Poster Session 2

Session: Challenges and Integration

The potential of indicator-based GIS mapping as an integrative tool for climate change risk and vulnerability assessment in complex socio-ecological systems of Africa
R.A.G. Davies (1), S.J.E. Midgley (2) presenting; *HabitatInfo, UK (1), OneWorld, South Africa (2)*

Sustainability... but how to assess it?
M. Brandão (1), A. Miola (1) presenting; *European Commission, Italy (1)*

The MONTES Consolider project and Mediterranean forests under global change: the challenge of interdisciplinary research and manager involvement
E. Doblas-Miranda (1), J. Retana (1), F. Valladares (2) presenting; *Centre for Ecological Research and Forestry Applications, Spain (1), Spanish National Research Council, Spain (2)*

Transdisciplinary Research in Watershed Conservation: Experiences, Lessons, and Future Directions
C. Umetsu (1), M. Taniguchi (1), T. Watanabe (1), S. Yachi (2) presenting; *Research Institute for Humanity and Nature, Japan (1), Kyoto University, Japan (2)*

Session: Pathways to Sustainability

Territorial potentials for a greener economy: the European perspective
C. Tapia (1), E. Feliu (1) presenting, I. Peña (1); *Tecnalia, Unit of Environment, Spain (1)*

Session: 0012-2-KEY-Searching the Past

Food security and urban resilience: lessons from historical ecology
C. Isendahl (1), S. Barthel (2) presenting, S. Sörlin (3), P. Sinclair (1); *Uppsala University, Sweden (1), Stockholm University, Sweden (2), Royal Institute of Technology, Sweden (3)*

Looking into the past to learn for the future: climate extremes informing climate change adaptation
S.L. Boulter (1) presenting, J.P. Palutikof (2), A.S. Kiem (3), D.C. Verdon-Kidd (3); *Griffith University - Environmental Futures Centre/NCCARF, Australia (1), National Climate Change Adaptation Research Facility, Australia (2), The University of Newcastle, Australia (3)*

Insular perspectives on planetary boundaries: understanding vulnerabilites and building resilience in the Pacific, Atlantic and Caribbean island communities.
J. Cooper (1) presenting, S. Hamilton (1), T. McGovern (2), R. Valcarcel Rojas (3); *University College London, UK (1), City University of New York, USA (2), Departamento Centro Oriental de Arqueologia, Cuba (3)*

Energy gain and resource specialization: the Roman Empire and today
C. Crumley (1) presenting, J. Tainter (2); *Stockholm University, Sweden (1), Utah State University, USA (2)*

Y.M. An (1) presenting, W.W. Zhao (1); *Institute of land resources, College of Resources Science and Technology, Beijing Normal University, China (1)*

Is africa able to leap over its energy gap? opportunities in bioenergy crops and implications for land use change, carbon dynamics and climate change
A.O. Olaniyi (1) presenting, A.M. Abdullah (1), R.M. Firuz (1), A.M. Sood (1), W.A. Sulaiman (1); *Universiti Putra Malaysia, Malaysia (1)*

Potential hydrologic impacts from deforestation in the southwestern Amazon
L. Lima (1), M. Coe (2), B. Soares Filho (1) presenting, S. Cuadra (3,4), L. Dias (4), M. Costa (4); *Universidade Federal de Minas Gerais, Brazil (1), The Woods Hole Research Center, USA (2), Centro Federal de Educação Tecnológica Celso Suckow da Fonseca, Brazil (3), Universidade Federal de Viçosa, Brazil (4)*

Cloud and terrestrial carbon uptake interactions in a mid-latitude hardwood forest
S-Y. Wang (1) presenting, Q-L. Min (1); *Nanjing University, China (1), State University of New York at Albany, USA (2)*

Session: Land-Cover

Variables in environmental monitoring enables a multitude of classifications
A. Allard (1) presenting; *Landscape Analysis, Swedish University for Agriculture, Umea, Sweden (1)*

Land Cover Changes in the Himalayas - a Comparative Analysis from Nepal and Bhutan over Last Two Decades
B. Bajracharya (1) presenting; *ICIMOD, Nepal (1)*

The Role of Shelter Effect in Forestation in Arid Areas
Z. Batjargal (1) presenting, B. Enkhjargal (1); *NAMHEM, Mongolia (1)*

Tipitamba Project: Fire-free land preparation as an alternative to slash-and-burn agriculture in Amazon, Brazil.
O.R. Kato (1), A.C.M.R. Borges (1) presenting, M.K. Shimizu (1), C.M.B.C. Azevedo (1), T.D.A. Sá (1), S.S. Vasconcelos (1); *Embrapa Eastern Amazon, Brazil (1)*

How far oil price and diets drive regional land uses? First lessons from a global model articulating biophysical potentials and economic dynamics
S. Souty (1,2), T. Brunelle (1) presenting, P. Dumas (1,3), B. Dorin (1,3), P. Ciais (2); *CIRED, France (1), LSCE, France (2), CIRAD, France (3)*

Payment of Forest Ecosystem Services as an Incentive towards Climate Mitigation? Two Cases Studies from Los Tuxtlas Biosphere Reserve, Veracruz, Mexico
A.C. de la Vega-Leinert (1), M. Weber (1), L. Brenner (1), V. Tekken (1) presenting; *Institute of Geography, University of Greifswald, Germany (1), Department of Sociology, Universidad Autónoma Metropolitana - Iztapalapa, Mexico (2)*

The Role of Sustainable Land management in the Transition towards a Green Economy: From Smart Grids to Smart Grounds
L. Gorissen (1) presenting; *Flemish Institute for Technological Research, Belgium (1)*

Forest Governance: Results from a Global to Local Analysis

All abstracts associated with this Session are to follow.
Abstracts are sorted by presentation type and then abstract number (D for oral presentation and P for poster).

Tipitamba Project: Fire-free land preparation as an alternative to slash-and-burn agriculture in Amazon, Brazil.

O.R. Kato, A.C.M.R. Borges*, M.K. Shimizu, C.M.B.C. Azevedo, T.D.A. Sá, S.S. Vasconcelos
Embrapa Eastern Amazon, Brazil

In Brazilian Amazon most of family farmers traditionally use the slash-and-burn practice of land preparation. It is a practice questioned because nutrients losses during burning, harmful gases emissions into atmosphere, risk of accidental fires and deforestation increase. Since 1991, Embrapa Eastern Amazon (Tipitamba Project) with cooperation of German Government initiated a technology development to replace traditional method of slash-and-burn to chop-and-mulch system. This fire-free land preparation associated with fallow enrichment to accelerate biomass and nutrients accumulation favorably influences physical, chemical and biological soil properties, promotes nutrients cycling processes and prevents nutrients and leaching losses, preserves biodiversity, intensifies crop production and change crop calendar. In addition, the technology improves carbon balance and capture, with CO_2-equivalent emissions at least five times lower in chop-and-mulch compared with slash-and-burn system. Currently, Tipitamba Project has develops a participatory research in all states of Brazilian Amazon, including approximately 150 family farmers, contributing to transition from traditional method (slash-and-burn) to fire-free land preparation based on agroecological principles and enabling annual crops implementation in natural or enriched fallow or agroforestry systems. Chop-and-mulch technology is sustainable alternative focus on fire elimination and efficient use of natural resources and agricultural inputs for crop production in family farming in Amazon, including social, economic and environmental benefits.

Keywords: Chop-and-mulch, Fallow management, Family farm, No tillage