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Fieldwork And Statistical Analyses for Enhanced Interpretation on Satellite Fire Interannual variability of Soil moisture and Vegetation Biomass in Amazonian Cerrado

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Fieldwork and Statistical Analyses for Enhanced Interpretation of Satellite Fire Data
Data from satellites are very important for providing information on vegetation fires worldwide. Despite of the broad spatial and temporal coverage, there are several factors that complicate the interpretation of these data. Examples of these factors include fires occurring at times different than the satellite overpasses, the presence of clouds, fires occurring under plant canopies, small fires, and very reflective surfaces. In order to enhance the interpretation of satellite fire data, we are in the process of collecting groundbased data on fires, and relating these data to corresponding information from satellite fire products. Ground-based data are collected using a simple and passive method that allows for a large sample size. One method for data analysis is the construction of error matrixes, which can provide statistics on inclusion (commission) and exclusion (omission) errors in satellite fire data. In this work we present results from fieldwork in areas close to Marabá, Brazil, where about 90 fires were observed during November 3 to 5, 2001. These results include fires position, time, size, type of vegetation burned, cloudcover, and statistics on inclusion and exclusion errors in related remote-sensing fire data. Preliminary analyses suggest that errors of omission are larger than errors of commission, and are dominated by satellite overpass times, cloud-coverage and fire size. Potential strategies to correct for these errors are discussed.