

Department of Atmospheric Sciences

COURSE ANNOUNCEMENT – SEMESTER II – 2005-2006

ATMS 491I: Dynamics of Climate and Climate Change

<i>Call number:</i>	39849
<i>Instructor:</i>	Prof. M. Schlesinger, 208 Atmos. Sci. Bldg., 333-2192
<i>Room and Time:</i>	109 Atmospheric Science Bldg., 2:00 p.m. M W F
<i>Credit:</i>	4 hours
<i>Prerequisites:</i>	ATMS 300 or consent of instructor

Mankind is changing the composition of the Earth's atmosphere and the characteristics of the land surface. Will this lead to an enhancement of the greenhouse effect, the impacts of which would be sufficiently deleterious to warrant a significant alteration in the existing and planned energy-use and other practices of the developed and developing nations? Will the Earth instead soon return to an Ice Age climate similar to that which existed 18,000 years ago? The present course will provide an understanding of these and other contemporary climate issues. This will be accomplished by a systematic examination of:

- the Earth's climate system;
- the instrumental, historical and geological observations of the present and past climates of the Earth;
- the theories of the causes of past, present and potential future climates;
- the development of mathematical climate models to quantitatively simulate and understand climate and climate change; and
- the results of such climate model simulations.

Text: *Global Physical Climatology*, Hartmann, D. L., 1994, Academic Press, NY.