**Introduction**

A gridded product of daily soil moisture at 250-meter spatial resolution was created by integrating in situ soil moisture from the Kansas Mesonet and a simple soil water storage model as part of my research. The model represented temporal soil moisture dynamics using the following equation:

Where  represent the soil water storage in the rootzone at day t, is a recursive parameter representing the fraction of remaining water storage after the daily storage loss due to the different processes of the water dynamics in soil. *SLL* is the lowest limit the soil can reach after it is completely dry, and *SUL* is the maximum amount of water the soil can store, , represent the previous state of soil water storage, finally represent the precipitation events.

In the current model is implemented as a function of vapor pressure deficit (VPD).

**Significance of the study**

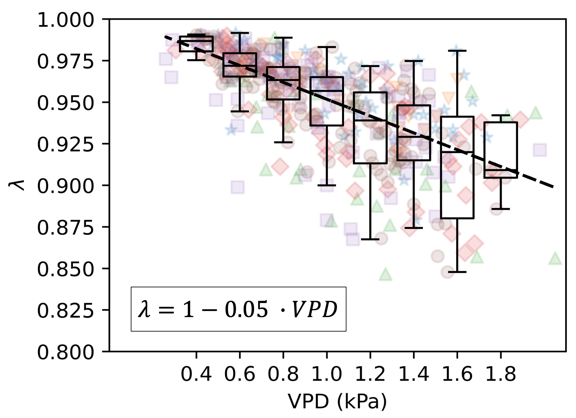


Figure 1. λ as a function of VPD.

In Figure 1, we can see there is a correlation between the VPD and , however the proposed equation is ignoring all the possible values that are not being represented by the linear regression. Having in consideration the distributions will allow to produce different scenarios without limiting the estimation to a fixed value.

**Methodology**

**Submission Journal**