

V. Climate and Biomes

A. Climate

B. What determines climate?

1. Latitude and sunlight
2. Two facts about warm air

C. Major wind currents

D. Exceptions - variation within a latitude

1. Altitude
2. Major land masses
3. Ocean currents

E. Three major types of terrestrial climate

F. Major terrestrial Biomes

1. Arctic tundra (treeless plain)
2. Taiga
3. Temperate coniferous forest
4. Temperate deciduous forest
5. Grassland
6. Tropical savannah
7. Desert
8. Tropical rainforest

Biomes

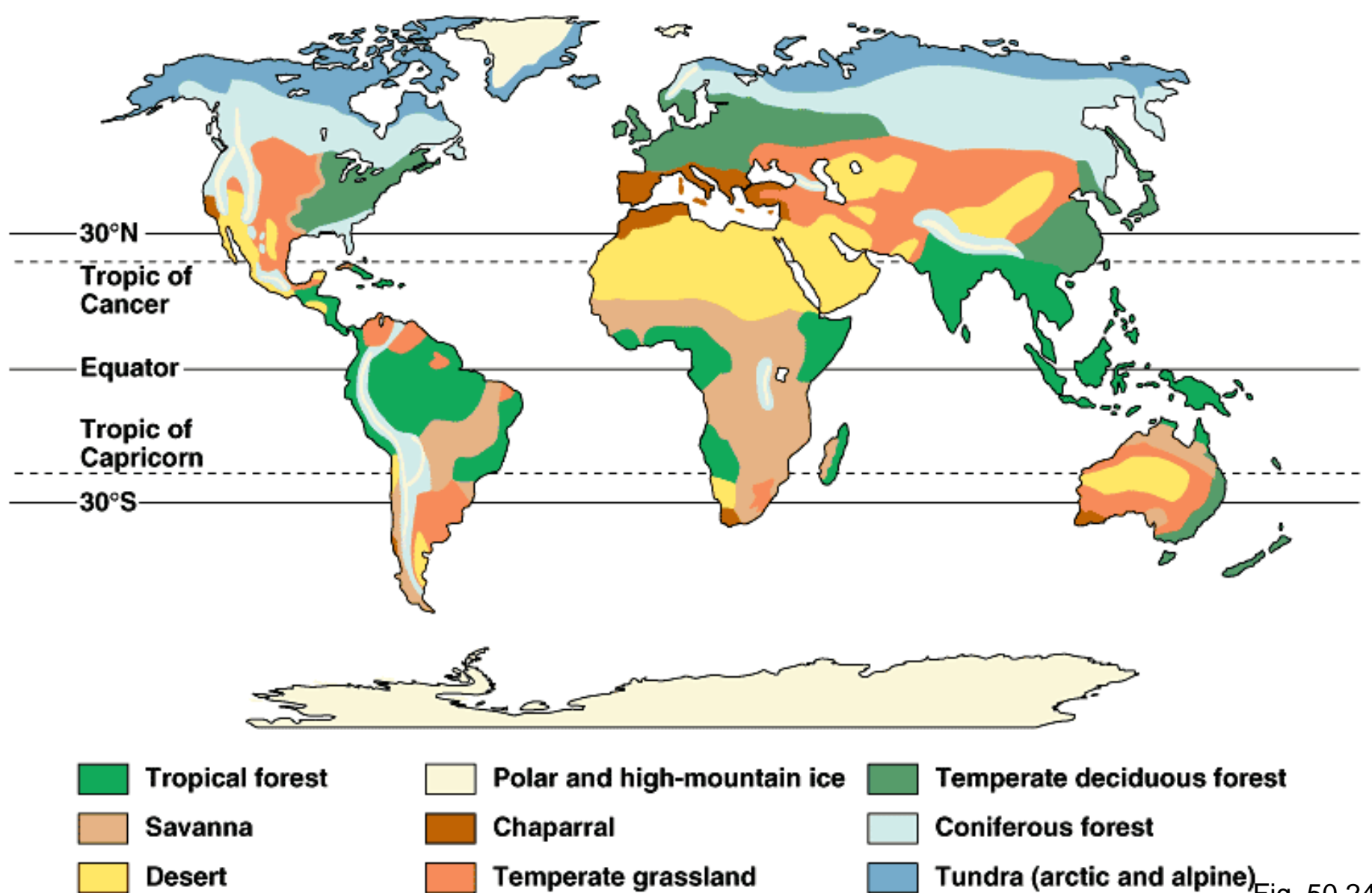


Fig. 50.24

Climate: angle of earth's surface to sun

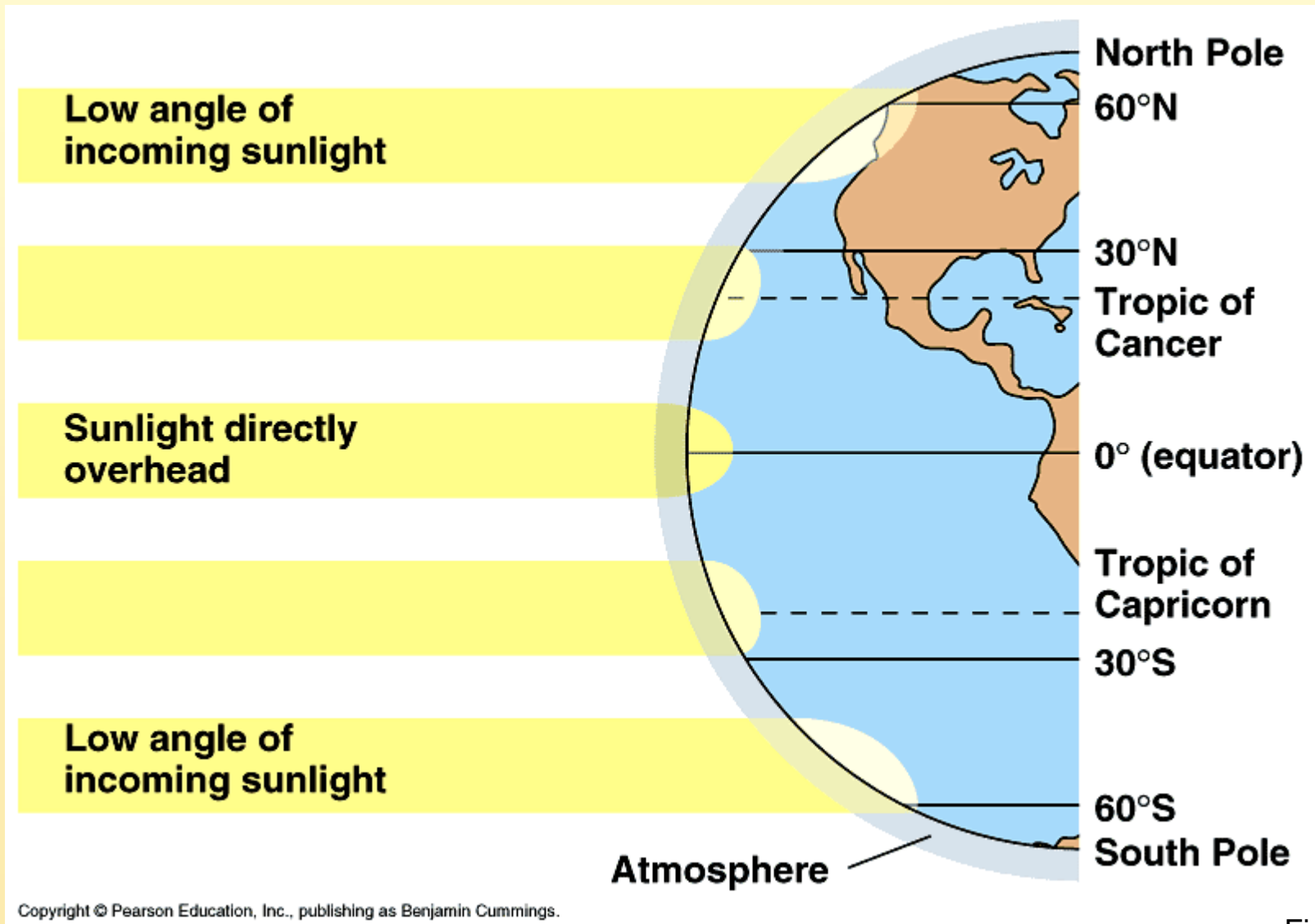
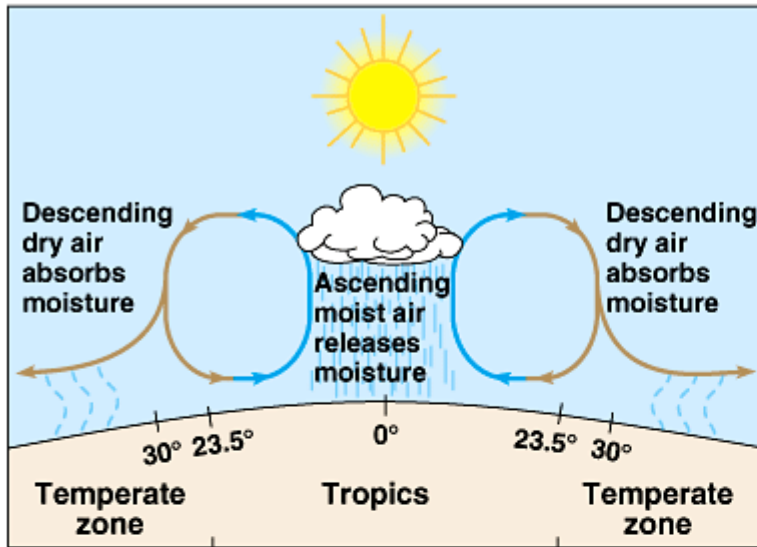
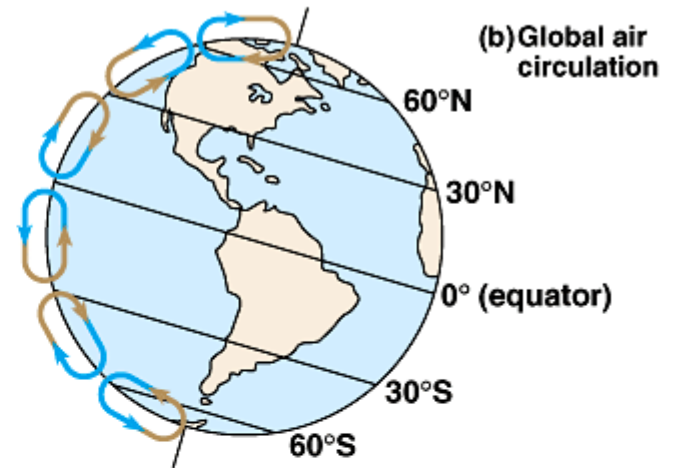


Fig. 50.11

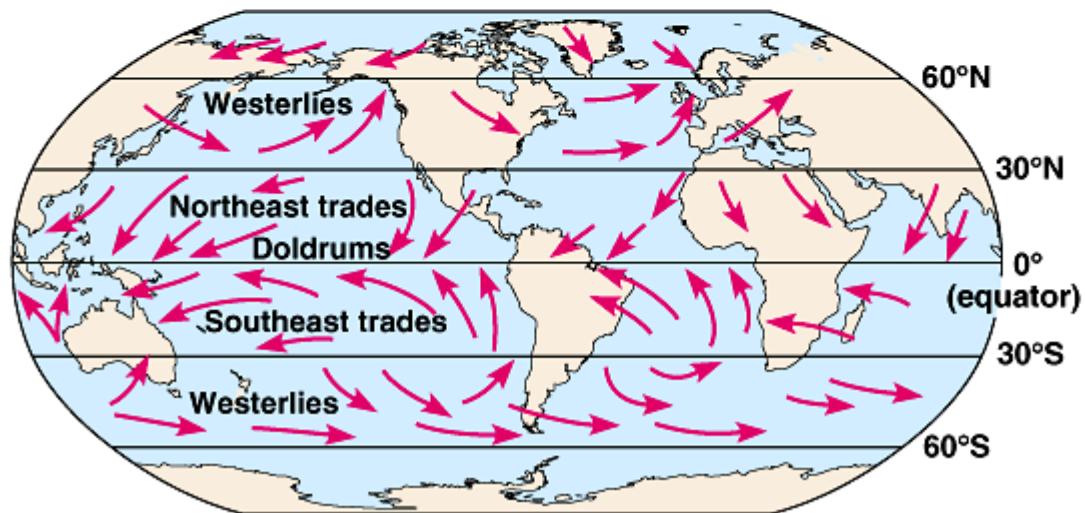
Atmospheric circulation



(a) Air circulation and precipitation near the equator



(b) Global air circulation



(c) Global wind patterns

Deserts at 30°, wet at equator, 60°

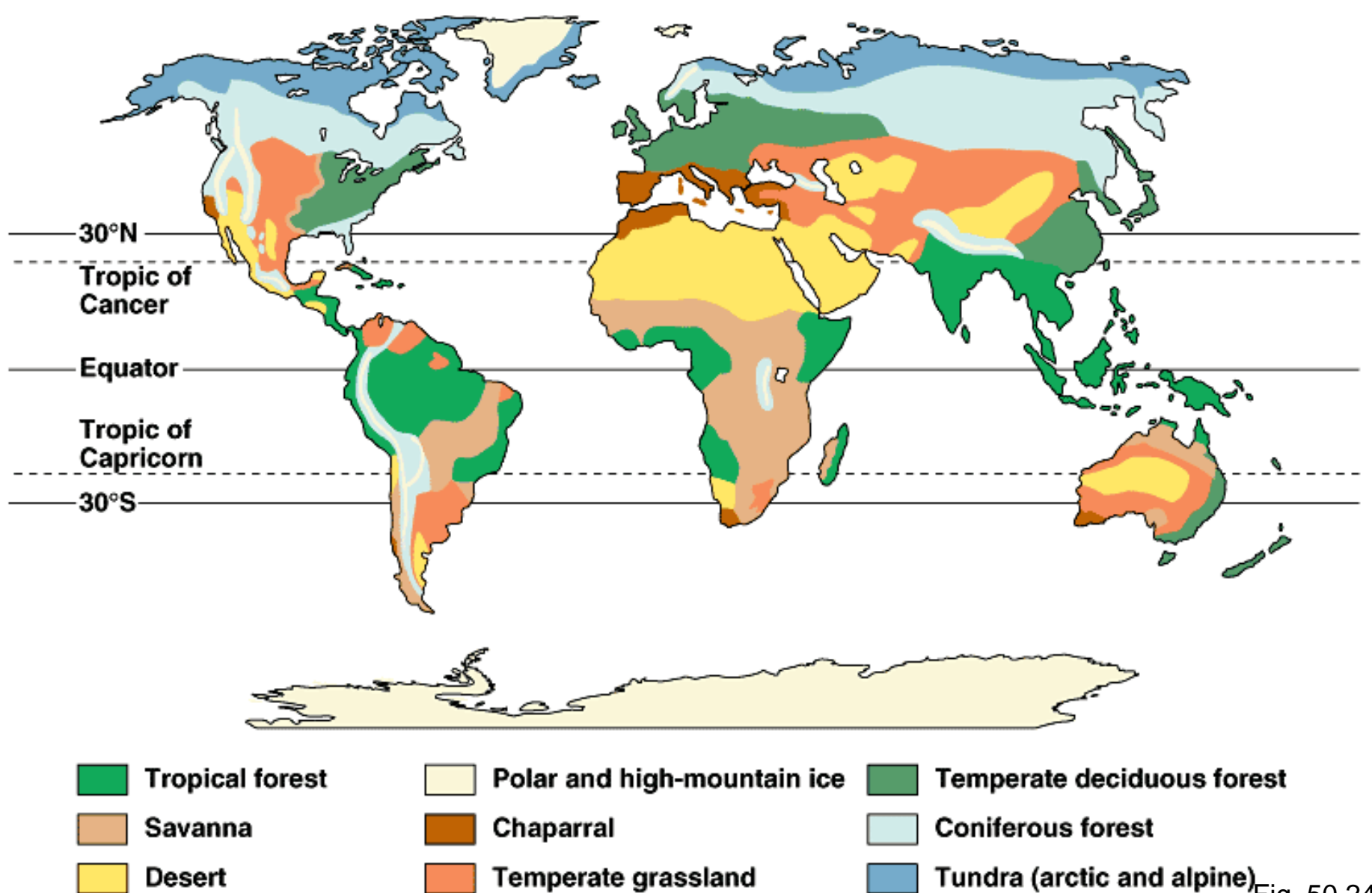
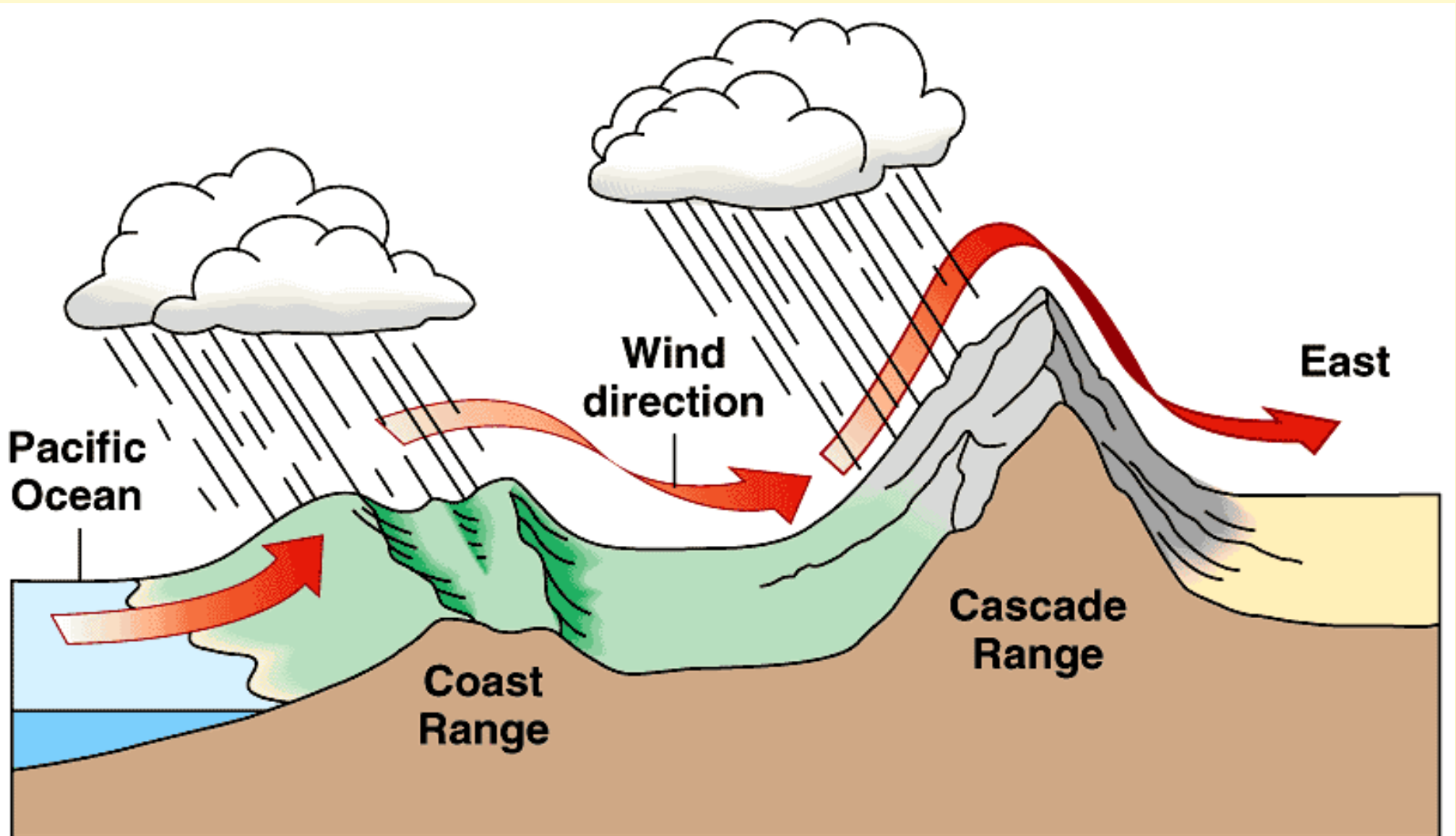


Fig. 50.24

Local features affect rainfall



Rainy side vs. dry side

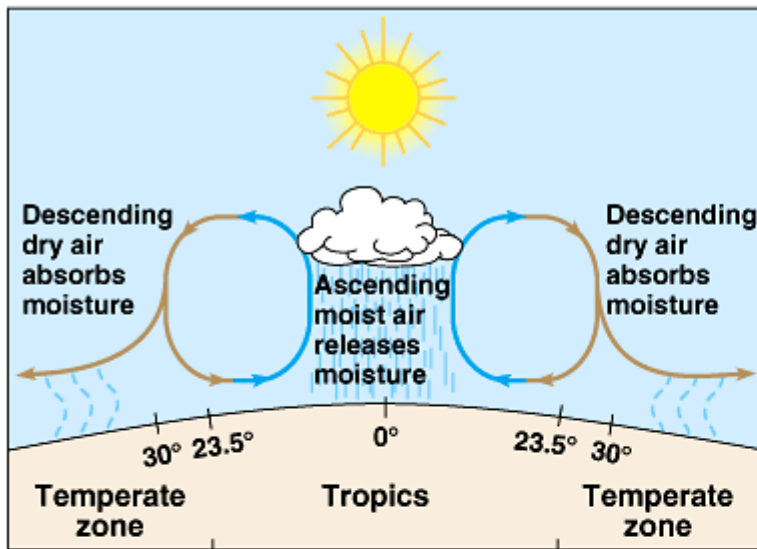


Cape Perpetua, OR. © D. Houle

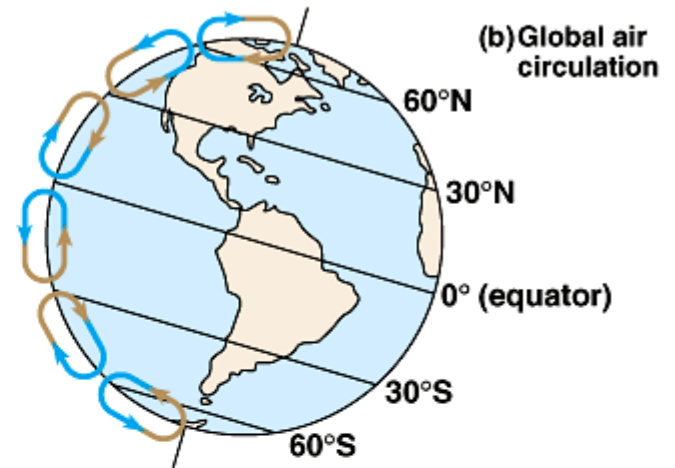


Mono Craters, CA. © D. Houle

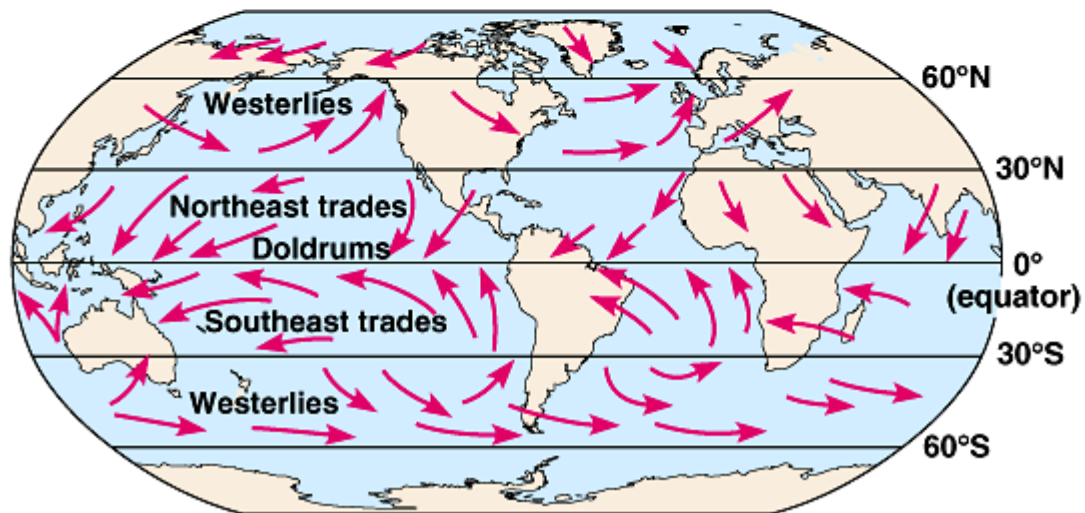
Atmospheric circulation



(a) Air circulation and precipitation near the equator

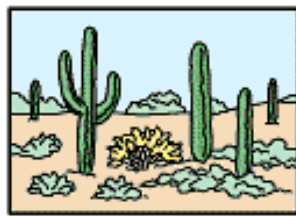


(b) Global air circulation



(c) Global wind patterns

Climate and biomes



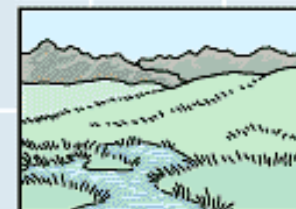
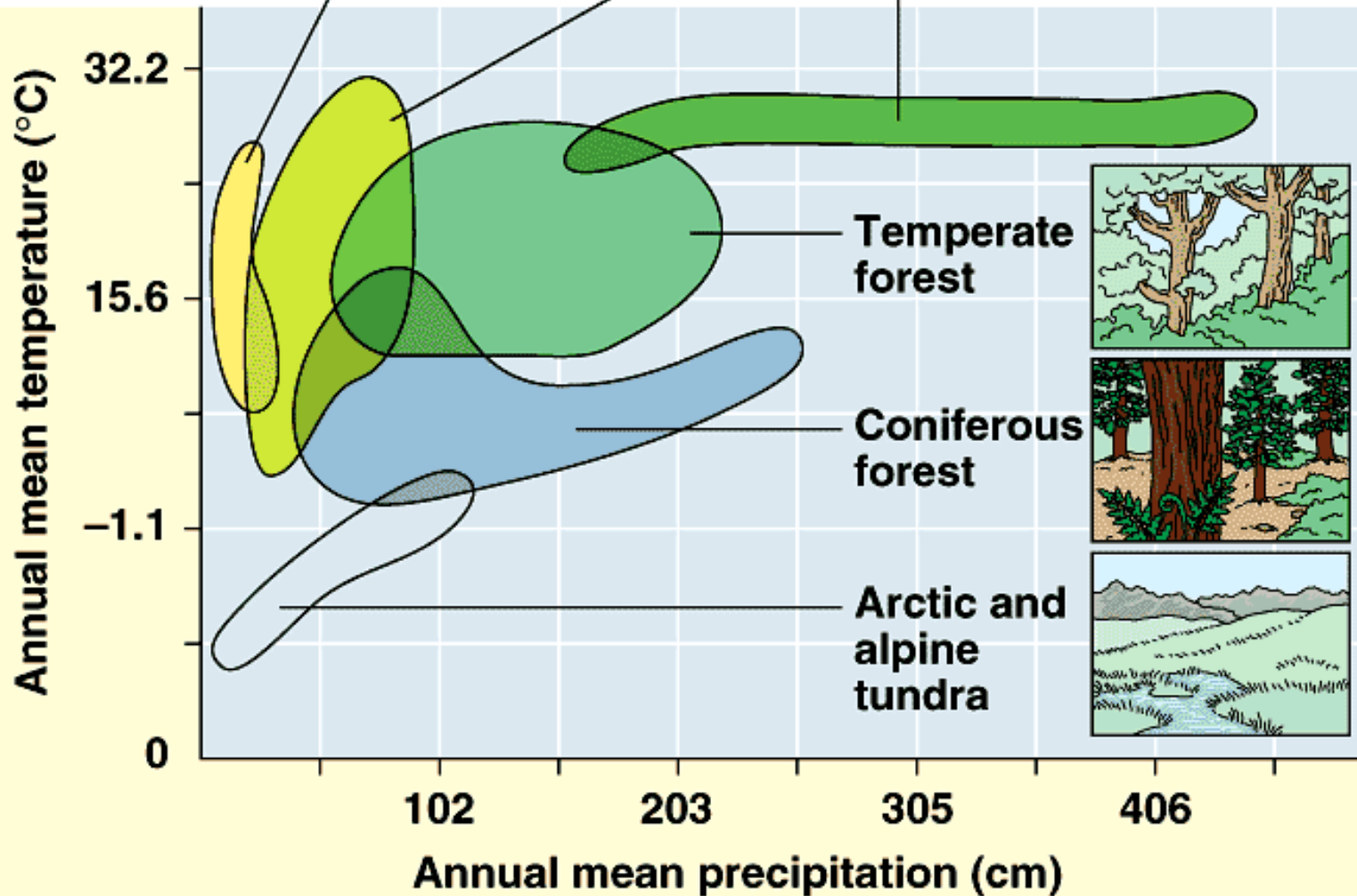
Desert



Grassland



Tropical forest



Biomes

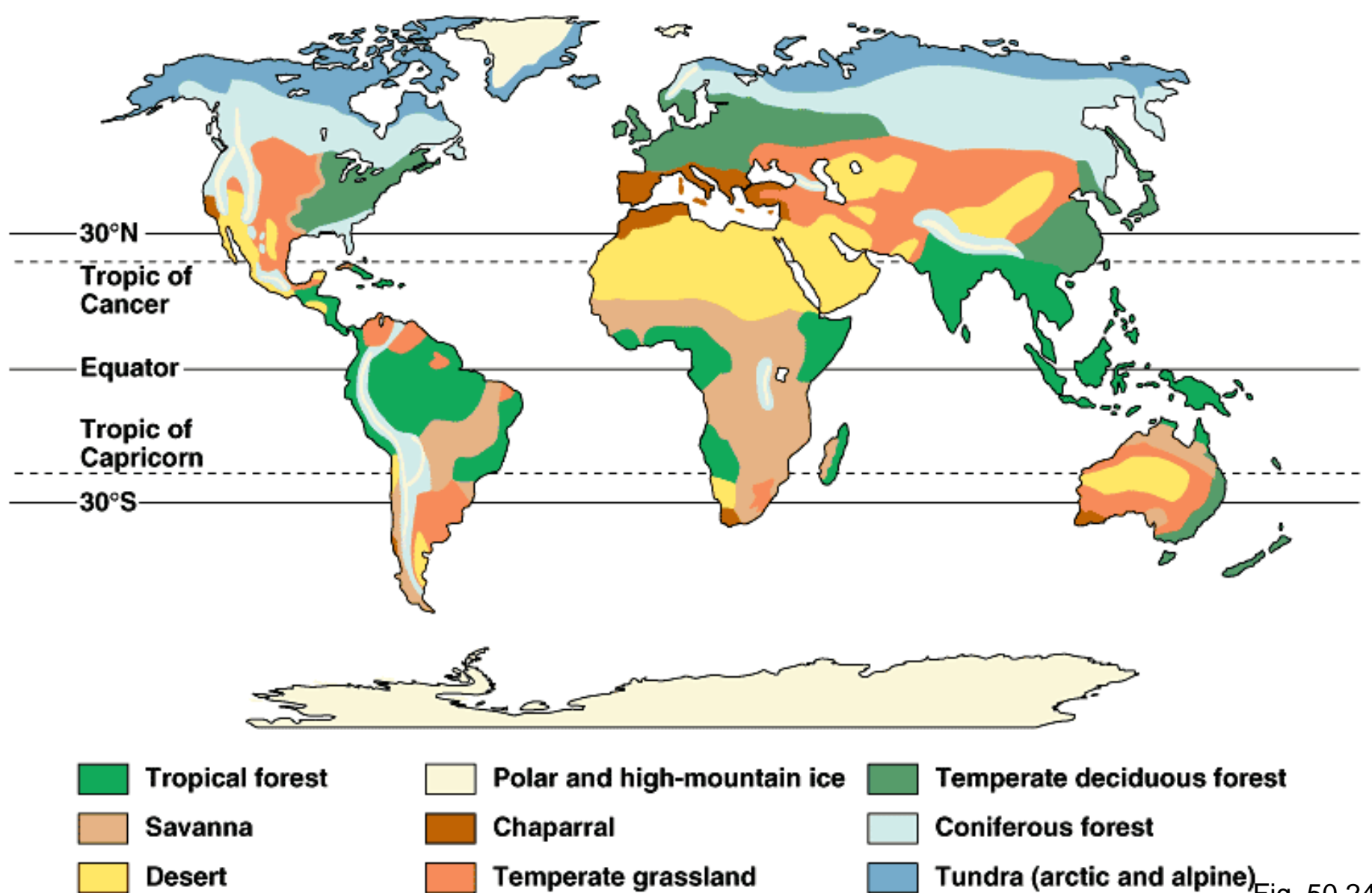


Fig. 50.24

Tundra, alpine, paramo



Tundra, alpine, paramo



Biomes

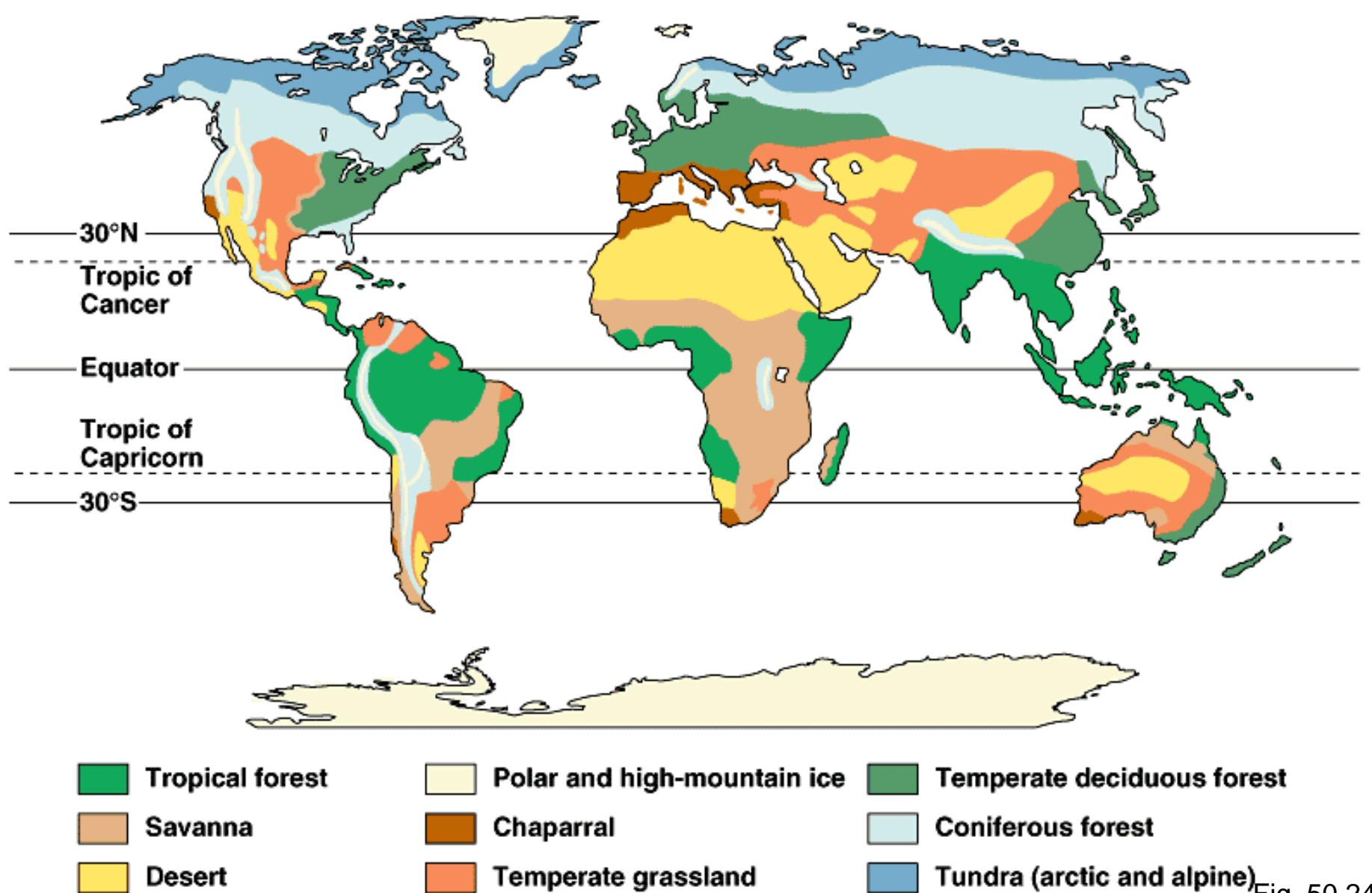


Fig. 50.24



Taiga, boreal forest

Iron Mountain, OR. © D. Houle

Caribou



Temperate coniferous rain forest



Temperate deciduous forest



Biomes

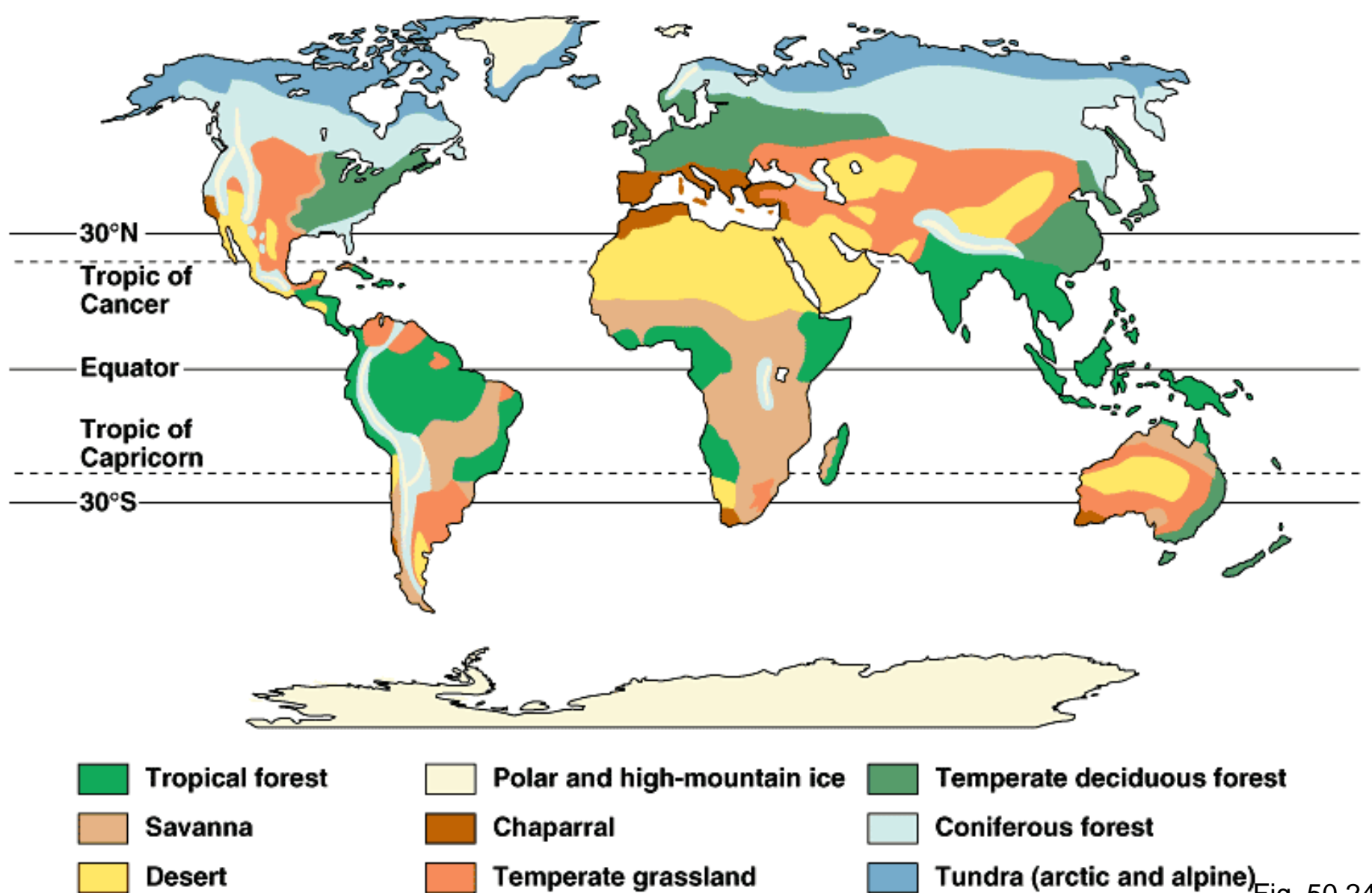


Fig. 50.24

Grasslands



Grasslands



Yellowstone, MT. © D. Houle

Grasslands



Masai Mara, Kenya. © D. Houle

Savannah – grassland with scattered trees



Savannah is maintained by animals



Biomes

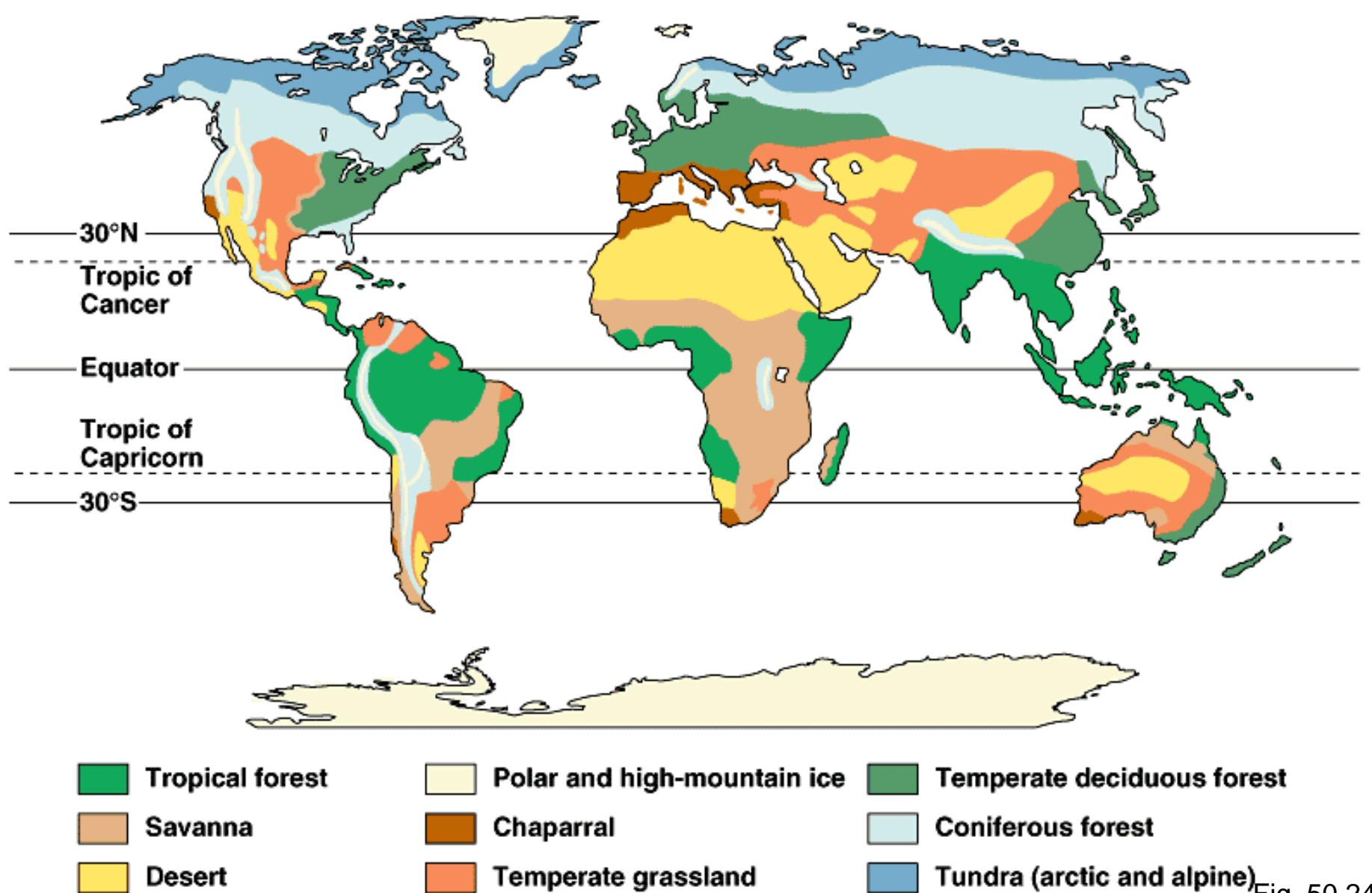


Fig. 50.24

Desert - dry



Desert life



Biomes

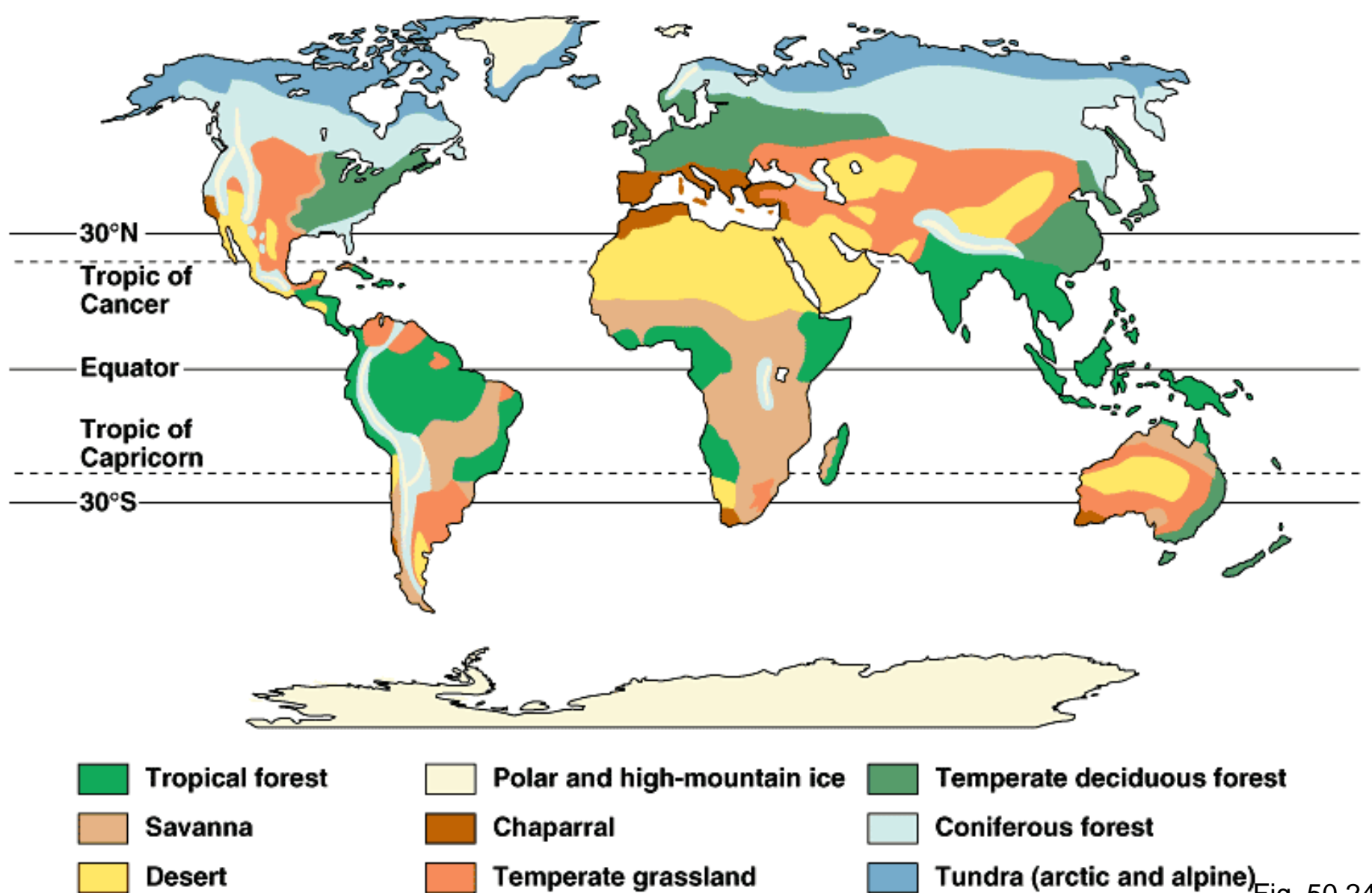


Fig. 50.24

Tropical rain forest





Tropical rain forests: tall, layered, vines



Tropical rain forests: epiphytes, high diversity



Amazon basin, Peru. © D. Houle

Monteverde, Costa Rica. © D. Houle