EMS Annual Meeting Abstracts
Vol. 9, EMS2012-405, 2012
12th EMS / 9th ECAC

Preliminary results of evapotranspiration assessment from wetland using eddy correlation measurement

M. Siedlecki, W. Pawlak, and K. Fortuniak

University of Lodz, Department of Meteorology and Climatology, Lodz, Poland (siedlec@geo.uni.lodz.pl)

Wetlands areas have an important hydrological functions like: flood alleviation, low-flow support, nutrient cycling and groundwater recharge. One of the elements of water balance is evaporation, which is relatively poorly recognized and difficult to measure. High wetness and often dense vegetation create evapotranspiration from wetlands frequently higher than from other areas.

This work presents some characteristics of evapotranspiration from wetlands. The results are based on measurement with eddy correlation method made on two wetland types: peat meadow and bog vegetation, both on Biebrza National Park located in Northeast Poland. The measurement taken at three two-weeks sessions: 4-18.05.2010, 21.06-05.07.2010 and 26.08-09.09.2010. This allows the evaluation of evapotranspiration at different phases of development of vegetation.

The observation shows distinct diurnal variability of water vapor fluxes values. The maximum values are observed during the midday and minimum values appear at night or early morning hours. The highest values of H_2O fluxes (0,04 g•m-2•s-1 at midday) are noticed during the summer measurement. The negative values of H_2O fluxes show condensation.