

# Algae and Global Change

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Our planet is currently undergoing environmental changes, the rates of which are unprecedented in global history. Not only are algae responsible for around half of Earth's annual primary production and the basis of most aquatic food chains, they also form the basis of a rapidly expanding biotechnology effort. Understanding the effects of global change on these organisms is thus of paramount importance to our ability to make informed decisions about the future of production systems, aquatic ecosystems and the global carbon cycle. The increasing levels of CO<sub>2</sub> in the atmosphere that have occurred since the onset of the Industrial Revolution, and which will continue to rise in the foreseeable future, are likely to have a significant effect on algal performance in both freshwater and marine environments. However, it is becoming increasingly obvious that the effects of increasing CO<sub>2</sub> show strong interactions with other environmental factors such as temperature, nutrient availability and UV radiation. The consequence of these changes for the physiology and biochemical composition of algae and their performance in nature and in culture systems will be discussed.

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