



## WHITE PAPER

July 10, 2025

TO: FIREScope Board of Directors

FROM: FIREScope Operations Team, Task Force, & UAS Subcommittee

SUBJECT: FIREScope UAS Incursion During Emergency Events

**APPROVAL: The FIREScope Board of Directors approved this White Paper on July 10, 2025**

### SUMMARY

Unmanned Aerial Systems (UAS), also known as drones, have increasingly disrupted emergency operations, particularly during wildfire incidents in California. Unauthorized drone flights interfere with aerial firefighting missions, delay operations, and pose serious safety hazards to first responders and civilians. This white paper presents a comprehensive, multi-faceted approach to prevent, detect, and manage UAS incursions in support of FIREScope's mission to enhance interagency coordination and operational effectiveness.

### PUBLIC SAFETY ANNOUNCEMENTS (PSAs)

Objective: Raise awareness among drone operators and the general public about the dangers and legal implications of flying drones near emergency incidents.

- **Messaging Strategy:** Develop concise, targeted public education campaigns warning against unauthorized drone use in active emergency areas.
- **Channels:** Distribute content via social media, television and radio PSAs, drone operator platforms (e.g., Airmap, Skyward), and outreach to UAS hobbyist groups.
- **Partnerships:** Coordinate messaging with the FAA's "Know Before You Fly" campaign and national Remote ID requirements to ensure consistency and amplify reach.
- **Implementation:** Launch initial PSA within 6–12 months, with ongoing public outreach supported by local governments, public affairs offices, and aviation regulators.



## UAS COUNTERMEASURES

Objective: Identify and prevent unauthorized drone activity in restricted airspace using advanced detection and mitigation technologies.

- Technology Deployment: Equip incident zones with radar, RF detection, and AI-powered visual systems to identify and track drones in real-time (e.g., DroneShield, DEDrone, or equivalent).
- Operational Tools: Integrate geofencing and remote ID systems; promote automatic no-fly updates in drone software via manufacturer partnerships.
- Legal and Technical Barriers: Assess and address the operational, legal, and ethical limitations of counter-UAS tools, including wiretapping laws, jamming devices, and capture drones.
- Protocol Integration: Develop standardized Counter-UAS Standard Operating Procedures (SOPs) and provide specialized training to Incident Management Teams (IMTs) and first responders.
- Personnel Needs: Establish detection roles within IROC; make detection/counter-UAS training and equipment accessible to partner agencies.

## INTERAGENCY COORDINATION and REPORTING

Objective: Enhance information sharing and develop unified response protocols across federal, state, and local agencies.

- Standardized Reporting: Create uniform protocols for incident-level UAS incursion documentation and reporting in coordination with FAA and local law enforcement.
- Real-Time Communication: Utilize unmanned traffic management (UTM) tools and direct alert systems to facilitate live communication between aircrews, ground teams, and command centers.
- Legal Framework: Support legislation to strengthen penalties for drone incursions in fire traffic areas (FTAs) and establish swift enforcement procedures.
- MOUs & Training: Formalize cooperation through interagency MOUs and routine joint exercises.



FISCAL IMPACT/COST ANALYSIS

Estimating the fiscal impact of UAS incursion mitigation is difficult due to the wide range of available technologies, varying levels of agency involvement, and the diverse communication strategies required for effective implementation. Costs can vary significantly depending on whether jurisdictions adopt basic detection tools or advanced systems, as well as the number of partners—such as law enforcement, fire agencies, and federal entities—involved. Additionally, public education efforts through media campaigns add another layer of complexity. Given these variables, best practices should focus on scalable, regionally coordinated solutions that can be tailored to meet local operational and budgetary needs.

IMPLEMENTATION TIMELINE

Recommendation	Timeline	Responsible Parties
Public Awareness Campaigns	6–12 months	Public Affairs, FAA, Local Government
Mitigation Guidelines	1–2 years	FIRESCOPE UAS Subcommittee, Legal Teams
Detection & Counter-UAS Deployment	2–3 years	Fire Agencies, Law Enforcement, Aviation Units
Legal Advocacy & Legislation	2–3 years	Lawmakers, Legal Counsel, Fire Chiefs
FAA & Agency Coordination Frameworks	2–3 years	FIRESCOPE, FAA, Local & Federal Agencies

CONCLUSION

Unauthorized UAS incursions pose a critical threat to the safety and success of California’s emergency response operations. By investing in public education, advanced detection systems, legislative enforcement, and cross-agency coordination, FIRESCOPE can effectively mitigate this risk. These actions will safeguard aerial operations, improve responder safety, and uphold the integrity of emergency airspace, ensuring California’s fire services are fully supported in their mission to protect life, property, and natural resources.