



The estimation of b factor of the FAO24 Blaney – Criddle method with the use of weighted least squares

Ampas Vasilios and Baltas Evangelos

Prefecture of Florina, Soil-Water Resources, Florina, Greece (ambasv@gmail.com)

The purpose of this paper is the estimation of the factor b in the FAO 24 Blaney and Criddle method for reference crop evapotranspiration. The existing relationships of Frevent et al. and Allen and Pruitt for the estimation of the b factor give variation 15% and 12%, based on the values given in tables from Doorenbos and Pruitt. These relationships were developed based on multiple regression analysis of the variables and pseudovariables. In this research work a new method is proposed for the estimation of b factor based on weighted least squares for the variables and pseudovariables. The weighting factors were based on the frequency of each meteorological parameter. The reference evapotranspiration that was estimated using this b factor gives close results compared to the FAO 24 Blaney and Criddle method.