*Evolving Water Resources Systems: Understanding, Predicting and Managing Water–Society Interactions*
Proceedings of ICWRS2014, Bologna, Italy, June 2014 (IAHS Publ. 364, 2014, 261-266).

# Feedback between societal change and hydrological response in Wadi Natuf, a karstic mountainous watershed in the occupied Palestinian Westbank

**CLEMENS MESSERSCHMID**

*Institute of Hydrology, University of Freiburg, Fahnenbergplatz, D-79098 Freiburg, Germany* and *PO Box 38383, Jerusalem 91383, Israel*

clemensmesserschmid@yahoo.de

**Abstract** Runoff observations with high spatial and temporal resolution before, during and since the Intifada in the occupied Palestinian West Bank, allow for new insights into the feedback between changing social systems and hydrological response under changing land forms. The lack of land control and infrastructure, movement restrictions and tight closure regimes, intensive settlement expansion and mushrooming unregulated solid waste dump-sites impact on runoff generation, groundwater recharge, flow patterns and rising water quality concerns. Long-term monitoring results from a 105 $km^2$ Mediterranean climate catchment are presented. More research will strengthen these linkages. Changing socio-hydrological context of land sovereignty and equitable water rights remain paramount for addressing the chronic water crisis, establishing more symmetrical access and sustainable management of the shared water resources.

**Key words** Karstic mountainous watershed; land forms; WAB; terraces; rain-fed farming; mobility; sovereignty and control over open landscape; sanitation; solid waste; severely restricted water access