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Hydrology and Earth System Sciences Discussions

Interactive comment on "Groundwater ecohydrology: GIScience tools to forecast change and sustainability of global ecosystems, studies in Africa, Europe and North America" *by* D. R. Steward et al.

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This paper addresses the problem of how to include ecoydrologic information into hydrological models that integrate groundwater, surface water and water dependendent ecosystems. It provides an innovative and systematic framework technique, based on GIS, to couple different types of information to diiferent models.

Three extensively investigated and well documented case studies from different environments and exploitation history, illustrate how the proposed technique can describe

and predict changes of the interface between groundwater and ecohydrology upon exploitation and management policies.

The paper is well written and clearly describes and makes plausible how the proposed methodology can lead to the prediction of the influence of groundwater management measures on ecohysystems.

A suggestion for additional information at 3.3 (13-15): It was made plausible through a number of tracer tests that trees in the Kalahari are able to extract water from depths of more than 70 m. (Re: O.T. Obakeng (2007)- Soil moisture dynamics and evapotranspiration at the fringe of the Botswana Kalahari; with emphasis on deep rooting vegetation. PhD thesis Vrije Universiteit Amsterdam/ITC Enschede.)

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 6, 2795, 2009.