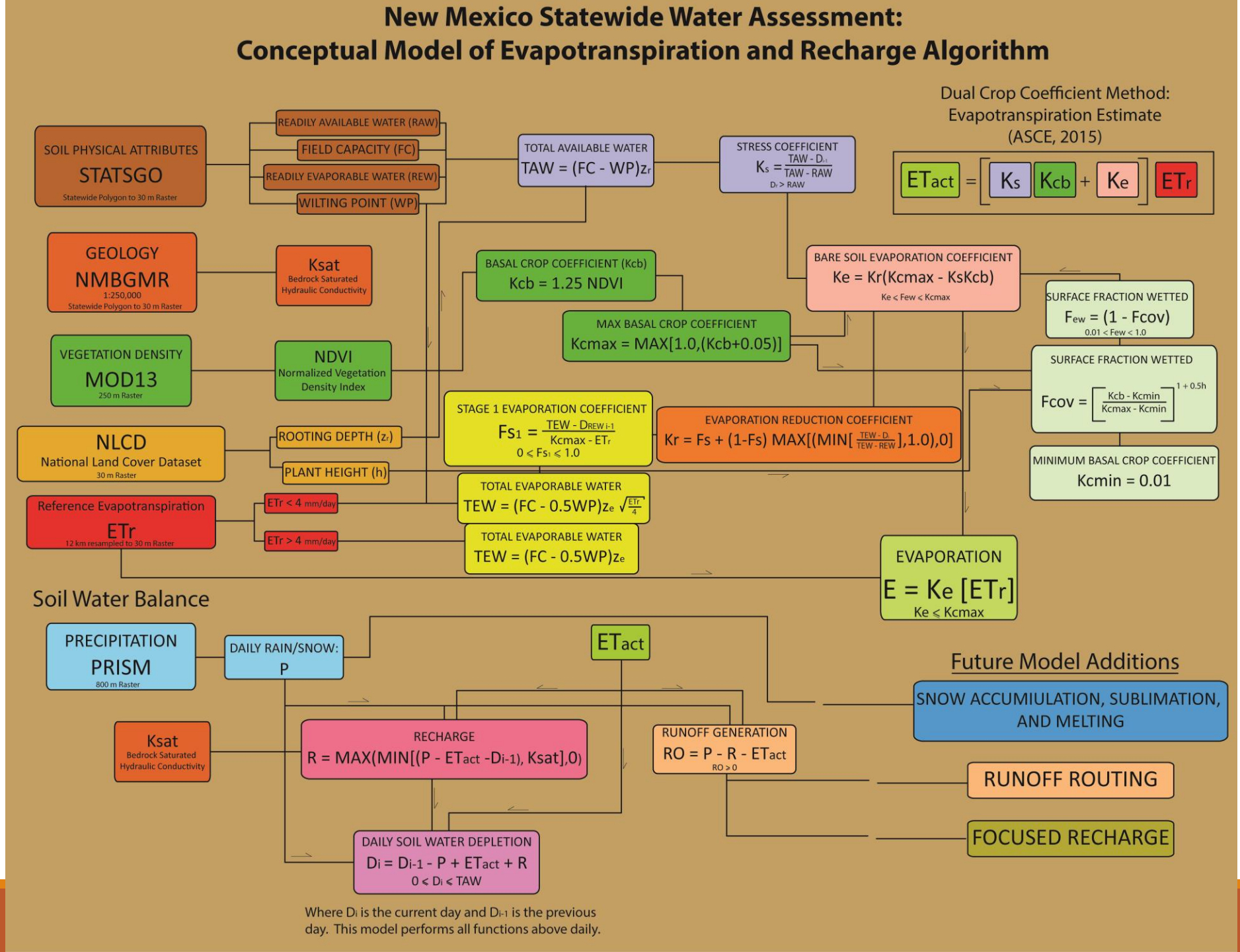
The recharge and ET (evapotranspiration) model uses GIS layers to calculate recharge and ET on a daily basis. The current model uses the dual-crop coefficient method developed by Allen and others for the 1998 United Nations Food and Agriculture Program.



Evapotranspiration is difficult to measure but has important implications for the state water budget. Using the dual-crop coefficient method, the density of vegetation and available energy constrains the amount of modeled ET. A soil water balance performed daily by the model partitions water between ET, runoff, and groundwater recharge. The computation is time consuming, as raster (pixilated) data contains thousands of cells over the area of the state, and separate raster "layers" for each of the model inputs.

Allen, R. G., Pereira, L. S., Smith, M., Raes, D., & Wright, J. L. (2005). FAO-56 dual crop coefficient method for estimating evaporation from soil and application extensions. *Journal of irrigation and drainage engineering*, *131*(1), 2-13.

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