In ecological studies for forest ecosystems, it is necessary to carry out the planning with the sustainability principle. In recent years, it is stand out that topics such as biodiversity, climate change, species distribution modeling have been included in these ecological studies. The increasing importance of quantitative studies, especially in natural sciences, explains the tendency to these issues. These quantitative studies are expressed as a process analysis. The main lines of this process are inventory, creating of digital maps, modeling and simulation. These maps enable the process to be carried out effectively in both theoretical and practical terms. At this point, digital maps for modeling and simulation are of great importance. As, it is possible to acquire more accurate and practical models in terms of species and ecosystems. There are lots of studies in which digital maps are used and carried out in different fields. When these studies are examined, it is seen that the most preferred variables in terms of ecology are elevation, slope, aspect, hillshade, landform classification index, heat index, aspect suitability index, radiation index, topographic position index and bioclimatic variables. Bioclimatic variables can be acquired from WorldClim (www.worldclim.org) database, while others are created using elevation map produced from digital elevation model. In addition, it is stated that different digital maps to be produced can be used in modeling and simulation studies. Furthermore, it is expressed that the resolution of the digital maps to be produced has an effect on the results to be obtained in the modeling.