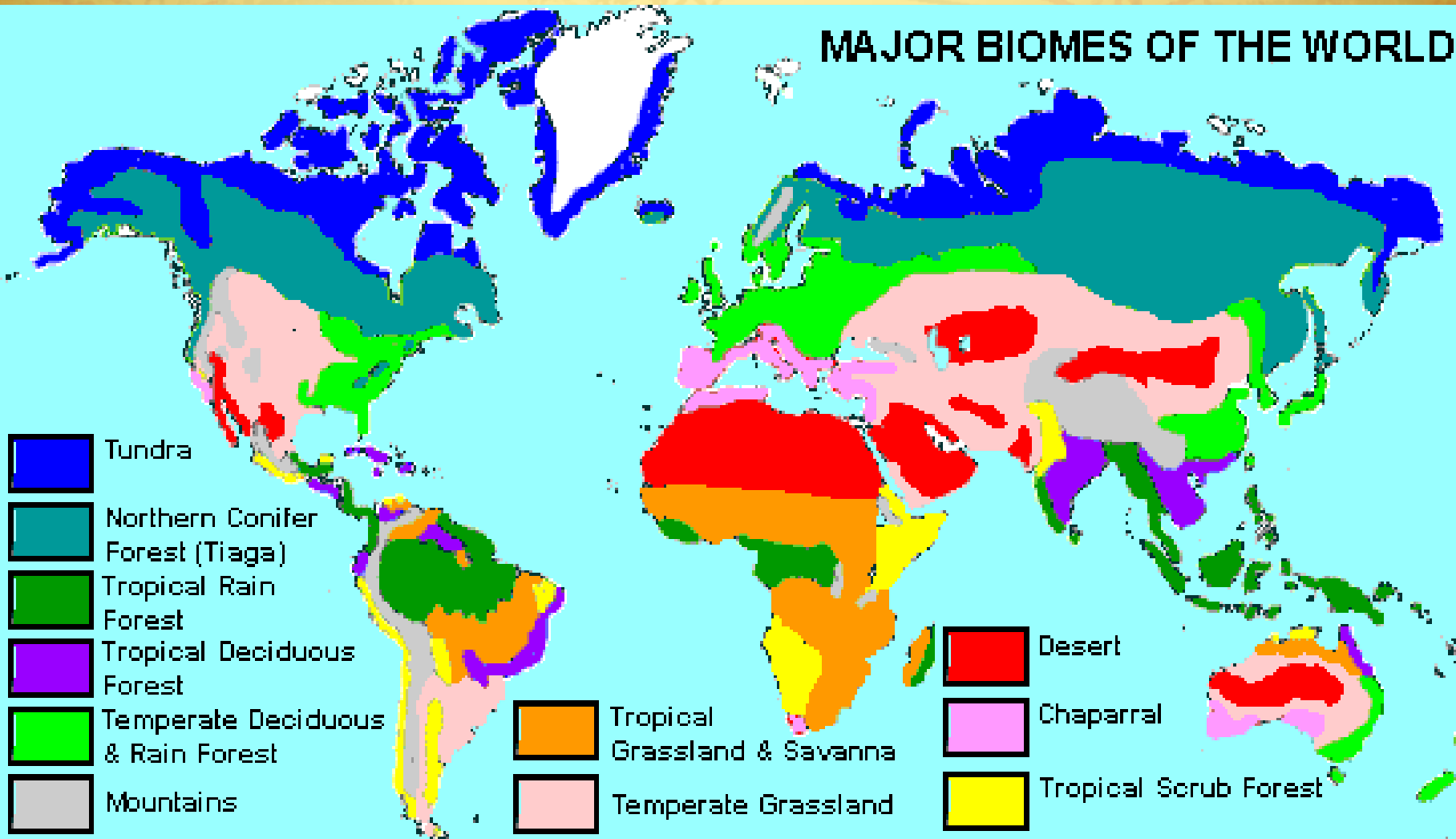


MAJOR BIOMES OF THE WORLD



Tundra Biome

- located above 55 latitude
- Soil is permanently frozen - permafrost
- short growing season (50-60 days)
- few year-round animals, many hibernate or migrate (i.e., Musk Ox, Caribou, Reindeer, Polar Bear, Snowshoe Hare, Artic Fox, Whales, mosquitoes and insects common)
- about 1,700 plants – mostly low growing mosses and lichens (i.e., Reindeer moss)
- few tall trees because roots can not penetrate permafrost
- precipitation limited to 10 in/year
- temperature ranges from -18F to 60F
- historically a place where valuable minerals can be found – gold, silver, oil – also trees

Taiga Biome

- located geographically below the Tundra
- needle-bearing trees (Pine, Spruce, Fir, Hemlock) – needles covered in wax to prevent water loss
- shed some needles in winter but retain needle through winter so they can start growing soon in the spring
- trees tend to grow in thick stands
- heavy snow fall in winter
- home to many migratory species of birds
- animals include fur bearers – mink, Lynx, grizzly and black bears, Elk, Moose, Owls
- thin, rocky soils but susceptible to forest fires

Deciduous Forests Biome

- **located in the middle latitudes around the planet**
- **30-60 in. of precipitation/year**
- **4 distinct seasons**
- **trees include Oak, Beech, Maple, Elm, Walnut, Basswood, Hickory, Chestnut – valuable woods to humans for construction and industry**
- **lots of understory plants and animals (i.e., White Tailed Deer, Virginia Blue Bells, Hepatica; Blood Root, Ginseng) –many named by early settlers**
- **many plants used by humans for food, fiber and medicine**

Trout Lilly



Dutchman's Breeches



Wild Columbine or Crane's Bill



Hawk Weed



Indian Paintbrush



Fawn



Ginseng



Ginseng Roots



Desert Biome

- can be hot or cold
- precipitation limited to 10 in/year or less
- many plants exist as seeds for most of the year – waiting for rain or moisture
- many plants are allelopathic – produce chemicals that inhibit germination of nearby seeds
- leaves often reduced in size or to spines to reduce water loss
- animals produce dry or no urine
- many animals jump or leap to avoid hot sand

Allelopathy



(c)Walter Feller - DigitalDesert.NET

Grassland Biome (aka Prairie, Steppes, Pampas)

- **deep, rich soils – up to 12 feet**
- **more rainfall than a desert**
- **10-30 in of rainfall/year**
- **wide variety of plants and animals; tall and short grasses, many flowers**
- **animals tend to live in groups and follow the rain - American Bison (aka Buffalo), Prairie Dogs, Prairie Chickens, also lots of scavengers like Vultures, foxes, wolves**
- **place of great wealth for farming**

Grassland Biome (aka Prairie, Steppes, Pampas)



Prairie Chicken



Grassland Biome (aka Prairie, Steppes, Pampas)



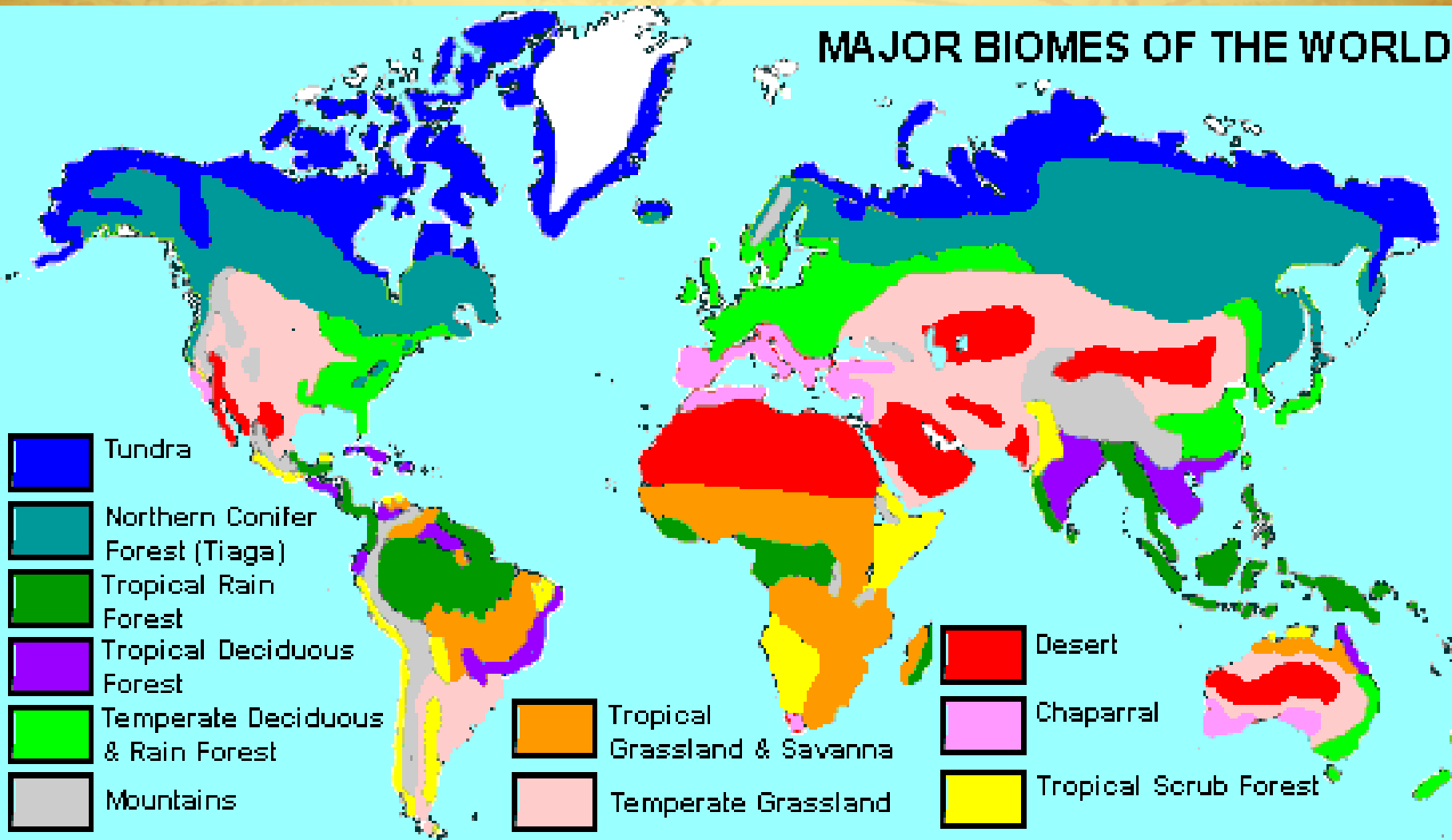
Rain Forest Biome

- **located near the equator**
- **70+in. rain/year**
- **high humidity, high temperature; wet and dry seasons**
- **largest number of plant and animal species of any biome**
- **plants exist in layers, flowers brightly colored – emergent, canopy, understory, forest floor**
- **many animals brightly colored and poisonous**
- **soils are poor – nutrients leached out by high rain fall but stored in living plants and animals**
- **source for many modern medicines and spices – coffee, quinine, digitalis**
- **source for minerals such as oil, sulfur, and gold and gems**

Oceans Biome - ??

- many oceans, all connected physically and by currents
- salt concentrations from shallow to deep and top to bottom
- lots of plankton and zooplankton – primary producers
- many invertebrate animals, also fish and whales
- water pressure limits life forms – no external shells
- plant life limited to top 200 feet or so
- hydrothermal vents (1977) – use sulfur as a source of energy instead of carbon, may be like living systems on other planets like Jupiter
- historically a vast source of food for humans
- the avenue of transportation for humans for most of history

MAJOR BIOMES OF THE WORLD



Urban Biome

- **concrete instead of soil**
- **climate created by tall building**
- **few plants communities, mostly non-native species**
- **most common animals are pests– rats, raccoons, deer**
- **lots of undesirable social interactions among human occupants**