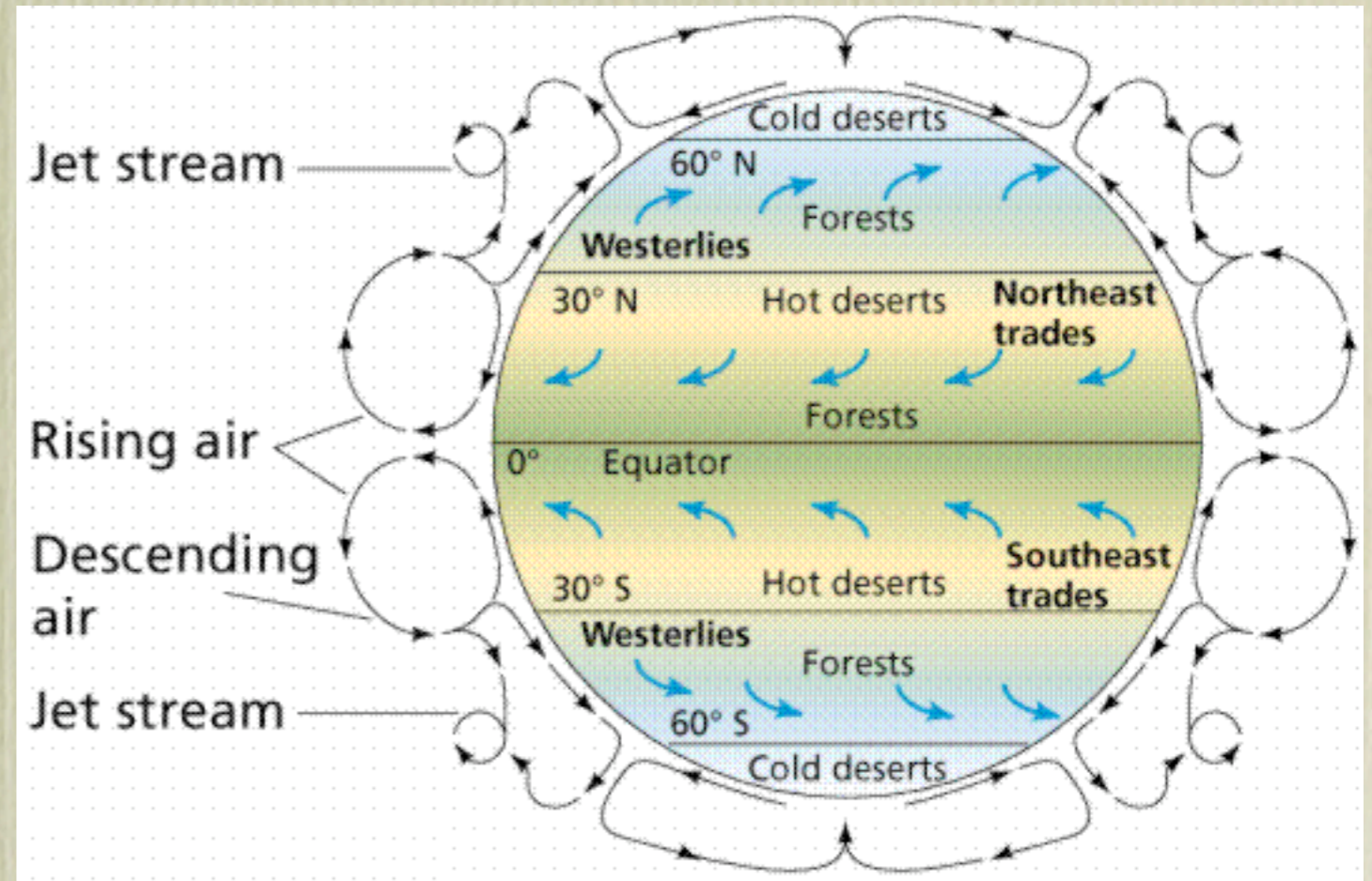
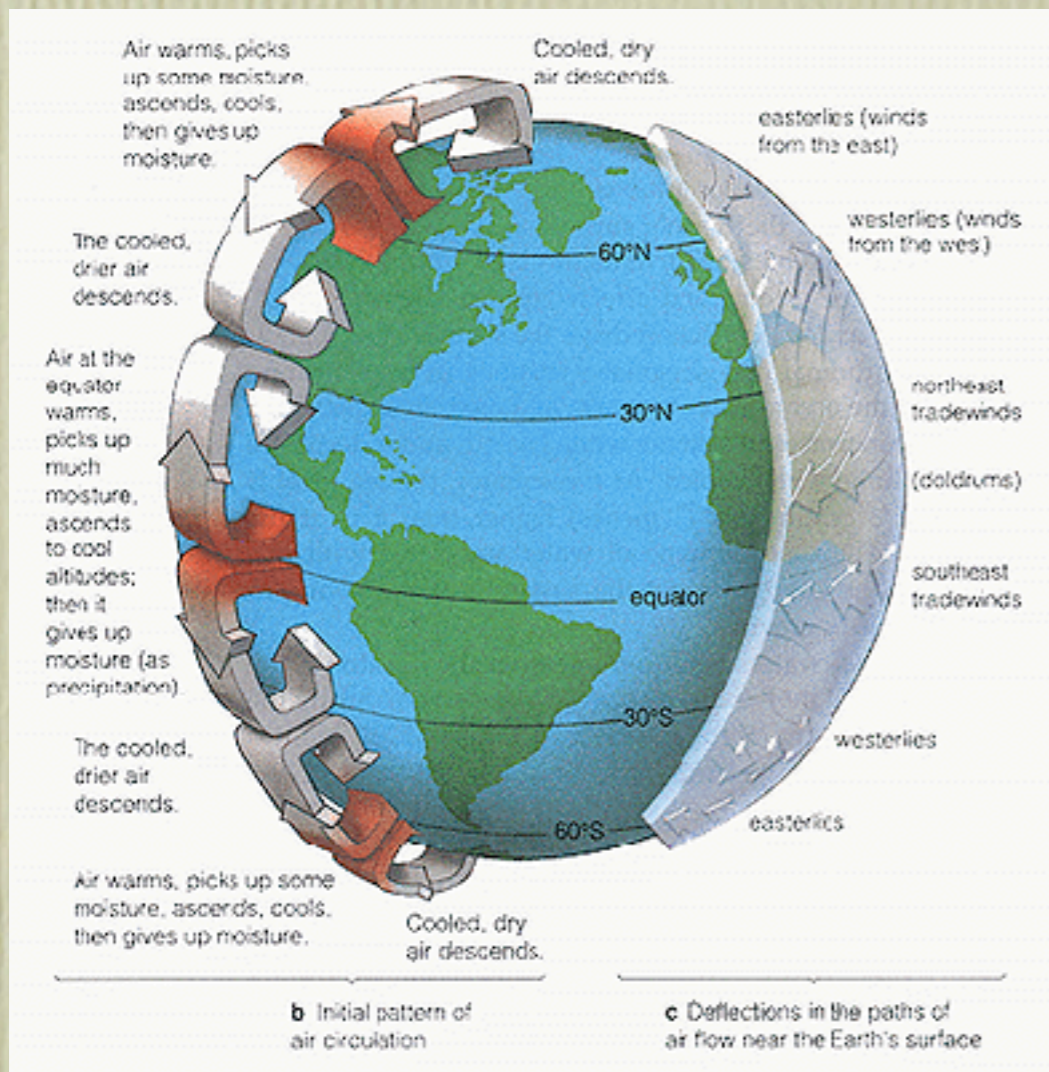
Foundation of Biology; Basic Concepts in Cell Biology; Basic Concepts in Plant Development; Cell Dynamics; Laboratory in Biology; Laboratory in Plant Structure; Advanced Seminar in Biology; Senior Integrating Seminar; Natural Science IV: Life Science; Natural Science VII: Experimental Approach to Natural Science

Specialisation (專門):

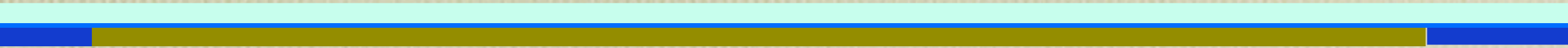
Cell biology of the legume/rhizobia symbiosis

Foundation in Biology: Biosphere
Cell Biology, Plants

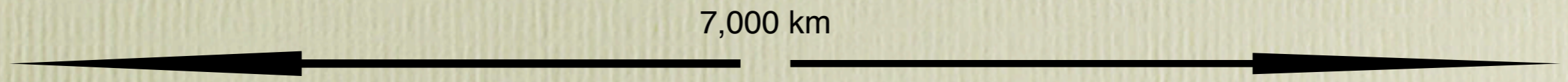




AFRICA from North to South



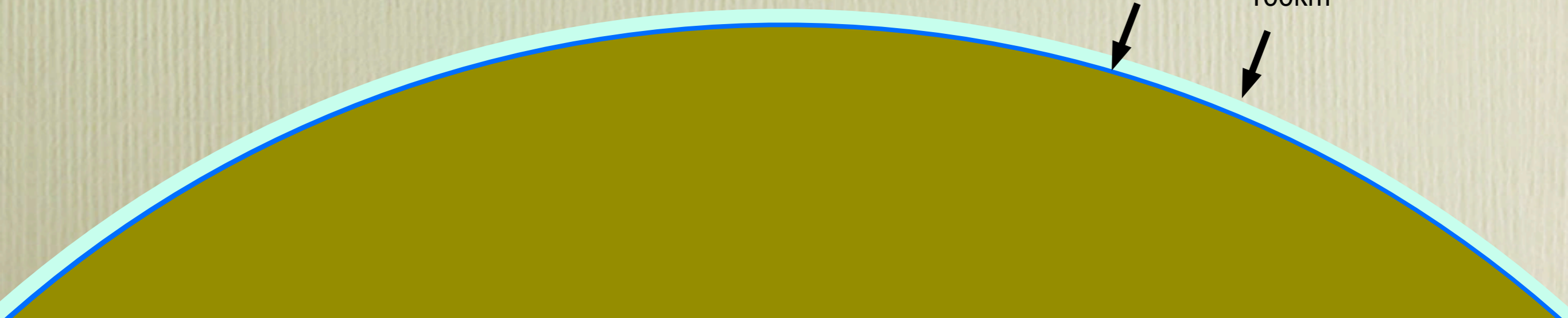
Southern Ocean Namib Desert
Kalahari Desert Savannah Tropics Savannah Sahara Desert Mediterranean



International Space Station 250km

10km

100km

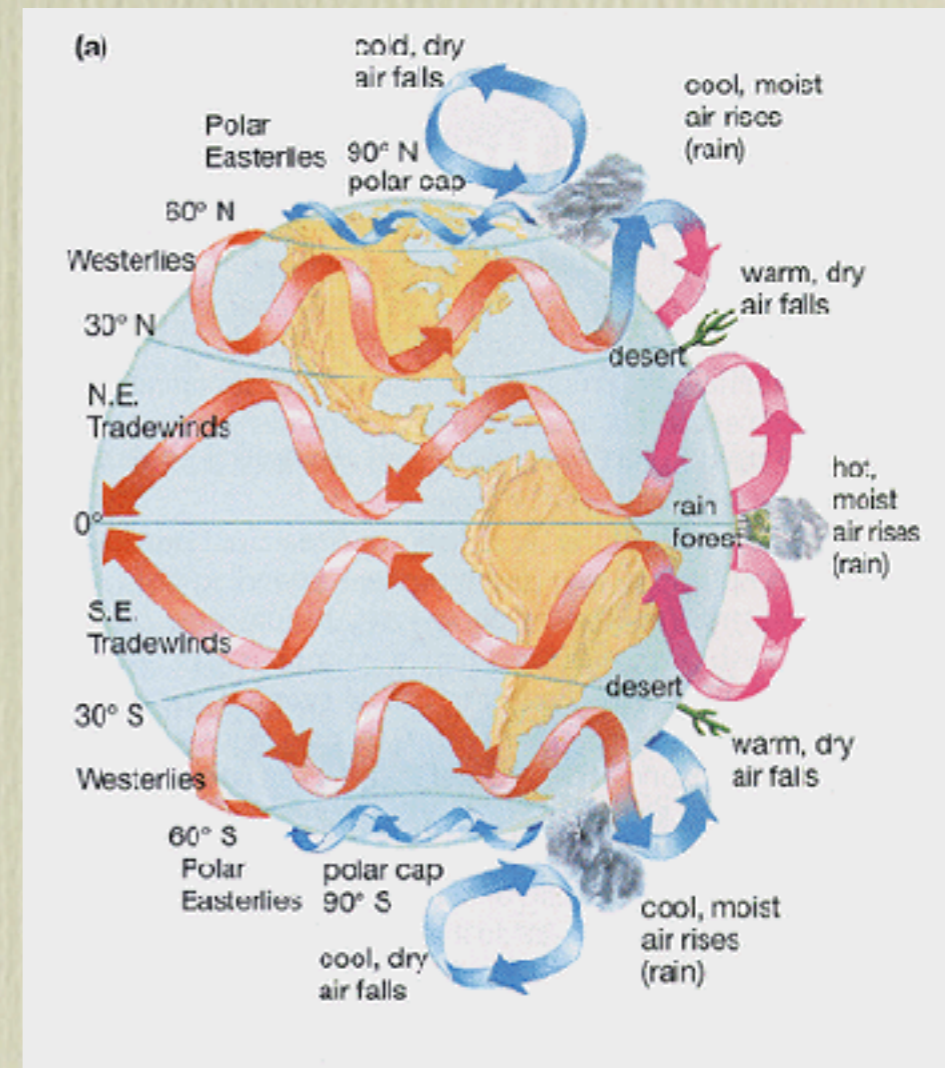
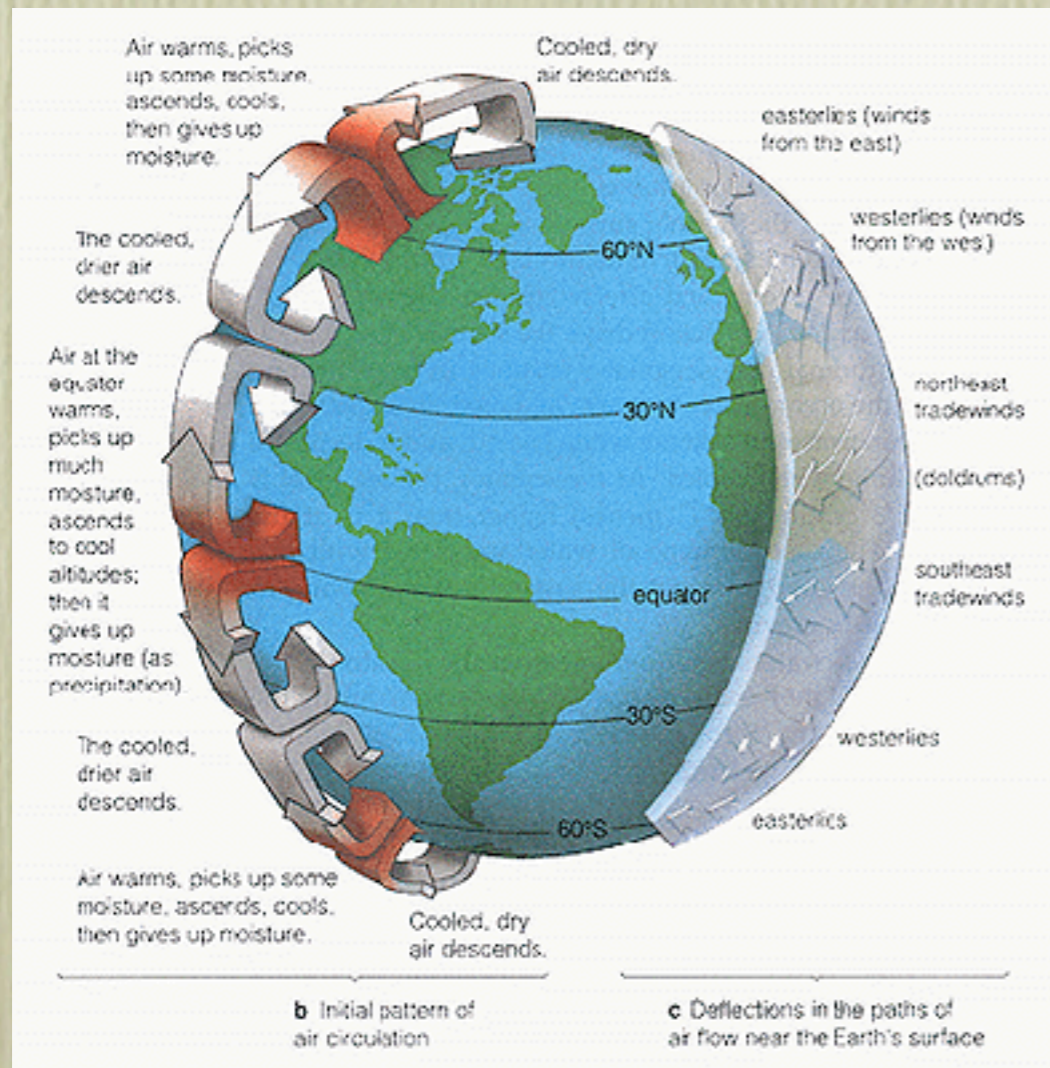


BIOMES

Factors determining the distribution of major life-zones :

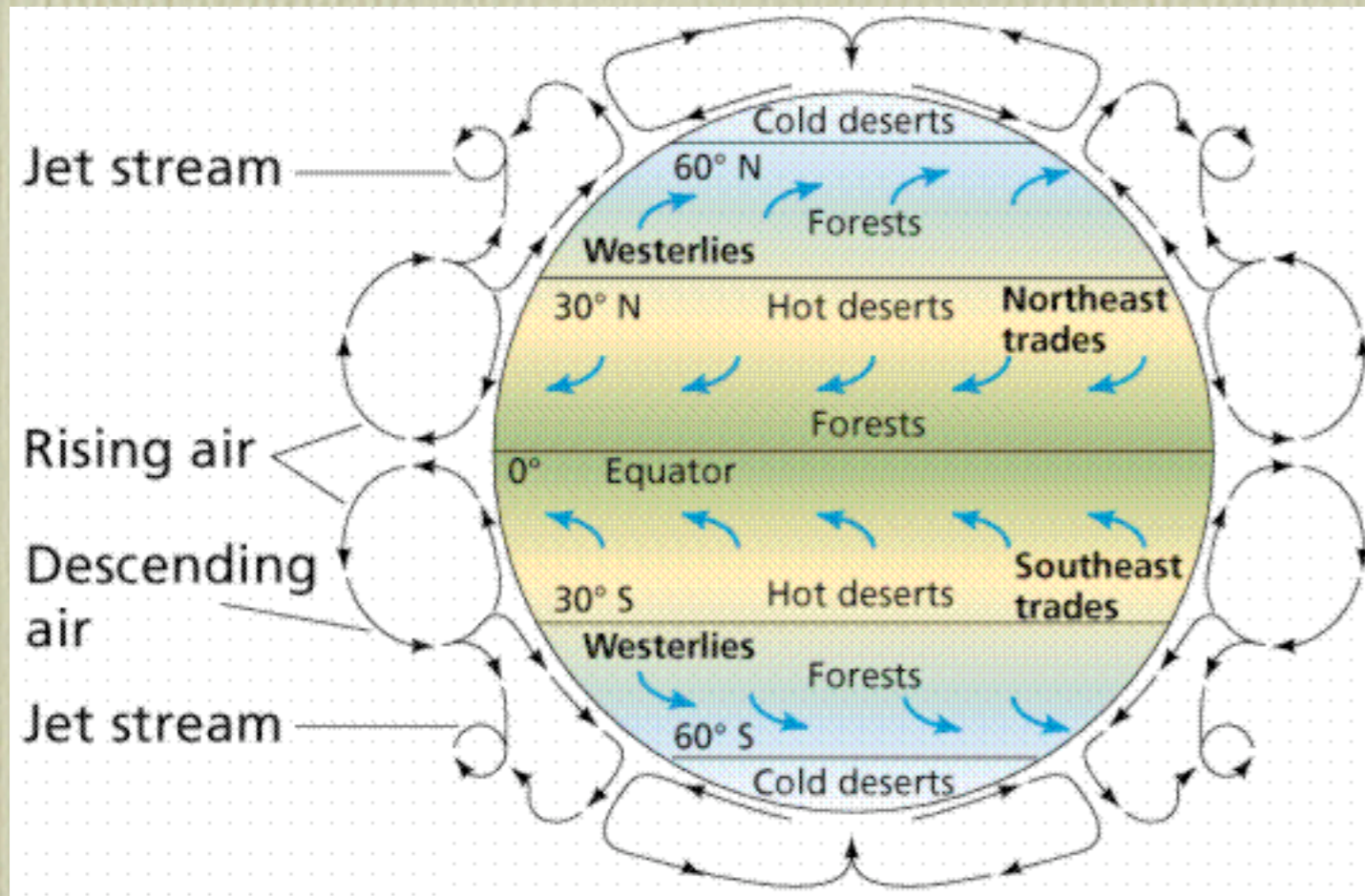
- differential heating of the Earth's surface by the Sun, which results from:
 - the shape of the Earth
 - the tilted axis and rotation of the Earth (seasonality)
- distribution of water and land and the differences in their physical properties.

The first two would result in continuous belts of different biomes parallel with the Equator. The third factor disrupts this pattern.



Circulation of air on the surface of the Earth.

The circulation is modified by the rotation of the Earth around its axis (Coriolis effect)



Aerial photograph of the Earth taken by the Apollo crew. Clouds are visible above much of the Congo basin, where rainforest occurs, whereas the sky is clear above the desert regions due to descending air masses.

Thus, major terrestrial biogeographical regions of the world are determined by :

climate and weather

and are defined by :

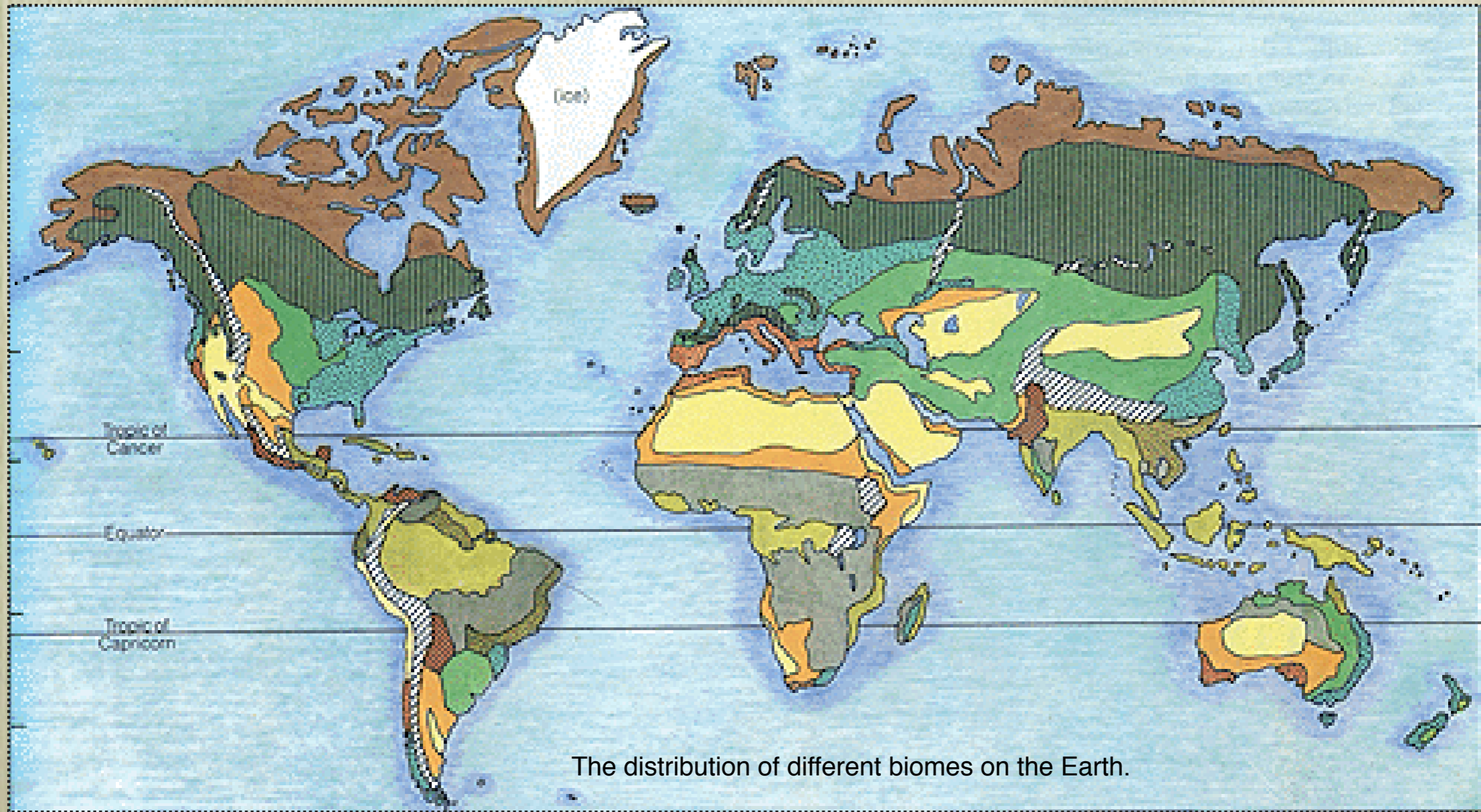
the dominant vegetation

The Biomes

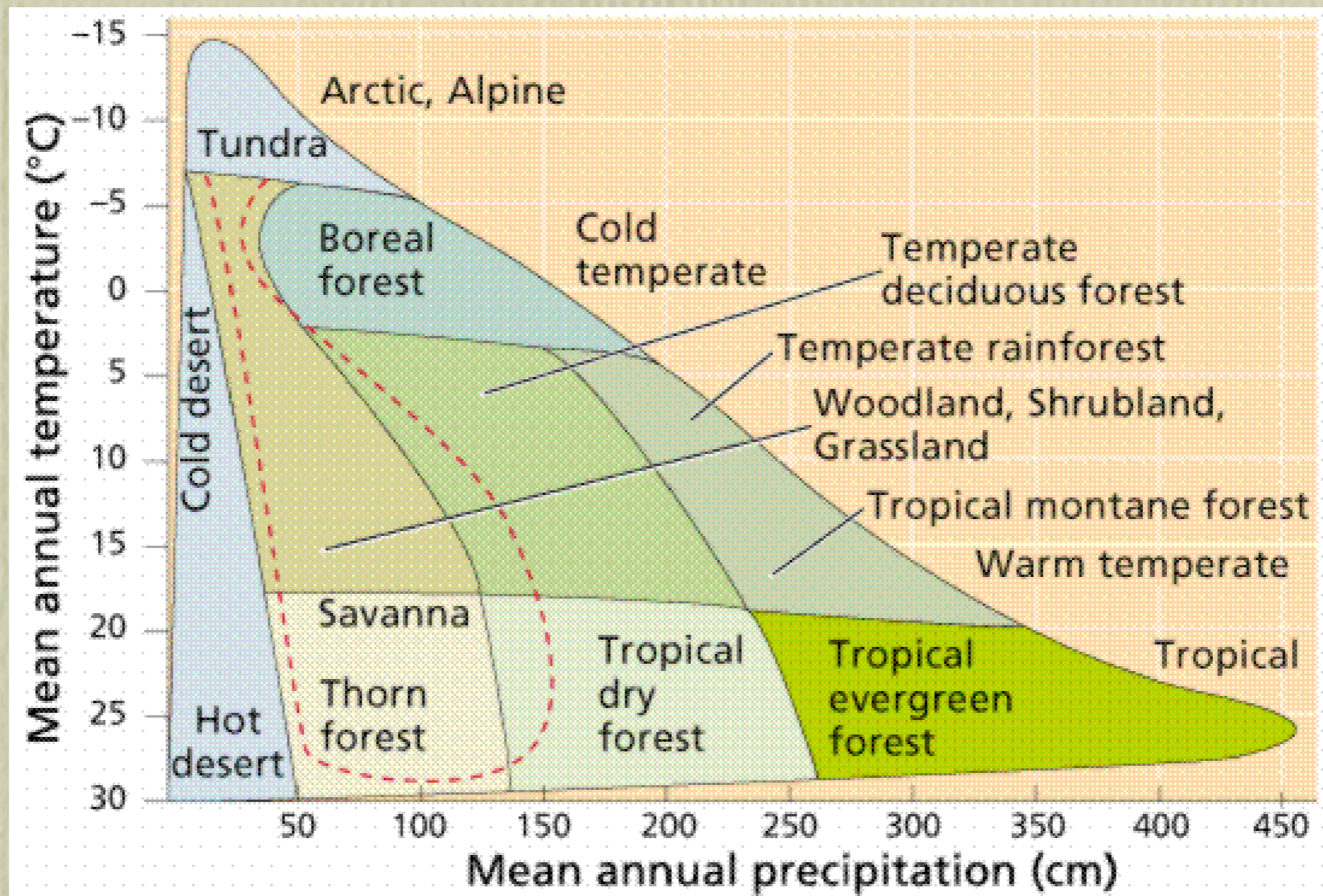


tundra & polar
taiga
temperate deciduous forest
mediterranean
grasslands

savanna
desert
tropical savanna
tropical rainforests
alpine
aquatic



The distribution of different biomes on the Earth.



Climograph of Terrestrial biomes.