OSCM update

9/3/2018

- Project update
  - ORNL budget should last through most of FY20, continuing plans to hire postdoc ½ time

- Upcoming Meetings
  - AI town halls (Argonne, ORNL, LBNL, DC)
    - Brainstorming ideas to use AI to improve Earth System Models and more broadly across BER
  - Rubisco-AmeriFlux workshop – Oct. 15-17 (LBNL)
    - Methods to improve process models using eddy covariance sites
  - ICDM conference – early November (Beijing, China)
    - Dan Lu submitted two proceedings, in peer review
  - E3SM fall meeting – week of Nov. 18 (DC area)
    - Not sure if there will be a SciDAC session like last year.
  - AGU – Dec. (San Francisco)
    - Dan Lu: Learning-based Inversion-free Model-data Integration to Advance Ecosystem Model Prediction
    - Vishagan Ratnaswamy: Physics-informed Recurrent Neural Network Surrogates for E3SM Land Model
    - Daniel M Ricciuto: Quantifying uncertainty in E3SM land surface model predictions using surrogate modeling approaches
    - Khachik Sargsyan: Calibration and Propagation of Model Structural Error for E3SM Land Model
    - Cosmin Safta: Uncertainty Quantification for E3SM Land Component using Low-Rank Surrogate Models
    - Tony King: The Response of Simulated Foliar Dark Respiration to Long Term Temperature Change
  - Others?

Available Model output

NERSC shared data area: /project/projectdirs/m3308/shared_data

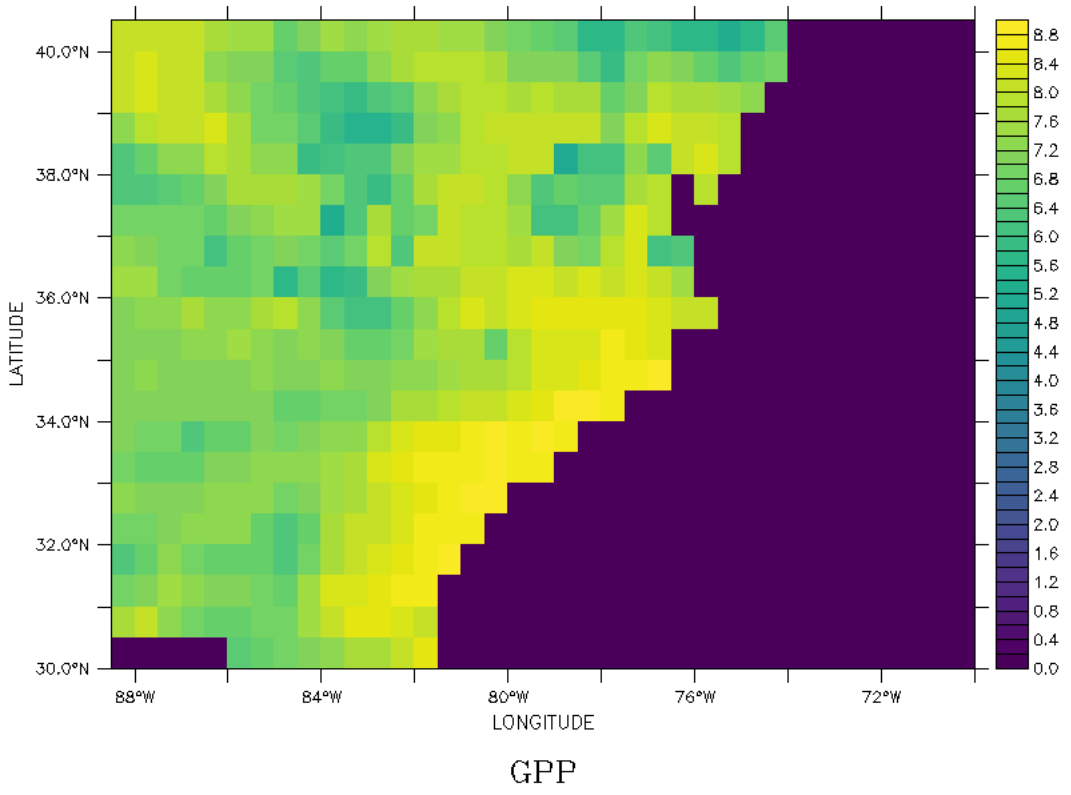
- Simple ELM simulations for Lu et al. (2019): ./Lu_data
- 47-parameter 2000 member ensemble: ./model_output_2000random_allparms_pft0.nc

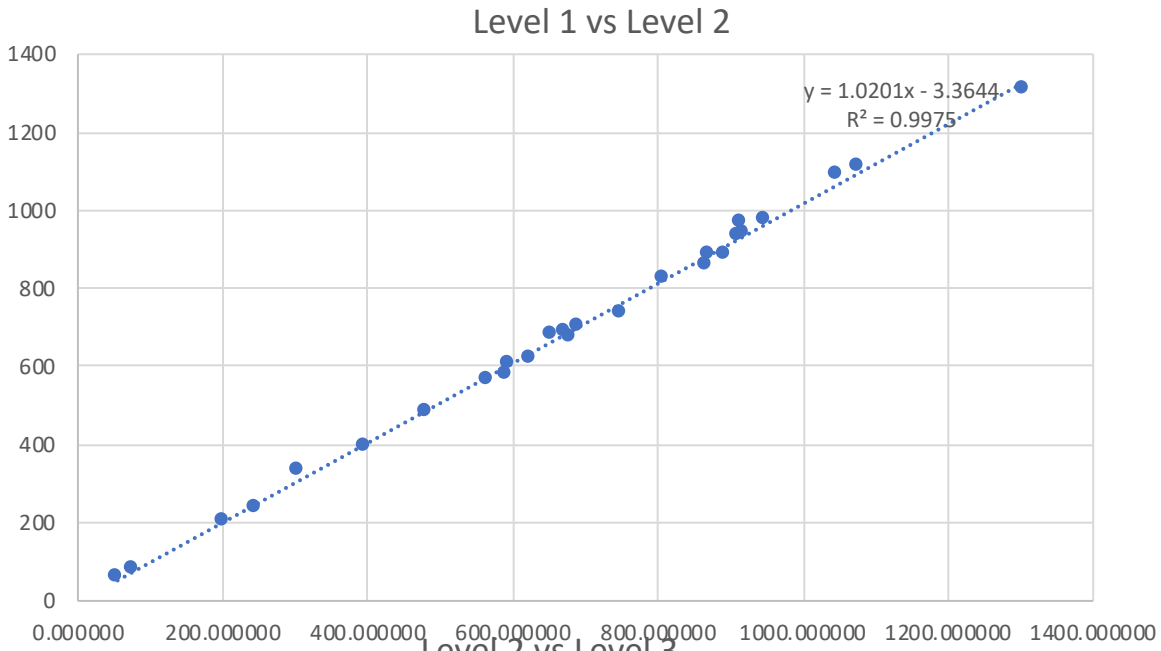
New:

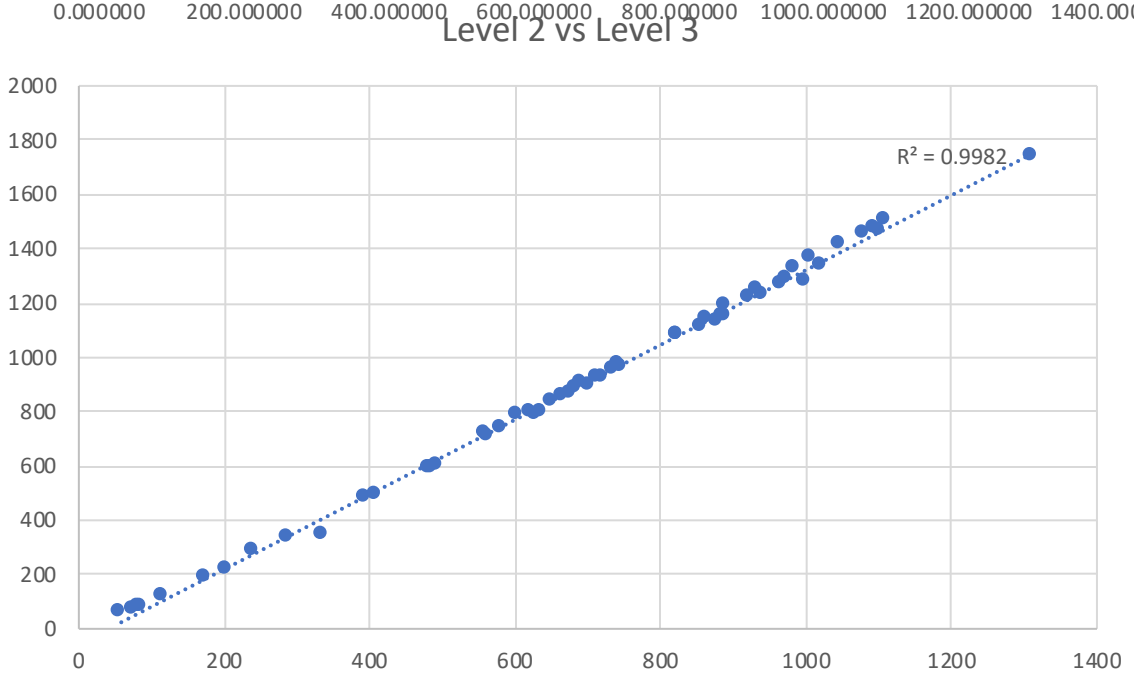
- Daily output for reduced domain (SE USA)
- MLMC simulations: CONUS ½ degree, 2 degree, 36 points (ELM), 36 points (sELM)

In progress:

- 10-parameter, 50-member 2 degree global ensemble (E3SM model intercomparison)







- 36 ELM points can be used to predi mean GPP over CONUS
- sELM is a relatively poor representa of ELM especially at parameter combinations with high GPP