Επιτροπή Γεωμορφολογίας &
Περιβάλλοντος
της Ελληνικής Γεωλογικής Εταιρίας

5ᵗ ΣΥΝΑΝΤΗΣΗ
ΕΛΛΗΝΩΝ ΓΕΩΜΟΡΦΟΛΟΓΩΝ

Παρασκευή 3 Δεκεμβρίου 2010
Συνεδριακό & Πολιτιστικό Κέντρο
Πανεπιστημίου Πατρών

Πάτρα 2010

Environmental and human impacts in the aquatic system of Prespa Lakes using remote sensing techniques and G.I.S.

E. Katsimpra[1], N. Evelpidou[1], M. Stefouli[2], E. Charou[3]

[1]National and Kapodistrian University of Athens. Faculty of Geology and Geoenvironment Athens, Greece
[2]Institute of Geology and Mineral Exploration, Athens, Greece
[3]N.C.S.R. "Demokritos", Institute of Informatics & Telecommunications, Athens, Greece

The transboundary Prespa Lakes constitute an area of high environmental and socio-economic interest to the surrounding countries. The aim of this paper is to detect and investigate the anthropogenic and environmental pressures and their impact on the aquatic system of the Prespa Lakes. For these purposes the Prespa lakes are studied as an integrated hydrogeological system along with the Ohrid Lake.

Landsat satellite images were used for the impact assessment, while Geographical Information System (G.I.S) techniques were applied for the geodatabase creation and the hydrogeological maps production.

Environmental factors such as the decrease of rainfall, the increase of temperature and the widening of the underground karstic system of the lakes along with anthropogenic factors such as the diversion of the Devolli River, the irrigation activities and the changes of land use have a strong impact on the quality of the water of the lake and the landscape of the area. Substantial decrease of the lake's area was observed while a relatively permanent cyclonic movement (gyre) at the N, NE of Big Prespa that has never been referred in the past, was detected.

Finally, issues such as the missing, incomplete and heterogeneous data for the study area along with the lack of scientific cooperation between the institutions of countries involved should be taken into consideration.