

Vegetation burning in the year 2000: Global burned area estimates from SPOT VEGETATION data

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Abstract. The scientific community interested in atmospheric chemistry, gas emissions from vegetation fires and carbon cycling are currently demanding information on the extent and timing of biomass burning at the global scale. In fact, the area and type of vegetation that is burned on a monthly or annual basis is one of the parameters that provides the greatest uncertainty in the calculation of gas and aerosol emissions and burned biomass. To address this need, an inventory of burned areas at monthly time periods for the year 2000 at a resolution of one square kilometer (km²) has been produced using satellite data and made freely available to the scientific community. In this paper, estimates of burned area, number of burn scars and mean size of the burn scar for four broad vegetation classes and reported at the country level for the year 2000 are presented using data taken from the inventory. Over 3.5 million km² of burned areas were detected in the year 2000 of which approximately 80% occurred in areas described as woodlands and shrublands. Approximately 17% of the burned area occurred in grasslands and croplands, the remaining 3% occurred in forests. Almost 600,000 separate burn scars were detected. The mean scar size was 2.7 km². Descriptions of vegetation burning activity are given for ten regions. Finally, monthly burned area estimates are presented for the Central African Republic to illustrate the usefulness of these data for understanding, monitoring and managing vegetation burning activities.

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