Overview of the 2017 Fire Season in Amazon

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Abstract : In recent years, fire dynamics in deforestation areas of tropical forests have received considerable attention because of their relationship to climate change. Climate models project great increases in the frequency and area of drought in the Amazon region, which may increase the occurrence of fires. This study analyzes the historical record number of fire outbreaks in 2017 using satellite-derived data sets of active fire detections, burned area, precipitation, and data of the Fire Program from the Center for Weather Forecasting and Climate Studies (CPTEC/INPE). A downward trend in the number of fire outbreaks occurred in the first half of 2017, in relation to the previous year. This decrease can be related to the fact that 2017 was not an El Niño year and, therefore, the observed rainfall and temperature in the Amazon region was close to normal conditions. Meanwhile, the worst period in history for fire outbreaks began with the subsequent arrival of the dry season. September of 2017 exceeded all monthly records for number of fire outbreaks per month in the entire series. This increase was mainly concentrated in Bolivia and in the states of Amazonas, northeastern Pará, northern Rondônia and Acre, regions with high densities of rural settlements, which strongly suggests that human action is the predominant factor, aggravated by the lack of precipitation during the dry season allowing the fires to spread and reach larger areas. Thus, deforestation in the Amazon is primarily a human-driven process: climate trends may be providing additional influences.

Keywords : Amazon forest, climate change, deforestation, human-driven process, fire outbreaks

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