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A GLOBAL INVENTORY OF BURNED AREAS AT 1 KM RESOLUTION FOR THE YEAR 2000 DERIVED FROM SPOT VEGETATION DATA

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Abstract. Biomass burning constitutes a major contribution to global emissions of carbon dioxide, carbon monoxide, methane, greenhouse gases and aerosols. Furthermore, biomass burning has an impact on health, transport, the environment and land use. Vegetation fires are certainly not recent phenomena and the impacts are not always negative. However, evidence suggests that fires are becoming more frequent and there is a large increase in the number of fires being set by humans for a variety of reasons. Knowledge of the interactions and feedbacks between biomass burning, climate and carbon cycling is needed to help the prediction of climate change scenarios. To obtain this knowledge, the scientific community requires, in the first instance, information on the spatial and temporal distribution of biomass burning at the global scale. This paper presents an inventory of burned areas at monthly time periods for the year 2000 at a resolution of 1 kilometer (km) and is available to the scientific community at no cost. The burned area products have been derived from a single source of satellite-derived images, the SPOT VEGETATION S1 1 km product, using algorithms developed and calibrated at regional scales by a network of partners. In this paper, estimates of burned area, number of burn scars and average size of the burn scar are described for each month of the year 2000. The information is reported at the country level. This paper makes a significant contribution to understanding the effect of biomass burning on atmospheric chemistry and the storage and cycling of carbon by constraining one of the main parameters used in the calculation of gas emissions.

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