



Rip-Et: A Riparian Evapotranspiration Package for Modflow-2005 (Paperback)

By United States Geological Survey (Usgs)

Bibliogov, United States, 2012. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book ***** Print on Demand *****.A new evapotranspiration package for the U.S. Geological Survey s groundwater-flow model, MODFLOW, is documented. The Riparian Evapotranspiration Package (RIP-ET) provides flexibility in simulating riparian and wetland transpiration not provided by the Evapotranspiration (EVT) or Segmented Function Evapotranspiration (ETS1) Packages for MODFLOW 2005. This report describes how the RIP-ET package was conceptualized and provides input instructions, listings and explanations of the source code, and an example. Traditional approaches to modeling evapotranspiration (ET) processes assume a piecewise linear relationship between ET flux and hydraulic head. The RIP-ET replaces this traditional relationship with a segmented, nonlinear dimensionless curve that reflects the eco-physiology of riparian and wetland ecosystems. Evapotranspiration losses from these ecosystems are dependent not only on hydraulic head, but on the plant types present. User-defined plant functional groups (PFGs) are used to elucidate the interaction between plant transpiration and groundwater conditions. Five generalized plant functional groups based on transpiration rates, plant rooting depth, and water tolerance ranges are presented: obligate wetland, shallow-rooted riparian, deep-rooted riparian, transitional riparian and bare ground/open water. Plant functional groups can be further divided into...

Reviews

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