**Table S1.** Variables used to predict fire occurrence (frequency) and burned area (as a proxy to fire extent) in the Brazilian Cerrado savannas.

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| --- | --- | --- | --- | --- | --- | --- |
| **Category** | **Data layer** | **Description** | **Units** | **Temporal resolution** | **Spatial resolution** | **Source** |
| Fire | Fire occurrence | Monthly fire occurrence in pixel | fire /no fire | 1981-2018 | 5 km | Otón et al. (2020); Otón et al. (2019) |
| Burned area | Monthly burned area in pixel | m² | 1981-2018 | 5 km | Otón et al. (2020); Otón et al. (2019) |
| Weather | Air temperature | Monthly mean of air temperature at 2 m above the soil | °C | 1981-2020 | 9 km | Hersbach et al. (2019) |
| Precipitation | Monthly accumulated precipitation | m | 1981-2020 | 9 km | Hersbach et al. (2019) |
| Insolation | Monthly accumulated surface solar radiation downwards. It is the amount of solar radiation reaching the surface of the Earth | J/m² | 1981-2020 | 9 km | Hersbach et al. (2019) |
| Volumetric soil water | Monthly volume of water in soil layer between 0 and 7 cm. The volumetric soil water is associated with the soil texture (or classification), soil depth, and the underlying groundwater level | m³/m³ | 1981-2020 | 9 km | Hersbach et al. (2019) |
| Relative humidity | Monthly mean of water vapor pressure as a percentage of the value at which the air becomes saturated | % | 1981-2020 | 9 km | Hersbach et al. (2019) |
| Total evaporation | Monthly accumulated amount of water evaporated from the Earth’s surface, including a simplified representation of transpiration (from vegetation), into vapor in the air. Negative values indicate evaporation, and positive values indicate condensation | m | 1981-2020 | 9 km | Hersbach et al. (2019) |
| Potential evaporation | Monthly accumulated amount of water computed for agricultural land as if it is well watered and assuming that the atmosphere is not affected by this artificial surface condition. Negative values indicate evaporation, and positive values indicate condensation | m | 1981-2020 | 9 km | Hersbach et al. (2019) |
| Wind speed | Monthly mean of 10 m wind speed | m/s | 1981-2020 | 9 km | Hersbach et al. (2019) |
| Vegetation | Canopy height | Canopy height estimated by LiDAR data | m | 2005 | 1 km | Simard et al. (2011) |
| Aboveground biomass | Mass of all living trees, excluding stump and roots, expressed as oven-dry weight of the woody parts (stem, bark, branches, and twigs) | Mg/ha | 2010 | 100 m | Santoro et al. (2020) |
| Vegetation physiognomy | Forty-six vegetation types, including combinations of open rainforests, seasonal forests, pioneer formations, savannas, steppe savannas, ecotones, and others. | - | 2019 | 100 m | IBGE (2018) |
| Terrain | Elevation | ASTER global digital elevation model | m | 2011 | 30 m | NASA and METI (2011) |
| Slope | ASTER global terrain slope derived from the digital elevation model | degrees | 2011 | 30 m | NASA and METI (2011) |
| Anthropic | Land use | Annual class of land use in pixel (forest, savannah, grassland, forest plantation, Pasture, sugar cane, soybean, other crops, urban area, and water) | - | 1985-2020 | 30 m | https://mapbiomas.org/ |
| Distance to roads | Euclidian distance from roads | - | 2019 | - | IBGE (2018) |