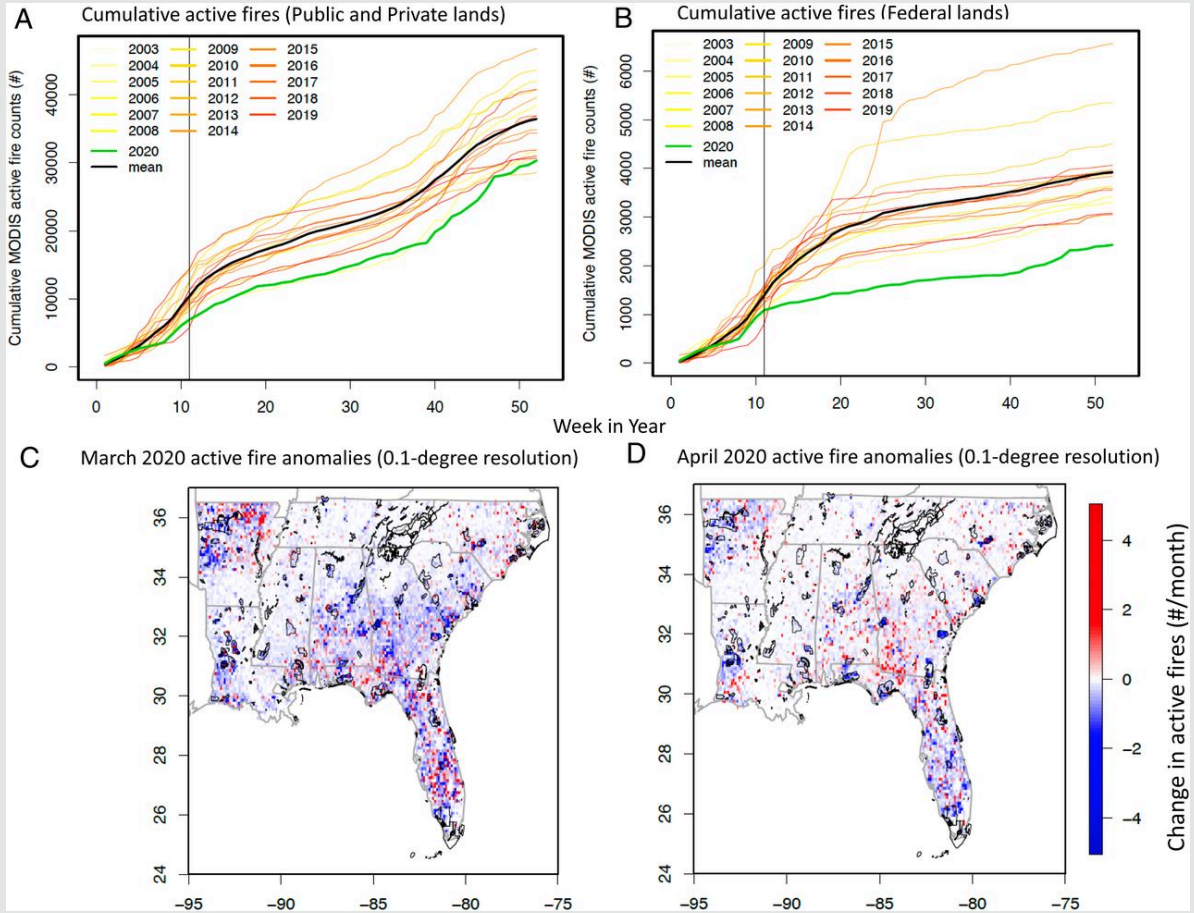
COVID-19 lockdowns drive decline in active fires in southeastern USA

B. Poulter[1], PH Freeborn[2], WM Jolly[2], JM Varner[3]
[1]NASA Goddard Space Flight Center, Biospheric Sciences Lab. (Code 618), [2]Rocky Mountain Research Station, Fire Sciences Laboratory, US Forest Service, Missoula, MT 59803, [3]Tall Timbers Research Station, Tallahassee, FL 32312 https://doi.org/10.1073/pnas.2105666118



Science Question: In the southeastern United States, prescribed fire programs maintain fire on a regular basis on private and public lands.

Analysis: Using active fire data from MODIS (Aqua and Terra) and from Suomi NPP VIIRS we compared how COVID-19 impacted fires in 2020 compared to the past twenty years.

Results: An unusually wet spring required partitioning meteorological effects from the COVID-19 lockdown effect on fire crews unable to carry out prescribed fire. In 2020, active fires were reduced by ~20% across the region, and by ~40% on federally owned lands (Figure 1 A-D).

Significance: The backlog in planned prescribed fire is a concern for maintaining biodiversity and safe fuel loads, with COVID-19 illustrating the vulnerability of fire management programs.

About 80% of prescribed fire in the United States takes place in southeastern states where ecosystems require frequent fire. COVID-19 led to lockdowns during peak prescribed fire season (March 2020) resulting in a 21% decrease in active fires across the region, and a 40% decrease on federally owned lands. This study shows the importance of people in maintaining prescribed fire activities.

Funding from NASA 20-RRNES20-0041