Pete Trujillo
AI Governance Strategist

AI's Role in California's Wildfire Mitigation

Document Type: AI Policy Brief
Date: March 2025

Core Competencies Demonstrated:

- **Stakeholder & System Analysis:** Mapped the complex, multi-agency stakeholder network (State, Federal, County) and identified inconsistent AI policies as a primary challenge.
- **Governance Recommendation:** Proposed a centralized governance solution to expand the "Office of Wildfire Technology Research and Development" (OWTRD) into a single, authoritative body for vetting all AI wildfire technology.
- **Formal Risk Framework Application:** Recommended the mandatory use of the NIST AI Risk Management Framework (AI RMF) as the standard for all technology evaluations to ensure safety, fairness, and accountability.
- **Technology Risk Assessment:** Conducted a formal risk/mitigation analysis for advanced AI solutions like Drones and Digital Twins, identifying specific harms (e.g., Drone Failure, Inaccurate predictions) and proposing concrete mitigations.

Contents

1.0 Executive Summary

California's Mediterranean climate fuels wildfires each year, however this threat is growing due to climate change with the costs and risks continuing to rise. In 2024, 8,316 wildfires burned in California, costing the state billions. Health issues related to smoke inhalation are estimated to cost $100 billion annually for the United States and the recent wildfires in Southern California are estimated to have caused over $50 billion in property damage. While California on average has spent $2.7 billion a year on fire mitigation, these tragedies have further exposed California's vulnerability to wildfires. There are many challenges to the state's fire mitigation due to organizational issues and limited use of Artificial Intelligence (AI) technologies.

As California moves forward after the recent wildfires, in Southern California, it is vital that the state uses technology effectively to prevent future disasters rather than reacting to them. Additionally, it is critical that the state makes decisions on which AI Technologies are deployed for fire mitigation. This would ensure that citizens are protected and that any AI technologies are fully evaluated before being implemented in the state. This document recommends the following actions for the state of California:

Centralized Evaluation of AI: It is recommended that the **Office of Wildfire Technology Research and Development (OWTRD)**, which was established to help evaluate technologies for California, take on a leadership role and be responsible for all evaluations of wildfire mitigation technologies for the state. The OWTRD would be able to provide a consistent evaluation of AI technologies as well as offer expertise. Centralization would benefit the State, Federal, and County agencies by providing a comprehensive assessment. This responsibility would enable improved cross agency coordination and collaboration. **Standard Risk Management Evaluation**: It is recommended that all new AI technologies are evaluated using the **NIST AI Risk Management Framework (AI RMF)** to ensure thorough evaluation of AI technologies before they are deployed. **Advanced AI Technologies:** It is recommended that the **OWTRD** investigate and evaluate more advanced AI including the use of ***Drones*** and ***Digital Twin Predictive Data models*** for fire mitigation. *Drones* would enable faster identification of fires and be deployed in areas where traditional surveying or aircraft would have difficulty. Additionally, Drones may be used to support firefighters with on-the-ground support during fire events. *Digital Twin Predictive Data* models are also recommended for fire mitigation, as these machine learning models can be used for resource planning and allocation to identify high risk areas for forestry maintenance.

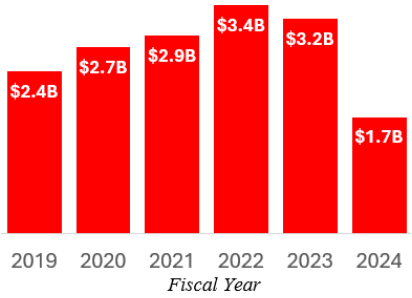
2.0 Challenges for California

According to the National Interagency Fire Center (2024), California experienced 8,316 wildfires in 2024, which is 12.8% of the wildfires that occurred in the United States that year. These wildfires are seasonal due to California's Mediterranean climate, however climate change is resulting in drier, warmer, and high-pressure weather patterns, which put the state at greater risk of wildfires (Dong et al., 2021). As a result, wildfires are more frequent and there are significant direct and indirect costs to California. Additionally, the ownership of fire mitigation in California is very complex and creates issues in overall management.

2.1 Direct Costs of Wildfires

Given the size and scope of wildfire management, California requires a very large budget to support these activities (see Figure 1) (*State of California Expenditures*, 2024). In 2023, California spent $3.1 billion on wildfire mitigation, while all Federal agencies in the entire United States spent only $3.2 billion (*Suppression Costs | National Interagency Fire Center*, 2023).

Figure 1 – *CalFire Budget*
Source: State of California Expenditures, 2024



2.2 Indirect Costs of Wildfires

Wildfires have a number of indirect impacts on Californians, including public health, environmental, and economic costs. Health issues related to smoke inhalation from wildfires are estimated to cost $100 billion annually for the United States (Feo et al., 2020, p. 104). Pollution from wildfires may have an impact on labor production in areas affected by fires (Feo et al., 2020, p. 156). Wildfires can lead to environmental costs, such as the loss of native species and possible introduction of invasive species that displace native wildlife (Feo et al., 2020, p. 143). The economic costs can be staggering with property damages from the 2025 Southern California fires are estimated to be $28-$53 billion (Horton et al., 2025). Additionally, it is projected that local businesses in Los Angeles County will suffer from $4.6 - 8.9 billion in economic losses over the next five years from the fires (Horton et al., 2025).

2.3 California's Complicated Network

Wildfire mitigation and the use of AI is complex through a combination of State, County and Federal programs as well as involvement from other stakeholders. Many stakeholders have been individually investing in AI to combat wildfires (Newsom, 2023). This complicated network of organizations and AI programs can lead to inconsistencies and challenges in coordinating both wildfire mitigation and AI deployments.

3.0 Stakeholders

3.1 Key Stakeholders in Wildfire Management

California's Department of Forestry and Fire Protection (CalFire) is responsible for managing resources, budget, and state fire programs. The **US Forest Service** plays a major role in fire mitigation as it manages federal lands and coordinates with California. **California** and the **US Legislatures** each play a significant role as stakeholders by developing legislation to support AI use, as well as funding and sponsoring programs to address wildfire management. **Utilities**, such as SoCal Edison and Pacific Gas & Electric, manage the power infrastructure and have a major interest in AI. These companies are investing in their own AI technologies to identify fires and reduce electric fires (*Green Grid Inc*, 2025). **Local Government/Fire** wish to have access to technologies that support their own firefighting activities. They are involved in advocating for AI use and wildfire mitigation for their communities.

3.2 Key AI/Technology Stakeholders.

Technology Development Companies, Think Tanks, and Universities have been helping promote new innovations to help mitigate fires in the state. **Technology Developers** have a large impact on AI use in California's wildfire mitigation plans and are investing in AI fire prevention technologies (Wong & Lee, 2025). There are many key partnerships for the state and private developers, including Digital Path who provides the machine vision technology for fire detection (*AlertWest Technology*, 2025)**. Universities and Think Tanks** have helped to advance AI technologies, contributed to policy proposals, and support public safety and health (Medzerian, 2024).

3.3 Other Stakeholders

Citizen and Advocacy Groups are concerned about safety and fairness for citizens and ecology (*California Fire Safe Council (CFSC)*, 2025; *Firefighters United for Safety, Ethics, and Ecology*, 2025). They benefit from early warning systems, but are concerned about ensuring equitable resources and support for citizens and the environment.

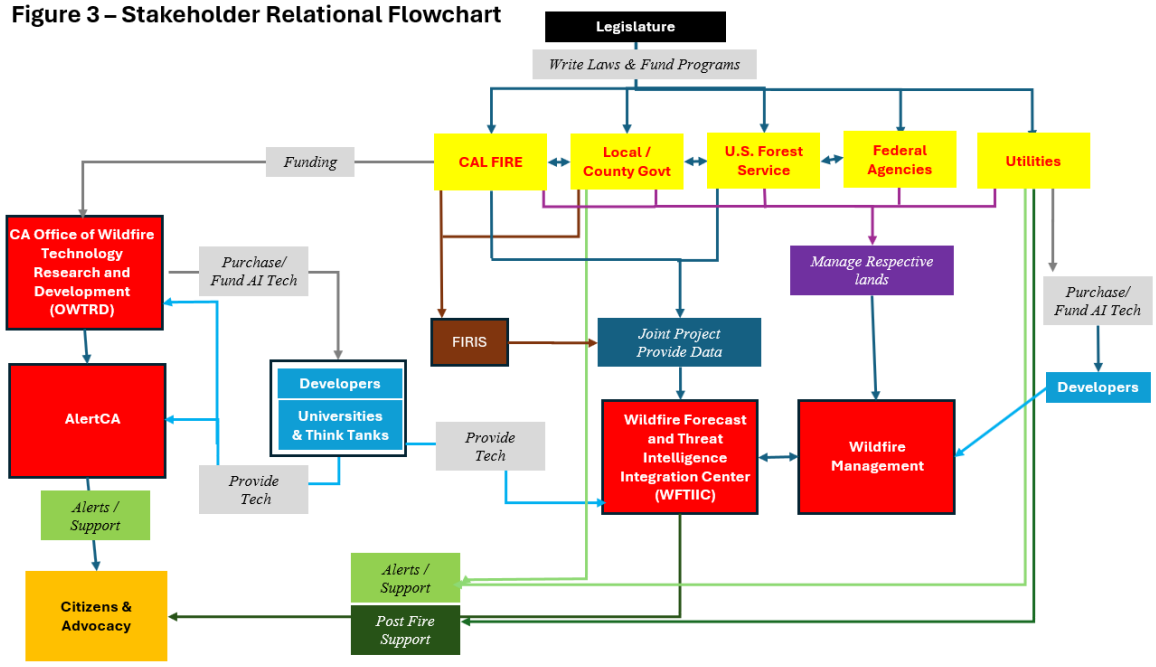
Figure 2 – Fire Management Responsibility
Source: Feo et al., 2020, p. 36)

3.4 Interagency Relationships

Fire responsibility in California is split between State, Federal, and County agencies (see Figure 2). Six counties manage their own fire mitigation and budgets: Marin, Ventura, Los Angeles, Kern, Orange, and Santa Barbara (Feo et al., 2020, p. 35). While their responsibility is separated, fire management is collaborative between the various stakeholders (see Figure 3). However, this complexity creates

inconsistency in AI policies, including how and where AI is used in the state.

Figure 3 – Stakeholder Relational Flowchart



4.0 AI Policies

4.1 Existing AI Policy in Wildfire Management

AlertCA: In 2023, a pilot was launched through a public and private partnership between CalFire, the University of San Diego, and a private developer ("AlertCA History," 2025). AlertCA utilizes a camera network to identify smoke and fires using AI computer vision. The system was used for early fire detection, which enabled CALFire and local agencies to respond more quickly to fires. **Wildfire Forecast and Threat Intelligence Integration Center (WFTIIC)** is a real time fire reporting system, which shares data among State and Federal agencies (Dodd, 2019). The WFTIIC uses data from California Agencies (CalFire, Office of Emergencies), Public Utilities, US Forest Service, National Weather Agency, and California Universities (Dodd, 2019). The WFTIIC also uses predictive fire forecasting using climate and drought data, which was developed by a private company (*Technosylva*, 2025; *WFTIIC - Attack Viewer*, 2025). **Office of Wildfire Technology Research and Development (OWTRD):** In 2021, the state legislature passed State Bill (SB-109), which established the OWTRD under the CalFire agency (Dodd, 2021). The purpose of the OWTRD was to identify, test, and recommend technologies that would help mitigate fires in the state. The OWTRD provides recommendations to CalFire on which technologies to invest in to aid wildfire mitigation. **Fire Integrated Real-time Intelligence System (FIRIS):** Introduced in 2019, the FIRIS program uses aircraft equipped with infrared sensors. The FIRIS aircraft operate seven days a week, searching for fires using infrared data to alert fire agencies (Petrie-Norris, 2019).

4.2 Learnings from International AI Policy

Türkiye, having a Mediterranean climate much like California, also suffers from the same seasonal fires and risks. In 2021, catastrophic fires burned over 139,000 hectares of land (Altıok et al., 2023). The Turkish Ministry of Agriculture & Forestry (MOAF) sponsored a pilot to develop an AI system to help with fire risk identification and resource planning. A private company, KoçDigital, developed a risk map and machine learning model to predict the risk of ignition. KoçDigital developed a "Digital Twin" database of the pilot areas to digitally replicate the environment electronically with over 400 data points including meteorological, geographic and fire data, with 10 years of history. This database was used to create predictive models, simulating real world scenarios using a "twin" of the environment.

Türkiye's Digital Twin prediction had several challenges with data availability. Data was missing and had to be substituted, which could cause bias or inaccuracy in forecasting. Additionally, human-caused fires could not be forecasted by the model. For California to adopt a similar approach, the model would likely need to be improved to consider severity and outliers like the Santa Ana winds that intensified the most recent fires. Additionally, the model would need to be able to blend sources from various stakeholders who have responsibility for land management and data collection from Federal, State, and Local agencies.

4.3 Proposed Policies in California

There are two bills being proposed by the US and California Legislatures to address wildfire mitigation using AI: **AI Frontier Models (SB-53)** recommends developing a risk management audit framework for all state government implementations of AI (Wiener, 2025). The bill proposes "guardrails" to ensure there is a clear understanding of machine decision outcomes. **Fix Our Forests Act**: Proposed by the US House of Representatives encourages the use of AI for Land Management activities, including wildfires (Westerman & Peters, 2024). The bill recommends the use of AI for resource planning and to identify new fires more quickly.

5.0 Recommendations

5.1 Centralized Evaluation of AI Technologies

The complexity of the wildfire management agencies makes it difficult for comprehensive coordination and planning. While there is some coordination among stakeholders with AI technologies, these activities are limited to forecasting and monitoring. Federal and County agencies could benefit from the state's significant budget and technological advancements being vetted by the **Office of Wildfire Technology Research and Development (OWTRD)**. The **OWTRD** should continue their mission to evaluate technologies for CALFire's wildfire management, however they should also expand vetting activities to support Federal and County agencies.

5.1.1 Benefits: The ownership of AI vetting by the OWTRD would ensure coordination and effective utilization of emerging AI technology. Stakeholders with fire management responsibilities would benefit from having access to vetted technology. Additionally, interagency coordination during disasters would be improved as all agencies will be familiar with the same technologies and tools for fire mitigation. Finally, citizen groups would have greater access to one agency vs. dealing with multiple agencies to ensure that their concerns are addressed.

5.1.2 Risks: There would be politics in giving authority to the OWTRD for tech oversight. With responsibility for fire mitigation being split by geographic areas, it will require the State government to persuade Federal and County entities to relinquish ownership of AI activities. County entities would be more likely to be influenced, however forcing Federal agencies to comply would take additional actions. However, California can take over maintenance of wildlife areas with approval from the US congress (Vincent, 2016). Additionally, President Donald Trump has been advocating for reducing federal oversight and giving more control to local governments (Trump, 2025). Developers may have concerns with the OWTRD's oversight, as it would reduce the number of potential customers for their technologies. Additionally, academia and think tanks may struggle to be included in decisions at the state level.

5.2 Implement AI Evaluation Framework

To ensure that the OWTRD is implementing AI responsibly, it is recommended that a risk assessment is conducted when evaluating AI for wildfire management. When evaluating new technologies, key risks from AI must be considered including financial, feasibility, adoption, ethical, and environmental impacts. To evaluate AI technologies fully, it is recommended that California utilizes the US NIST AI Risk Management Framework (AI RMF) (*AI Risk Management Framework*, 2021).

5.2.1 Benefits: The AI RMF is a flexible tool that enables the evaluation of different types of AI at all lifecycle stages (*Perspectives about the NIST AI RMF*, 2023). Additionally, the AI RMF offers a library of resources including guides and templates for different AI technologies. The AI RMF has a key focus on ensuring transparency, fairness, safety, and accountability. The framework would ensure that all technology that is implemented by the OWTRD is completely vetted and risks are considered. With this proactive approach, the "guardrails" that Senator Scott Wiener had proposed would be in place (Wiener, 2025).

5.2.2 Risks: The AI RMF may be considered overly technical and require too much time to be used for all evaluations. These risk evaluations could slow down adoption of new technologies and delay agreements with developers. The AI RMF is also limited in addressing social and society risks of technology.

5.3 Implement Drones in Wildfire Mitigation

The OWTRD should investigate the use of Drones. Fire Integrated Real-time Intelligence System operations are limited and AlertCA's camera network may lack precision in their imagery.

5.3.1 Benefits: Drones have been proposed in academia as a solution to help assist fire mitigation activities. Drones could be used in early detection for more precise identification of fires (Anderson, 2023). Like the FIRIS program, the drones would provide aerial support, but could be in operation 24/7 scanning for fires. Additionally, drones have been proposed to help assist firefighters with coordination and safety efforts during wildfires.

5.3.2 Risks & Mitigation

Figure 4 - Drones Implementation Risks & Mitigation

Risk	Harm	Mitigation	Primary Stakeholders
Drone Failure / Crash [Safety]	• Bodily harm • Property Damage	• Require Protection systems • Temperature/Heat requirements • Implement feedback learning loops • Use AI RMF Framework for accountability mapping	• Legislation • Community • Fire Agencies • Developers • OWTRD
Surveyance [Privacy]	• Public Trust • Privacy	• Clearly marked government drones • Transparency report • Feedback from citizen groups	• Legislation • Community • Developers • OWTRD

Hacking [Secure]	• Security • Privacy • Injury	• Up to date security protocols	• Legislation • OWTRD • Developers • Community

Risks: The use of Drones in fire mitigation can result in harmful Safety, Privacy, and Security risks (See Figure 5). Drones can malfunction and crash causing damage to property, bodily harm, and even start new fires. More recently, drones have actually prevented fire mitigation efforts when a personal drone struck a water dumping plane (Lloyd, 2025). Drones also raise surveillance and privacy concerns for citizens (Bradley & Chiou, 2024). Additionally, Drone may be susceptible to hacking (Yaacoub et al., 2020).

Mitigation: The OWTRD should require all fire drones to be equipped with backup systems, collision prevention, and emergency landing technologies. Drones should also be able to handle heat tolerances associated with wildfires to reduce the risks of failure and crashes. The OWTRD must create an evaluation measurement and feedback loop specifically for fire drones to ensure continuous improvement of AI models (Albahri et al., 2024; Bradley & Chiou, 2024). Finally, the OWTRD must ensure that drones remain up to date on latest security protocols to reduce hacking risks (Yaacoub et al., 2020).

5.4 Enhanced Forecasting - Digital Twin

The OWTRD should investigate the use of more robust forecasting using AI Digital Twins. The current forecasts being performed by the WFTIIC use limited data (e.g., historical fire and weather data).

5.4.1 Benefits. CalFire and the US Forest Service would benefit from more accurate AI forecasting and modeling to perform more preventative maintenance on high-risk areas (Giannakidou et al., 2024). The OWTRD could learn from the KoçDigital Türkiye pilot and investigate creating a more robust model (Altıok et al., 2023). While a full Digital Twin model may not make sense immediately, the OWTRD and WFTIIC should consider adding more robust geographic data to their data models (Altıok et al., 2023).

5.4.2 Risks & Mitigation

Figure 5 - Enhanced Forecasting Implementation Risks & Mitigation

Risk	Harm	Mitigation	Primary Stakeholders
Inaccurate predictions [Valid & Reliable]	• Public Trust • Bodily harm • Property Damage	• Require Tailored Measurements • Use AI RMF Framework for accountability mapping	• OWTRD • Developers • Fire Agencies • Communities • Legislation
Over Trust in AI [Accountability & Transparency]	• Bodily harm • Property Damage	• Systems are audited to ensure that data is only used for intended purposes • Require AI risk training for users of systems	• Legislation • OWTRD • Fire Agencies • Communities • Developers
Under Representation of Groups [Fairness]	• Public Trust • Bodily harm • Property Damage	• Audit models to ensure representation • Provide transparency reports on model outcomes	• Legislation • Communities • OWTRD • Developers

Risks: There are a number of key risks in forecasting (see Figure 5). Inaccurate predictions can cause major harm to California's citizens. Unforeseen events are often difficult to integrate into prediction models (Albahri et al., 2024). As seen with the pilot in Türkiye, there were challenges in not predicting human-caused fires. Completely trusting or having inflated expectations in AI could lead to dangerous outcomes (Gevaert et al., 2021). Additionally, there are risks of underrepresentation or bias in algorithmic decision making (Gevaert et al., 2021). Research has shown that lower income groups may be at greater risk for wildfires and be underrepresented in decisions on the distribution of resources. Additionally, a diverse input from communities will provide a more robust perspective than just the AI data model (Xie & Meng, 2024).

Mitigation: Agencies should use forecasting and prediction data as an input, but still require human decision making in fire mitigation. It is critical that AI models are evaluated thoroughly based on specific tailored metrics, not just by general performance metrics (Afroogh et al., 2024, p. 1123). The OWTRD should implement AI RMF accountability mapping (*AI Risk Management Framework*, 2021). An annual audit of forecasting models

should be required, as this would be in line with the "AI guardrail" policy recommendation from the state senate (Wiener, 2025). Lastly, provide transparency reports on how predictive models come to their conclusions and provide access of that data to communities (Visave, 2024).

6.0 Conclusion

California is a leader of high tech in the United States and the world, yet California is lacking in thought leadership on how AI technologies can be implemented to help prevent one of its greatest risks. It is critical to ensure that any AI deployed within California is trustworthy and effective. AI has the potential to assist in California's wildfire mitigation efforts, however without a thoughtful deployment, AI puts California's citizens at risk.

7.0 Appendix

7.1 References

Afroogh, S., Mostafavi, A., Akbari, A., Pouresmaeil, Y., Goudarzi, S., Hajhosseini, F., & Rasoulkhani, K. (2024). Embedded Ethics for Responsible Artificial Intelligence Systems (EE-RAIS) in disaster management: A conceptual model and its deployment. *AI and Ethics*, *4*(4), 1117–1141. https://doi.org/10.1007/s43681-023-00309-1

AI Risk Management Framework. (2021, July 12). NIST. https://www.nist.gov/itl/ai-risk-management-framework

Albahri, A. S., Khaleel, Y. L., Habeeb, M. A., Ismael, R. D., Hameed, Q. A., Deveci, M., Homod, R. Z., Albahri, O. S., Alamoodi, A. H., & Alzubaidi, L. (2024). A systematic review of trustworthy artificial intelligence applications in natural disasters. *Computers and Electrical Engineering*, *118*, 109409. https://doi.org/10.1016/j.compeleceng.2024.109409

AlertCA History. (2025). *ALERTCalifornia*. https://alertcalifornia.org/history/

AlertWest Technology. (2025). ALERTWest. https://www.alertwest.org/technology

Altıok, Ş., Sarkar, A., & Thogmartin, D. (2023, January 16). *The Next Frontier in Fighting Wildfires: FireAId Pilot and Scaling*. World Economic Forum. https://www.weforum.org/publications/the-next-frontier-in-fighting-wildfires-fireaid-pilot-and-scaling/

Anderson, J. C. (2023, August 28). *New Drone Research Advances Wildfire Monitoring*. UC Davis. https://www.ucdavis.edu/climate/news/new-drone-research-advances-wildfire-monitoring

Bradley, S., & Chiou, E. (2024). Examining the Ethical Considerations of Humanitarian Drones. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, *68*(1), 845–850. https://doi.org/10.1177/10711813241275086

California Fire Safe Council (CFSC). (2025). California Fire Safe Council. https://cafiresafecouncil.org/about-us/about/

Dodd, B. (2019, October 2). *SB 209*. SB-209 Office of Emergency Services: Wildfire Forecast and Threat Intelligence Integration Center. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201920200SB209

Dodd, B. (2021). *SB-109 Department of Forestry and Fire Protection: Office of Wildfire Technology Research and Development*. [Legislation]. California Legislative Information. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB109

Dong, L., Leung, L. R., Qian, Y., Zou, Y., Song, F., & Chen, X. (2021). Meteorological Environments Associated With California Wildfires and Their Potential Roles in Wildfire Changes During 1984–2017. *Journal of Geophysical Research: Atmospheres*, *126*(5), e2020JD033180. https://doi.org/10.1029/2020JD033180

Feo, T., Mace, A., Brady, S., & Lindsey, B. (2020). *The Costs of Wildfire in California*. California Council on Science and Technology; 978-1-930117-66-2. https://ccst.us/reports/the-costs-of-wildfire-in-california/

Firefighters United for Safety, Ethics, and Ecology. (2025, March 3). Firefighters United for Safety, Ethics, and Ecology. https://fusee.org

Gevaert, C. M., Carman, M., Rosman, B., Georgiadou, Y., & Soden, R. (2021). Fairness and accountability of AI in disaster risk management: Opportunities and challenges. *Patterns*, *2*(11), 100363. https://doi.org/10.1016/j.patter.2021.100363

Giannakidou, S., Radoglou-Grammatikis, P., Lagkas, T., Argyriou, V., Goudos, S., Markakis, E. K., & Sarigiannidis, P. (2024). Leveraging the power of internet of things and artificial intelligence in forest fire prevention, detection, and restoration: A comprehensive survey. *Internet of Things*, *26*, 101171. https://doi.org/10.1016/j.iot.2024.101171

Green Grid Inc. (2025). Green Grid Inc. https://www.greengridinc.com

Horton, M., Sedgwick, S., Adams, J., Wei, D., & Skyberg, M. (2025). *2025 LA Wildfires and Comparative Study* (No. February 2025). Los Angeles County Economic Development Corporation. https://laedc.org/wildfirereport/

Lloyd, J. (2025, January 31). Man agrees to plead guilty in drone collision with Super Scooper over Palisades Fire. *NBC Los Angeles*. https://www.nbclosangeles.com/news/california-wildfires/drone-collision-super-scooper-palisades-fire/3620389/

Medzerian, D. (2024, July 22). Scientists use AI to predict a wildfire's next move. *USC Today*. https://today.usc.edu/using-ai-to-predict-wildfires/

Newsom, G. (2023, June 29). Governor Newsom Highlights New AI, Satellites, Tech and Aircraft Keeping Californians Safer This Wildfire Season | Governor of California. *California State Governor Office*. https://www.gov.ca.gov/2023/06/29/governor-newsom-highlights-new-ai-satellites-tech-and-aircraft-keeping-californians-safer-this-wildfire-season/

Perspectives about the NIST AI RMF. (2023, January 23). NIST. https://www.nist.gov/itl/ai-risk-management-framework/perspectives-about-nist-artificial-intelligence-risk-management

Petrie-Norris, C. (2019, September 23). *Assemblywoman Petrie-Norris Secures $4.5 Million for FIRIS Program to Save Lives | Official Website—Assemblywoman Cottie Petrie-Norris* [CA State Assembly]. CA State Democractic Caucus. https://a73.asmdc.org/video/20190923-assemblywoman-petrie-norris-secures-45-million-firis-program-save-lives

State of California Expenditures. (2024, December 31). [Ca]. Open Fi$cal. https://app.powerbigov.us/view?r=eyJrIjoiMGU3NmEwYWUtNDExMi00YTNiLWFlOWEtMWU3ODE3NzIzNWI3IiwidCI6ImZiM2EwMjMxLWUwY2UtNDRlNi04ZGYyLWExODE5NWRkNTk3ZSJ9

Suppression Costs | National Interagency Fire Center. (2023). National Interagency Fire Center. https://www.nifc.gov/fire-information/statistics/suppression-costs

Technosylva. (2025). Technosylva. https://technosylva.com/customers/

Trump, D. (2025, February 19). *Fact Sheet: President Donald J. Trump Reduces the Federal Bureaucracy*. The White House. https://www.whitehouse.gov/fact-sheets/2025/02/fact-sheet-president-donald-j-trump-reduces-the-federal-bureaucracy/

Vincent, C. H. (2016, December 16). *State Management of Federal Lands: Frequently Asked Questions* [Frequently Asked Questions]. US Congress.

Visave, J. (2024). AI in Emergency Management: Ethical Considerations and Challenges. *Journal of Emergency Management and Disaster Communications*, *05*(01), 165–183. https://doi.org/10.1142/S268998092450009X

Westerman, B., & Peters, S. (2024, June 24). *Bipartisan Coalition Introduces Historic Forestry Legislation | House Committee on Natural Resources*. https://naturalresources.house.gov/news/documentsingle.aspx?DocumentID=416165

WFTIIC - Attack Viewer. (2025). Wildfire Forecast and Threat Intelligence Integration Center. https://hub.wftiic.ca.gov/pages/statewide-initial-attack-viewer

Wiener, A. (2025, January 7). *SB 53- INTRODUCED*. https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202520260SB53

Wong, Q., & Lee, W. (2025, January 21). *Fighting fires with AI, drones and sensors. How high tech could help battle future blazes*. Los Angeles Times. https://www.latimes.com/business/story/2025-01-21/tech-wildfires-ai-la-fires-nvidia-lockheed-martin

Xie, W., & Meng, Q. (2024). Spatial and temporal analysis of vulnerability disparity of minorities to wildfires in California. *International Journal of Disaster Risk Reduction*, *114*, 104949. https://doi.org/10.1016/j.ijdrr.2024.104949

Yaacoub, J.-P., Noura, H., Salman, O., & Chehab, A. (2020). Security analysis of drones systems: Attacks, limitations, and recommendations. *Internet of Things*, *11*, 100218. https://doi.org/10.1016/j.iot.2020.100218