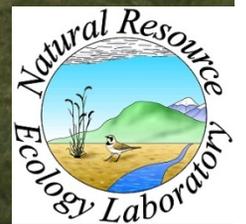


Measuring the Temperature Sensitivity of Enzyme Activity

J. Meg Steinweg
Natural Resource Ecology Lab
Colorado State University



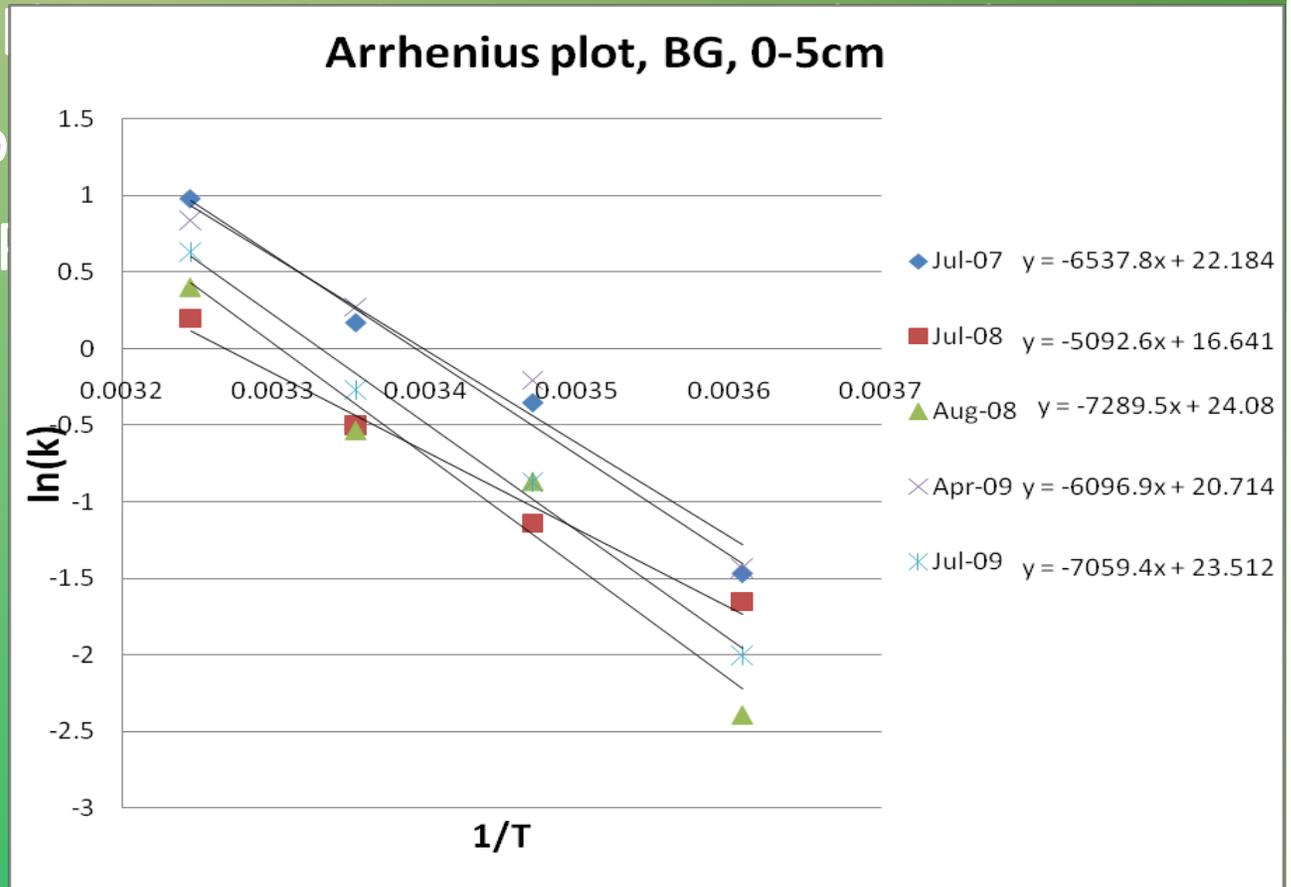
Assays and Arrhenius

- Assays performed at 4 temperatures:
 - 4, 15, 25, 35C
- B-glucosidase (BG), Cellobiohydrolase (CB)

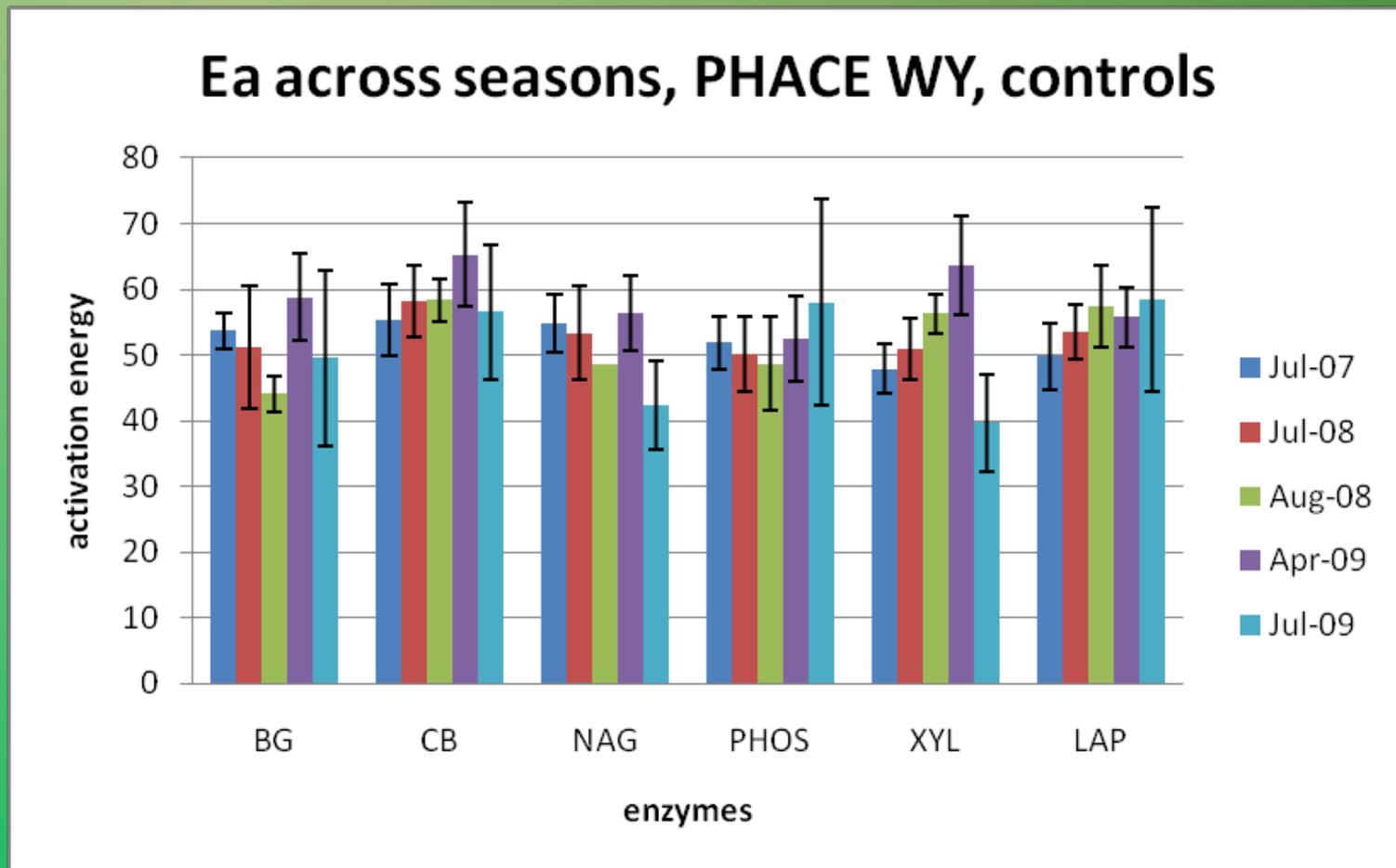
Xylosidase (XY)

Leucine amino

Phosphatase (I

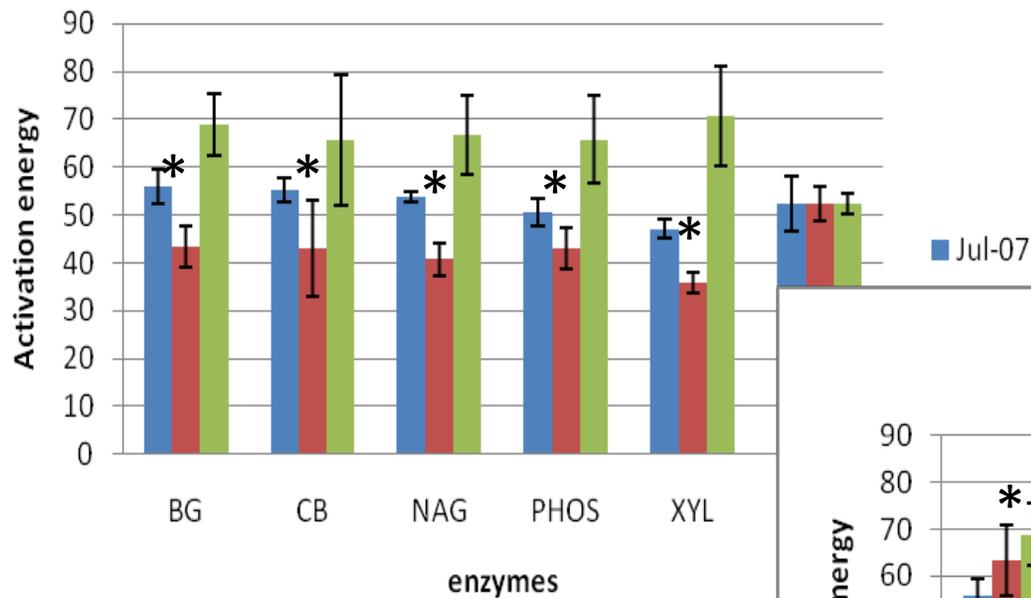


Activation Energy Across Seasons

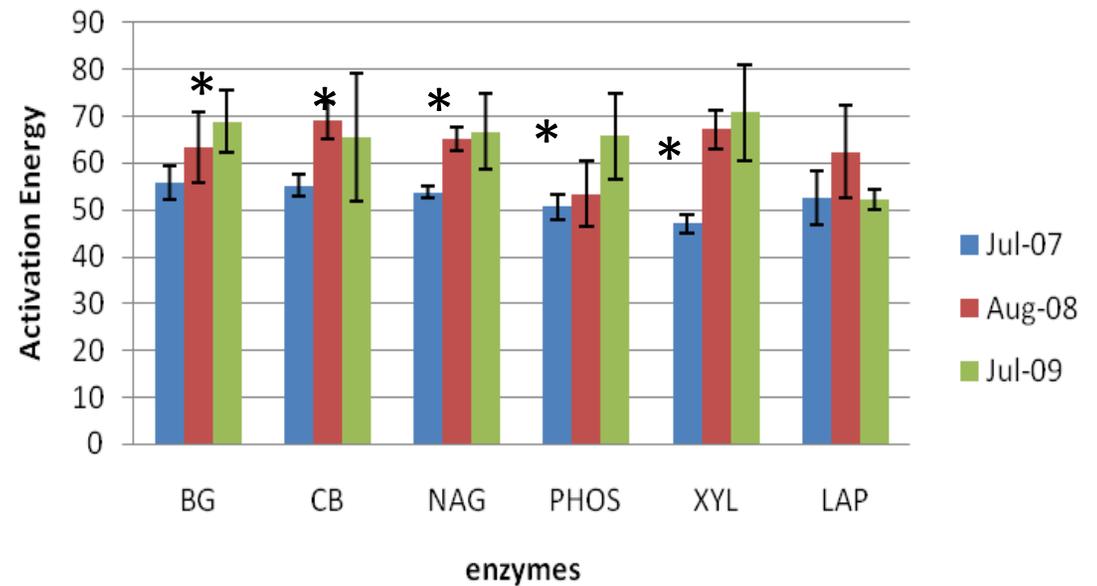


E_a under elevated CO_2 and temp

E_a July 2007 to July 2009, CT plots



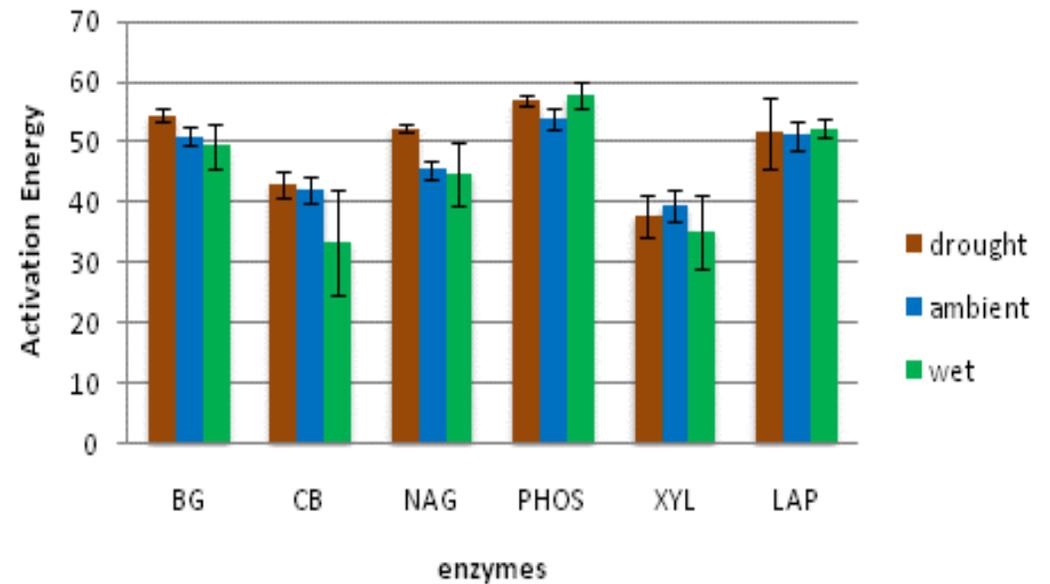
E_a 2007-2009, CT plots



Temperature Sensitivity, BACE MA, August 2008

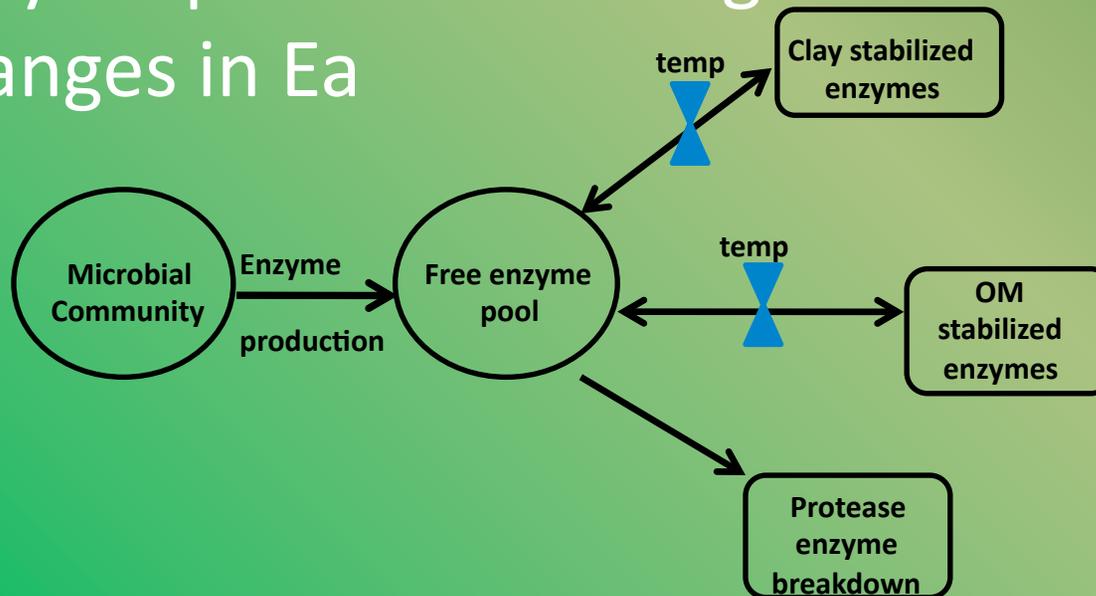


Ea, BACE MA, August 2008



What else could be driving the apparent change in E_a /temp sensitivity?

- Enzyme-clay interactions (is this more important?)
- Enzyme-organic matter interactions
- Change in turnover time of enzymes
- Enzyme pool too heterogeneous to measure changes in E_a



Thank You!
Questions?



