

## Response of Biosphere to Future Global Changes

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Magnitudes of human-induced global changes (increase in CO<sub>2</sub>, global warming and sea level rise) will exceed those of the past global changes for the recent several hundreds of years, to which biosphere have acclimated. Changes in distribution of some ecosystems and mass mortality have been inferred to be resulted from global warming. Biosphere responds to global change via carbon cycles through metabolisms. Responses of forest and phytoplankton to CO<sub>2</sub> increase remain to be understood. Moreover, suppress of calcium carbonate deposition by marine organisms is predicted due to CO<sub>2</sub> increase. Research to reduce uncertainties in response of biosphere to global changes is necessary.