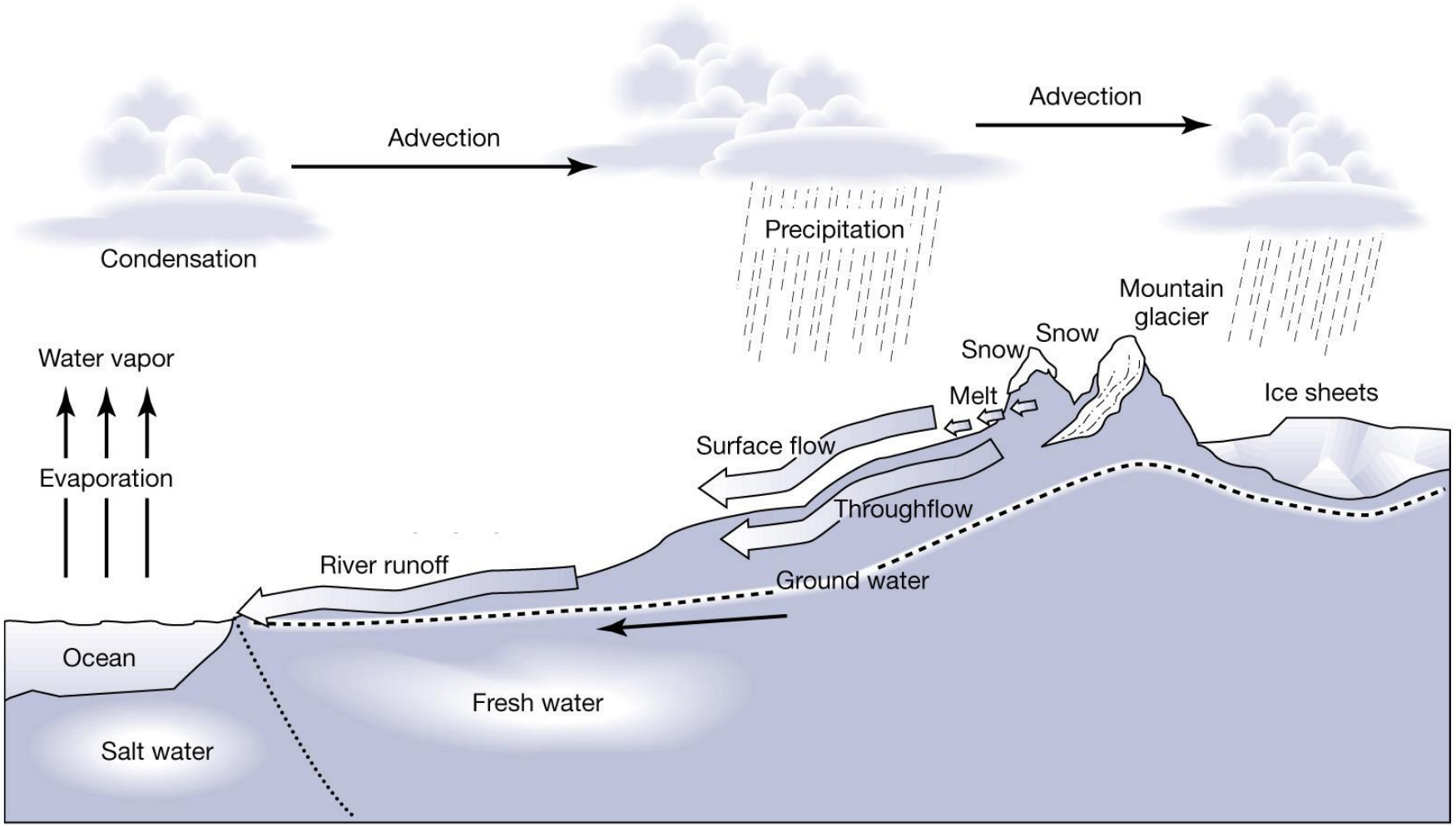
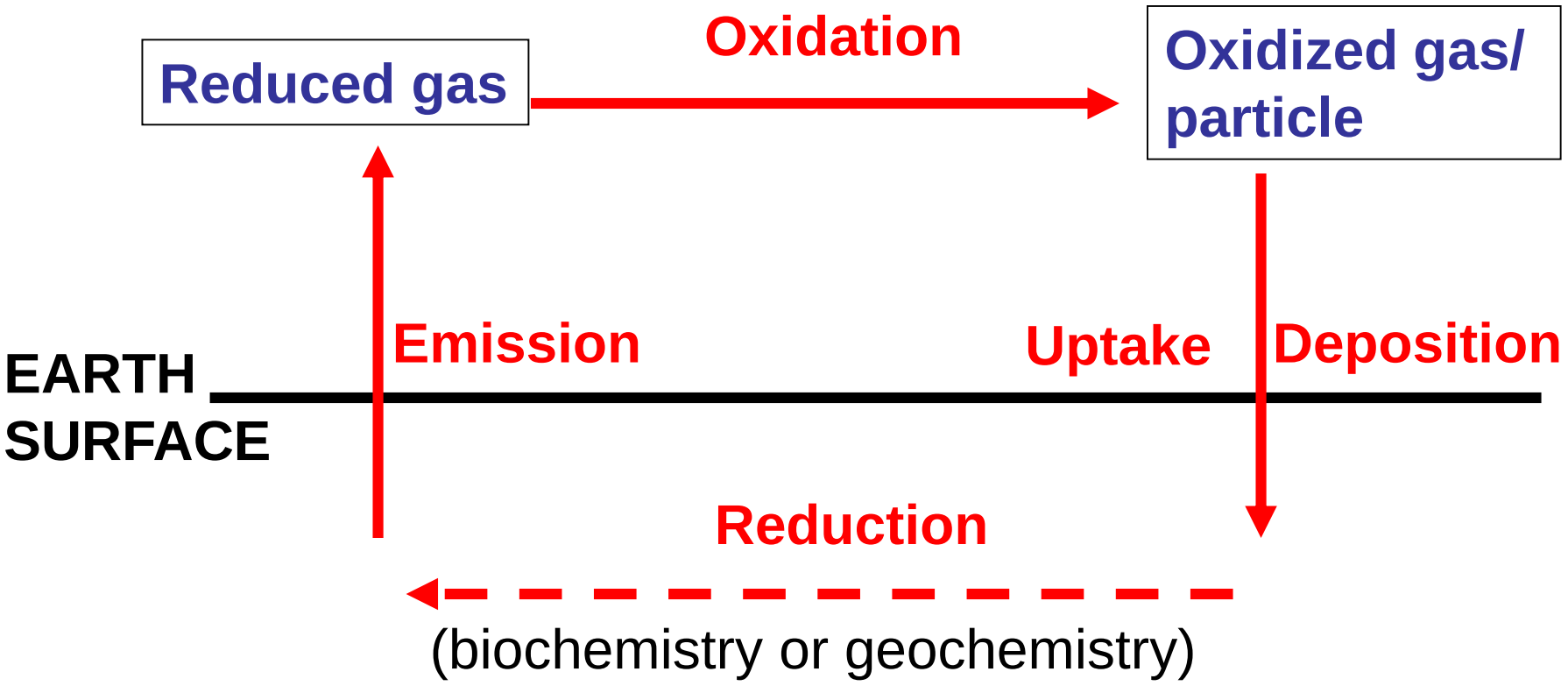
Hydrologic (Water) Cycle

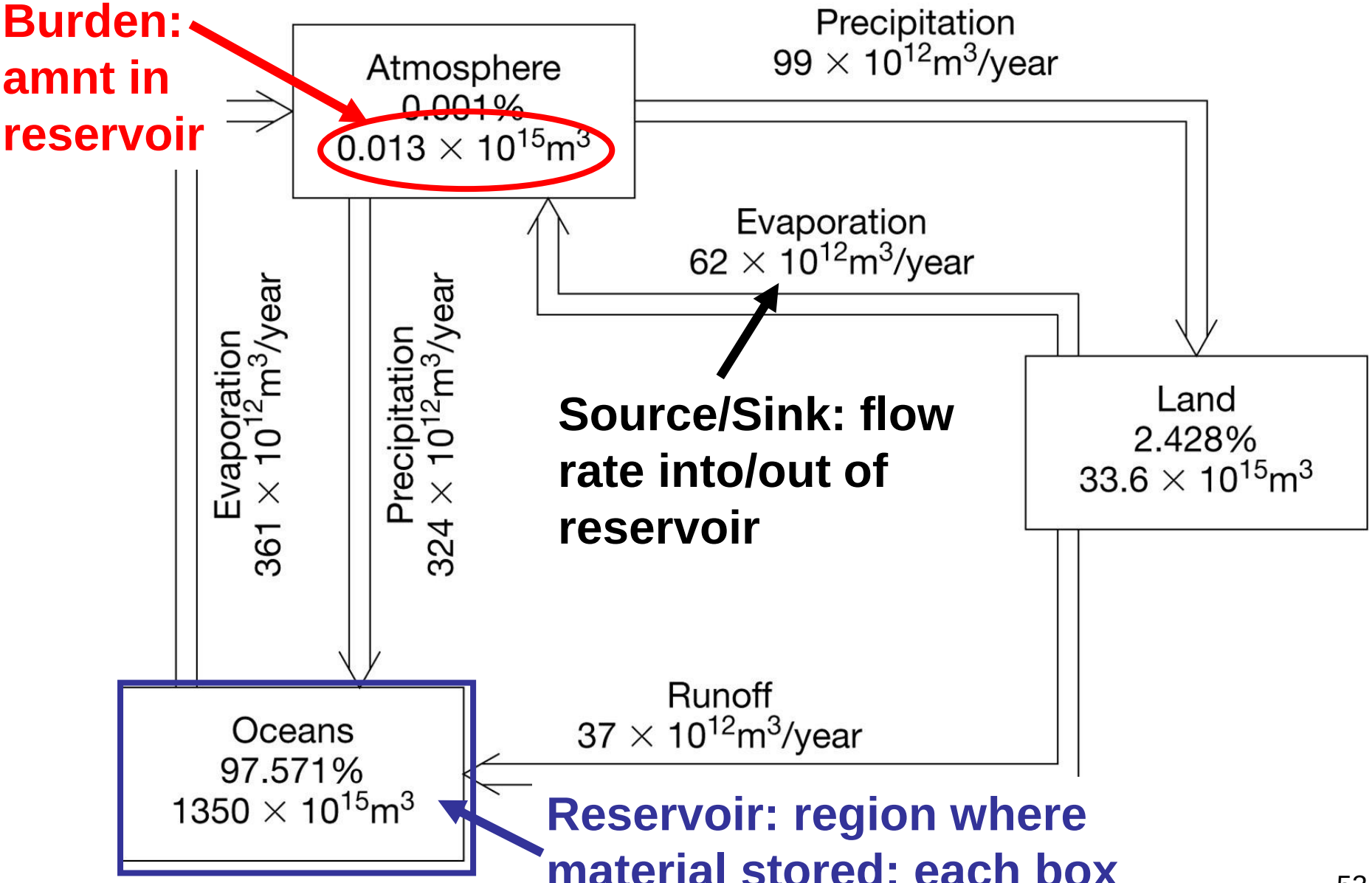


Global Biogeochemical Cycles

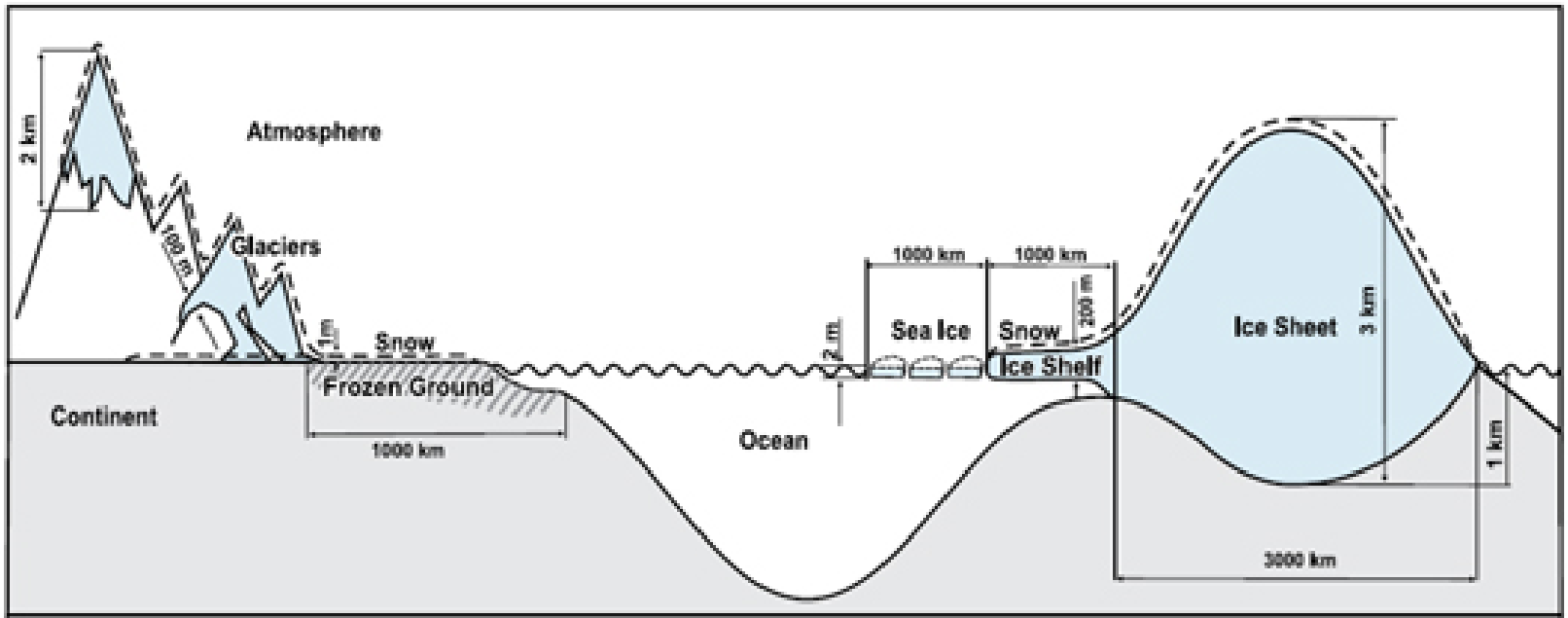


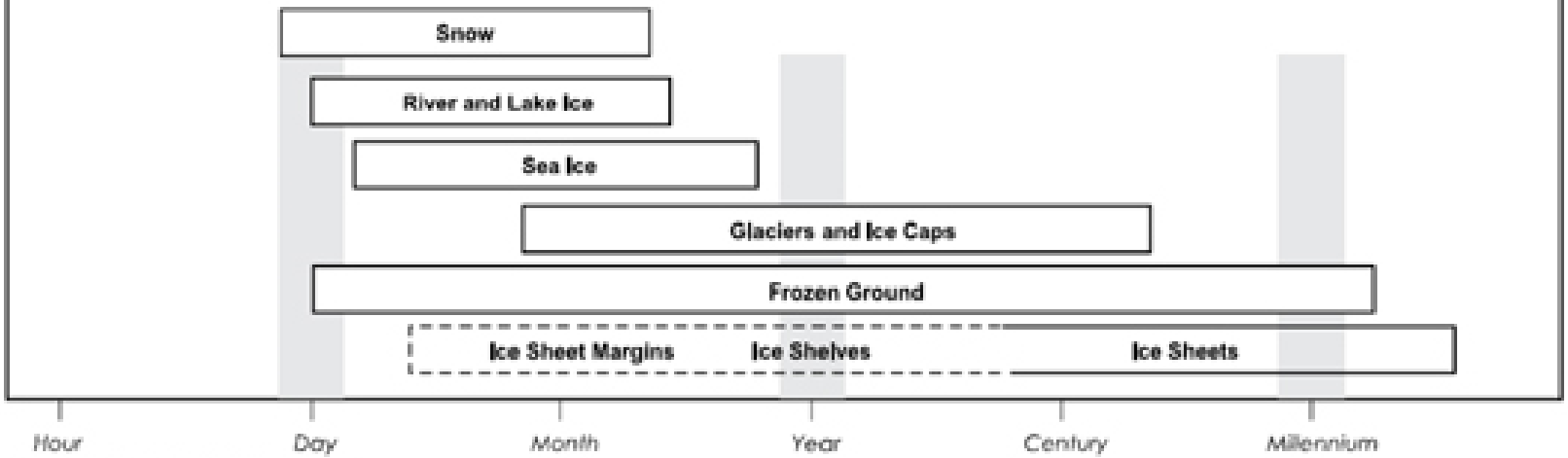
Water Cycle Reservoirs and Flows

Water Cycle "Box Model"



Cryosphere – where most water on land is





Source: IPCC AR4 Report

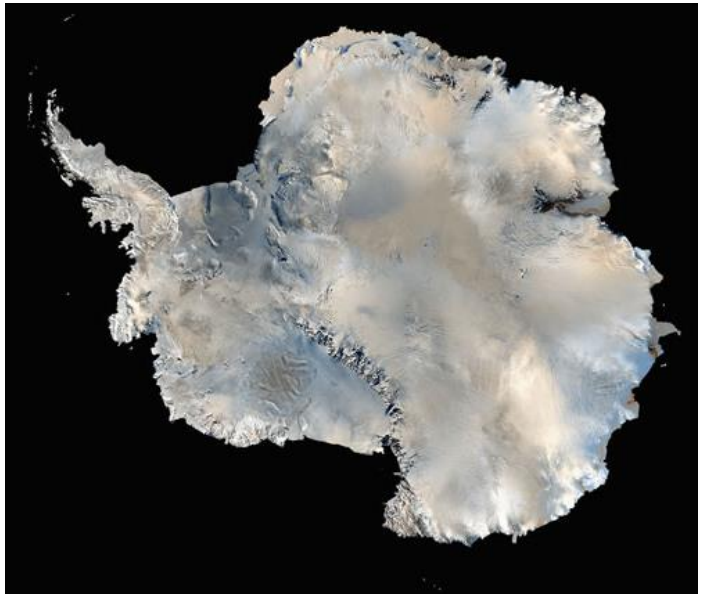
COMPONENTS OF THE CRYOSPHERE AND THEIR TIME SCALES

Cryosphere Examples

Glaciers on Mt. Rainier

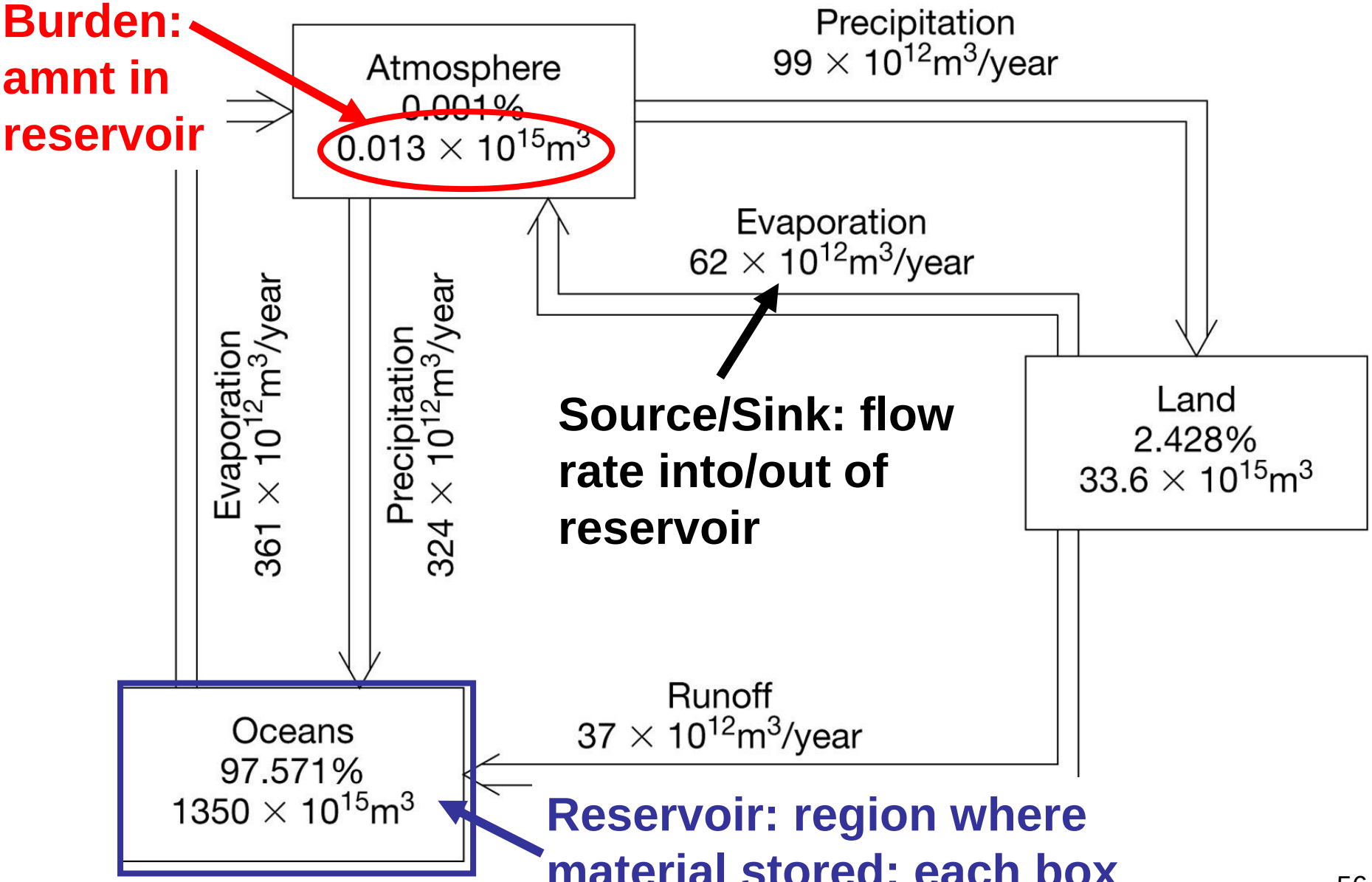
Arctic sea ice

Greenland ice sheet



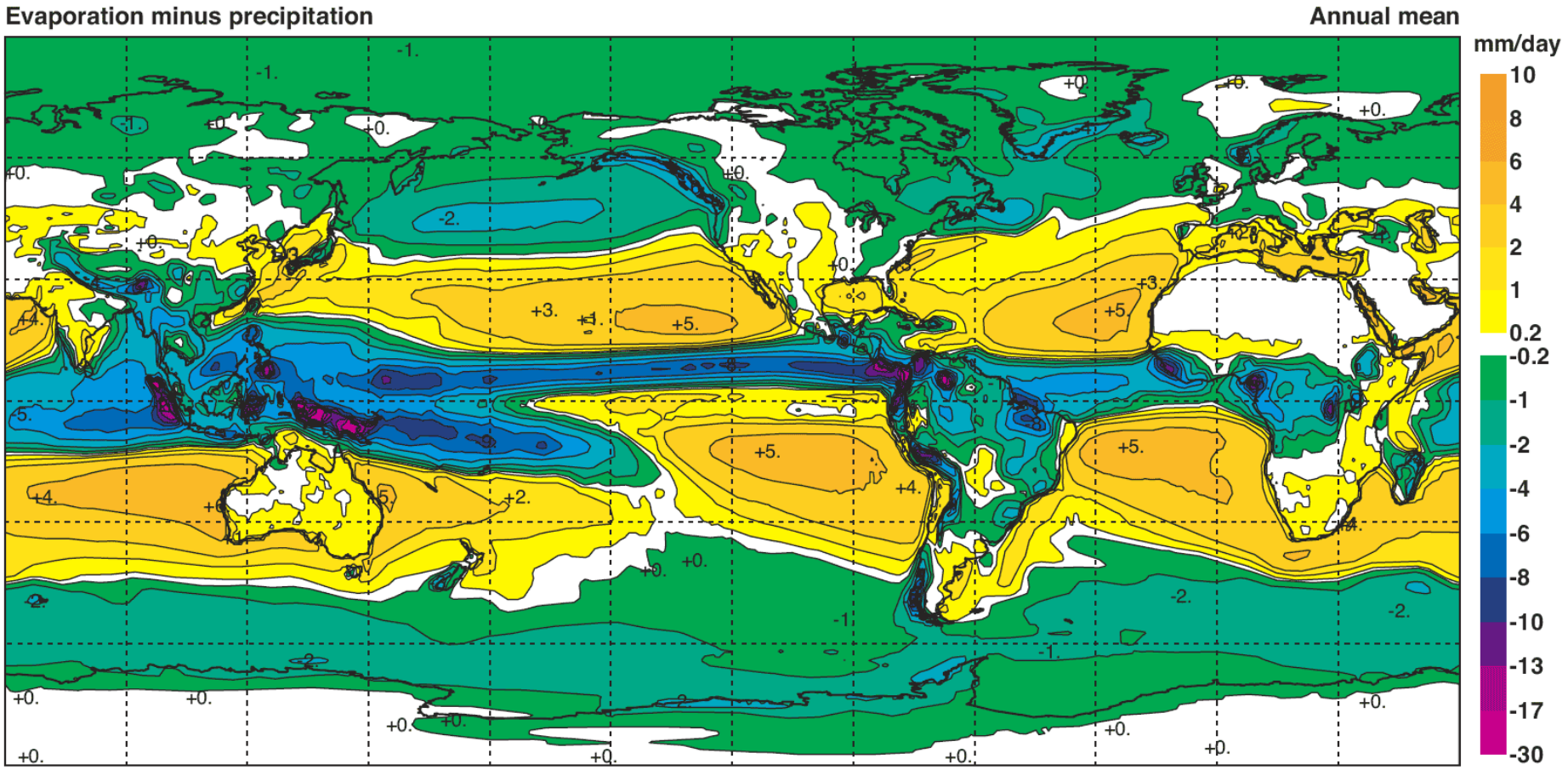
Antarctic ice Sheet

Water Cycle "Box Model"



Water Cycle Reservoirs and Flows

Evaporation Rate Minus Precipitation Rate



Yellow: net evaporation; Green/blue: net precipitation

Poll Question

There is approximately 6x10^12 cubic meters of H2O vapor in the N.H. troposphere, and 2.4x10^14 cubic meters of water precipitate per year in the N.H. How long does the average H2O reside in the air?

When poll is active, respond at **PollEv.com/joelathornto254**

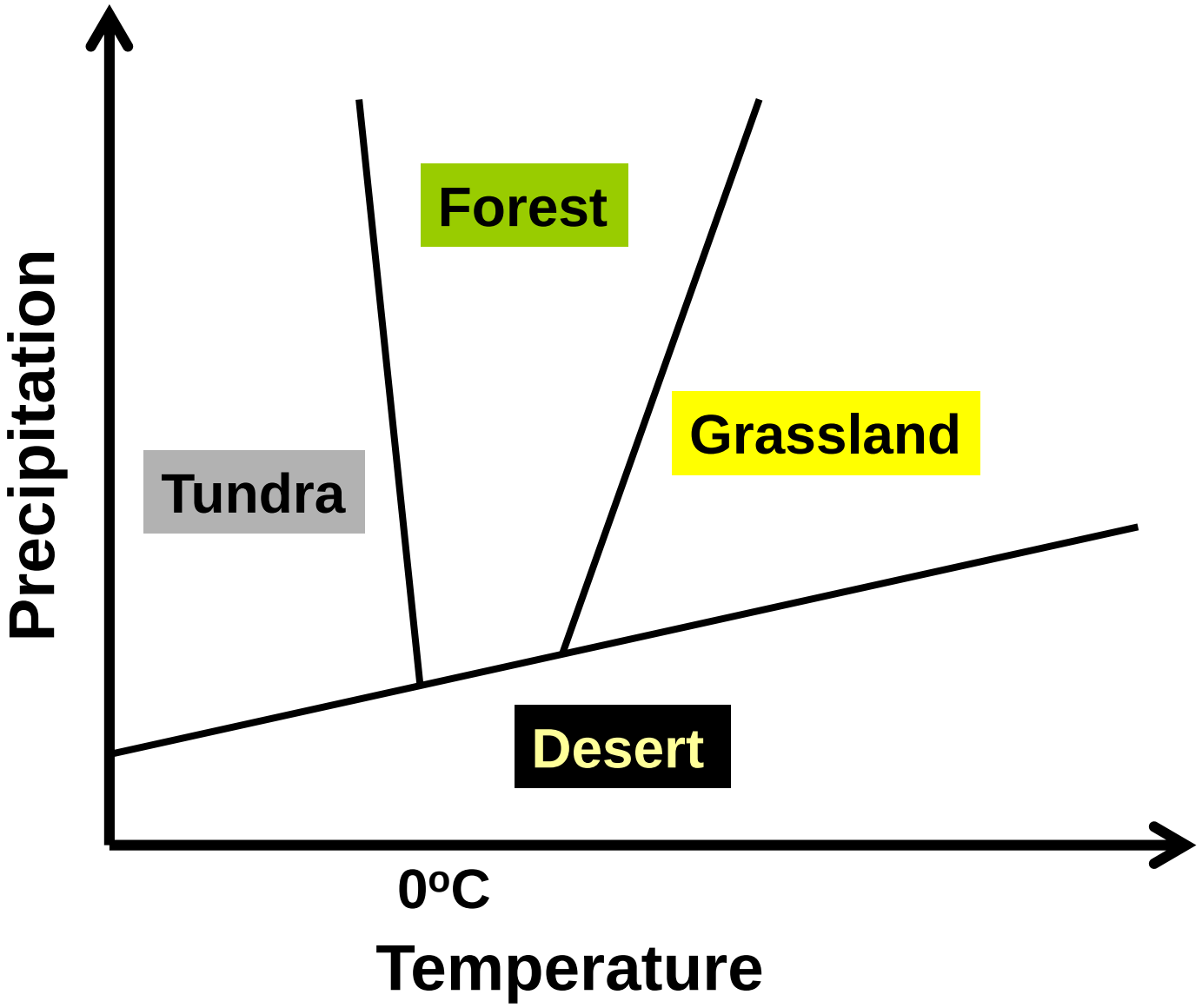
Text **JOELATHORNTO254** to **22333** once to join

- 0.025 years
- 0.25 years
- 2.5 years

Total Results: 0

Ecosystems and Hydrologic Cycle

Water Cycle, Temperature, and, Terrestrial Biosphere



Poll Question

W **The Earth has been warming over the past century, and is expected to continue warming into the next century. Based on what you know so far about the water cycle, choose the best prediction about the future water cycle.**

When poll is active, respond at **PollEv.com/joelathornto254**

Text **JOELATHORNTO254** to **22333** once to join

- Everywhere will receive more rain because of increased evaporation with warmer T, which means more water vapor in the air and thus more precipitation
- Atmospheric circulation patterns control where precipitation occurs. Thus, where it rains now will receive more rain, while where it is dry now will become drier, because of more evaporation.
- The increase in temperature expected over the next century (2 to 4 C, global average) is not enough to affect the water cycle significantly.

Total Results: 0

Hydrologic Cycle Responses to Forcings