

AMAZONICA

20th – 23rd March 2012

The NERC - AMAZONICA consortium project meeting in Ubatuba, Brazil, brought together over 40 participants from around the globe to focus on the carbon balance of the Amazon region. **AMAZONICA** seeks to measure the carbon balance of the 6 million km² Amazon basin and understand its variability and drivers of the dominant fluxes, by integrating atmospheric, vegetation and hydrological approaches.



Contribution from Tomas Domingues: Tambopata Tower update

Since September 2011, the Ramiro-Chacon/SAGES tower is operating at the Tambopata Rainforest as a result of noteworthy collaboration between Servicio Nacional de Áreas Naturales Protegidas por el Estado (SERNAMP), Asociación para la Investigación y Desarrollo Integral (AIDER), Pontificia de la Universidad Católica del Perú (PUCP), Explorer's Inn Rainforest Lodge, University of Edinburgh, University of Oxford and University of São Paulo. Bird-watchers and tourists are taking advantage of the 42 meters height tower for peeking inside the forest canopy. The top platform of the tower, however, is reserved for an assemblage of 15 scientific sensors supported by solar panels and batteries. They are recording dozens of meteorological variables, such as precipitation, light levels and wind speed/direction. Those serve as auxiliary data for the main purpose of the tower, which is to continuously monitor exchange of Carbon between the forest and the atmosphere in order to

evaluate if the region is serving as a sink or a source for that element. The system have endured the peak of the rainy season and data generated so far is being processed for presentation at the next ATBC meeting in Bonito/Brazil (17-23rd June).



Tower Tambopata - March 2012



Update from the University of Glasgow

The final field campaign at the Tambopata National Reserve, Peru, was successfully completed by Leena Vihermaa (March-June 2012). The sampling campaign completed the data collection for dissolved inorganic carbon (DIC) and dissolved organic carbon (DOC) as well as direct measurements of CO₂ fluxes that have been measured during all three field campaigns. Some new experiments were also set up during this trip. A stationary floating chamber was deployed in the small streams and swampy areas to measure the flux rate of methane. In order to understand source of organic carbon samples of stem flow, throughfall and overland flow were collected. In addition to that outgassed CO₂ samples were collected from the studied streams and rivers for ¹⁴C dating to establish the age of the carbon.

The active field work has now been completed but automated data collection from one of streams continues using a pressure sensor (water level measurement) and a Troll 9500 (pH, conductivity, dissolved oxygen, water temperature, atm. pressure) until the end of this year. Fabian Limonchi (PUCP), is taking care of the data download and maintenance.

The majority of the samples collected during the final field trip have been analysed and the analysis of DIC samples will be completed soon. This autumn the focus will be on data analysis, interpretation and preparation of publications.

Results of DIC work were presented by Susan Waldron at EGU general assembly 2012, Vienna, Austria and at the ASLO summer meeting, Lake Biwa, Japan. Results based on the direct CO₂ flux measurements were presented by Leena Vihermaa at the ASLO summer meeting.



Leena Vihermaa attaching the stem flow collection system on a tree. Samples of stem flow were collected for DOC analysis immediately after rain events and the total volume determined.