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DERIVING REGRESSION RELATIONSHIPS BETWEEN AIR AND SOIL TEMPERATURES, WATER POT EVAPORATION AND RELATIVE HUMIDITY IN 20 GOVERNORATES OF EGYPT

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ABSTRACT

The study was on the relation among some daily weather parameters and daily soil temperature for shallow depths in twenty governorates of Egypt. Three of weather data month's present, coldest, hottest, and moderate month in the year used in this study.

Because of the differences between governorates in its studied parameters, it was very necessary to predict separate relations individually for every governorate

A significant relationship exists between averaged daily air temperature (^{0}C) versus (VS) observed daily soil temperature (^{0}C) at shallow soil layers to 20 cm, water pot evaporation mm, and relative humidity %. In addition, significant relations occurred between daily soil surface temperature (0-5 cm) and the other daily soil layers temperature, to 20 cm.

Significant multiple regression coefficients (R) and multiple regression equations between soil temperature (^{0}C) VS air temperature (^{0}C) and soil depth cm were calculated.

Application of the mentioned relations gave confidence calculate values as the actual values.

– Relative humidity Soil temperature **Key wards:** Air temperature – Pot evaporation