Journal of Environmental Hydrology
**ISSN 1058-3912**
Electronic Journal of the International Association for Environmental Hydrology

**JEH Volume 12 (2004), Paper 9 Posted June 22, 2004**

# USE OF REMOTE SENSING AND AGROMETEOROLOGY FOR IRRIGATION MANAGEMENT IN ARID LANDS: A CASE STUDY FROM NORTHWESTERN SAUDI ARABIA

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***ABSTRACT***
*Efficacy of irrigation management of major crops grown in the Wadi Sirhan area was determined in the present study from agroclimatic data merged with remotely sensed data, and irrigation scheduling efficiencies obtained from FAO guidelines. For computing irrigation scheduling efficiencies, amount of water supplied at different growth stages, soil water depletion, and crop water requirement have been taken into account. An area totaling 104815 hectares with 2505 center pivots of different sizes was selected. The major crops in the area, alfalfa, potatoes, tomatoes, and wheat, occupy 75%, 5%, 3% and 4% of the total center pivot area respectively. The crop water requirements are 2.74 billion m3 water/year, 34 million m3 of water/season, 26.086 million m3 of water/season and 27.14 million m3 of water/season for alfalfa, potatoes, tomatoes and wheat respectively. An area of 13626 hectares is uncultivated fallow. The water budget of the area is calculated for agricultural development and to develop efficient irrigation management practices. The crop water requirement of the major irrigated crops in the study area can be reduced by 50% without affecting crop yield.*

**Reference:** *Saif ud din, Al-Rumikhani, Y.A., and Sajid Latif, M.; Use of Remote Sensing and Agrometeorology for Irrigation Management in Arid Lands: a Case Study from Northwestern Saudi Arabia, Journal of Environmental Hydrology, Vol. 12, Paper 9, June 2004.*

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