



# YALE NATIONAL INITIATIVE

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Curriculum Units by Fellows of the National Initiative  
2006 Volume V: The Science of Global Warming

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## **Global Warming: A Physical Explanation and Implications on Climate**

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by Eric James Laurenson

In this unit I will present the physics of global warming and explain the most likely consequences of global warming. I will also address the chaotic nature of weather and why it is difficult to predict and discuss the current scientific theories about the possibility that stress on the climate system of our current rate of production of greenhouse gases could possibly result in a catastrophic change in our climate. The science is absolutely clear that global warming is occurring. The extreme increase in greenhouse gases, resulting primarily from burning fossil fuels, is the cause of these potentially catastrophic changes in the Earth's climate. Although there are many uncertainties about the specifics of global warming, it is clear that it is one of the most pressing issues facing humankind. It is a global issue that must be addressed and mitigated with a sense of urgency that may be unprecedented. It is also my hope that any teacher who is interested in the issue of addressing the problems of global warming will find within this unit the background scientific information to address the subject in their classroom. This unit is intended to provide relevancy to the study of global warming for high school physics classes and general science classes.

(Developed for Scholars Physics, grade 11-12, and General Science, grade 9; recommended for General Physics and Scholars Physics, grades 11-12, and General Science, grade 9)

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