

Climate Change

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Section 1: Why Does Climate Change Matter?

Temperature is a critical environmental variable that profoundly affects life processes.

- Temperature is Critical
- Temperature Drives Performance Across Biological Scales
- Ask Your Instructor

Section 2: Detecting Climate Change

Detecting trends in noisy data. Climate versus weather. Recent data including increased surface temperature, decreased extent of snow and ice, and sea-level rise all indicate that the Earth's climate is warming.

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A simple model can predict a planet's mean surface temperature using solar output, distance from the Sun, planetary albedo, and greenhouse gases. More sophisticated models are needed to predict regional climate patterns.

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Humans and Climate Change. Attribution. Available evidence indicates greenhouse gas emission and other human actions have altered Earth's climate. Climate change will affect people directly and indirectly.

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Section 5: Biological Consequences of Climate Change

Warmer temperatures can affect a species' phenology, growth rate, performance, and overall fitness. While some species can tolerate these impacts, many species will respond to climate change by shifting their ranges poleward or uphill, by evolving adaptations to the altered climate, or by going extinct.

- Climate Change Poses Grave Threats for Many Species
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