The present carbon cycle

Atmosphere
750

121

Plant growth
and decay

60

Terrestrial
vegetation
540 - 610

Fires

Soils and
organic matter
1 580

0,5

Land use
changes

1,5

60

Exchange
soil - Atmosphere

Fossil fuel
emissions
5,5

Fossil fuel and
cement production
4 000

Coal deposit
3 000

Oil and gas deposit
300

92

Exchange
ocean - atmosphere

90

Dissolved
organic carbon
700

Gas Hydrates

6

4

Marine sediments
and sedimentary rocks
66 000 000 - 100 000 000

Marine organisms
3

Surface water
1 020

92

40

50

Exchange
surface water - deep water

100

Intermediate
and deep water
38 000 - 40 000

Surface sediment
150

Storage and flux of carbon in billions of tonnes

Arrows are proportional to the volume of carbon. Flux figures express the volume exchanged each year

Speed of exchange processes

- Very fast (less than 1 year)
- Fast (1 to 10 years)
- Slow (10 to 100 years)
- Very slow (more than 100 years)

Sources: Center for climatic research, Institute for environmental studies, university of Wisconsin at Madison; Okanagan university college in Canada, Department of geography; World Watch, November-December 1998; Nature.