

**SYMPOSIUM 35: UNDERSTANDING FIRE REGIMES IN TROPICAL LANDSCAPES: CLIMATIC,
ECOLOGICAL, AND SOCIO-ECONOMIC CONSIDERATIONS**

Bonito, 20th June 2012 (Wednesday)

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Fire has been used in tropical agriculture for millennia. Until recently the broader dangers of clearing and managing lands with fire received relatively little public, political, or research attention in tropical countries. However, the escaped fires that devastated large areas of Bornean forests during the ENSO event of 1982-83, producing enormous ecological and economic losses, with damaging smoke and haze spread throughout Southeast Asia, alerted the world to the issue. Subsequent events, especially the conflagrations of 1997-98, another ENSO year, confirmed that agriculture-related fires in the tropics had become a major and growing problem on a global level. It is estimated that in the exceptional drought event of 1997-98 twenty million hectares burned due to uncontrolled fires in Latin America and Southeast Asia, and cost the country of Indonesia almost 7.5 billion dollars in lost timber, crops, tourism revenues, as well as health care costs and ecological services, among other goods. Apart from its local and national impacts, the role of agriculture-related fire is now being assessed in the contexts of global climate change as well as of global deforestation trends. Around the tropics increased fire danger and devastation caused by fire reflects broad shifts in many aspects of development, including logging and fragmentation of forests, rapidly changing land use, new infrastructural development, shifts in population size and distribution, as well as changing patterns of drought and humidity. Since fires link many important aspects of environmental and social change in the tropics, understanding recent changes in their incidence and impact requires multi-disciplinary, multi-scalar, and integrated approaches to research and to policy-formulation. The goal of the proposed symposium is to explore the interactive effects of climatic, ecological, and socio-economic factors in driving forest dynamics in tropical landscapes and to explore the consequences for ecosystem services. Addressing these interactive effects requires a comprehensive, multi-scalar, and multi-disciplinary approach across different regions and landscapes. To this end, we will bring together scientists working on understanding forest dynamics in forested and savanna sites distributed throughout the tropics. Presentations will examine: (1) effects of fire on ecosystem services, with a focus on water and biogeochemical cycles; (2) effects of fire on the composition of landscape mosaics; and (3) impacts of management practices (e.g., agriculture, logging) on fire dynamics.

TALKS (Room Kadiwéu 2, 16h30-18h00)

16h30-16h45 (S34.OC.01) **Tipping points of a neotropical forest: fire-drought interactions.**

Paulo Brando

16h45-17h00 (S34.OC.02) **Land use, climate, and fire activity in the Western Peruvian**

Amazon. Maria Uriarte

17h00-17h15 (S34.OC.03) **Effect of hurricanes and land use on fire dynamics in Southern**

Yucatán, Mexico. Laura Schneider

17h15-17h30 (S34.OC.04) **Effects of high frequency understory fires on early plant succession in southeastern Amazonian forests.** *Jennifer Balch*

17h30-17h45 (S34.OC.05) **Fire disturbance in Amazonian blackwater forests.**
Bernardo Monteiro Flores

17h45-18h00 (S34.OC.06) **Congruence in indicator taxa and richness estimates: a study on biodiversity responses to fire disturbance in the Brazilian Amazon.** *Rafael Andrade*

POSTERS

S35.CO.01. **Post-fire regeneration of an invaded wet grassland in Brazilian Savanna.**
Elizabeth Gorgone Barbosa

S35.CO.02. **Phoenix plants: effects of fire on herb reproduction of a Neotropica Savanna.**
Fernando Pedroni

S35.CO.03. **Fire evolution and vegetation dynamics of savannas on Ibity Massif (Madagascar) using analysis and interpretation of satellite imagery.**
Swanni Alvarado

S35.CO.04. **What explains the poor regeneration of Amazonian blackwater forests after fire?** *Bernardo Monteiro Flores*

S35.CO.05. **Species regeneration in burned forest sites in the southern Amazon basin, Brazil.** *Roberta Cury*

S35.CO.06. **Characterization of environmental and anthropogenic impacts in the Park Estadual de Moura Altamiro Pacheco in the year 2010 (Goiás).** *Anna Claudia Santos*

S35.CO.07. **Fire selects autogamy in a treelet species in Cerrado: a case study in *Diplusodon oblongus* (Lythraceae) and *Styrax ferrugineus* (Styracaceae).** *Isabela Galarda Varassin*

S35.CO.08. **Does fire affect ant community in the rupestrian fields?** *Tate Corrêa Lana*

S35.CO.09. **Post-fire regeneration of plant communities of campos rupestres, upland tropical grasslands in Brazil.** *Soizig Anne Le Stradic*

S35.CO.10. **Safer hydraulic conductivity, and protection against fires are strategies of Cerrado plants.** *Carmen Marcati*

S35.CO.11. **Bird functional diversity and wildfires in the Amazon forest.** *José Hidasí Neto*