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Suggested Theme: Space-based technology applications

Paper title: The operational fire alert system of Brazil: a detection and management tool using multiple satellites.

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ABSTRACT

This paper summarizes the system developed and operationally used in Brazil during the last 15 years to detect vegetation fires using multi-sensor and multi-satellite technology coupled with Geographical Information Systems and public Internet data access on near-real-time. Its main applications include: target identification for fire combat and suppression; management and legal control of wide-spread fire use in agriculture and in farming and ranching; assessment of smoke emissions and propagation concerning human health and air traffic hazards; and, analysis and risk estimates of wildfire propagation due to weather conditions. Hundreds of thousands of fires are detected every year in the country. Alarms for vegetation fires are generated on a county level as a function of the amount of fires detected, population density, vegetation types, drought conditions and numerical weather forecasts. Examples showing successes and limitations of the system related to decision making in the control of fire in the Amazon region are also presented. Users of the data include government agencies, NGOs, private companies and individuals. Similar versions were developed for other countries in South America and are also in operational use. Access to the system and its capabilities is found at <http://www.cptec.inpe.br/queimadas>.