

TOOLS AND METHODS TO RECLAIM THE VALUE OF WATER RESOURCES IN THE AREAS OF MARGIN

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Abstract

The world population is projected to increase greatly in the next decades and surely it will be concentrated in the cities' surroundings. Therefore care and management of natural resources is needed to avoid one of the major source of degradation of rivers and lakes that is the phenomenon of run-off in which the receiving bodies gather then from storm water, untreated waste water and water full of nutrients, sediment and solid material variously polluting.

The development of ICT solutions integrated with spatial data knowledge must guide the planner towards strategic, reliable and shared decisions in the water sector.

It is shown a methodology, implementing GIS technology Geographic Information System towards online interoperability in environmental management.

The application of innovative ICT tools in the field of peri-urban regeneration can become a powerful tool, particularly in the water resources management, to guarantee environmental quality control and avoid land use consumption.

The effects of changes in land use and water bodies can be reduced enabling integration between peri-urban planning, GIS and environmental models.

Implementing GIS technology the comprehension of the interactions between the existing multiple aspects, the environmental processes simulation and the impacts analysis of land management activities on water resources can permit the definition of scenarios as key components underlying the political decisions.

References

1. Di Giacomo T.V., "Interactivity of WEBGIS for the simulation of land development", TeMA, Journal of land use, mobility and environment - volume 8 – 2015 University of Naples Federico II, print ISSN 1970-9889 e ISSN 1970-9870
2. Di Giacomo T.V., "Volcanic lake basins integrated frame work for landscape functionality", (2014). Lakes: The Mirrors of the Earth, Balancing ecosystem integrity and human wellbeing, Volume 2: Proceedings of the 15th World Lake Conference, Science4Press, p. 267-270, ISBN: 978-88-96504-04-8 (print), ISBN: 978-88-96504-07-9 (online).
3. Leone A., "Ambiente e pianificazione. Analisi, processi, sostenibilità" (2011). Franco Angeli, ISBN 8856832771, 9788856832778.
4. Ripa M.N., Leone A., Garnier M., Lo Porto A. (2006) "Agricultural Land Use and Best Management Practices to Control Nonpoint Water Pollution", Environmental Management.
5. The United Nations World Water Development Report (WWDR 2012) produced by the World Water Assessment Programme