

*Department of Atmospheric Sciences*

COURSE ANNOUNCEMENT – SEMESTER II – 2006-2007

**ATMS 597: Special Topics**

**Section M: Water, Energy & the Biosphere**

*Call Number:* 30902  
*Instructor:* Tracy Twine, 210 Atmospheric Sciences Bldg., 333-7105  
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*Room and Time:* 109 Atmos. Sci. Bldg., 11:00 MWF  
*Credit:* 4 hours  
*Prerequisites:* consent of instructor

Global issues like climate change and deforestation have caused humans to take a broader look at the world around them. Scientists are breaking through the traditional disciplines of atmospheric science, biology, hydrology, and soil science to find out how we affect our environment and how a changing global climate might affect our weather and natural resources. But at the center of these global issues are the local interactions between vegetation and its microenvironment.

This course will provide a quantitative approach to plant-soil-atmosphere interactions with particular emphasis on energy, water, and carbon exchanges. We will examine the physical microenvironments where organisms reside, discuss heat and mass transfer models, and describe exchange processes between organisms and their surroundings. Some discussion of how these quantities and processes are measured and modeled will be included. Graduate students with an interest in these topics and who have a background in physical or biological science, engineering, or mathematics and a basic understanding of calculus are encouraged to enroll.

*Text:* *Introduction to Environmental Biophysics*, 2<sup>nd</sup> Edition, by Gaylon S. Campbell and John M. Norman, Springer-Verlag, 1998 (Required).