

**Abstract:**

Nowadays human society is dealing with comparatively essential problems, such as lack of water and climate changes. Forests are able to use a great amount of solar radiation efficiently to change liquid water to water steam alongside climate cooling down. Scientists Makarieva and Gorshkov made up a theory which claims that forests are also generators of air humidity. The process is absolutely necessary for replenishing fresh water on land. This theory is based on gradient of pressures among different places. Air flows from places with lower evaporation and higher pressure (ocean) to locations with higher evaporation and lower pressure (forest). In this thesis are described basic mechanisms of theory of biotic pump. Simultaneously there are stated several examples of deforestation, which resulted in significant reduction of precipitation in that area and reduction of accessibility of water for human society. There are also mentioned several examples of attempt to revitalize desertified area, where the effort is to make cultural landscape to imitate natural vegetation. These projects are primarily based on retaining rainwater.