Table 2: Definitions and sample sizes of carbon flux variables used in analysis. All variables are measured in units of Mg C ha-1 yr-1.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | Sample size | |
| Variable | Definition | Components included | Methodologies | records | geographic areas\* |
| *GPP* | Gross Primary Production | full ecosystem | flux partitioning of eddy-covariance; *NPP* + *Rauto* | 243 | 49 |
| *NPP* | Net Primary Production | stem, foliage, coarse root, fine root, optionally others (e.g., branch, reproductive, understory) | *ANPP* + *BNPP* (majority); *GPP* – *Rauto* | 161 | 56 |
| *ANPP* | Aboveground *NPP* | stem, foliage, optionally others (e.g., branch, reproductive, understory) | *ANPPstem* + *ANPPfoliage* (+ others) | 278 | 86 |
| *ANPPstem* | Stem growth component of *ANPP* | woody stems down to DBH ≤10cm (no branch turnover) | stem growth measurements scaled to biomass using allometries | 264 | 96 |
| *ANPPfoliage* | Foliage component of *ANPP* | foliage | litterfall collection, with separation into components | 98 | 49 |
| *BNPP* | Belowground *NPP* | coarse and fine roots | coarse roots estimated indirectly using allometries based on aboveground stem increment measures ; fine roots as below | 101 | 48 |
| *BNPPfine.root* | Fine root component of *BNPP* | fine roots | measurements combined one or more of the following: soil cores, minirhizotrons, turnover estimates, root ingrowth cores | 88 | 41 |
| R*auto* | Autotrophic respiration | foliage, stem, and root | chamber measurements of foliage and stem gas exchange + *Rroot* (as below) | 22 | 13 |
| *Rroot* | Root respiration | (coarse and) fine roots | partitioning of total soil respiration (e.g., through root exclusion), scaling of root gas exchange; excluded alkali absoption and soda lime methods for measuring soil respiration | 64 | 26 |

\*Geographic areas group geographically proximate sites, defined using a hierarchical cluster analysis on the distance matrix of the sites, and a cutoff of 25km