



GIS-assisted regionalisation of phenological data in Southern Bavaria using discriminant analysis

Susanne Jochner (1), Tobias Heckmann (2), Micheal Becht (2), and Annette Menzel (1)

(1) Technical University Munich, Ecoclimatology, Freising, Germany, (2) Catholic University Eichstaett-Ingolstadt, Department of Geography, Physical Geography, Eichstaett, Germany

In this approach we explore the power of digital land use information to support the regionalisation of phenological data on the mesoscale in Southern Bavaria. The dates of beginning of flowering for *Forsythia suspensa* L. (1995-2008) of 70 stations and selected spatial data are combined in a discriminant analysis. The peculiarity of this new study is that no meteorological data are used at all.

Its analytical result is used to conduct a GIS-based regionalisation beyond the known values of phenological dates of onset on the mesoscale. Consequently, a map with modelled group membership was developed that is suitable for matters of forecast and validation.

We demonstrate that the selected factors (e.g. sealing of soil, altitude, distance to urban areas, amount of forests) are able to represent the mesoclimate adequately. The application of the discriminant analysis seems to be an appropriate alternative to the commonly used regression analysis.