

Why Does Climate Change Matter?

- Temperature is Critical
- Temperature Drives Performance Across Biological Scales
- Summary of Part 1
- Quiz Questions

Detecting Climate Change

- Earth's Dynamic Climate
- Climate vs. Weather
- Detecting a Trend: A Signal-to-Noise Problem
- Is Earth's Climate Warming?
- Best Evidence of Change: Surface Temperature
- More Evidence of Change from Proxies
- What Do Other Components of the Climate System Show?
- A Coherent Picture of Climate Change
- Summary of Part 2
- Quiz Questions

Earth's Climate and Climate Models

- Climate Models: Why and How
- Modeling Temperature: Irradiation
- Modeling Temperature: Albedo
- Modeling Temperature: Atmosphere
- Feedbacks to the Climate System
- Earth's Energy Budget
- Sophisticated Climate Models (GCMs)
- Recreating Historic Climate
- Summary of Part 3
- Quiz Questions

Humans and Climate Change

- Attribution of Recent Climate Change
- How Do Natural Forcings Affect Climate?
- How Do Anthropogenic Forcings Affect Climate?
- Why Is Earth's Climate Warming?
- Projecting Future Changes
- Cascading Effects of Climate Change
- Summary of Part 4
- Quiz Questions

Biological Consequences of Climate Change

- Climate Change Poses Grave Threats for Many Species
- Direct and Indirect Effects of Climate Change
- How Can Life Respond?
- Individuals May Acclimate
- Species Ranges May Shift
- Who Can "Keep Up" With Climate Change?

- Populations May Evolve
- Which Populations Can Evolve Fast Enough?
- The Changes To Come
- Summary of Part 5
- Quiz Questions