The bachelor thesis summarize and refer to importance and effective using Geographic Information Systems in the field of environment and nature protection. The first and second chapter summarize historical development, main terms and principles of these systems to handle the problem. The third chapter deals with using GIS in the field of environment and presents examples and analysis of services and technologies in nature protection. The fourth chapter presents work with software and own concrete examples and definite possibilities. The final fifth chapter summarize and evaluates obtained results and outlines further possible development. [Authors' abstract].