

Abstract

An understanding of nature processes and interactions is important for suitable landscape management. This study is focused on an evaluation of the abiotic diversity influence on the diversity of biotopes in the national park Šumava and the protected landscape area Křivoklátsko. A hypothesis was, that in territory with high abiotic diversity will be also high diversity of biotopes and vice versa. The diversities of the abiotic conditions was defined by the medium of an digital elevation model, an digital geologic map and layers of an hydrographic network, static waters and wetlands. A biotope's layer from NATURA 2000 habitat mapping was used to define the diversity of biotopes. Source data were modified in geographic information systems for the purpose of obtaining secondary data (exposition, landforms, etc). The study areas were divided into 300x300m grid squares and the diversities were specified for the surveyed squares. Via this method were obtained the variables for the statistic modelling. The abiotic diversity significantly influences the diversity of biotopes. Statistic model explained more than 40% of the variability of the biotop diversity in both areas. The correlations are direct, which certified the hypothesis. Significant variables are a topographic variability, a variety of relief and a shore length in the protected landscape area Křivoklátsko and a geologic diversity, an elevation gradient, a landforms diversity and a shore length in the nature park Šumava.