**Humanizing regional-scale studies of African fire regimes**

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The West African savanna-woodland is one of the most frequently and extensively burned regions on Earth. Savanna fires are a major determinant of vegetation cover with implications for biodiversity, human livelihoods, and carbon sequestration. To understand the impacts of fire, scientists need data on the spatial and temporal patterns of fire regimes. Continental-scale maps of the area affected are useful for characterizing the general patterns of fires, but current products contain high levels of omission errors especially in areas with highly fragmented, mosaic fire regimes. This study assumes that mosaic fire patterns are a function of both human burning practices and a naturally heterogeneous savanna environment. This research provides a diachronic study to determine the regularity of the landscape-scale spatiotemporal pattern of burning for an area in southern Mali. The study uses a series of 18 burn-scar maps generated from Landsat imagery drawn from a 30 year period (1972-2003). The burn-scar maps were analyzed in a GIS to determine the spatiotemporal pattern of the fire regime. Fire patterns for specific vegetation types were also determined and results were compared with survey data and interviews from the study area. Despite gaps in the data-set, the results indicate that the fire regime has a distinct spatiotemporal pattern that is reproduced annually creating a fine-scale mosaic pattern. It is argued that humanized fire regimes have regular annual patterns that correlate with vegetation types. This information can be used to generate fire probability maps useful for reducing omission errors of regional-scale fire detection algorithms. The implications of the burning patterns for savanna biogeography are also discussed.

Key words: savanna fires, remote sensing, Africa, biogeography