



YALE NATIONAL INITIATIVE

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

Introduction

by Sabatino Sofia, Professor of Astronomy

Despite the title of this seminar, its objective was not to present a detailed, dry account of all the different science components of the problem of global warming. Instead, I wanted to introduce the key scientific background that would allow Fellows from various disciplines to separate fact from fiction regarding the principal environmental crisis of our times. As the curriculum units developed show amply, this purpose was accomplished. Thus, this compendium contains curriculum units that address global warming in literary terms, in terms of various sciences, including physics, chemistry, biological, and environmental sciences, and even in general terms accessible to students in elementary grades.

All humans must face up to the problem of global warming, carry out individual actions to mitigate it, and encourage global action to implement solutions on a larger scale. The United States, which individually contributes the largest fraction of greenhouse gases that cause global warming, is one of only two developed nations that have refused to impose mandatory measures to curb the production of these gases. On the other hand, individual states and cities within the U.S. have established those mandatory curbs and are, in a piecemeal fashion, doing what the national government has refused to do. Here we have an issue where an educated citizenry can, and must, have its input on policy that will greatly affect all their descendents. Teachers can perform a great service by explaining to their pupils the undisputed scientific basis of the problem, by all avenues at their disposal. This book contains curriculum units that allow teachers from most disciplines to carry out this task.

Because of the diversity of approaches and backgrounds of the Fellows in this seminar, we all learned a great deal from each other both in terms of disciplines with which we were not familiar, and in terms of global warming issues that concern each individual. I must say unequivocally that this was a most stimulating seminar, and I wish to acknowledge the extraordinary participation of all Fellows, and especially of the seminar Coordinator, Eric Laursen, who greatly contributed to establish the high level of the discussions, and keep them focused on the topic of the seminar.

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