

# AVEC

## Integrated Assessment of Vulnerable Ecosystems under Global Change

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The EU Concerted Action project of AVEC intends to connect experiences from recent and ongoing European scenario-orientated assessment projects by creating opportunities for intensive exchange. In working closely with both the Millennium Ecosystem Assessment (MA) and the leaders of European or national research projects such as the ATEAM-project, AVEC establishes a network of research on the issue of vulnerability research.

### Vulnerability of European ecosystems facing an increased drought risk

#### Workshop in Samos, Greece, 14-12 April 2003

The workshop concentrated on all European areas that face a risk of increasing drought stress during the 21st century. Some of the results are:

- Climate models indicate a drier future climate in the Mediterranean.
- This is supported by long-term data series that integrate over the whole area. Evaluation of regional data series show that trends in many regions are statistically not significant in view of the large variability.
- With respect to impacts not only inter-annual variability matters but also changes in seasonality.
- From tree-ring analysis together with independent climate information the integrative impact of climate variability on biota can be estimated.
- The impact of climate variability on agriculture can be estimated by relating yield to climate variability but additional factors such as irrigation and market changes must be accounted for.



Heatwave in Europe in summer 2003

### Global Change and the Future of Ecosystems in Europe

#### Workshop in Copenhagen Denmark, 10-11 June 2004

This workshop was jointly organised by AVEC, the Millennium Ecosystem Assessment (MA) and the European Environment Agency (EEA) which provided the venue as well. The purpose was to inform on and involve in these research questions high-level European Commission representatives, national focal points and individual researchers. The progress made in the MA process has been appreciated but gaps in European as well as in U.S. projects have been regretted to exist. It is hoped that this workshop will be a first step to rectify this in respect to Europe. An additional outcome was: The link between ecosystem and health should be improved.



### Summer School

#### Peyresq, France, 14-27 September 2003

The students from all over Europe introduced themselves presenting a poster on their research, explaining why they became interested in vulnerability and had come to Peyresq. Vulnerability as a function of exposure, sensitivity and adaptive capacity had been exemplified in the talks given in the mornings and late in the afternoon. Vivid discussions followed each talk and all the new material had been applied to the case studies in the six working groups.

Each working group concentrated on one region, identifying and taking stock of the most vulnerable sections there. The group studies were furthered by stakeholder dialogues in role plays which helped the participants to integrate these views in their vulnerability assessment. Rating of the acceptability of future changes or suggested adaptations to the communities was the final step of some case studies

### Commissioned AVEC Papers

- **Declarative Modelling in Ecological and Environmental Research** by Robert Muetzelfeld
- **Concept for a Spatially Explicit and Quantitative Vulnerability Assessment of Europe** by Marc J. Metzger and Dagmar Schröter
- **Evaluation of Prospective Changes in the Ecosystem Services of European Biodiversity in Response to Climate Change** by Jacqueline de Chazal, Sandra Lavorel, Wilfried Thuiller and Fabien Quétier
- **Effects of Land Abandonment on Animal Species in Europe: Conservation and Management Implications** by Danilo Russo

The first paper has been printed by the European Commission (EUR 20918) and can be ordered for free from the AVEC Secretariat at PIK, the others have been submitted to different journals and will be printed 2004/2005.