

Daily variations of EVAPOTranspiration

O. Liechti, Analysen & Konzepte, CH-Winterthur, OlivierLiechtiAuK@compuserve.com

R. Thehos, Deutscher Wetterdienst, D-Offenbach, Ralf.Thehos@dwd.de

Evaporation and transpiration fluctuate on different time scales. The seasonal modulation of transpiration is completed by daily variations of evaporation after precipitation events. RADAR reflectivity accumulated continually over periods ranging from a single day to a full month is thought to be useful for the daily modulation of evapo-transpiration when assimilated by models for boundary layer predictions. Operational TOPTHERM predictions assimilate such RADAR data accumulated for each forecast region and modify the parameterized seasonal modulations of transpiration on a daily basis. After rainy days evaporation is increased. After dry weeks transpiration is reduced. The growth of the convective boundary layer is sensitive to evapo-transpiration as the surface energy budget comprises the sum of latent and sensible heat flux. The sensitivities of the fluctuating evapo-transpiration to the accumulated RADAR data are being investigated. Recorded trajectories of gliders reveal the growth of the convective boundary layer and are useful for such sensitivity studies.

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