

**SYMPOSIUM 17: MEASURING AND PREDICTING THE IMPACTS OF DROUGHT ACROSS
TROPICAL FORESTS IN AFRICA AND SOUTH AMERICA**

Bonito, 21st June 2012 (Thursday)

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Many tropical forests are exposed to severe drought episodes (seasonal patterns and/or ENSO events), and climate models predict increasing severity of these episodes in the near future. Understanding the response of species and forest stands to drought will be important to predict impacts of global change on forest biodiversity and biogeochemical cycles. Yet the impact of drought episodes varies tremendously within and across forests. Such variation may be explained by (i) spatiotemporal variation in soil water availability, and/or (ii) interspecific differences in drought tolerance. Our understanding of how these two components influence the consequences of drought for tropical forests are still limited, and recent evidence suggests that the impacts of drought may differ between continents. This Symposium will discuss current knowledge on tropical tree response to drought, with a particular emphasis to compare results across continents. Three research themes will be emphasized: (1) Quantifying the drought resistance of focal species, focused on contrasting species functional response to drought and links with their distribution across climatic gradients; (2) Forest dynamics under drought, focused on modelling changes in tree growth and mortality events; (3) Predicting the response of tropical vegetation to future scenarios, focused on modelling approaches that integrate species differences to project forest response to future land use and climate change scenarios.

TALKS (Room Kadiwéu 1, 09h00-12h30)

09h00-09h15 (S17.OC.01) **Spatial and temporal variability of plant-available soil water in Congo Basin and its relationship with tree species distributions.** *Vincent Freycon*

09h15-09h30 (S17.OC.02) **Drought resistance of tree species in the Congo Basin: interspecific variation of seedling responses and traits.** *Sabrina Coste*

09h30-09h45 (S17.OC.03) **Effects of drought on species composition and distribution of tropical forests in West Africa and Bolivia; the underlying mechanisms.** *Lourens Poorter*

09h45-10h00 (S17.OC.04) **Environmental filtering and species distributions across lowland South American forests.** *Claire Fortunel*

10h00-10h15 (S17.OC.05) **Determinants of tree distribution in tropical forests: assessing the impact of dry season intensity and soil species by species.** *Bettina Engelbrecht*

10h15-10h30 (S17.OC.06) **Drought-induced shifts in the floristic and functional composition of tropical forests in Ghana.** *Sophie Fauset*

Coffee Break

11h00-11h15 (S17.OC.07) **Impacts of long-term experimental drought on the physiology and ecology of an eastern Amazon rain forest.** *Patrick Meir*

11h15-11h30 (S17.OC.08) **Investigating and predicting the long-term effect of drought on the demography of tree species in Central Africa.** *Dakis-Yaoba Ouédraogo*

11h30-11h45 (S17.OC.09) **Towards trait-based mortality models for tropical forests?** *Méline Aubry-Kientz*

11h45-12h00 (S17.OC.10) **Which climate indices are relevant for predicting the response of tropical forests to future climate scenarios?** *Fabien Wagner*

12h00-12h15 (S17.OC.11) **The response of dead wood respiration to seasonal drought in a neo-tropical forest.** *Lucy Rowland*

12h15-12h30 (S17.OC.12) **Identification of areas susceptible to desertification in Caatinga using Landsat images.** *Adriana Pellegrini*