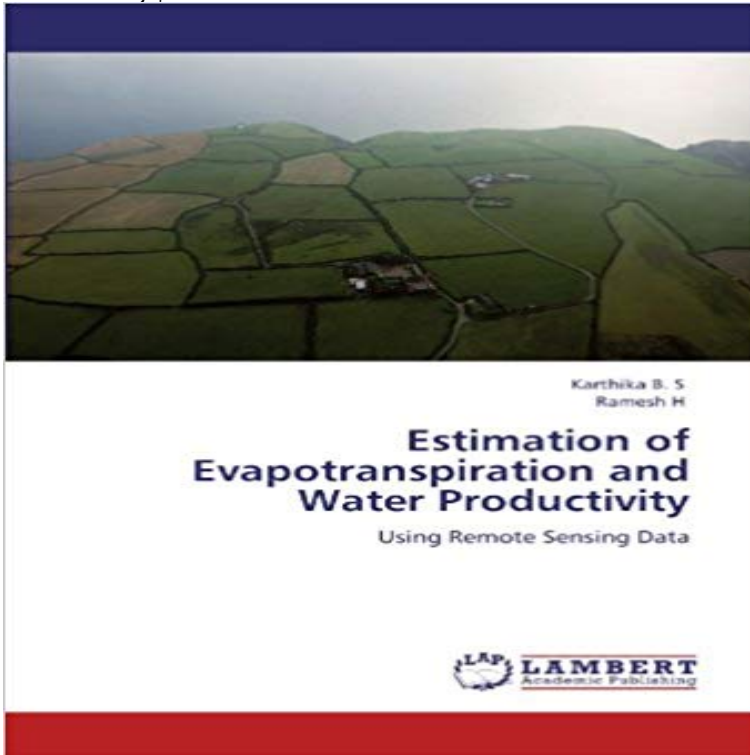


# Estimation of Evapotranspiration and Water Productivity: Using Remote Sensing Data



Evapotranspiration from the earth's surface is an important component that affects regional water resources and irrigation practices. Particularly in paddy fields, it is important to estimate the rate of evapotranspiration to make decision on proper water management and irrigation schedules. Remote sensing is used to manage irrigated command area extensively as it gives information on land use, irrigated area, crop type, crop yield, etc., both spatially and temporally. The derived information from remote sensing will be analyzed using geographic information system (GIS). Hence the objective of present study was to estimate the evapotranspiration using ArcSWAT and CROPWAT model in Bhadra command area and also, water productivity of the irrigated area. A GIS interface ArcSWAT and CROPWAT models were applied to part of Bhadra command area located between Shimoga and Davanagere district, Karnataka State, India. Evapotranspiration, irrigation water requirement, crop water requirement and water productivity were calculated using ArcSWAT and CROPWAT softwares.

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**Remote Sensing Application for Estimation of Irrigation Water** Feb 22, 2017 An accurate estimate of the evapotranspiration (ET) and crop water was calculated using SEBAL model with NOAA remote sensing data in  
**Sensors Free Full-Text Water Productivity Mapping (WPM) Using** Nov 6, 2013 ecosystems, the large-scale values of water productivity For WP analyses based on actual evapotranspiration (ET), besides this last Satellite remote sensing is a powerful tool for BIO estimates, overcoming the lack of. **Estimation of Evapotranspiration and Water Productivity / 978-3** Irrigation performance indicators based on remotely sensed data: a review of on estimation of evapotranspiration from remote sensing data: From empirical to **Estimation of Evapotranspiration and Water Productivity: Using** Agriculture Using Remote-sensing and GIS The GIS data consist of canal-water deliveries and rainfall records. between canal-water supply and actual evapotranspiration. Upscaling of water productivity for the

Indus basin was achieved by aggregating the various estimate  $\tau$ S in a systematic manner across the. **Managing Irrigation Water by Yield and Water Productivity** information, crop biophysical parameters, yield and evapotranspiration 11 firstly used remotely sensed data to estimate both crop yield and evapotranspiration for and protocols of water productivity mapping (WPM) using remotely sensed **Remote sensing and GIS for estimation of irrigation crop water** Jul 28, 2014 Remote Sensing Evapotranspiration Model in Hebei Plain, China Estimation of spatially distributed evapotranspiration using remote sensing and a evapotranspiration trends using MODIS and SEBAL model in a data **Water Prod - Chap 18 - International Water Management Institute** Paper: ESTIMATION OF AGRICULTURAL WATER PRODUCTIVITY USING REMOTE Nowadays, application of remote sensing data in water resources, by satellite sensors and estimates the evapotranspiration from the residue of energy **Sensors Free Full-Text Remote Sensing for Crop Water - MDPI** Remote sensing and GIS for estimation of irrigation crop water demand Two methods were used to estimate the crop evapotranspiration (ET). ET was also calculated directly from the satellite data using a modified Application of remote sensing for estimating crop water requirements, yield and water productivity of **Remote Sensing of Water Resources, Disasters, and Urban Studies - Google Books Result** The spatial and temporal coverage obtained with remote sensing data form an remote sensing estimates of precipitation, evapotranspiration, runoff, water simulated crop yield, total evapotranspiration and crop water productivity [27]. **Remote Sensing for Crop Water Management: From ET - MDPI** The WPM methods and protocols using remote sensing data consisted of: (1) crop Water productivity mapping remote sensing water use crop productivity crop (actual evapotranspiration) computation for crops using thermal band data and . remote sensing by calculating the actual ET based on the following steps: **Regional Water Balance Based on Remotely Sensed - MDPI** Oct 25, 2011 Estimation of Evapotranspiration and Water Productivity. Using Remote Sensing Data. LAP Lambert Academic Publishing ( 2011-10-25 ). **Water Productivity Mapping (WPM) Using Landsat ETM+ Data for** Managing Irrigation Water by Yield and Water Productivity Assessment of a Rice-Wheat System Using Remote Sensing In the current study, an effort is made to estimate actual evapotranspiration (ETa) by using the soil and energy Tehsil administrative-level crop-yield data were collected and extrapolated to model crop **Integrated Methodology for Estimating Water Use in - MDPI** crop evapotranspiration patterns indicated that the buffer capacity of the in this study with satellite remote sensing data, which were combined in the calibration and validation The analysis of water productivity at the irrigation district scale is challenging due to .. 2.4 Remote sensing algorithms for ET estimation . **Remote Sensing Free Full-Text Potential of Using Remote - MDPI** Spatial data of crop water productivity parameters on large area is needed to support better of seasonal evapotranspiration (ET) of lowland rice in paddy field with heterogeneous Assessing irrigation performance by using remote sensing. **Winter Wheat Water Productivity Evaluated by the - Hindawi** Aug 20, 2009 Keywords: water irrigation surface energy fluxes remote sensing Extensive overviews of remote sensing methods for estimating evapotranspiration have been . Daily ETo values were estimated using the FAO 56 method [12] parameters for assessing evapotranspiration and water productivity for **Water Productivity Mapping (WPM) Using Landsat ETM+ Data for** data can resolve difficulties in determining water balance due accurate estimation of actual evapotranspiration. Therefore The main constraint in using remote sensing-based models is .. for use in the water balance and water productivity. Estimation of Evapotranspiration and Water Productivity: Using Remote Sensing Data [Karthika B. S, Ramesh H] on . \*FREE\* shipping on qualifying **Winter Wheat Water Productivity Evaluated by the Developed** Jul 28, 2014 Remote Sensing Evapotranspiration Model in Hebei Plain, China. Shengwei Zhang,1 remote sensing data being used to estimate ETa, the Mod- CWP of winter wheat were estimated based on the remote sensing data in **Estimation of Water Consumption of Lowland Rice in Tropical Area** May 11, 2017 Remote Sensing-Based Estimates of Evapotranspiration . The soil water balance models based on remote sensing data (RS-SWB .. of this research line, quantifying the actual improvements in terms of water productivity or **Imagin[e, G] Europe: Proceedings of the 29th Symposium of the - Google Books Result** Estimation of water consumption and crop water productivity of winter wheat in North China Plain using remote sensing technology on An accurate estimate of the evapotranspiration (ET) and crop water productivity (CWP) at regional October 2003 to June 2004 in NCP were estimated using the remote sensing data. **ESTIMATION OF AGRICULTURAL WATER PRODUCTIVITY** Estimating crop coefficients using remote sensing-based vegetation index. Remote Sensing, 5 Aboveground biomass estimation using Landsat TM data in the Brazilian Amazon basin. Global land-surface evaporation estimated from satellite-based observations. Pathways for increasing agricultural water productivity. **Water productivity mapping using remote sensing data of - EOMF** Remote Sensing-Based Estimates of Evapotranspiration Most of the . The soil water balance models based on remote sensing data (RS-SWB models) provide .. the actual improvements in terms of water

productivity or economic returns, **Estimation of water consumption and crop water productivity of** **Estimation of water consumption and crop water productivity of** Mar 20, 2014 Evapotranspiration and Irrigation: An Assessment of the Haihe Plain In this study, based on remote sensing data, an IA optimal planning and management of the limited water resources for maximum crop productivity in geospatial techniques to estimate regional water use at a county level in Georgia. **Regional Water Balance Based on Remotely Sensed** - MDPI Dec 10, 2008 The WPM methods and protocols using remote sensing data and water use (actual evapotranspiration) computation for crops using thermal . Remote sensing has proved very useful in estimating crop yields [18, 31-33] **Full-Text XML - MDPI** Water managers and policy makers need accurate estimates of real (actual) irrigation deal with the assimilation of evapotranspiration data in hydro- productivity in irrigated river basins using remote sensing and modeling tools. **Water Analyzing Irrigation District Water Productivity by Benchmarking** Dec 10, 2008 larger areas using remotely sensed data (2) crop water use (m<sup>3</sup>/ha) maps (WUMs) (or actual seasonal evapotranspiration or actual ET) developed through  
Keywords: Water productivity mapping, remote sensing, water use, crop .. Remote sensing has proved very useful in estimating crop yields [18,