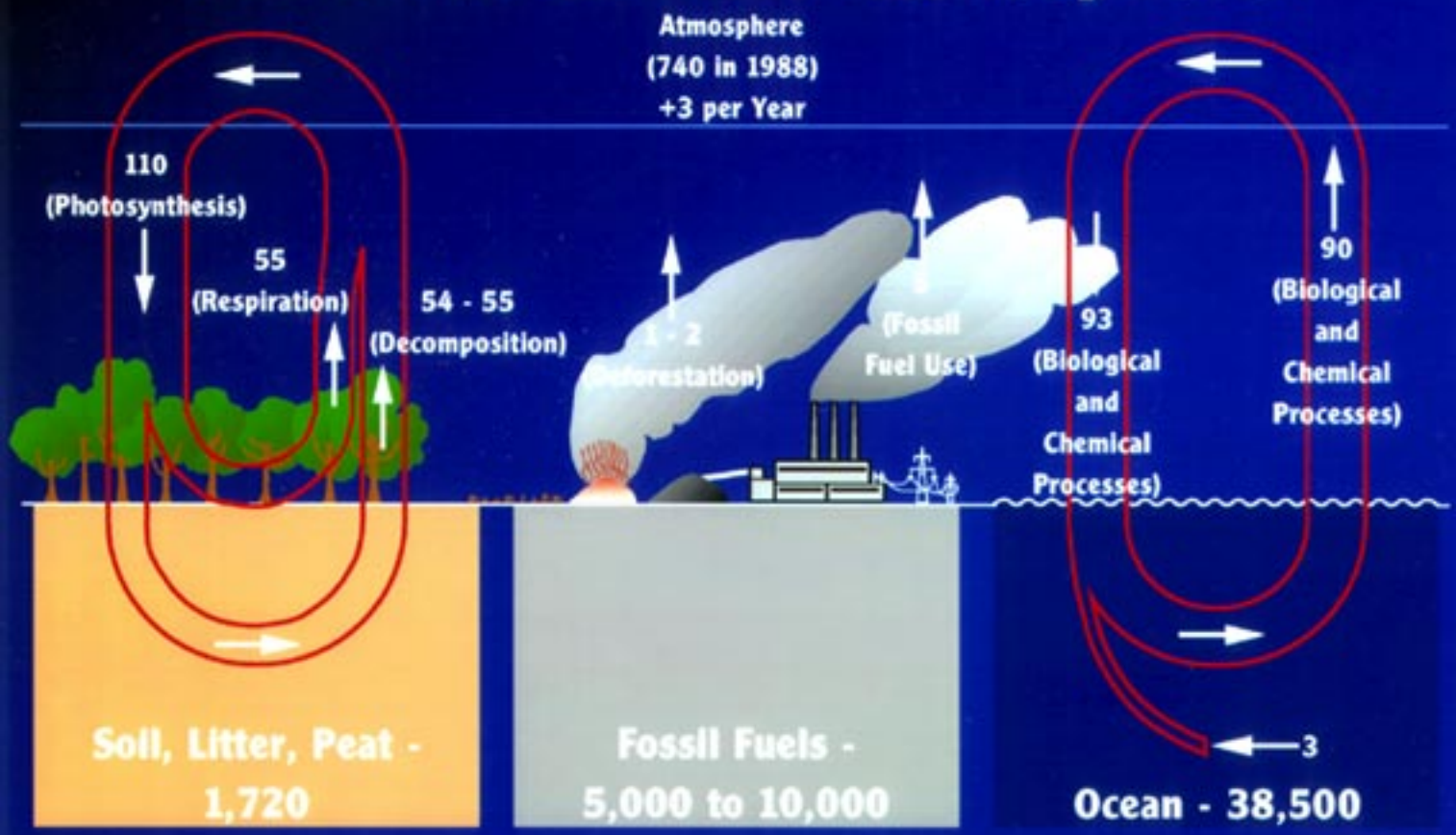Carbon Exchange Between the Earth and the Atmosphere