World Academy of Science, Engineering and Technology
International Journal of Civil and Environmental Engineering
Vol:10, No:03, 2016

Geographical Information System for Sustainable Management of Water Resources

Authors : Vakhtang Geladze, Nana Bolashvili, Nino Machavariani, Tamazi Karalashvili, Nino Chikhradze, Davit Kartvelishvili

Abstract : Fresh water deficit is one of the most important global problems today. In the countries with scarce water resources, they often become a reason of armed conflicts. The peaceful settlement of relations connected with management and water consumption issues within and beyond the frontiers of the country is an important guarantee of the region stability. The said problem is urgent in Georgia as well because of its water objects are located at the borders and the transit run-off that is 12% of the total one. Fresh water resources are the major natural resources of Georgia. Despite of this, water supply of population at its Eastern part is an acute issue. Southeastern part of the country has been selected to carry out the research. This region is notable for deficiency of water resources in the country. The region tends to desertification which aggravates fresh water problem even more and presumably may lead to migration of local population from the area. The purpose of study was creation geographical information system (GIS) of water resources. GIS contains almost all layers of different content (water resources, springs, channels, hydrological stations, population water supply, etc.). The results of work provide an opportunity to identify the resource potential of the mentioned region, control and manage it, carry out monitoring and plan regional economy.

Keywords : desertification, GIS, irrigation, water resources
Conference Title : ICGE 2016 : International Conference on Geomatics Engineering
Conference Location : Rome, Italy
Conference Dates : March 21-22, 2016