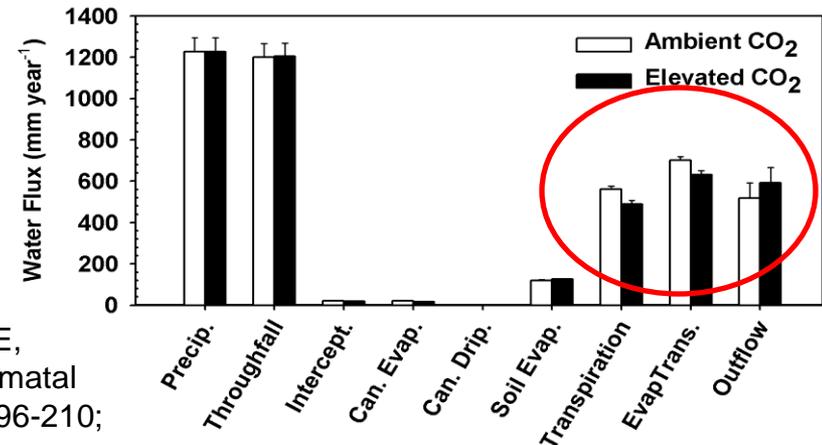
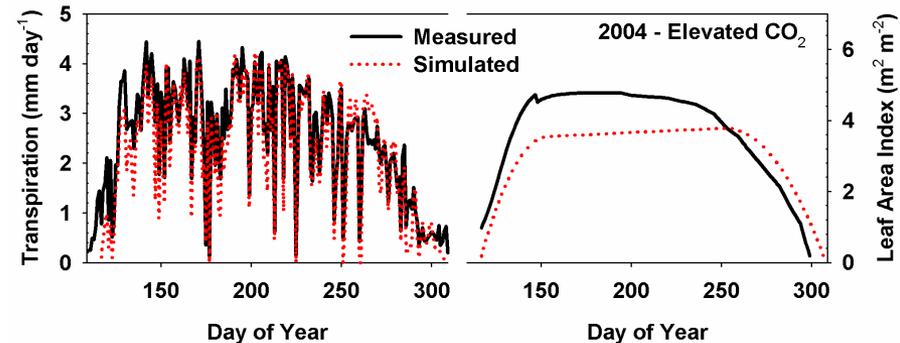


# Ecohydrologic impact of reduced stomatal conductance in forests exposed to elevated CO<sub>2</sub>

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Funding: DOE Office of Science, Biological and Environmental Research

- Atmospheric CO<sub>2</sub> is increasing, and the resultant responses of ecosystems have significant implications for society.
- Data synthesis, measurement and modeling were used to evaluate impacts of elevated CO<sub>2</sub> on forest water use.
- Elevated CO<sub>2</sub> reduces transpiration in closed canopy, nutrient limited stands, such as the ORNL FACE site - elevated CO<sub>2</sub> reduced sweetgum water use 10-15%
- Biome-BGC simulations of transpiration were 85-95% of measured transpiration
- Simulations suggest elevated CO<sub>2</sub> will result in a 75 mm increase in water yield for the sweetgum site, increasing ground- water and surface runoff into streams



Citation: Warren JM, Pötzelsberger E, Wullschlegel SD, Thornton PE, Hasenauer H, Norby RJ (2011) Ecohydrologic impact of reduced stomatal conductance in forests exposed to elevated CO<sub>2</sub>. *Ecohydrology* 4:196-210; DOI: 10.1002/eco.173