

Fires in Brazil: health crises and the failure of government action

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The recent surge in fires across Brazil raises significant concerns regarding public health, as these events often lead to a drastic decline in air quality¹ and can strain local health systems.^{2–4} As we navigate this crisis, it is essential to examine the health implications of these fires and the urgent need for effective governmental interventions.

According to recent statistics from MapBiomass,⁵ in August 2024 alone, 11,396,079 ha of land were burned across Brazil, representing a staggering 116% increase compared to the same period in 2023. A total of 68,635 wildfire records were recorded during this month. Among the affected areas, 4,010,608 ha were forested, while 3,358,036 ha were farming areas. The Amazon biome was hit the hardest, with 5,422,444 ha burned, followed by the Cerrado biome, which lost 4,078,356 ha. Detailed breakdown is presented in Fig. 1.

Health implication of wildfires

The health impacts of the recent fires in Brazil are already becoming apparent, particularly in terms of respiratory diseases. Hospitalisations due to respiratory conditions have increased by almost 28% in 2024. A survey conducted in some public and philanthropic hospitals across Brazil shows that, from January to August 2024, hospitalisations caused by respiratory diseases rose by 27.6% compared to the same period last year. The financial burden is also significant, with hospitalisations costing R\$11 million (approximately USD 2.2 million) more in 2024 than in 2023, according to data from a hospital management company.⁷

These current statistics are consistent with previous findings on the health effects of wildfires in Brazil. A study conducted nationwide in Brazil revealed that wildfire waves were linked to a 23% rise in respiratory hospital admissions and a 21% increase in circulatory hospital admissions.⁸ In the Northern region, which encompasses much of the Amazon, the impacts were even more significant, with respiratory admissions increasing by 38% and circulatory admissions rising by 27%.⁸ These results highlight the serious health risks associated with wildfire events,

especially in areas most affected by deforestation and environmental degradation.

In addition to respiratory and circulatory health impacts, wildfires in Brazil have been linked to adverse birth outcomes, including preterm birth,⁹ low birth weight,¹⁰ and birth defects.¹¹ Requia et al. (2021) found increased odds of birth defects such as cleft lip/palate, congenital respiratory anomalies, and nervous system defects linked to wildfire exposure during pregnancy. Wildfires were also associated with a 0.98% increase in low birth weight in the Midwest and an 18.55% increase in the South, particularly during first-trimester exposure.¹⁰ Furthermore, exposure to wildfire smoke during pregnancy raised the odds of preterm birth, especially in the Southeast (OR: 1.41) and North (OR: 1.05).⁹ Wildfires have also been shown to negatively affect academic performance in Brazil,¹² serving as a proxy for cognitive and neural health, which underscores the broader impact of these events on human well-being.

Current governmental responses and gaps

Despite early hopes for stronger environmental protections, the current government under President Lula has failed to effectively control wildfires in Brazil. In fact, the fires during Lula's administration have been more widespread than during the previous government under President Bolsonaro. For example, in 2023, Lula's first year in office, Brazil saw 17,316,740 ha of burned land, surpassing the 16,194,249 ha burned in 2022, Bolsonaro's last year in power.⁵ While Bolsonaro's environmental policies were heavily criticised for exacerbating deforestation and wildfires, the situation has alarmingly worsened under Lula, sparking concerns over the current administration's approach to wildfire management.

President Lula has announced plans to create a Climate Authority, aimed at strengthening Brazil's response to environmental crises, including wildfires. However, despite these announcements, this authority has yet to be officially established, creating a gap between government promises and action. Additionally, Marina Silva, Brazil's Minister of the Environment, was a vocal critic of the Bolsonaro administration, particularly regarding its handling of wildfires and environmental degradation. However, under her stewardship in Lula's government, wildfires have continued to escalate. This stark contradiction highlights a significant failure



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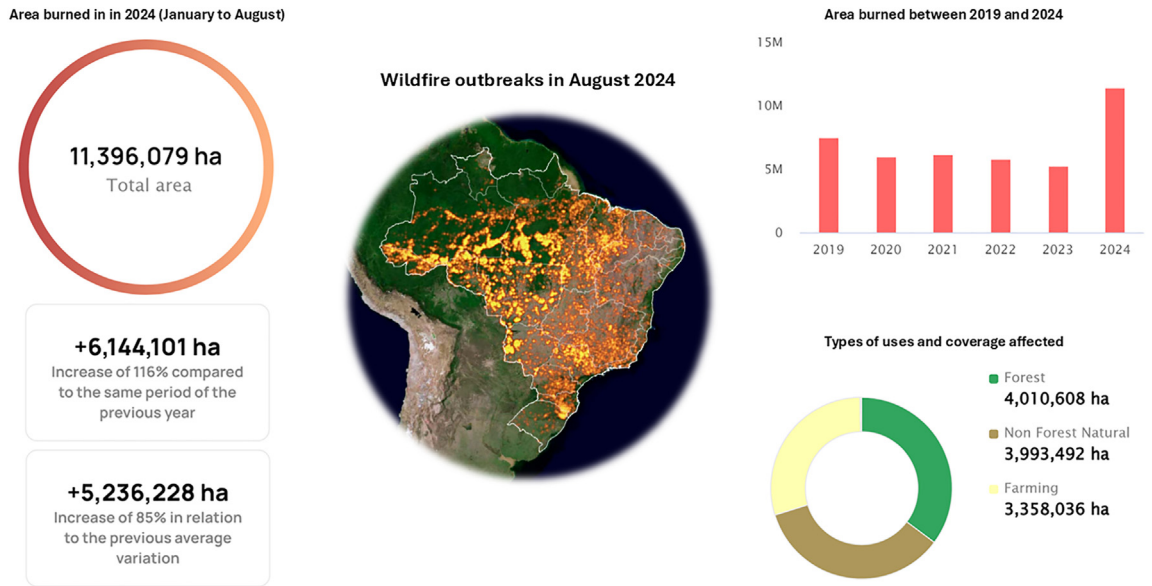


Fig. 1: Summary statistics of the wildfires in Brazil. Source: adapted from MapBiomas⁵ and National Institute for Space Research (INPE).⁶

in Silva's ability to implement effective measures to curb the wildfire crisis, as the government's response has been inadequate. The continued increase in wildfires suggests that her advocacy has not translated into action.

On the health front, the Ministry of Health has responded to wildfire-related crises by issuing advisories, recommending that individuals with respiratory conditions remain indoors during periods of heavy smoke.¹³ While these recommendations are crucial for immediate protection, they fail to address the root causes of the fires or provide comprehensive solutions to the broader health impacts. The government's reactive stance does little to mitigate the recurring health crises associated with wildfires, leaving populations—particularly vulnerable communities—at continued risk of respiratory and circulatory diseases, as well as long-term developmental health issues. Without addressing the environmental and policy failures contributing to these disasters, these health advisories serve as temporary measures that fall short of the proactive strategies needed to safeguard public health in the long run.

Interventions for sustainable change

A comprehensive approach is needed, encompassing both immediate and long-term strategies. Immediate actions should include: i) Enhanced air quality monitoring; ii) Public health campaigns; and iii) Emergency healthcare services. In addition to immediate responses, long-term interventions are crucial for mitigating the health impacts of wildfires and addressing their root causes: i) Forest management

and restoration; ii) Strengthening policies against deforestation; and iii) Integrating health into environmental policies.

Additionally, it is crucial to acknowledge that many of these fires in Brazil are human-related, often resulting from agricultural practices, land clearing, and insufficient enforcement of fire management regulations. Addressing these human factors is essential for developing effective interventions.

The ongoing fires in Brazil serve as a stark reminder of the intricate link between environmental health and public health. While the current government under President Lula came into power with promises of stronger environmental protections, it has failed to effectively control the growing wildfire crisis, with fire rates surpassing those seen during the Bolsonaro administration. This failure underscores the urgent need for more proactive and robust action. The Brazilian government must not only address the immediate health implications of wildfires but also develop long-term, sustainable solutions to prevent future crises. By prioritising both the environment and the health of its citizens, Brazil can move towards a healthier, more resilient society capable of facing the growing challenges of climate change and environmental degradation.

Contributors

WJR: conceptualisation, literature search, figures, and writing.

Declaration of interests

NA.

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