

## **The hydrogeological problems in the urban and land planning of the Pecora river valley (Tuscany, Italy).**

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The problems of the water storage and conservation and of the management of this resource are becoming one of main objectives of planning, also in smaller urban areas. The study area is a typical example of a holiday resort, with an alluvial plain (about 300km<sup>2</sup>) which is bordered by beautiful hilly landscape, where in winter the towns have population of less than 50,000, whereas in the summer the number can reach 250,000. The impact is particularly strong in Follonica, the main seaside resort. We must highlight the fact that until only a few years ago the area was famous for its mining activity (for the pyrite, the mines today are closed) and also for some chemical industries. The drinkable water is distributed by an aqueduct which conveys high quality waters from the far off springs. During the summer it is necessary to integrate the drinking water with the local groundwaters of the alluvial deposits, but over the last years many deep wells have been closed because of the presence of salt waters (marine and, probably, ancient waters) due to an excessive exploitation of the resource, and also because of pollution (due to mining and industrial activities, with waste disposals and tailings). The study analyzes the main hydrogeological systems (alluvial, carbonatic, and deep thermal aquifers) and puts forward some proposals for the reclamations of the waters and two main planning objectives: a) the increase of the high quality waters; b) the reutilization of the mine waters in a second aqueduct for usage other than drinking.