

Progress Report

Assessing & Mapping Regional Variation in Site Productivity

CAFS.19.75

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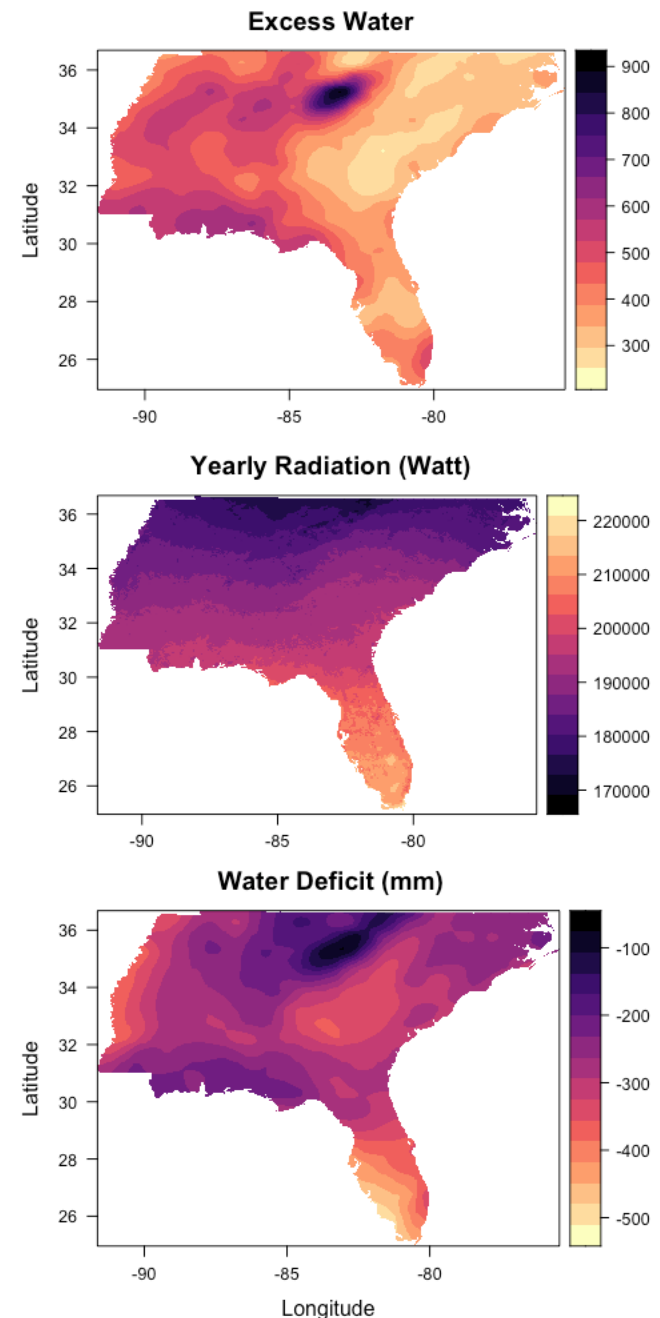
Project Overview

- Characterize soil and climate at regional scale using different indicators.
- Test different local models.
- Evaluate site equation locally at different locations with explicit uncertainty.
- Interpolate Stand Productivity using local variables as well as the uncertainty present at each site.
- Two assessments will be made: Site Index, Max Growth rate.

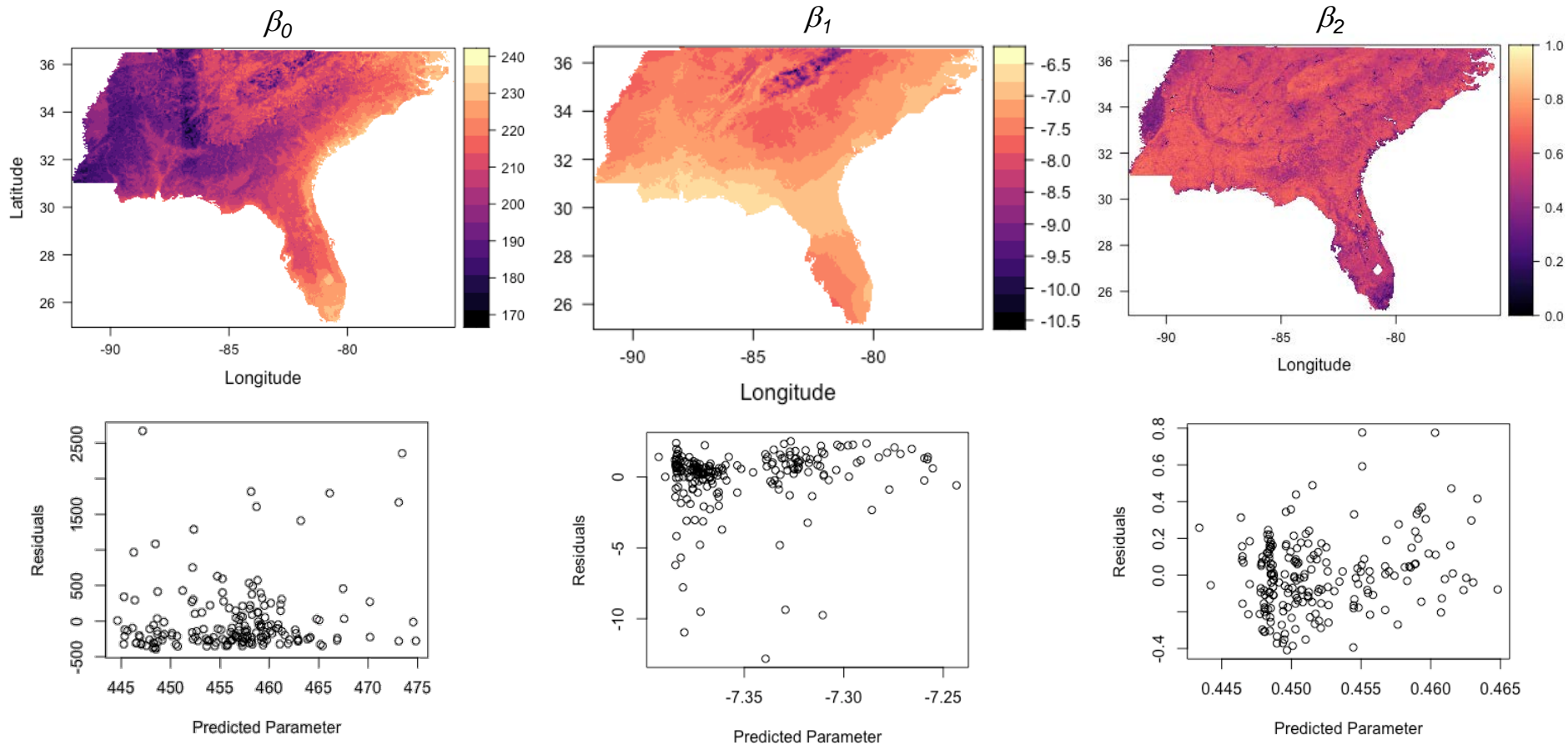


Current Progress

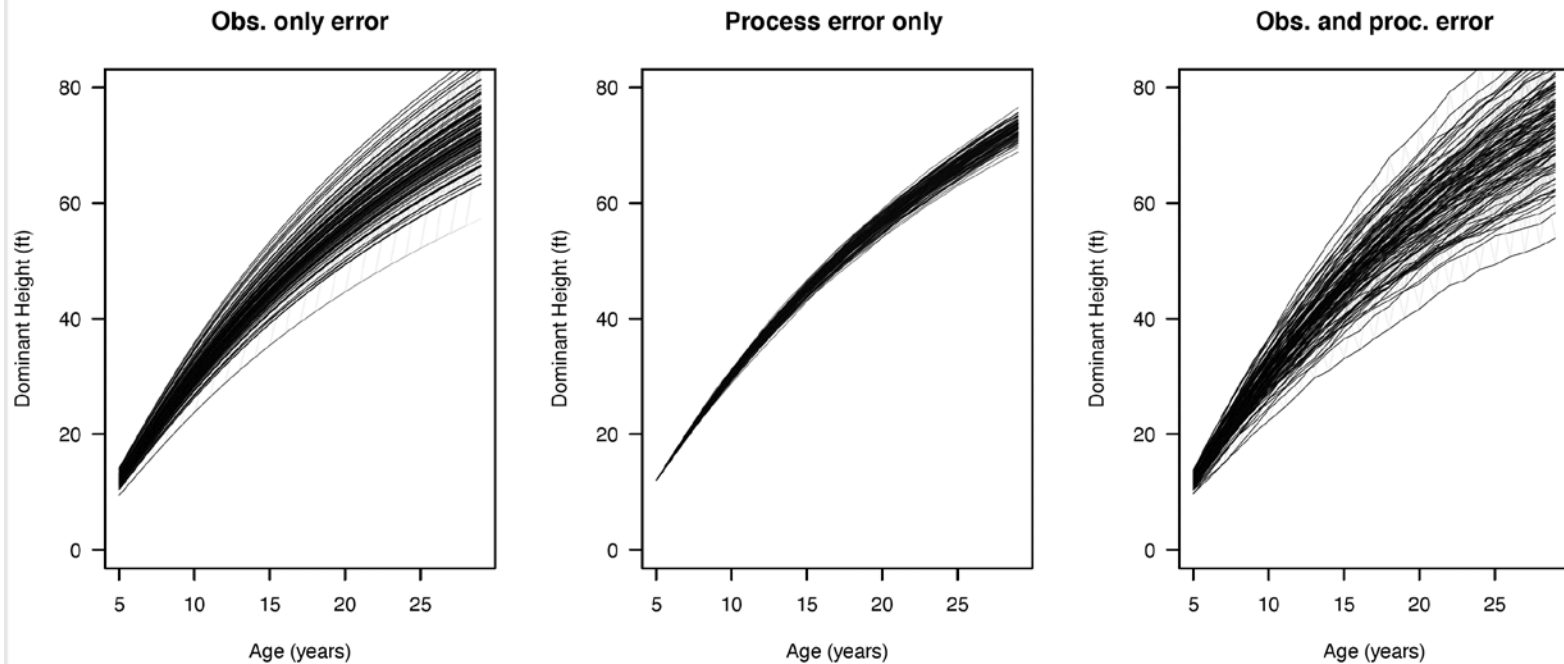
- Several maps with auxiliary variables available.
- Site Index interpolation using generalized additive models and machine learning methods.
- Results show strong climatic effects.
- Uncertainty in stand projections determined and modeled as well, showing uneven uncertainty values across the southeast U.S.



Interpolated local parameters that allow for better characterization of the site.



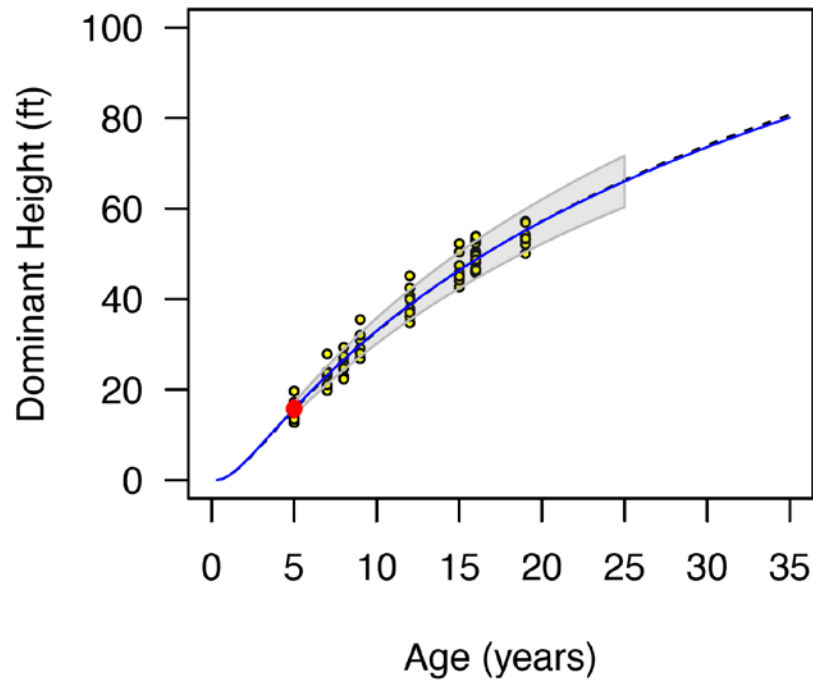
There are many paths from a given point forward, the expressed SI is only one of them.



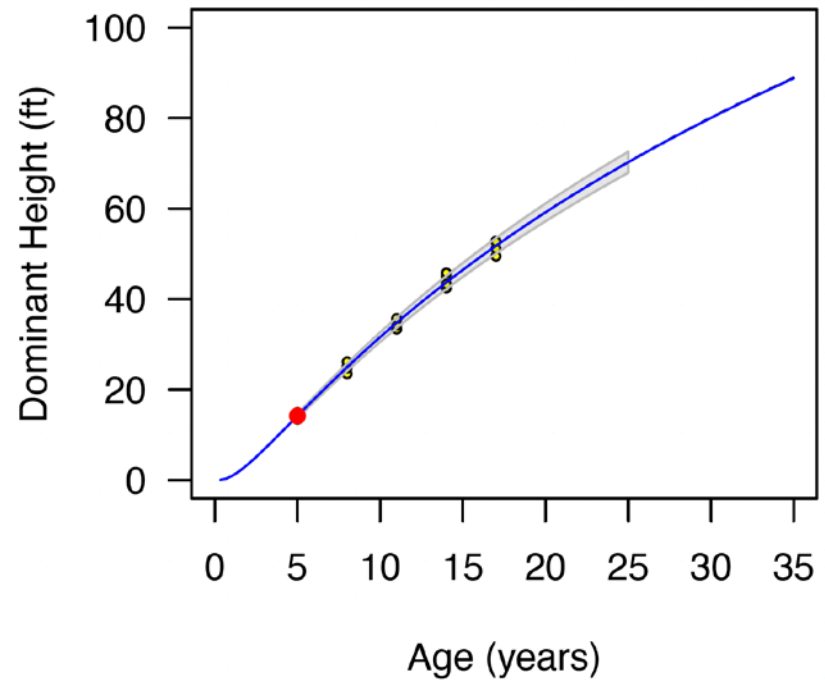
Evaluation of long-term uncertainty

Model calibration per site with explicit variation

Low Variance stability

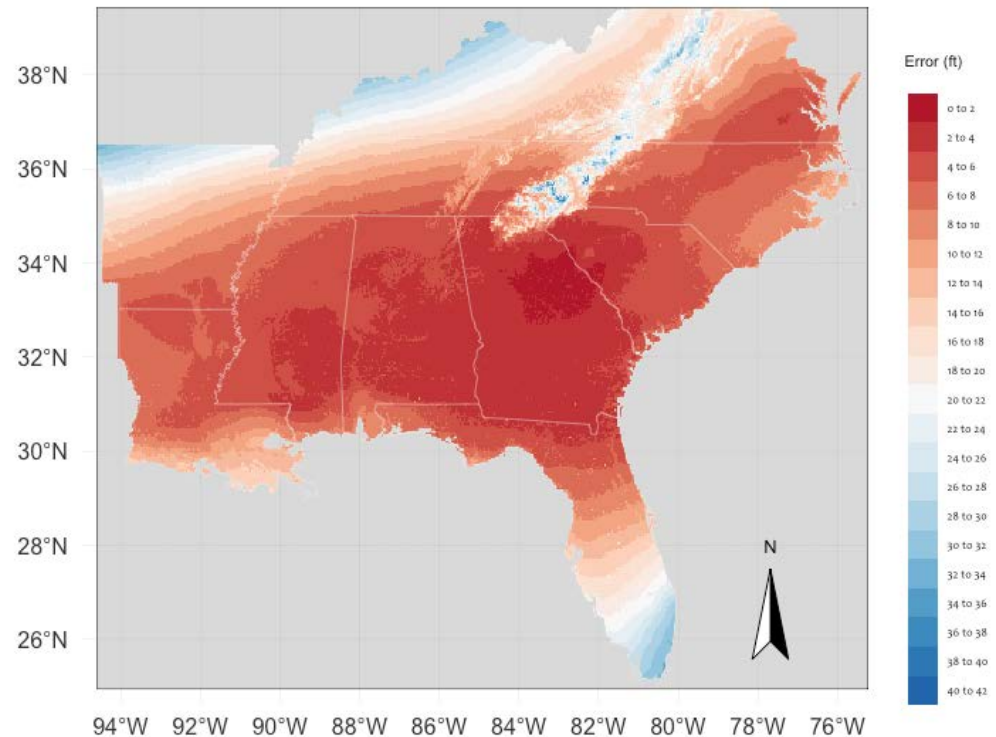


High variance stability



There was uncertainty in the model

- Here is how much we know about the equations.
- There is a clear area with large information.
- Some areas are far from knowledge values.



- Include soil maps, at the regional scale.
- Include steady state LAI map as one of the predictors.

