human development in landscapes
GRADUATE SCHOOL AT THE UNIVERSITY OF KIEL

BIWEEKLY COLLOQUIUM
Monday, 25th of June 17.00

INTRODUCING THE HUMAN FACTOR IN PREDICTIVE MODELLING
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In this paper, I want to present the results of a study into integrating socio-cultural factors into predictive modelling (PM). So far, PM has largely neglected the social and cultural dimensions of past landscapes. Input is commonly derived from correlations between archaeological sites and natural landscape features. The result is a rather static way of modelling, in which the human factor remains unexplored. Furthermore, issues of temporality have been addressed uncritically or insufficiently. To maintain its value for archaeological research, therefore, PM needs new methodologies, concepts and theories.

For this study, I have worked with colleagues from CNRS in Besançon and Nice, departing from a methodology for analyzing settlement location choice developed in the 1990s during the Archaeomedes Project. By analyzing the surroundings of Roman settlements in the French Rhône Valley, it proved possible to make cross-regional comparisons of settlement location factors, in particular slope, aspect, solar radiation and soil type. However, at the time this method was not used for PM purposes, and did not include an analysis of non-environmental factors. For the current research, we modified this approach, and analyzed not just the surroundings of the known Roman settlements, but of every pixel in three different study regions, Vaunage (Languedoc, France), Argens-Maures (Provence, France) and Zuid-Limburg (Netherlands). Furthermore, the set of variables analyzed was expanded with a number of 'socio-cultural' factors, in particular accessibility, visibility, and the effect of previous occupation (the 'memory of landscape'). From this, we created predictive models using a combination of principal component analysis and cluster analysis. By making a side-by-side comparison of predictive models based on environmental variables, and models based on a combination of environmental and socio-cultural ones, we could show that, at least for this particular archaeological context, the inclusion of socio-cultural variables will increase the predictive power of the models. More importantly however, we have developed a protocol for PM using both environmental and socio-cultural factors that can easily be implemented for different regions and time periods.

Venue: Lecture room 204, Leibnizstraße 1, CAU Kiel