

Readings for Photosynthesis and Water Relations Lectures – PIRE 2009

Key Readings Associated with Research and Lectures

Doughty CE, Goulden ML (2008) Are tropical forests near a high temperature threshold? *Journal of Geophysical Research-Biogeosciences* 113:G00B07.

Doughty CE, Goulden ML, Miller SD, de Rocha HR(2006) Circadian rhythms constrain leaf and canopy gas exchange in an Amazonian forest. *Geophysical Research Letters* 33:L15404.

Fisher RA, Williams M, Lobo do Valle R, Lola de Costa A, Meir P (2006) Evidence from Amazonian forests is consistent with isohydric control of leaf water potential. *Plant, Cell and Environment* 29: 151-165.

Nepstad DC, Moutinho P, Dias MB, et al., (2002) The effects of partial throughfall exclusion on canopy processes, aboveground production, and biogeochemistry of an Amazon forest. *Journal of Geophysical Research-Atmospheres* 107: 8085.

Additional Readings for Background and Further Inquiry

Chazdon RL, Pearcy RW (1991) The importance of sunflecks for forest understory plants. *BioSciences* 41:760-766.

Chazdon RL, Pearcy RW (1986) Photosynthetic responses to light variation in rainforest species. I. Induction under constant fluctuating light conditions. *Oecologia* 69:517-523.

Huxman TE, Turnipseed AA, Sparks JP, Harley PC, Monson RK (2003) Temperature as a control over ecosystem CO₂ fluxes in a high-elevation subalpine forest. *Oecologia* 134:537-546.

Krause GH, Weis E (1991) Chlorophyll fluorescence and photosynthesis: the basics. *Annual Review of Plant Physiology and Plant Molecular Biology* 42:313-349.

Lee JE, Oliveira RS, Dawson TE, Fung I (2005) Root functioning modifies seasonal climate. *Proceedings of the National Academy of Sciences of the United States of America* 102:17576-17581.

Lloyd J, Farquhar GD (2008) The effect of rising temperatures and [CO₂] on the physiology of tropical forest trees. *Phil. Trans. R. Soc. B* 363:1811-1817.

Oliveira RS, Dawson TE, Burgess SSO, Nepstad DC (2005) Hydraulic redistribution in three Amazonian trees. *Oecologia* 145:354-363.

Sage RF, Sharkey TD, Seemann JR (1989) Acclimation of photosynthesis to elevated CO₂ in five C₃ species. *Plant Physiology* 89:590-596.

Saleska SR, Miller SD, Matross DM, et al., (2003) Carbon in amazon forests: Unexpected seasonal fluxes and disturbance-induced losses. *Science* 302:5650:1554-1557.

Wright IJ, Mestoby M, Ackerly DD, et al., (2004) The Worldwide leaf economics spectrum. *Nature* 428:821-827.

Good General References

Pearcy et al., *Plant Physiological Ecology: Field Methods & Instrumentation* ("The Pink Book").

Ch. 8 – Measurement of transpiration and leaf conductance

Ch. 9 – Plant water status, hydraulic resistance and capacitance

Ch. 11 – Photosynthesis: principles and field techniques