The fundamental information layers of ecosystem based management plans are obtained from calculating, modeling and mapping of biodiversity. Climate, topography and soil properties play important roles on the variations of biodiversity. On the other hand there are significant relationships between landscape diversity and biodiversity. That is why it is important to prepare not only climatic, topographic and soil maps but also their diversity maps as explanatory variables for modeling and mapping of biodiversity. This study was carried out to show how to calculate and map of landscape diversity in the Kuyucak Mountain District found in the transmission zone of the Mediterranean region. In the present study, topographical diversity values of altitude, slope degree and radiation index for each cell (752.09 x 752.09 meters) of Kuyucak Mountain District were calculated by using Shannon Wiener, Simpson diversity, Renyi H2 and Rao indices. Next the diversity maps of topographic variables were formed by means of Geographic Information Systems. Thus, the maps illustrated diversities of topographical variables were prepared in order to obtain more accurate model based distribution map of biodiversity.

Key Words: Diversity components, Beta diversity, Gamma diversity.