Dynamic European Climate-Vegetation Impacts and Interactions (DECVEG, FP04)

Understanding and predicting regional transient terrestrial vegetation responses and feedbacks to climate change are challenges that require development of both models and datasets. Eight research groups will use and improve both dynamic vegetation models (DVMs) and palaeovegetation data in order to study climate-vegetation interactions in Europe. Existing and new general circulation model (GCM) output, inverse modelling of palaeovegetation data, transfer functions and the analogue approach will be used to generate independent sets of palaeoclimatic reconstructions. DVMs will be driven by GCM palaeoclimatic data, and their output compared with palaeoecological datasets. Performance of four DVMs will be compared in both inverse and normal mode. This parallel use of methods, data and models will permit assessment of the robustness of the palaeoclimate and palaeovegetation reconstructions and help identify where further model development is needed. A new series of coupled GCM-DVM simulations will be made. A central aim is to maximise the value of European palaeovegetation datasets in palaeoclimate research. Using DVMs to explore past scenarios will contribute to model development and make them into more effective tools for predicting future ecosystem responses with regard to vegetation diversity, migrational response to climate change, alterations in carbon cycle and hydrology.

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