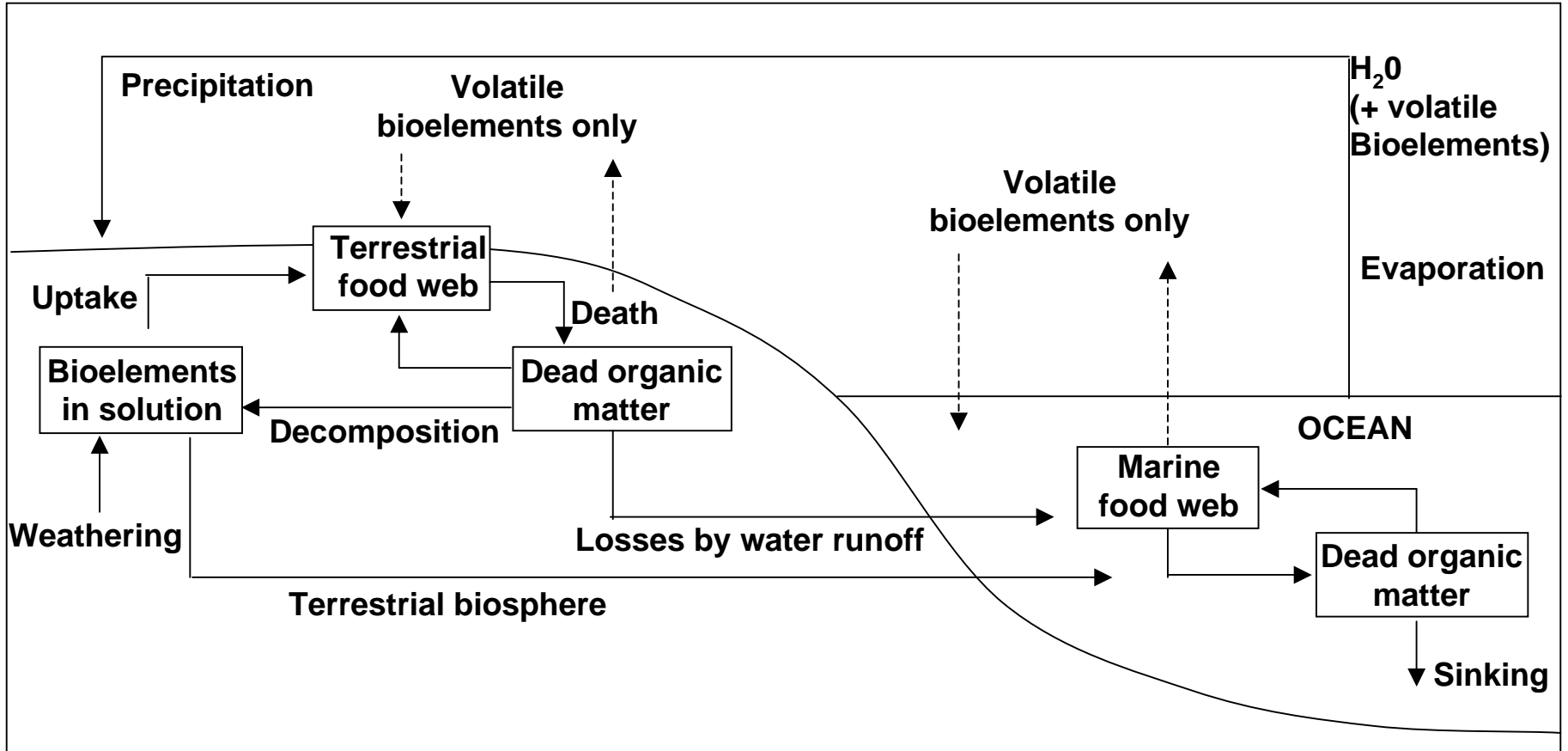


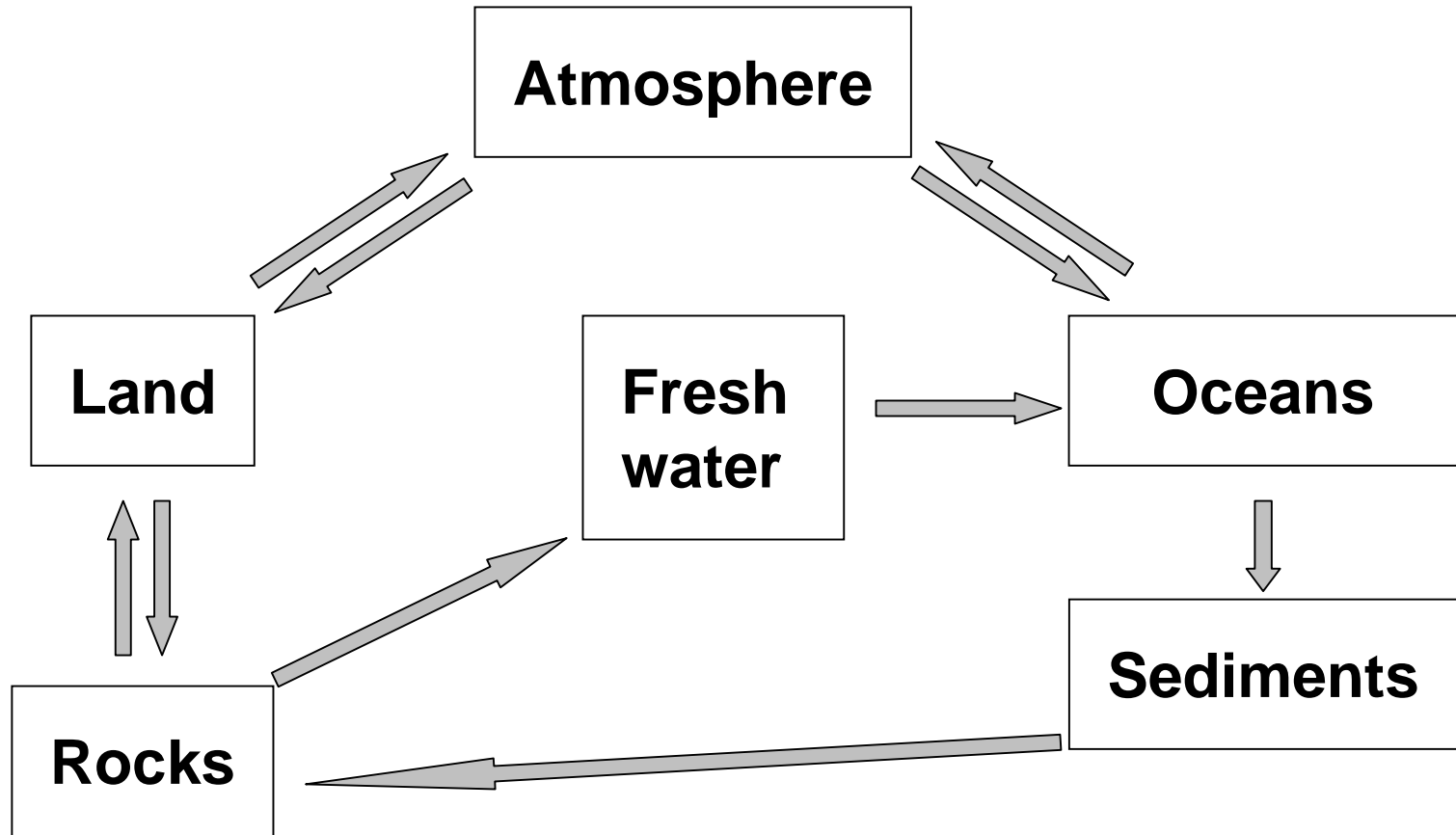
How would a C atom
from a dinosaur
end up in your sandwich?

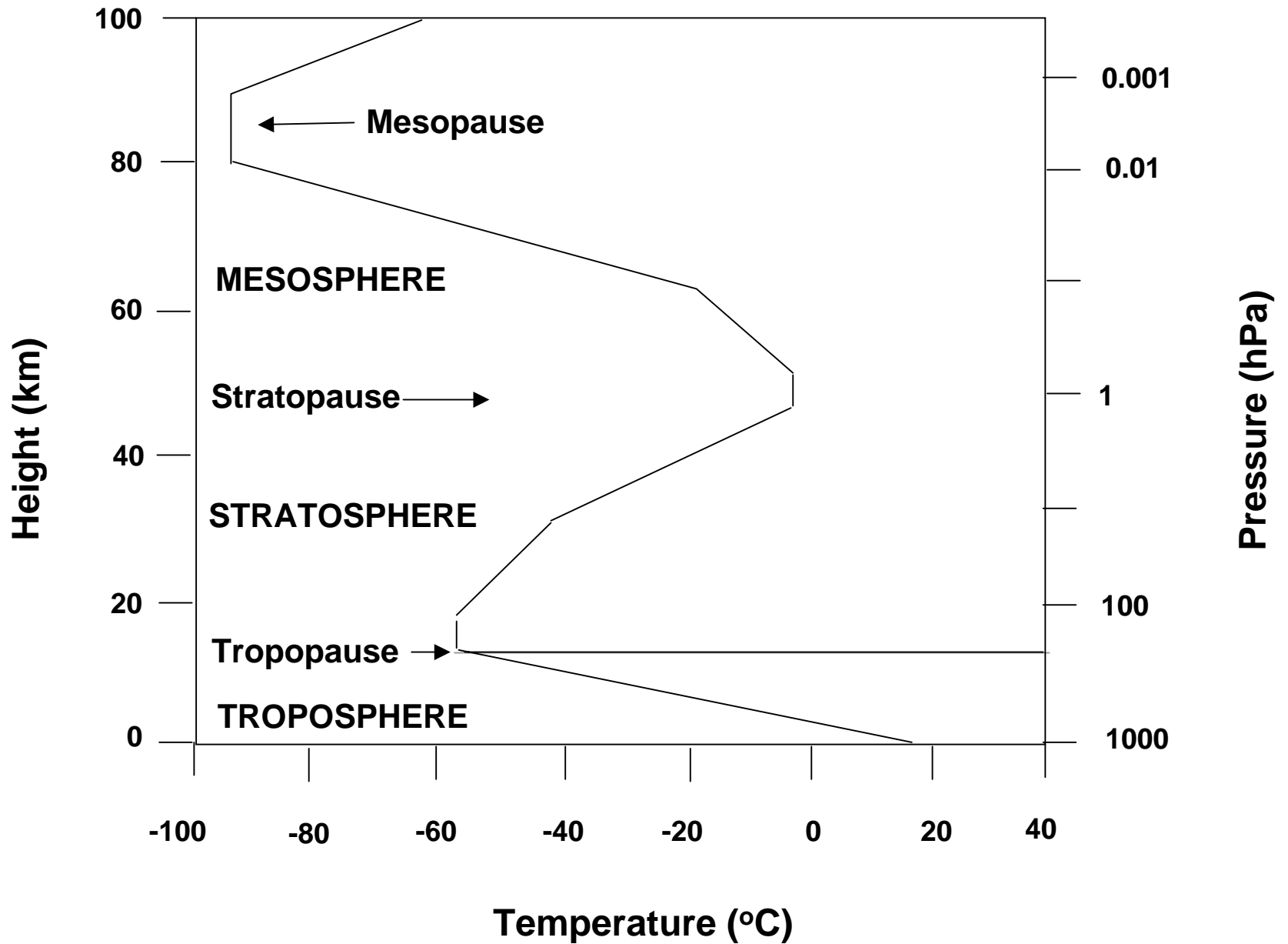
Global Nutrient Cycling



Adapted from Krebs,
2001. Figure 27.1

Reservoir: How much of a substance is present in one of these compartments



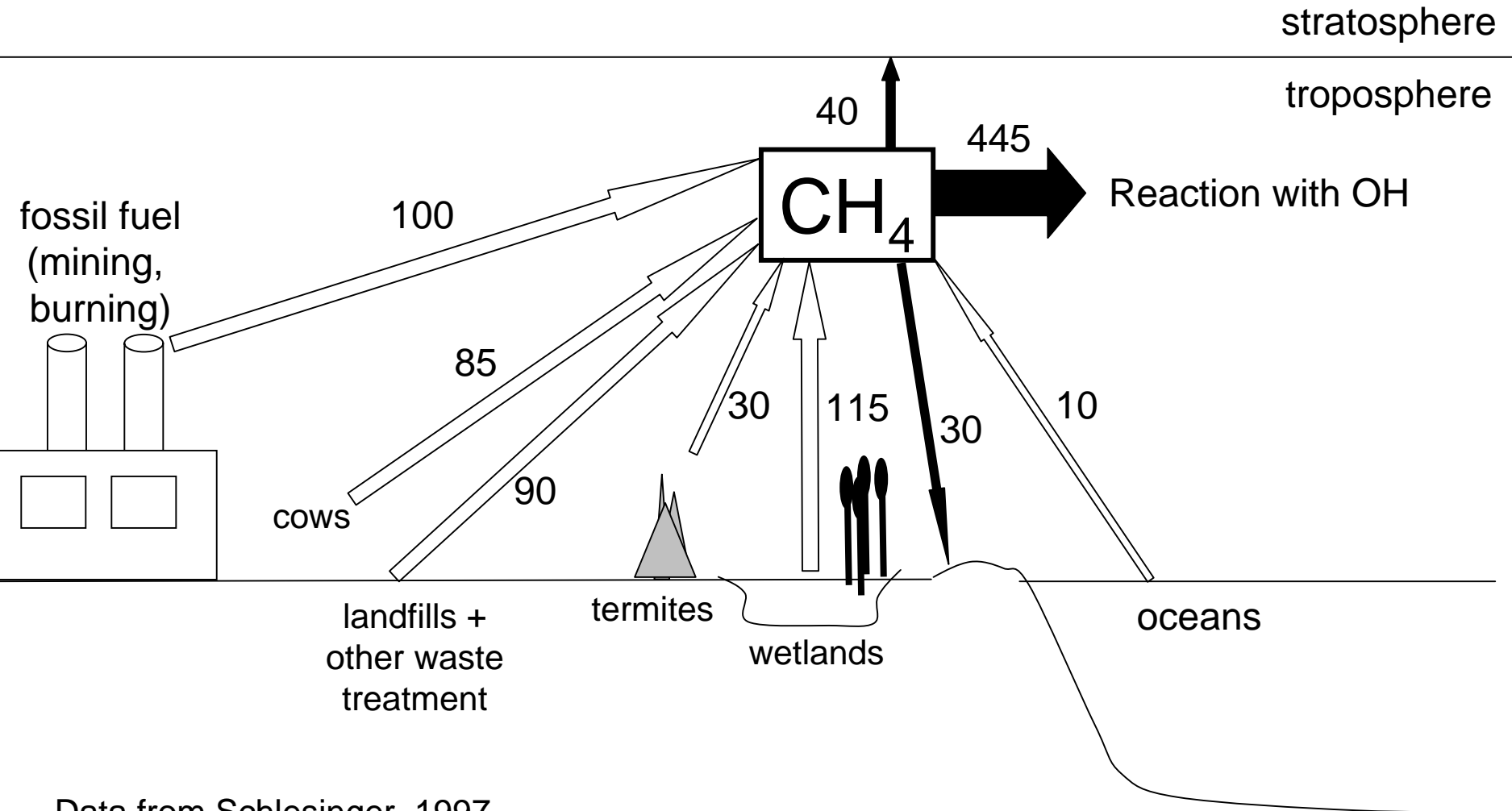


Adapted from <http://www.met-office.gov.uk/research/stratosphere/>

Global Methane Cycle

(units of 10^{12} g CH_4/yr)

<u>Sources</u>	<u>Sinks</u>
535 (Natural 160 + Anthropogenic 375)	515



Data from Schlesinger, 1997

Estimated Sources and Sinks of Methane in the Atmosphere
in Units of $10^2 \text{ g CH}_4/\text{yr}^a$

Sources	Range	Likely
Natural		
Wetlands		
Tropics	30- 80	65
Northern latitude	20- 60	40
Others	5- 15	10
Termites	10- 50	20
Ocean	5- 50	10
Freshwater	1- 25	5
Geological	5- 15	10
Total		160
Anthropogenic		
Fossil fuel related		
Coal mines	15- 45	30
Natural gas	25- 50	40
Petroleum industry	5- 30	15
Coal combustion	5- 30	15
Waste management system		
Landfills	20- 70	40
Animal waste	20- 30	25
Domestic sewage treatment	15- 80	25
Enteric fermentation	65-100	85
Biomass burning	20- 80	40
Rice paddies	20-100	60
Total		375
Total sources		535
<hr/>		
Sinks		
Reaction with OH	330-560	445
Removal in stratosphere	25- 55	40
Removal by soils	15- 45	30
Total sinks		515
Atmospheric increase	30- 35	30

What is the probability
that a water molecule
from Napoleon's urine
is in your water bottle?

The Global Water Cycle

Pools (km³)
Fluxes (km³/yr)

