Combating Wildfire Through Climate Change

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Overview

Over the past 2 years we in California have experience more than 10,000 wildfires which burned nearly 3 million acres of land, destroyed 33,744 structures, and unfortunately killed upwards of 150 people. This resulted in 9 billion in insurance claims & 36 billion in total damages.

Multiple government officials and agencies contributed to the remarkable destructiveness of these wildfire seasons by continuing, for decades their misguided priorities and illogical incentives.

Geographic Regions Affected



Maps reflect direct fire threats and most affected areas according to CAL Wildfire.

Left: Shows zones that have been prioritized to maintain fire related repairs. North Bay having a more "extreme" risk due to heavy winds



Above: A dot map showing 75 social vulnerabilities in communities which impacts how well they may be able to respond and recover

Who is Affected

Wildlife: We don't have any good estimates on the number of animals that die in wildfires each year. But we also have no documented cases of fires, even huge ones like we've seen in the 2 years, wiping out entire populations or species. No to say they aren't just as unhappy about these uncontained burns, as we are.

Our Communities: Like i stated in the overview, with upwards of 150 deaths, 33,744 structures damaged, & billions of dollars in repairs we seem to be extremely unprepared.

"Blood samples indicated that children who were exposed to wildfires had impaired immune systems compared to those who were exposed to prescribed burns, a controversial fire mitigation technique that has been halted over health concerns in the past" -Mary Prunicki (doctor & researcher out of Stanford University)

Effects of Hazard

As previously stated, researchers are currently looking into how these fires may affect the immune systems of children in surrounding areas as air pollution is a known threat to human health. Around the world, toxic air is responsible for an estimated 4 million deaths in 2018. Most common reasons are complications with respiratory and heart disease.

Long term health impacts have been associated with vehicle emission and fossil fuels, as we are new to fighting local fires.

"The possibility that there would be long-term consequences has not been studied in a systematic way for these large wildfires because they're kind of new," Irva Hertz-Picciotto (Environmental Scientist of University of California Davis)

Effects of Hazards CONT.

Wildfire smoke is more likely to immediately affect those who already struggle to breathe, like those with asthma. Children, elderly, people with bad immune systems, and pregnant women are also more likely to face medical complications according to the environmental air quality index.



What Can We Do

As we know, fires like this are new to us, since 2016, California has been attempting to strengthen our fire rescue and response but being that before that we were not prepared in the slightest, it seems like there is no real progress. So what can we do?

- early-warning and early-detection systems can help to minimize damage and reduce fire rescue costs overall
- Physically strengthening the electric utility poles can reduce the risk of wildfires (as we know the fall and spark these fires)
- End/ Aid California's housing crisis, as its caused an increase of low income housing to be developed in high risk, dry rural areas

Personal Thought

In closing, i believe we as a communities must take fire season serious as we know the direct dangers that lie ahead. Instead of reacting me must have a plan in place, as we've seen for the past 3 years, reacting will result in billions of taxpayer dollars being drained for the absolute wrong reasons. All in all, we must find out how these evolving wildfires are impacting generational health before we have add wildfires to the list of low air quality causes.

Citation

https://www.nationalgeographic.com/news/2015/09/150914-animals-wildlife-wildfires-nation-californi a-science/

https://www.nationalgeographic.com/science/2019/10/airborne-health-concerns-emerge-from-californ ia-wildfire/

http://www.independent.org/publications/article.asp?id=12834&gclid=EAIaIQobChMIr_aU9cOc5glVFr 3sCh2XxQpSEAAYAiAAEglclvD_BwE