

SCIENCE AND MANAGEMENT OF GLOBAL CHANGE

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This major offers a detailed scientific view of the operation, change and interaction of the natural and social systems on earth at a global scale. It also provides territory management tools which contribute to change mitigation and adaptation. As a whole, the major offers an interdisciplinary view of the various aspects related to global change (with main emphasis on climate change), as well as its effects on society, and the social and political responses to mitigate the negative consequences of that process. Global Change is understood as the resulting global-scale changes from the interaction of the natural systems (atmosphere, biosphere, cryosphere, geosphere, hydrosphere) and its cycles within human societies. Its study includes the analysis of such varied processes as climate change, the loss of biological and cultural diversity or the transformation of the territory, in the effort to minimize its negative impacts. The understanding of the biological, physical, chemical and social processes related to Global Change, and their interaction, are some of the main current challenges, not only because of its complexity, but also due to the necessity of finding solutions to the negative impacts caused by such changes. The Institute of Environmental Science and Technology, due to its interdisciplinary nature and its teaching focus, is ideally qualified to deal with the study and the university training for the management of the global change from an interdisciplinary scientific perspective.

The specialization offers an introductory course where more general scientific aspects of the global change, both past and present, are analyzed. The rest of the courses in this track have an important social focus and discuss the effects of global and climate change in industrial and rural societies, the management of natural lands- capes as well as the various mechanisms to alleviate the effects of these processes. The major is based on a series of thematic readings and field trips. Open discussion on topics previously considered in class is encouraged. Assessment is based on oral presentations or papers and final exams at the end of each semester.