

# Study Objectives

How does intra-seasonal rainfall variability interact with water deficits experienced by a maize crop?

How do varying maize cultivars moderate the effect of climate variability on changes in yields and crop failure?

Has the average yield of maize production and likelihood of crop failure changed over an 80 year period?





# Modeling Soil Evaporation and Crop Transpiration

Partitioning between  
Evaporation and Transpiration  
also changes as a function of  
vegetation density  
(Leaf Area Index, LAI  $\text{m}^2/\text{m}^2$ )

Higher LAI lowers Evaporation

Maximum Evapotranspiration  
determined by Potential  
Evapotranspiration

