GEOG 1001 The Earth System: Process and Change

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"It is hard to imagine a more important discipline than Earth System Science"

Professor John Lawton, 2001 Chief Executive, Natural Environment Research Council

But why did he say this? Well, by the start of the new century it was becoming obvious to scientists, politicians and the general public that the world's environmental problems, like global warming, were growing at a fast rate (Fig. 1). Professor Lawton was signalling that the time had come to treat the whole earth as one functioning system. So the term Earth System Science was coined.

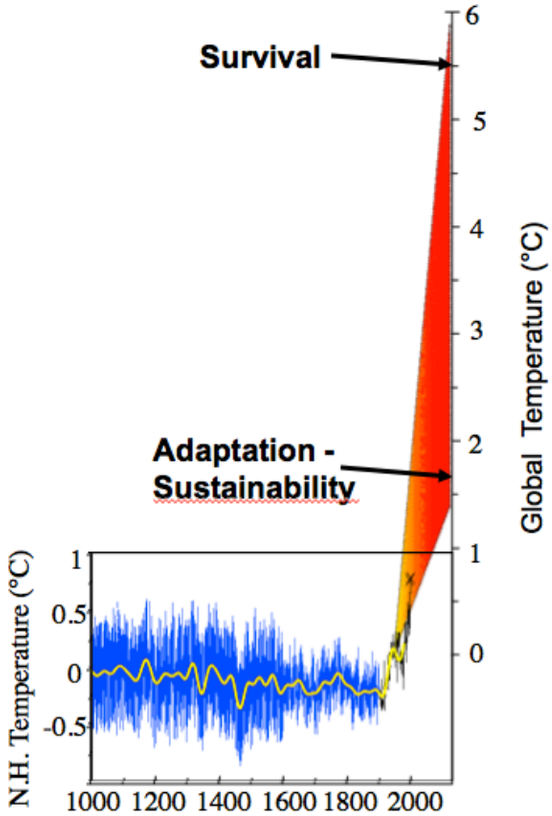

Fig. 1 Adapt or survive? Projections of global temperature (red) to 2100 compared with mean temperatures in the northern hemisphere (blue) since 1000 (IPCC 2007)

In a Nutshell

This module gives the background and introduction to the Earth System –treating it as a number of subsystems like Atmosphere , Hydrosphere and Biosphere. We show how our understanding of these components Earth System has grown with the use of ice cores and sediment records from the bottom of the oceans.

We use nearly half the course to assess the links with human activities – how people affect the Earth System through carbon emissions and how they are affected by increasing hazards, such as flooding. We address the question of what humanity should do.

Employment value

Taught by two experienced researchers of past climates and ecosystems, the unit provides students with the ski l l s and information for all higher level environmental courses and job sectors. We aim to enable you to engage knowledgeably in all discussions about contemporary environmental issues.