Hydrol. Earth Syst. Sci. Discuss., 6, C512–C513, 2009
www.hydrol-earth-syst-sci-discuss.net/6/C512/2009/

Hydrology and Earth System Sciences Discussions

Interactive comment on "Estimating spatially distributed monthly evapotranspiration rates by linear transformations of MODIS daytime land surface temperature data" *by* J. Szilagyi and J. Jozsa

Anonymous Referee #2

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There are no logical errors in the manuscript. A new monthly, cell-based linear transformation of the MODIS daytime land surface temperatures into *ET* rates is proposed in this study. The present model has been applied over the Elkhorn watershed in north-eastern Nebraska, and at the watershed-scale produced very similar results to other complementary relationship based models. Over the 2000–2007 study period the present model yielded a period-averaged mean annual *ET* rate (624 mm) only 1% more than the water-balance calculated value of 617 mm. With the help of the spatially distributed *ET* estimates it was possible to detect the vastly differing moisture dynam-

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ics of the grass-covered range-lands of the Sand Hills in the western part of the Elkhorn watershed from that of the rest of the catchment covered by intensively irrigated corn and soybean fields.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 6, 1433, 2009.