

# ***TX North Plains ET Network Home Page***

***The Official Potential EvapoTranspiration Website of the Texas North  
Plains***

***Designed and Constructed by  
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***Developed and Operated by The***



## *In Partnership with The*



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UNDER CONSTRUCTION



# *What is the PET Network?*

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**P**otential **E**vapo **T**ranspiration or PET is the amount of evaporation and transpiration a well - watered plant has daily and throughout its typical growing season. Transpiration is the water entering the plant root system and used to build plant tissue or being passed through the leaves into the atmosphere. Evaporation is the water evaporating from the adjacent soil, water surfaces, or from the surface of leaves of the plant. Evapotranspiration can also be referred to as consumptive water use although the term is not as descriptive and can be misleading if soil evaporation is not included in the definition

Plant or crop ET is for a specific crop. A typical seasonal ET curve is illustrated in Figure 1. Any field crop can typically be related to a fully watered reference crop. Many times alfalfa is used as the reference crop but grass is a more appropriate reference for a semi-arid region such as the Texas panhandle. The specific crop of interest can be related to the ET of grass by the use of a crop coefficient which can be less or more than 1.0, depending on the crop(s). Additionally, the relationship between the well watered reference grass and a native grass crop can be determined. Relationships of grasses to specific crop(s) can be determined and verified with the use of the lysimeter facilities at Bushland under the research direction of Terry Howell . Rather than merely estimate ET, the lysimeters allow the measurement of ET to provide the most accurate information and coefficients for use in computations in the network equations. The network uses a modified Penman-Monteith equation for calculating ET.

The PET system has a network of weather stations located throughout the The North Plains whereby PET calculations are made and disseminated in an automated process providing timely, accurate, predicted evapotranspiration data. Several microcomputers and software programs are utilized in the sequence of data manipulation, reduction, and computation.



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