

Escalating fires and widespread dry conditions raise concerns about forest degradation.

Amazon forests absorb and store roughly 15 percent of human carbon dioxide emissions each year, but this critical carbon sink is threatened by deforestation and degradation of forest health. Deforestation in the Brazilian Amazon declined by 70% between 2004 and 2014. In recent years, however, deforestation has increased and fires have followed as people burn the trees they've recently cut down. In 2019, deforestation jumped to the greatest rates in over a decade and fires did also, despite it being a relatively wet year. 2020 is no better. Deforestation and fires are somewhat less than 2019 levels but it is an extraordinarily dry year for much of the eastern Amazon, which could cause big and long-lasting fires if they escape into standing forests.

Building on the deforestation and fire data released regularly by Brazilian government scientists, we present an analysis of the carbon footprint of this year's deforestation as well as where deforestation is happening and an analysis of the current climate conditions - key information for identifying fire risk hotspots and shaping solutions.

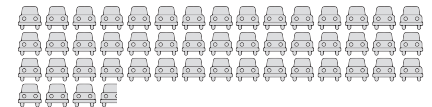


## Committed Carbon

The burning of felled trees following deforestation results in the conversion of carbon previously stored in plant biomass (i.e., in leaves, branches, and stems) to carbon dioxide (CO<sub>2</sub>), contributing further to the rise in atmospheric CO<sub>2</sub> that is the primary driver of planetary warming. In January-August 2020, CO<sub>2</sub> emissions committed to the atmosphere as a result of forest clearing are expected to be roughly 225.8 million metric tons (MMT). That's equivalent to roughly 48.8 million cars and is about 1/2 of Brazil's annual total CO<sub>2</sub> emissions.

\* August includes August 1-28. Data for the remainder of the month is not yet available.

2020 JAN-AUG\*



**226 million metric tons** = **48.8 million cars**

2019 JAN-AUG

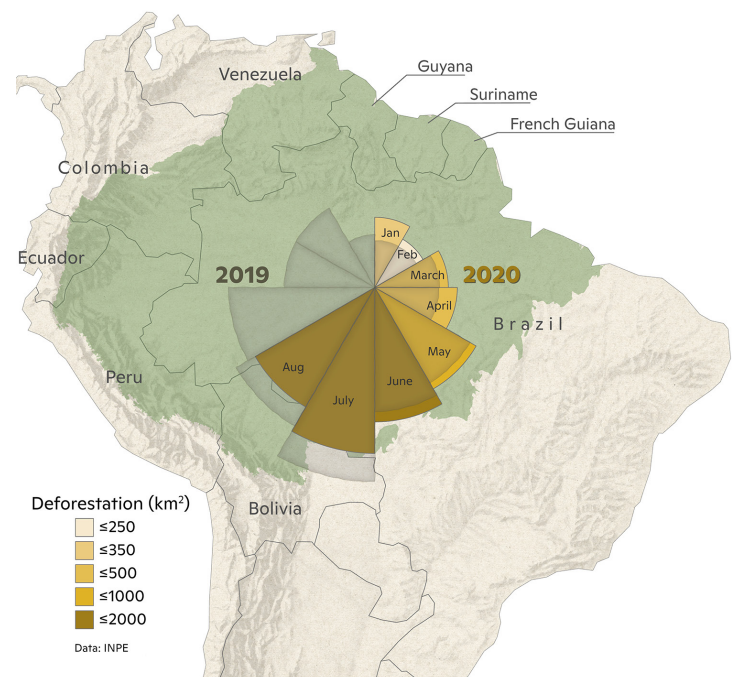
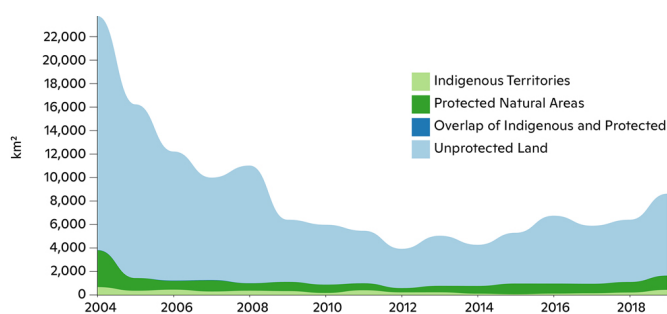


**253 million metric tons** = **54.6 million cars**

## Deforestation

Nearly 6,700 km<sup>2</sup> of forest has been destroyed so far in 2020. This year, as in previous years, most deforestation has taken place on unprotected lands, including private properties and federal lands without a protected status. However, deforestation in protected natural areas has been rising and accounts for 17% of deforestation to date this year, suggesting a need for greater enforcement of existing designations.

### Deforestation by land tenure



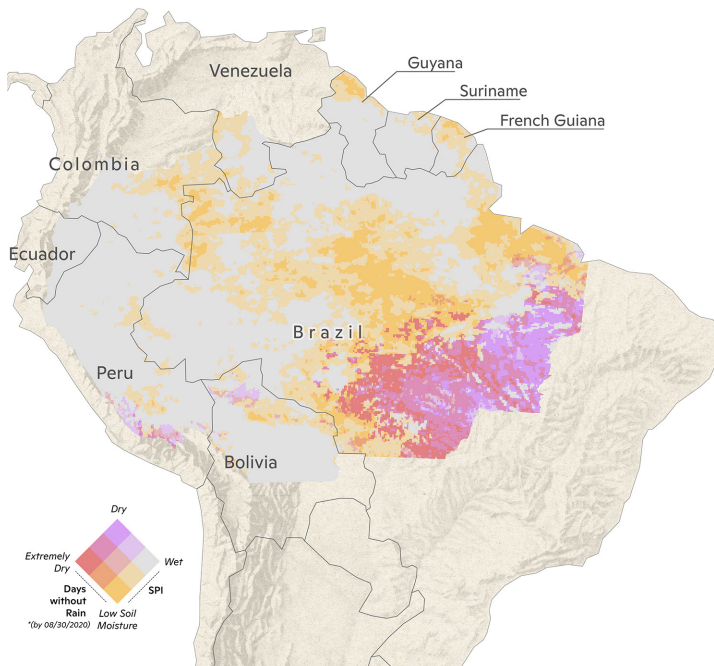
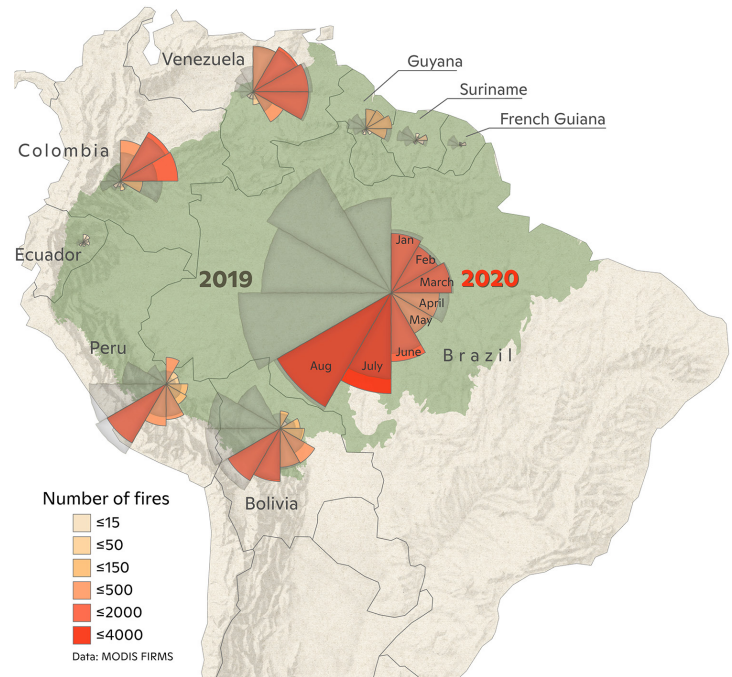
## Fires

Almost all Brazilian Amazon states had more fires during the first 6 months of 2020 than the same period in 2019. Fires have continued to escalate since early July, despite a ban announced by the Bolsonaro administration. Furthermore, while fires during the month of August appear to be slightly down compared to August 2019, Brazilian government scientists have noted an issue with the data and expect that number to rise, making 2020 the worst fire season in a decade.

## Climate/Drought

Forest fires are not a naturally occurring phenomenon in the Amazon - they are almost always a result of human activities. When deforestation coincides with dry conditions, fires lit to burn felled trees can escape into neighboring forests, destroying or degrading them. Large swaths of the Amazon region are anomalously dry this year (purple). In particular, much of the southeastern Amazon has gone more than 120 days without rain, creating a high risk for escaped fire to do severe damage.

The red dots represent locations where deforestation has occurred since October 2019. We chose October as the cutoff because most areas that were deforested in this period will be burned this year.



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