THE THOMAS FIRE

A Planetary Health Case Study

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Santa Barbara & Ventura Counties

Key Drivers of Wildfires

& planetary health impacts

Anthropogenic Climate Change

Human industrial activities

Consumerism mentality

Extreme weather patterns

More frequent heat waves

Drier temperatures & vegetation

Lack of climate planning

Fire suppression

Lack of indigenous practices

Energy grid and infrastructure

Wildfire Impacts on *Human & Environmental Health*

Human	Environment
Infrastructural damage	Wildlife degradation
Physical burns	Vegetation loss
Respiratory health	Water pollution
Mental health	Greenhouse gas emissions

Scientific Literature
on Wildfire Smoke Effects

Inhalation of wildfire smoke, specifically PM2.5, is associated with **negative pulmonary & cardiovascular health effects**.[1]

- Unhealthy air quality for sensitive groups = 35 µg/m3 [2]
- 10 µg/m3 increase in wildfire-specific PM2.5 is linked to a 1.3-10% increase in respiratory hospitalizations [3]
- 10 µg/m3 increase in PM2.5 concentrations corresponds with a 4% increase in salbutamol dispensations during fire season [4]

Solutions

to wildfire mitigation & pulmonary health impacts

Expand climate mitigation efforts

Improve natural disaster responses

Update old infrastructure

Proactive fire management

Increase community resilience

THANK YOU!

References

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2. United States Environmental Protection Agency (EPA). (2016, April 19). Particulate matter (PM) basics. US EPA. https://www.epa.gov/pm-pollution/particulate-matter-pm-basics.s
3. Aguilera, R., Corringham, T., Gershunov, A., & Benmarhnia, T. (2021). Wildfire smoke impacts respiratory health more than fine particles from other sources: Observational evidence from Southern California. Nature Communications, 12(1), 1493. https://doi.org/10.1038/s41467-021-21708-0
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