Noah-MP Carbon Budget and Processes Photosynthesis Leaf carbon allocation **Leaf respiration** Stem carbon allocation Leaf turnover Stem respiration Leaf death (seasonal) Stem turnover Stem death (seasonal) **Wood respiration ♦ Wood turnover** Soil respiration > Wood carbon allocation Root respiration Shallow soil carbon pool (fast) **Root turnover** Carbon stabilization conversion **Root carbon**

Total carbon balance:

Deep soil carbon

pool (slow/stable)

Photosynthesis – Respiration = \triangle Plant carbon pool + \triangle Soil carbon pool

allocation