Forests have many functions. Thanks to these functions, which have forest areas on a global scale, they serve all living things, especially people. This leads to the protection of forest areas and the need to increase existing forest resources. Determination of the most suitable potential distribution areas of main forest trees is possible by increasing the forest areas as a result of proper afforestation. Therefore, there are many studies on this subject. However, studies on the determination of the potential distribution areas of other species with quite important functions in forest areas other than main forest tree species have been limited. In this sense, one of the species with quite important functions in the forest areas is Prickly juniper. It is aimed to model and map these potential distribution areas of this species in the Mediterranean region. The study area is Sütçüler district within the boundaries of the Mediterranean Region of Turkey. Presence and absence data of this species were recorded in a total of 185 sample areas in the district. The data for climate and topographic variables are obtained from the digital map of the locality. Generalized Additive Model (GAM) technique is used to determine the potential distribution areas of the species. The variables that constitute the representative model of the potential distribution areas are the elevation and the bedrock, respectively. Locations with elevations between 1000 m and 1500 m in the district have been the most suitable areas for potential distribution of the species. On the other hand, the conglomerate type rock has been found to play a more effective role for the potential distribution of the species than the other rock types. Prickly juniper is ecologically significant species in the sites with stony, rocky and shallow soil conditions with characteristic arid and semi-arid climatic properties of the Mediterranean basin. Especially in degraded forest areas, it has important functions such as preventing the soil from being exposed to erosion against the rainy waters. Apart from these, it is possible to enumerate many of these functions, such as global climate balance, industrial and firewood product and the medical-aromatic plant property. However, this species has been severely damaged in the nature from past to day, especially in the ending of the human impact. The potential distribution maps obtained in the context of this study will be quite significant in order to ensure sustainability of this species in the natural areas in the future.