

- Methods presented provide a reasonable approach for using modeling in a predictive capacity:
 - identify/develop a model that is reliable,
 - captures relevant processes
 - feasible for applications

- As opposed to heuristic model applications, using modeling as the basis to make predictions involves *management of the uncertainty*, with the goal of minimizing the bias and imprecision in predictions.
 - Key Issue: How to deal with evaluating uncertainties beyond the measurement space.

- Focused on parameter uncertainty in Yasso model
 - Determined distribution of parameter values
 - Used to quantify uncertainty in model predictions with Monte Carlo approach
 - Potentially other uncertainties such as input data?

- Does this analysis assume that the model is correct?
 - Model could be reliable but may not be completely accurate due to a lack of knowledge about processes affecting soil C dynamics.
 - Parameters could be accurate and precise for processes represented in the model but results still be uncertain due to model structure
 - Incomplete understanding of soil C dynamics, such as missing processes?

- Purpose is to interpolate and extrapolate measurements beyond the conditions where the measurements were taken.
 - Under what conditions would it be recommended to use statistical models for extrapolation/interpolation? How about dynamic models?
 - i.e., Are there limitations?
 - Dynamic model less capable of estimating soil C stocks than statistical model.
 - Uncertainties in predicting humus pool – What is the underlying cause of this uncertainty?