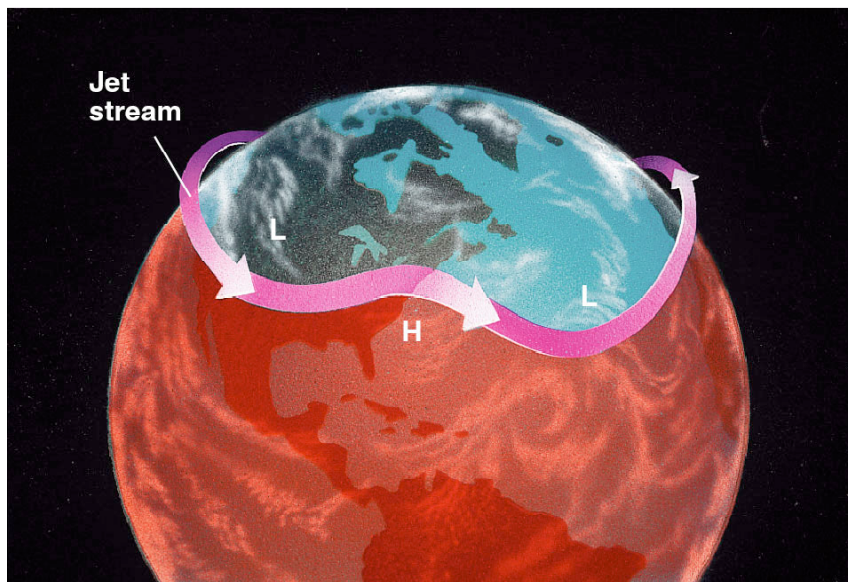


**Climate and the Environment
GE310
Fall 2009**

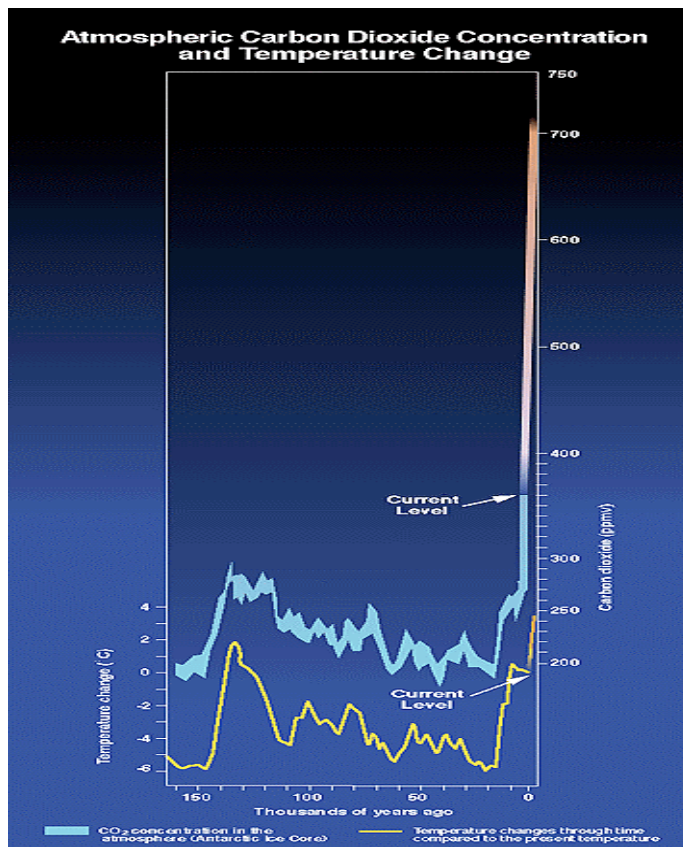
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Course Description:

This upper-division undergraduate course (required for the Environmental Science Curriculum) provides a qualitative and quantitative introduction to various climate processes and their impacts on the human environment. The course content consists of three main topical areas. In the first section we will cover the energy balance of the earth system, and examine how energy enters the earth system, how it is partitioned throughout the earth system and how this partitioning affects climate variables such as precipitation and temperature. In the second section of the course we will learn about the dynamics of the atmosphere and ocean, emphasizing the general atmospheric circulation and its role in maintaining and modifying the climate system. In the final section of the course, we will examine the nature of climate variability, and discuss climate change and the key scientific issues relevant to this complex and topical subject. At the end of the semester, you should have a basic understanding of how the earth-atmosphere-ocean system functions, what factors control the quasi-equilibrium state we refer to as the “climate”, and how its variations impact the natural and anthropogenic environment.



Wave-like instabilities in the Jet Stream. These instabilities, resulting from the strong temperature gradient between the equator and poles, produce most of the storms we experience here in New England



Historical changes in global temperatures and CO₂ concentrations over the last 150,000 years. Also shown are the projections for global temperatures and CO₂ concentrations over the next 100 years.