



Drone Exploring: Career Spotlights

Firefighting — Post

Overview: This session takes a serious look at drones in firefighting as a career and volunteer path: the roles involved (fire department UAS team member, wildfire mapping specialist, structure fire assessment support), the certifications and agency training required, and realistic pay ranges. Explorers plan a mock wildfire mapping mission, including hotspot identification and coordination with a temporary flight restriction (TFR).

OBJECTIVES

- Understand the roles involved in fire department and wildland fire agency drone programs.
- Learn the certifications and training required: FAA Part 107 plus fire agency-specific training, and how TFRs affect drone operations near active fires.
- Identify realistic pay ranges for fire department and first responder drone roles.
- Practice planning a mock wildfire mapping mission, including hotspot identification and TFR coordination.

SUPPLIES

- Laptop and projector to show sample thermal wildfire mapping footage
- Printed handouts: Career Pathway — Fire Service Drone Operator and Wildfire Mapping Mission Worksheet
- Whiteboard or flip chart and markers
- Optional: printed or digital copy of FAA's free Part 107 study guide ([faa.gov/uas](https://www.faa.gov/uas))

ADVISOR NOTES

- This session is career-focused: Use real agency structures, real certification requirements, and real pay ranges rather than a hobbyist framing.
- Emphasize that fire department drone programs typically require both FAA Part 107 and agency-specific training, since operating near active fire and aircraft is high-risk.
- Discuss the FAA's temporary flight restrictions (TFRs) that ban unauthorized drones during active wildfires, and how authorized agency drones coordinate with firefighting aircraft.
- Consider inviting a guest speaker who works on a fire department or wildland agency UAS team to share their career path. See Optional Extensions.
- If no guest speaker is available, Advisors can run the entire session using this outline, the Career Pathway handout, and the resource links below.

SESSION OUTLINE

- **Welcome and Icebreaker** (10 min)
 - “What do you think is the hardest decision a fire commander has to make when a wildfire is spreading fast?”
- **Safety and Regulatory Moment: TFRs and Agency Training** (10–15 min)
 - Review the FAA Part 107 Remote Pilot Certificate: minimum age 16, required knowledge test.
 - Explain temporary flight restrictions (TFRs): FAA-issued no-fly zones over active wildfires that only authorized aircraft (including agency drones) may enter.
 - Discuss why fire departments require additional agency-specific training beyond Part 107 before flying near active incidents.
- **Mini-Lesson: The Role of Drones in Fire Service Careers** (15–20 min)
 - Roles: fire department UAS team member, wildfire mapping specialist, structure fire assessment support, post-fire damage assessment.
 - Typical pay: fire department drone roles average around \$76,000/year (most between \$60,000-\$92,500); broader first-responder drone operator roles average around \$20.75/hour.

- Discuss how many fire service drone operators are also trained firefighters, while some departments use civilian technicians for the UAS role.
- **Activity: Plan a Wildfire Mapping Mission (20–25 min)**
 - Using the Wildfire Mapping Mission Worksheet, small groups plan a mock mission: fire perimeter mapping approach, hotspot identification method, and how they'd coordinate with the TFR and other aircraft.
- **Wrap-Up Discussion (10 min)**
 - Groups present their mission plans.
 - Discuss the concrete steps (certification, fire service training, agency application) needed to pursue this as a career.

REFLECTION SECTION

Advisor Note: Some sample questions are below. They are designed to help the participants apply what they have learned to their own interests. You are welcome to use these questions or develop your own.

Focusing Questions

- What surprised you about the coordination required between drones and other aircraft during a wildfire?
- Which part of this role (mapping, hotspot detection, coordination) sounds most interesting to you?

Analysis Questions

- Why do fire departments require training beyond Part 107 before flying near an active incident?
- How could a wildfire mapping drone change the decisions a fire commander makes?

Generalization Questions

- How is coordinating carefully with a team under pressure useful in other high-stakes careers?
- What other careers combine technical piloting skill with life-safety responsibility, like this one does?

Challenge: This week, research whether your local fire department or state wildfire agency has a drone program and what training they require.

OPTIONAL EXTENSIONS

Guest Speaker: Invite someone who works on a fire department or wildland agency UAS team to share their career path and take questions, in person or by video call.

Advisor-Led Option: If no guest speaker is available, Advisors can run the full session using this outline, the Career Pathway handout, and the resource links below. No outside expert is required.

Resource Links: FAA Part 107 overview ([faa.gov/uas/commercial_operators](https://www.faa.gov/uas/commercial_operators)); FAA's "If You Fly, We Can't" wildfire safety campaign; state wildland fire agency UAS program pages.

Extension Project: Explorers who are 16 or older can begin studying for the actual Part 107 knowledge test using the FAA's free study guide.

Handout: Career Pathway — Fire Service Drone Operator

Firefighting — Post

A typical path into this career looks like this:

1. Interest and Hobby Flying

Learn basic drone operation and become comfortable with thermal camera basics.

2. FAA Part 107 Certification (Age 16+)

Pass the FAA knowledge test to legally fly for pay or for an agency program.

3. Fire Service Agency Training

Additional agency-specific training is required before flying near active fire incidents.

4. Volunteer or Entry-Level Roles

Many fire service drone operators start as volunteer firefighters or department support staff.

5. Specialized Roles

Fire department drone roles average around \$76,000/year (typically \$60,000-\$92,500); first-responder drone roles average around \$20.75/hour.

Handout: Wildfire Mapping Mission Worksheet

Firefighting — Post

Use this worksheet to plan your mock wildfire mapping mission.

Planning Item	Your Plan	Notes and Risks
Fire perimeter mapping approach		
Hotspot identification method		
TFR and airspace coordination		
Communication with ground crews		
Estimated mission time		