O_2
CO_2
$CO_2 + H_2O + hv \rightarrow \{CH_2O\} + O_2$
Photosynthesis
Epilimnion
Relatively high dissolved O_2, chemical species in oxidized forms
Thermocline
Hypolimnion
Relatively low dissolved O_2, chemical species in reduced forms
Exchange of chemical species with sediments