



The Tier II Network: Cooperative Research Sites Used for Assessing The Response of Carbon and Nitrogen Pools to Management

PINEMAP 2014 Annual Meeting

The Tier II network consists of 130 sites representing a range of environmental conditions (Fig. 1). These sites are being sampled to estimate the carbon stored in tree biomass, soil, forest floor, understory, and woody debris of the forests (Fig. 2). The forests have a range of silvicultural prescriptions that are linked to the objectives of each cooperative.

Integration will occur within the Aim 1 group and across other Aims through direct testing of hypotheses and model parameterization and testing (Fig. 3).

Potential pitfalls are the labor intensity of the measurements and mission overlap among researchers.

Estimates made from cooperative mensuration

- Aboveground Carbon Pools and Productivity
- Coarse Root Carbon Pools and Productivity

Estimates made by PINEMAP personnel

- Forest Floor Carbon and Nitrogen
- Coarse-woody Debris and Stump Carbon Pools
- Understory Carbon Pools
- Soil Carbon and Nitrogen

Depths: 0-10 cm, 10-20 cm, 20-50 cm, and 50-100 cm

Photo: John Seiler
Photo: Andy Laviner

Figure 2. Aboveground pools are estimated from allometric equations and mensuration data and other pools are being estimated directly by PINEMAP.

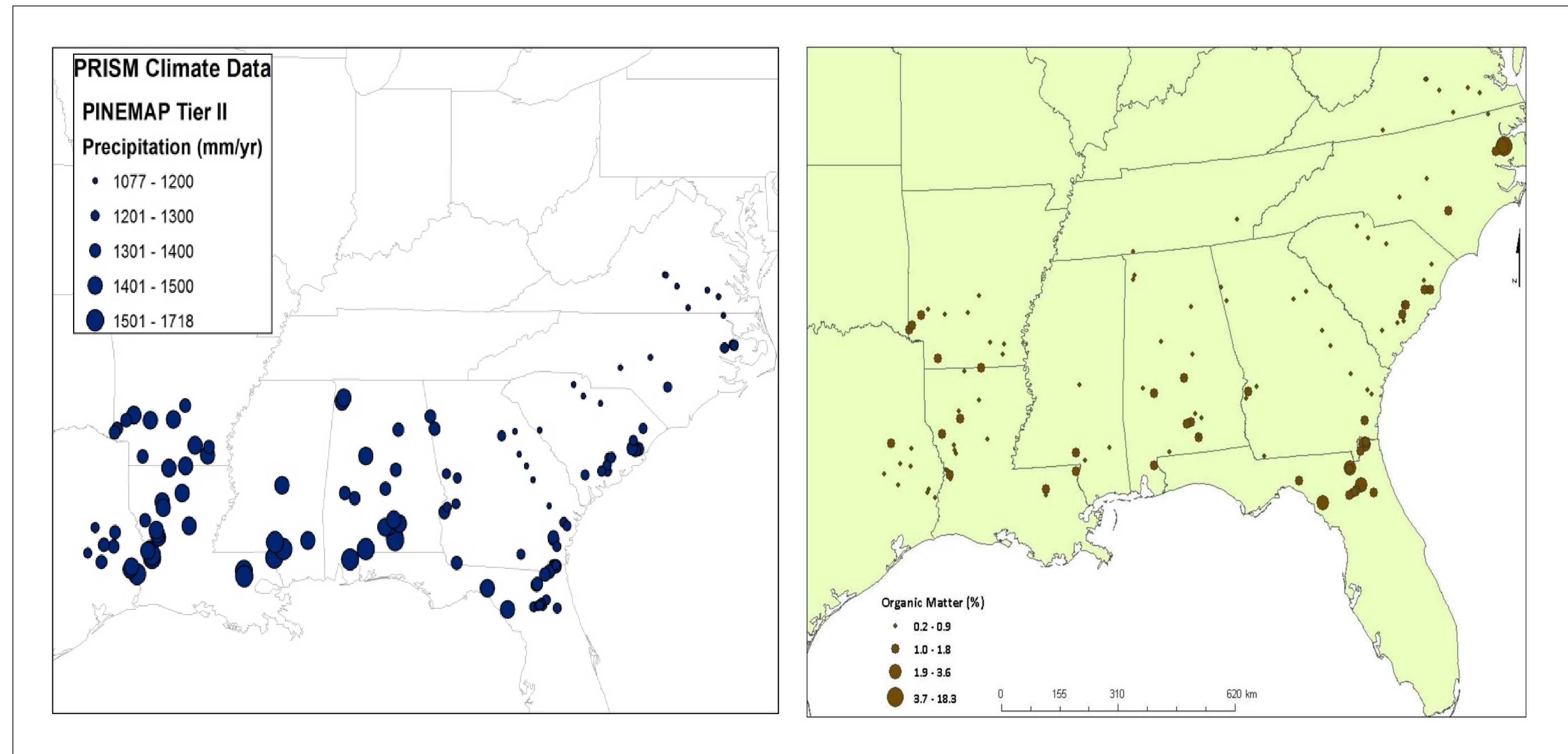


Figure 1. For each cooperative installation (black or brown dot) estimates have been extracted for a number of variables from public databases, for example precipitation (G. Sun) and soil organic matter concentration (S. Grunwald, W. Ross) from PRISM and gSSURGO, respectively.

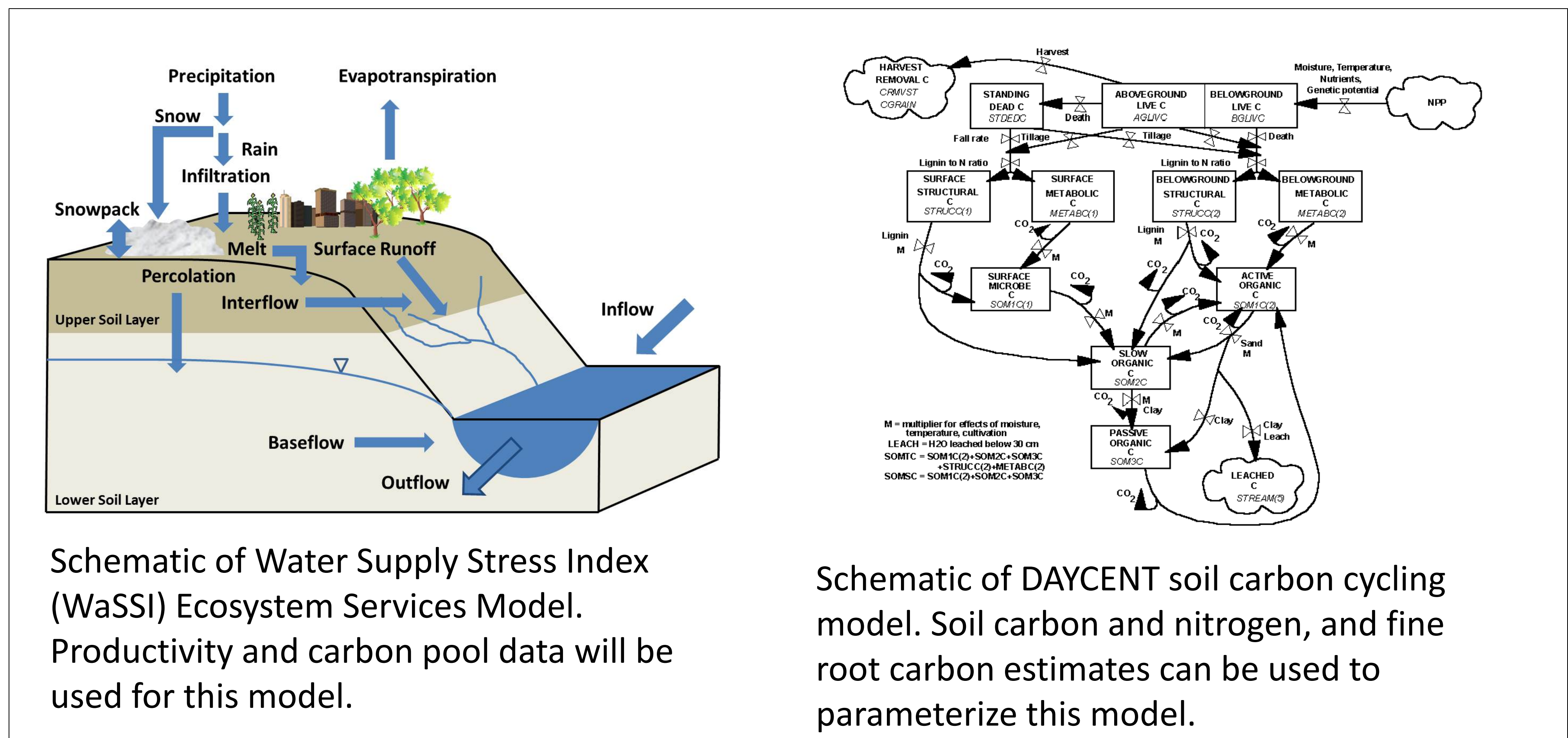


Figure 3. Data collected from the Tier II network will be used to parameterize models and to test hypotheses on climate, soils and management effects on carbon and nitrogen pools and dynamics.