



Estimating actual evapotranspiration using Landsat 8 Imagery: A case study of Isparta, Turkey

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Abstract: Water is the most important constraint facing agriculture in most of the countries, including Turkey. Irrigated lands are extremely vital to the economy of Turkey. Evapotranspiration (ET) can be defined as the loss of water to the atmosphere from the ground, lake, pond, and vegetative surfaces due to vaporization of water. ET is usually the largest hydrological flux through the summer months in Turkey. The ability to accurately estimate the magnitude of this flux is crucial for the water balance and planning the use of available water resources. The main objective of this study was to retrieve the actual ET from Landsat 8 satellite imagery for the city of Isparta, Turkey. The Surface Energy Balance Algorithms for Land (SEBAL) model was employed in this particular study to retrieve ET. Landsat images are a useful resource for estimating ET when high spatial resolution is desired. For this study, the Landsat 8 scene acquired on July 24, 2016 with path/row 178/34 was downloaded from the USGS webpage. The final ET map for the city of Isparta was derived at the end of the study.

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