

No office hours today



Quiz 1

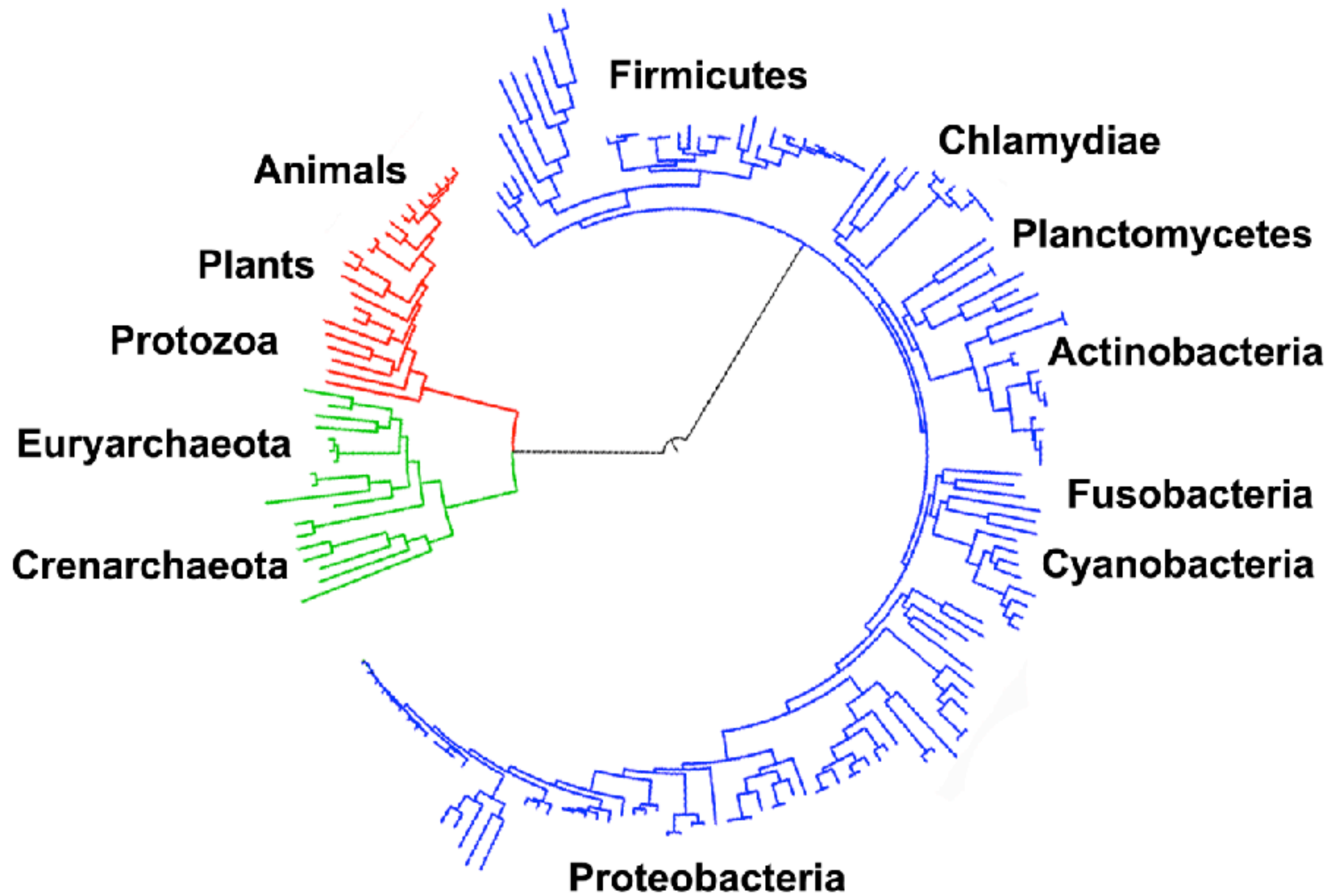
(please put everything away)

Name
Section

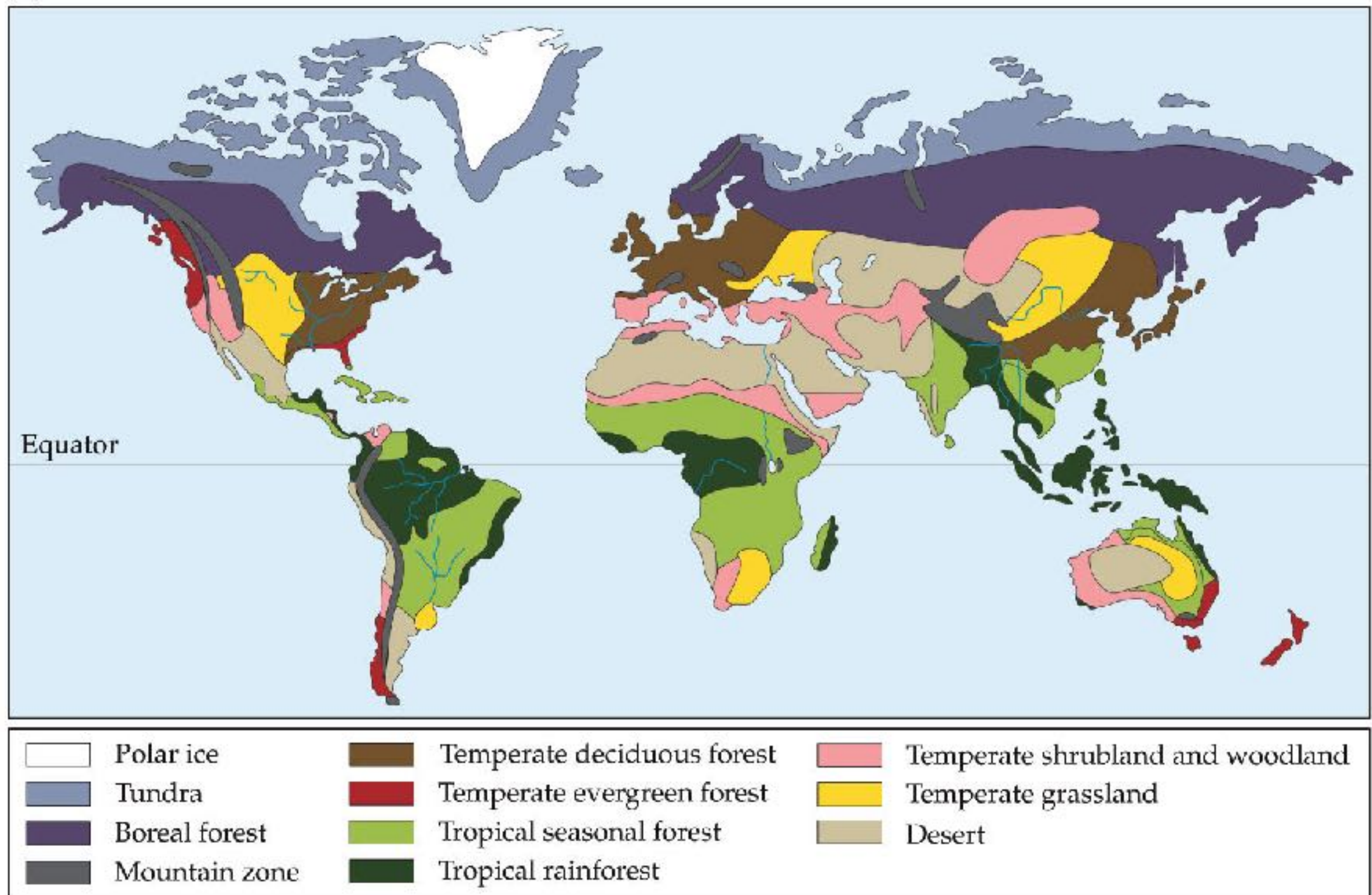
List the **two** ingredients needed to have high evolutionary fitness
(10, 10)

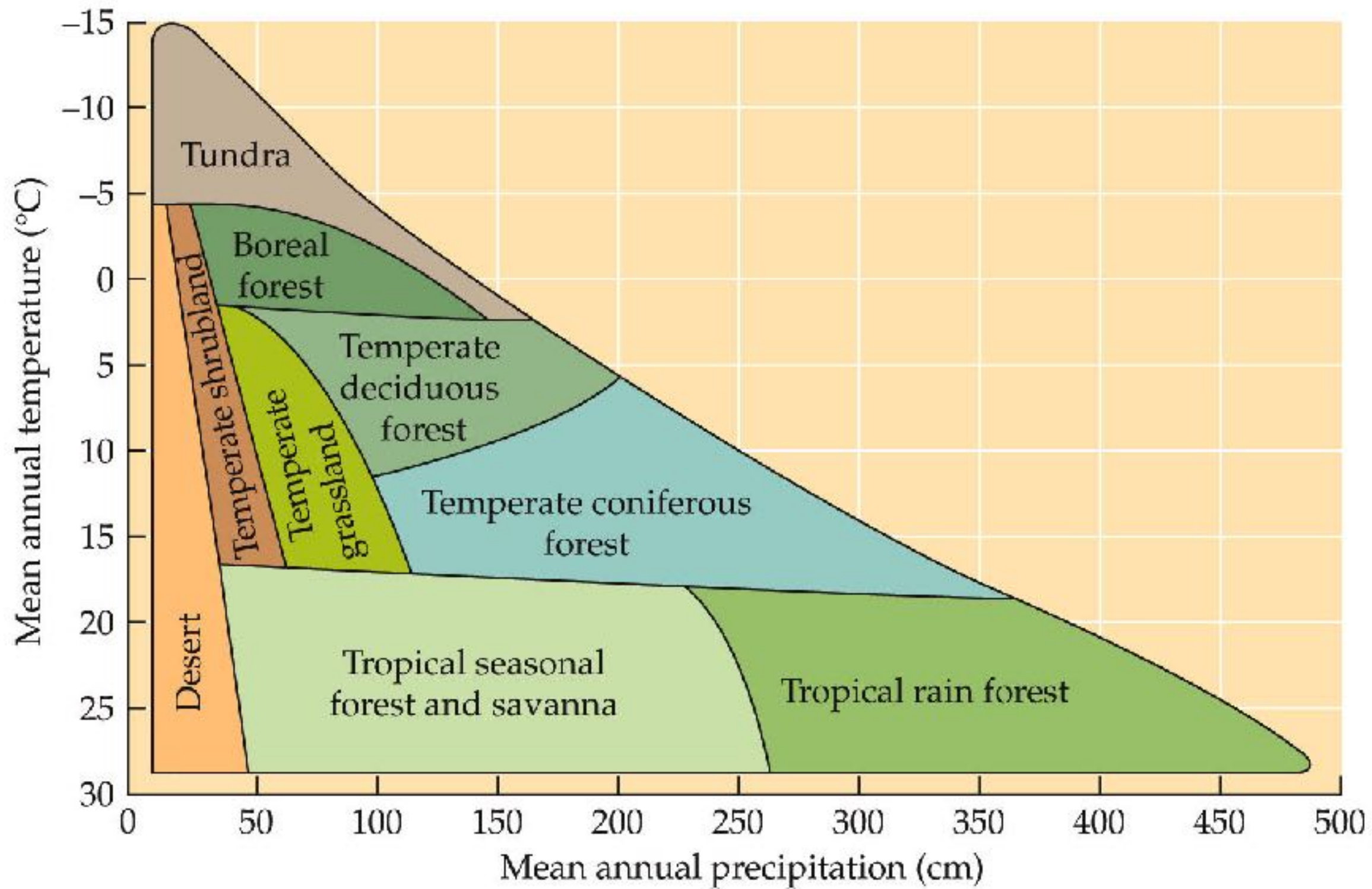
What controls krill distributions at **large** scales?
(10)

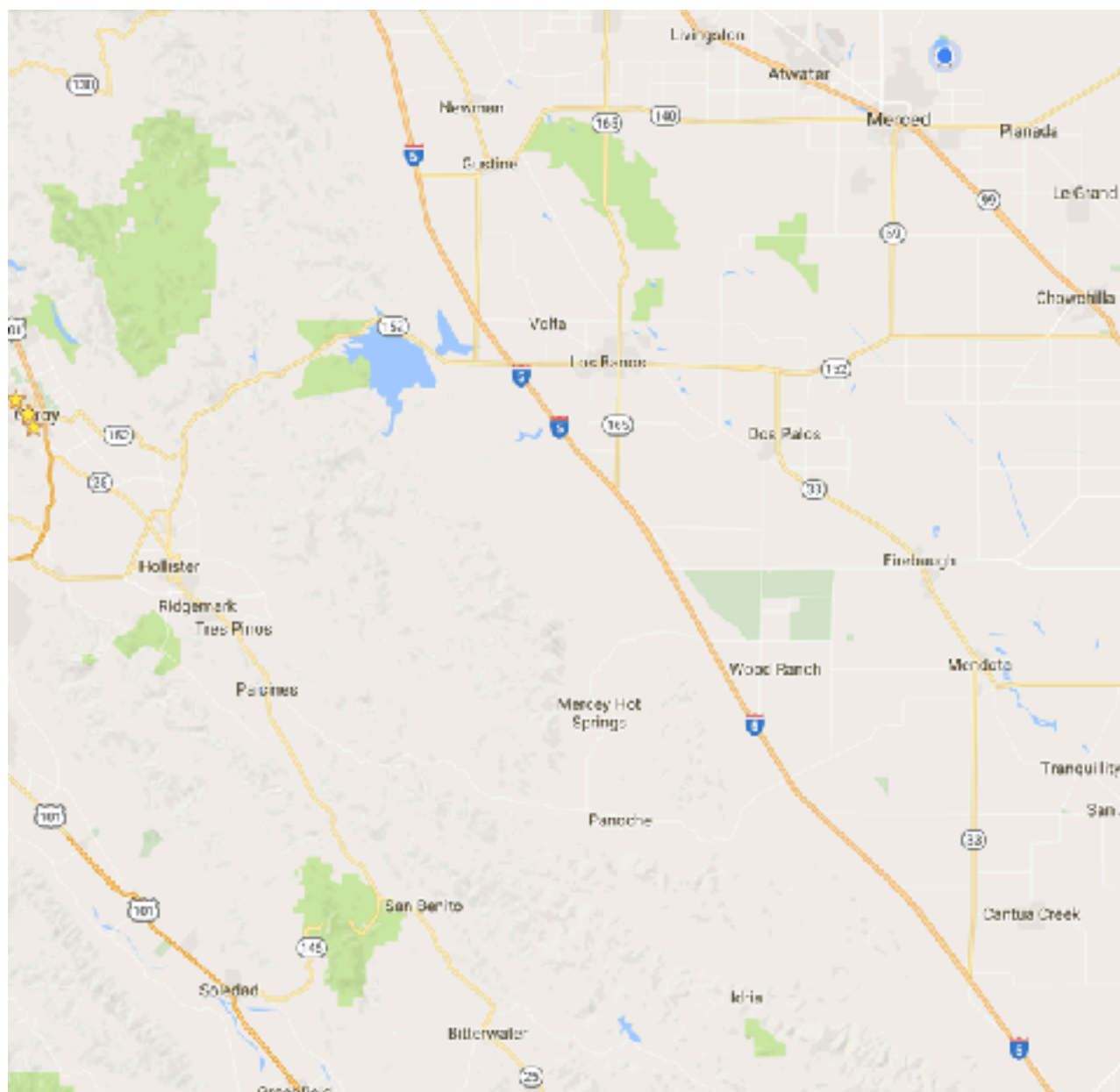
List three types of interactions that occur within **communities**
(10,10,10)



- Climatic zones: atmospheric and oceanic circulation patterns and the major determinants of the distribution of terrestrial biomes







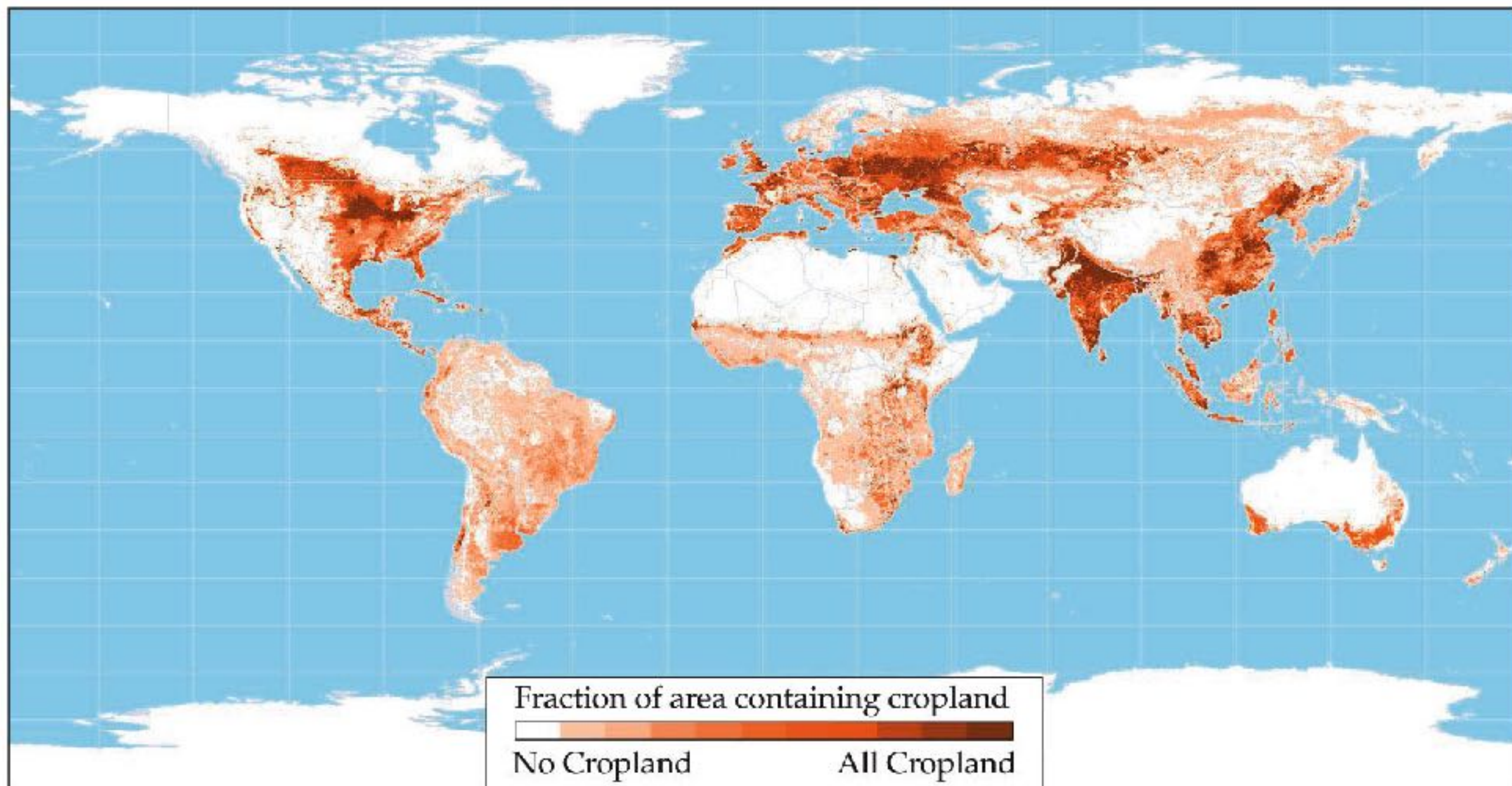
Mangroves

Australia



Belize (North America)

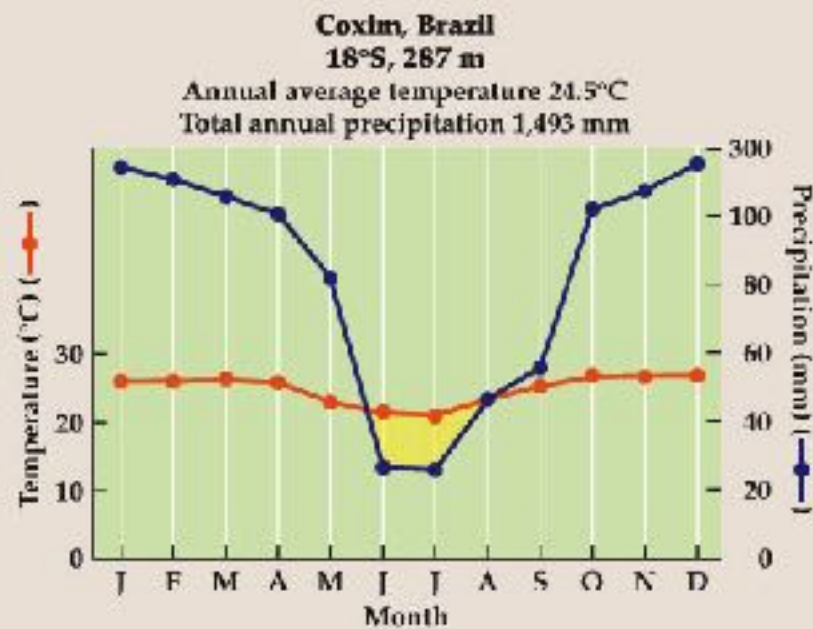




Tropical Seasonal Forests



Baobab trees in dry season in Zambia



Semi-evergreen forest of Pijio trees (*Cavanillesia platanifolia*) during the dry season, Cerro Blanco, Ecuador

Tropical RainForests

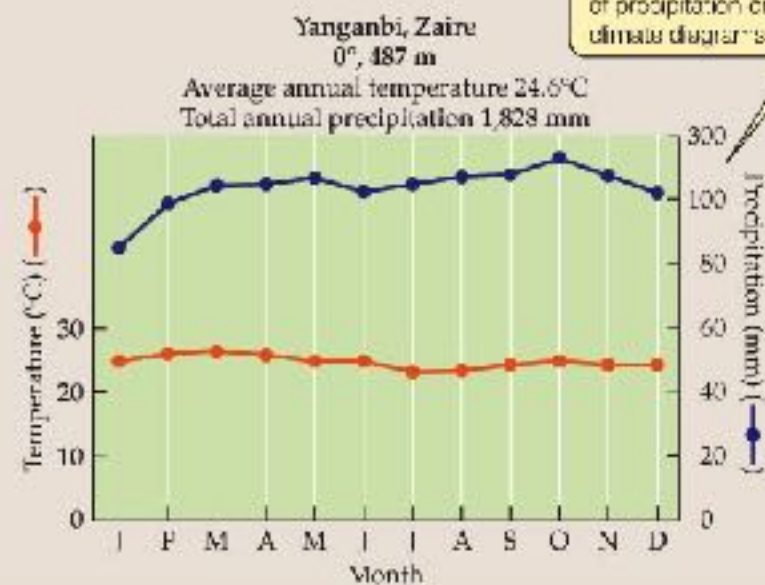
TROPICAL RAINFORESTS



Lianas hanging down from canopy trees laden with epiphytes, above the well developed understory of smaller trees, shrubs, and forbs, Santa Elena Cloud Forest Reserve, Costa Rica



Emergent tree with epiphytes rises above the forest canopy, Borneo



Note that the scale changes above 100 mm of precipitation on the climate diagrams.

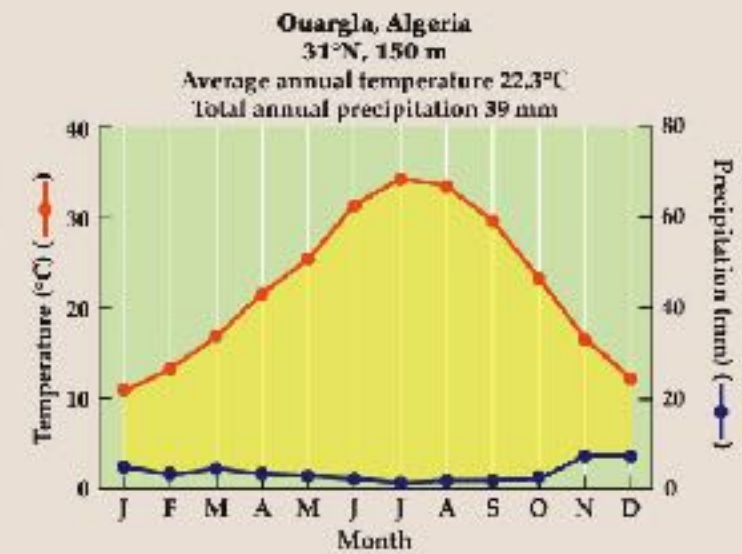
Hot Deserts



Spring flowers in Gousap Nature Reserve, South Africa



Sonoran desert in bloom, Organ Pipe National Monument, Arizona



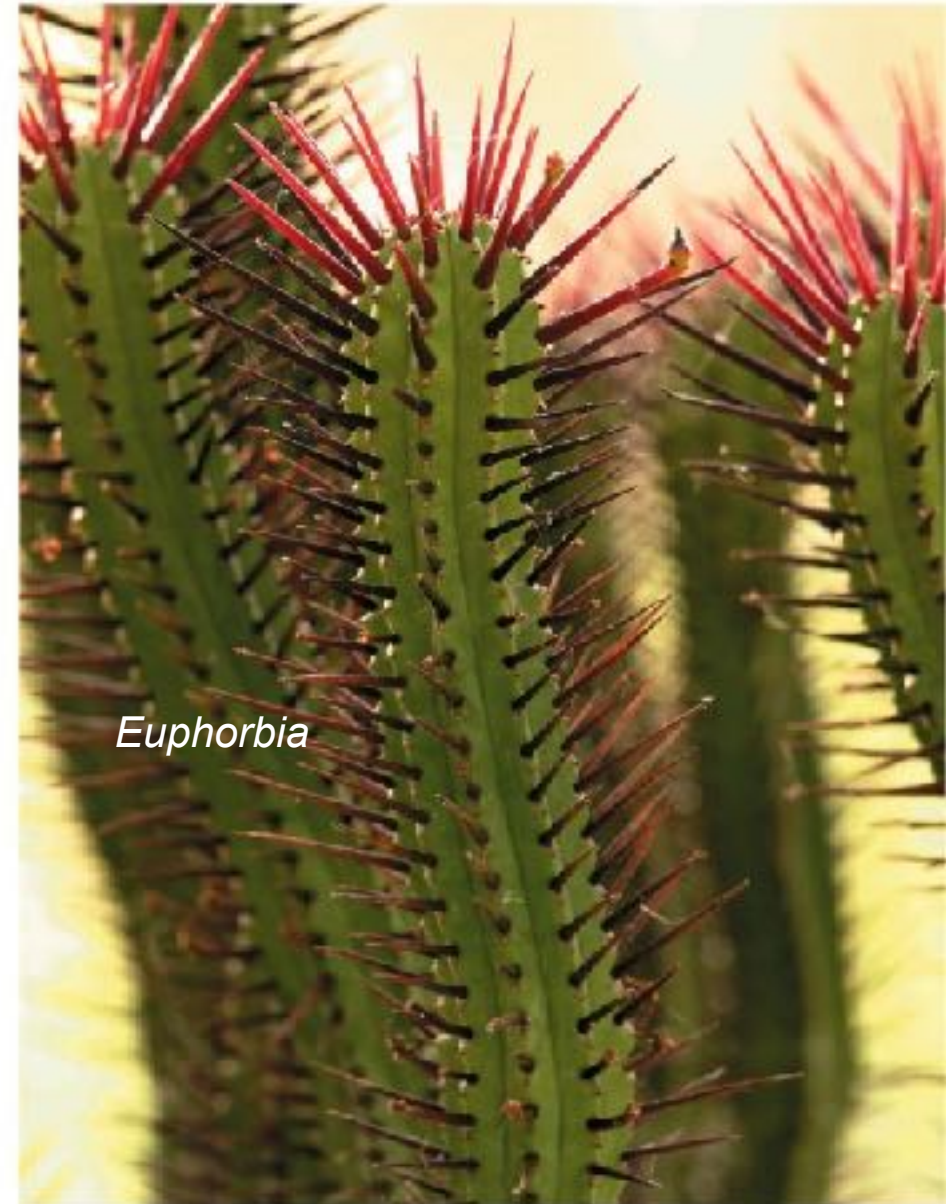
(A) Cactus



Blue candle cactus
(*Myrtillocactus
geometrizans*)

ECOLOGY 2e, Figure 3.7
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(B) Euphorb



Euphorbia

Africa

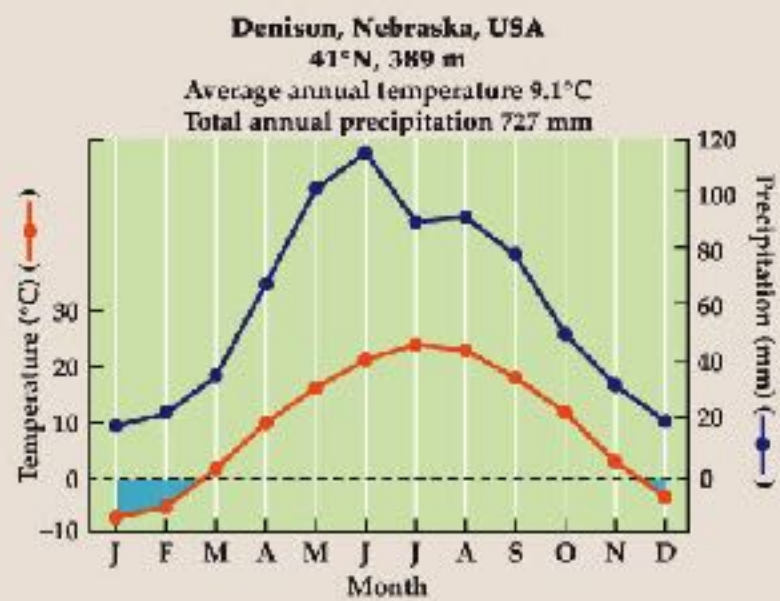
North
America



Temperate Grasslands



Sand Hills grasslands at Valentine National Wildlife Refuge, Nebraska, USA



Grassland with chamomile flowers, Altai Plateau, Russia

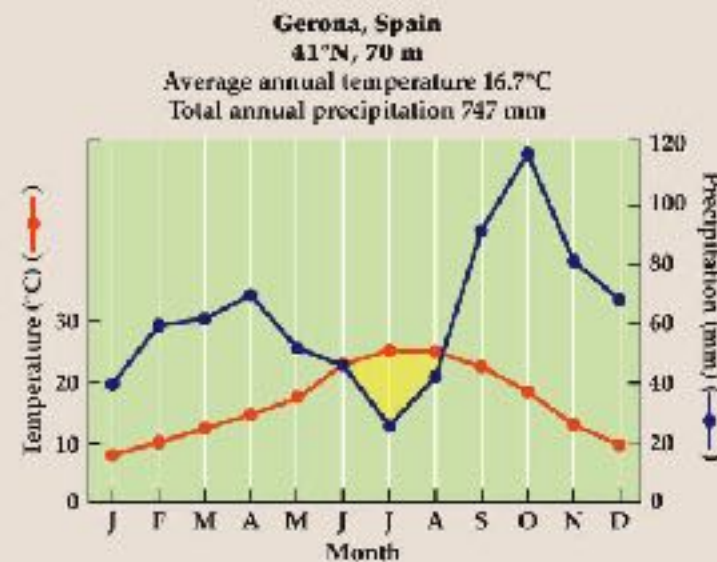
Temperate Shrublands & Woodlands



Shrubland on the coast of Western Australia



Fynbos landscape with everlastings (*Helichrysum* sp.), Cape Peninsula National Park, South Africa



Temperate Deciduous Forests



Autumn foliage prior to leaf fall, Great Smoky Mountains National Park, North Carolina, USA

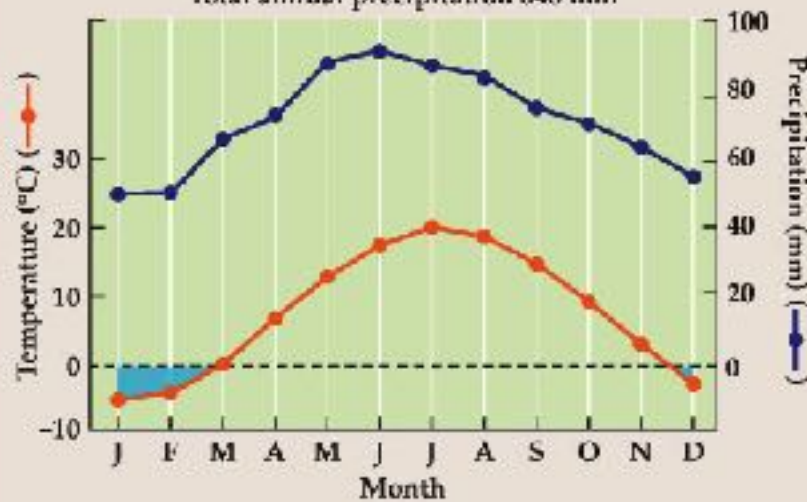


Wellsboro, Pennsylvania, USA

41°N, 567 m

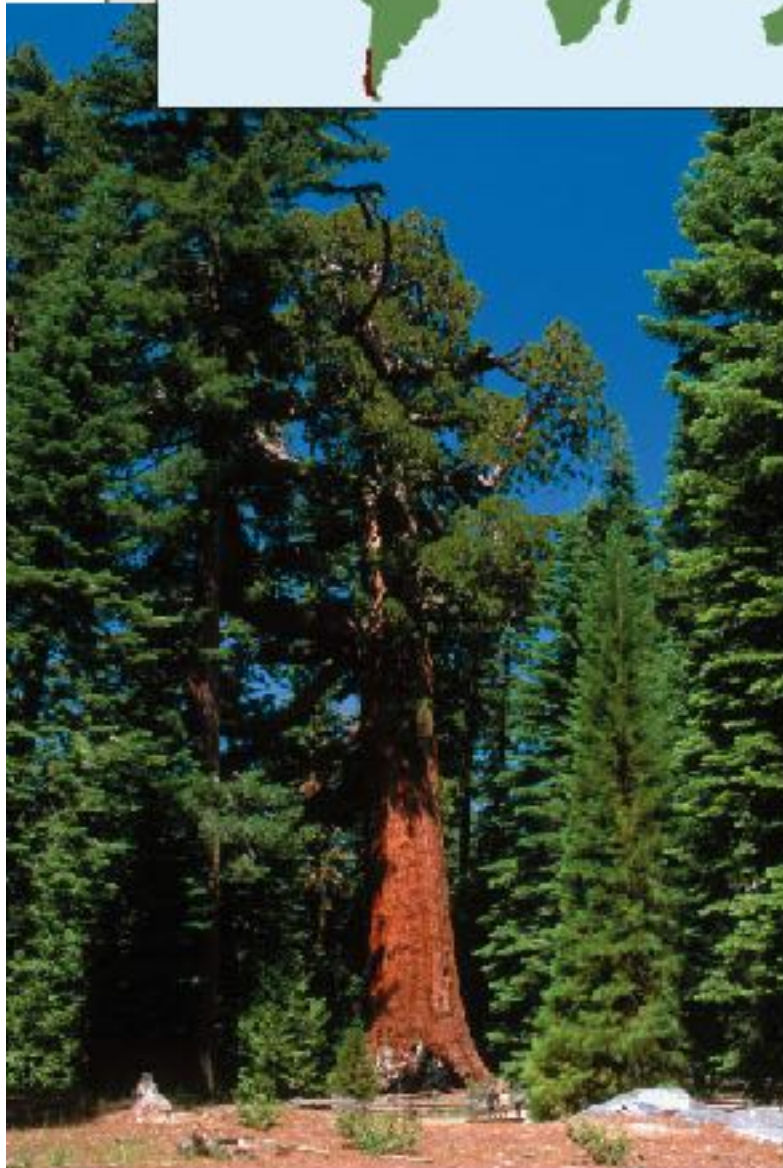
Average annual temperature 7.6°C

Total annual precipitation 848 mm



Beech forest in summer, Japan

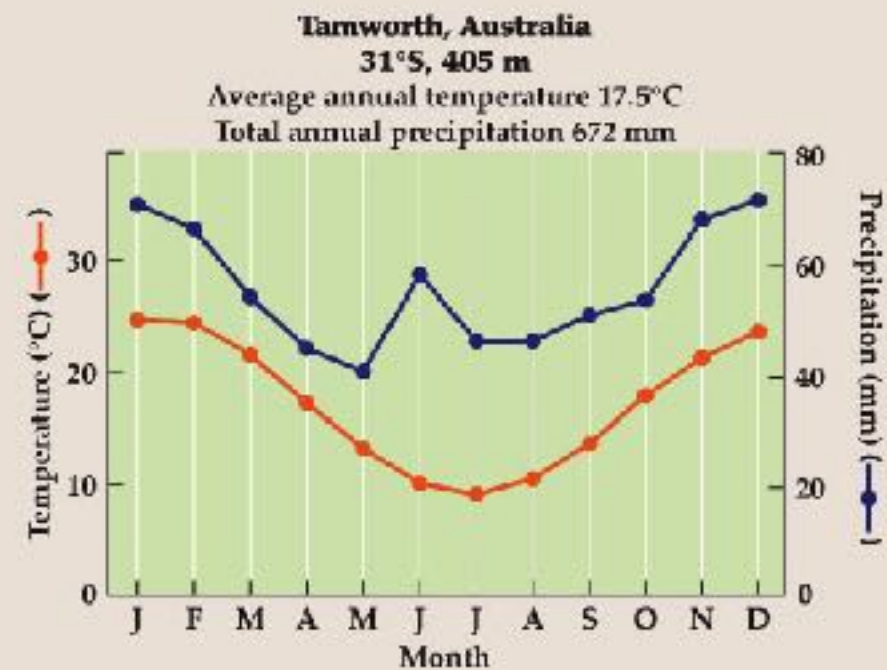
Temperate evergreen forests



Grove of giant sequoias (*Sequoiadendron giganteum*), with Douglas fir (*Pseudotsuga menziesii*), Mariposa Grove, Yosemite National Park, California



Araucaria (monkey puzzle tree) forest, Lanin National Park, Argentina



Boreal forests



Spruce trees in autumn, Denali National Park, Alaska



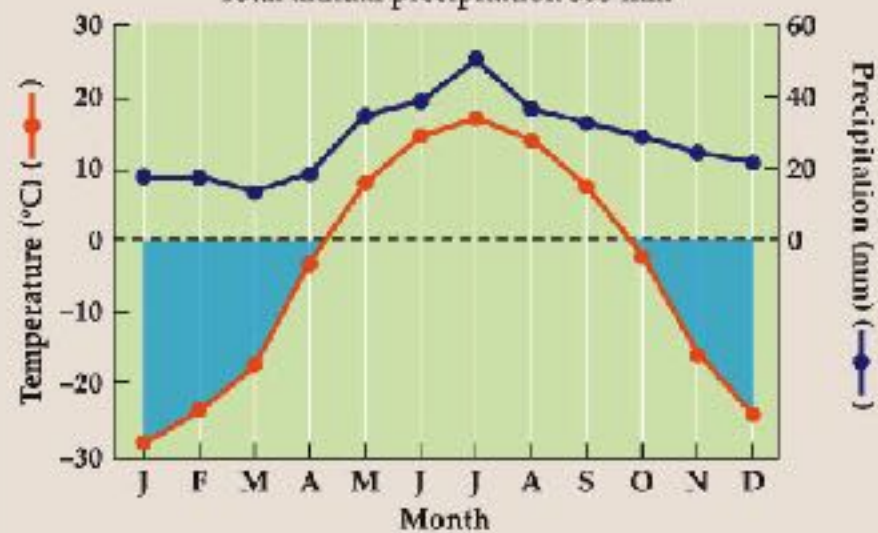
Spruce (*Picea abies*) and silver birch (*Betula verrucosa*) along the Kitkajoki River, Oulanka National Park, Finland

Fort Simpson, Northwest Territories, Canada

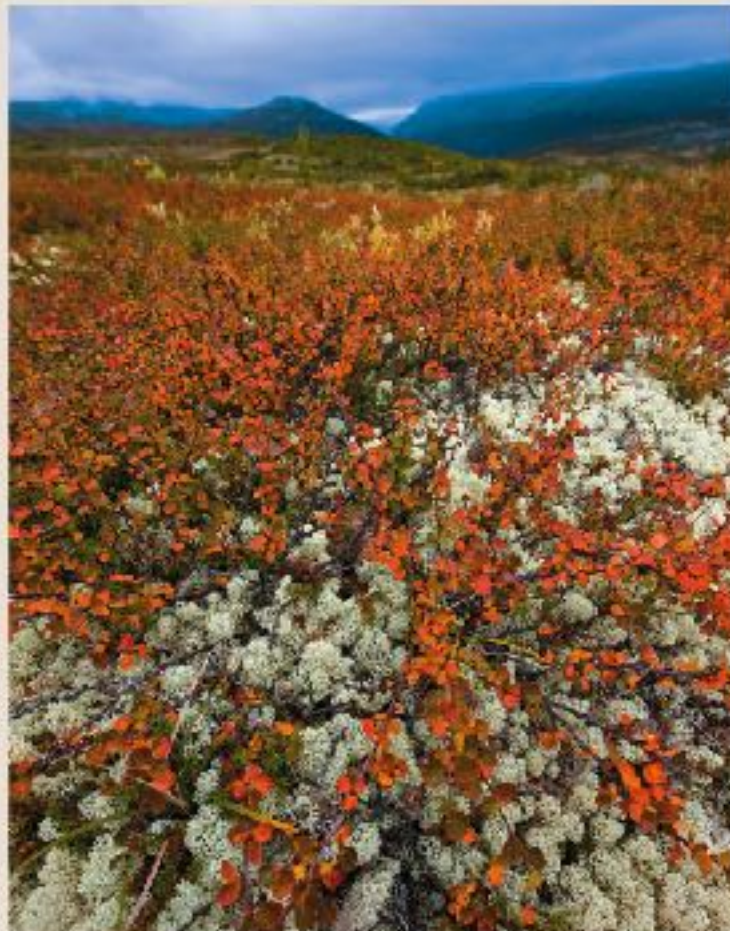
61°N, 169 m

Average annual temperature -4.6°C

Total annual precipitation 333 mm



Tundra



Arctic tundra in early autumn color, Dovrefjell-Sunndalsfjella National Park, Norway



Looking out to the Arctic plain at midnight from the northern edge of the Brooks Range, Alaska

