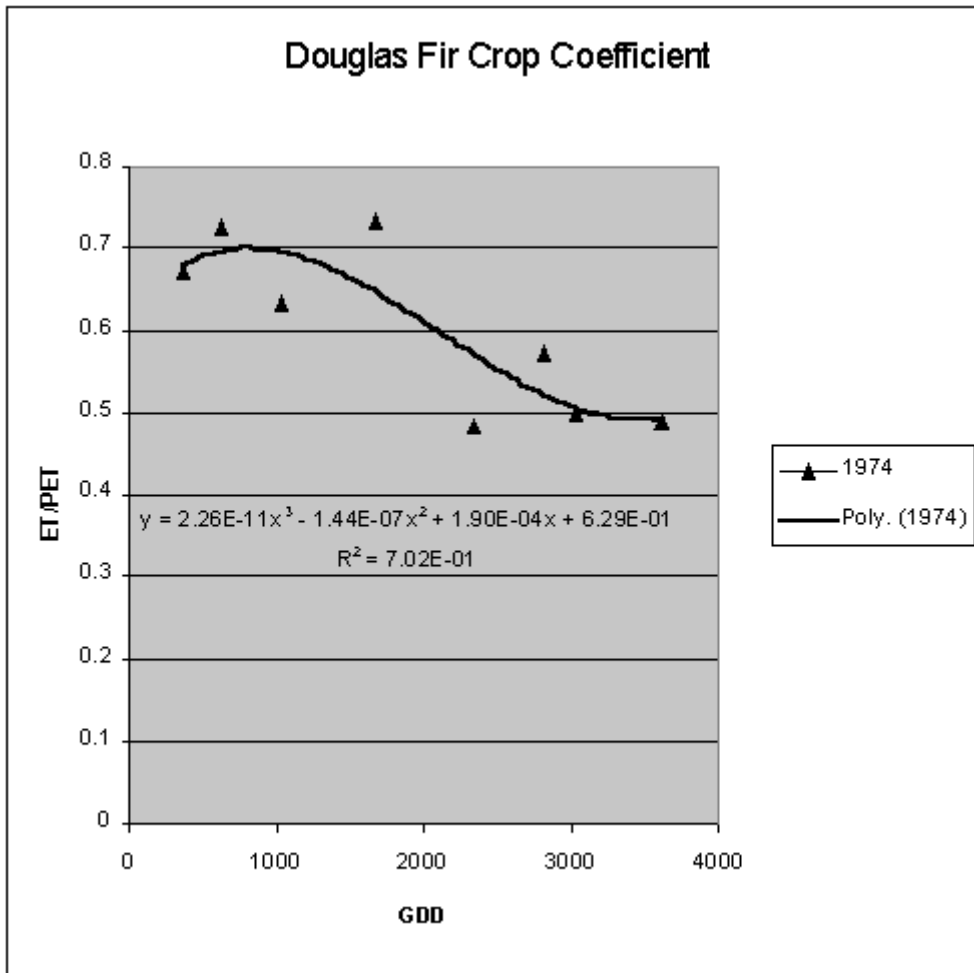


# New Mexico Crop Information

**Douglas Fir coefficient(k) to calculate evapotranspiration(ET) where  
 $Et=k*Eto$**

Eto = reference evapotranspiration or potential evapotranspiration referenced to grass.



Crop Coefficient uses growing degree days (GDD) accumulated from January 1 based on the averaging method of calculating [GDD](#) with a maximum temperature cutoff of 86 F and a minimum cutoff temperature of 41 F. The Base Temperature is 41 F. The Douglas fir requires 90 GDD to come out of dormancy

The equation for the crop coefficient (k) is presented in the figure

Crop Coefficient =  $Et_{act}/Et_{pot}$  for a closed canopy Douglas fir forest that is not under moisture stress conditions.

The reference for this work is Fritschen, L. J. , J. Hsia, and P. Doraiswamy. 1976. Evapotranspiration of a Douglas Fir determined with a weighting lysimeter. Water Resource Research vol 13 no. 1 pp 145-149

Fritchen reported the Et and the potential Et for the site was determined using the temperature data from Lansburg Washington 2.3 km west-southwest of the site and [Samani' Potential evapotranspiration equation](#) with a k value of 0.16 . The climate data is available at NCDC web site. The paper reported three [years of data](#) but the crop coefficients for the other years were less than for 1994 indicating that the tree was growing under moisture stress condition in those years.