Modeling the Effects of Climate and Land Use Change on Carbon and Trace Gas Budgets over the Amazon Region using NASA Satellite Products

Christopher Potter, NASA Ames Research Center, cpotter@mail.arc.nasa.gov (Presenting)
Mercedes Bustamante, University of Brasilia, mercedes@unb.br
Steven Klooster, California State California State University Monterey Bay, sklooster@mail.arc.nasa.gov
Vanessa Genovese, California State University Monterey, vbrooks@mail.arc.nasa.gov
Laerte Ferreira, Universidade Federal de Goias, laerte@iesa.ufg.br
Alfredo Huete, University of Arizona, ahuete@Ag.arizona.edu
Raimundo Cosme, EMBRAPA Amazonia Oriental, cosme@cpatu.embrapa.br
Ramakrishna Nemani, NASA Ames Research Center, rnemani@mail.arc.nasa.gov
Richard Zepp, U.S. Environmental Protection Agency, zepp@epa.gov

As part of the LBA-ECO Phase III synthesis efforts for remote sensing and predictive modeling of Amazon carbon, water, and trace gas fluxes, we are evaluating results from the regional ecosystem model called NASA-CASA (Carnegie-Ames Stanford Approach). The NASA-CASA model has been formulated to run at monthly time intervals for the years 2000 to the present using NASA satellite data inputs from the MODIS and CERES sensors. Our preliminary results point to the importance of better understanding and mapping the influence of incident solar radiance, rainfall amounts, and land cover changes at the basin scale to reduce model uncertainties in relation to LBA tower flux records. For more information, go to http://geo.arc.nasa.gov/sge/casa/

Science Theme: TG (Trace Gases)

Presentation Type: Poster

Abstract ID: 14