

Protected areas under pressure - Negative effects of climate change

The HABIT-CHANGE project investigates the effects of climate change and land use on protected areas and identifies appropriate management strategies.

The biological diversity of plants and animals is threatened by deterioration and destruction of the habitats, which resemble their environment. In addition to direct human activities such as intensive agriculture, increase in urban areas or new transport routes, negative developments are also caused by climate change. National protected areas and a network of significant European areas (Natura 2000) should prevent, or slow down, this development.

Against this background, in 2010 the multi-partner transnational project HABIT-CHANGE (Adaptive Management of Climate-induced Changes of Habitat Diversity in Protected Areas) was started, involving 17 nature protection area authorities, conservation agencies and research institutions from Central and Eastern Europe. Within this project, a climate-change-adapted management of protected areas will be developed. This project of three years duration is funded by the EU program INTERREG IV B Central Europe. The University of Vienna and the Central Institute for Meteorology and Geodynamics (ZAMG) the Austrian partners in collaboration with the National Park Neusiedler See-Seewinkel. The Hungarian partner in this transnational project is the North-Danubian Water Management Agency.

The second Project Workshop was held at the National Park Centre in Illmitz, Austria (28th – 30th September 2010). 48 scientists from 8 countries discussed management strategies, climate models and scenarios, and defined appropriate indicators for climate-related changes in the involved protected areas as a basis for management adaptations.

Challenge climate change

In the next years, authorities of protected areas and conservation agencies have to expect changes in biodiversity and habitat composition - and have to respond accordingly. Otherwise, protection goals can not be maintained any longer and must subsequently be adapted to the changed conditions. Currently, for individual sites no accurate predictions of rise or decrease of temperature or rainfall exist. Regionalised

climate scenarios will enable the Habit Change experts to forecast effects on wetlands and rivers, forests and grasslands.

Actions, tools and final results

Through an analysis of historical information derived from satellite monitoring and recent on-site mapping the influence of present management strategies on short- and long-term environmental development will be determined. Integrated indicators are being developed which relate to remote-sensing detection of land-use and land-cover changes and to the vulnerability of surveyed protected areas. National park administrations will be able to take accurately timed and appropriate measures for preserving the environmental value of these areas in future - preserving plant and animal life, and ecosystem services for the regional population. Decision support tools under development will be flexible enough to support the management of other protected areas not involved in this project, as to start a pro-active management. Beyond this scope recommendations will be worked out for the adaptation of existing environmental policies of the European Union and other countries involved.



Increasing aridity is particularly a problem for wetlands (Photo: M. Neubert, IÖR)

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