



Federal Aviation

### §105.49 Foreign parachute equipment.

(a) No person may conduct a parachute operation, and no pilot in command of an aircraft that aircraft with an unapproved parachute system unless—

- (1) The parachute system is installed on a parachute system of the same type as the parachute system of the aircraft.
- (2) The parachute system is of the same type as the parachute system of the aircraft.
- (3) The parachute system is of the same type as the parachute system of the aircraft.
- (4) All foreign parachute equipment is approved for use in the United States.

## 14 CFR • Small Unmanned Aircraft Systems

# PART 107

## GENERAL OPERATING AND FLIGHT RULES

### Subpart A — General

- 107.1 Applicability.
- 107.3 Definitions.
- 107.5 Falsification, reproduction or alteration of documents, testing, and demonstration of

- 107.67 Knowledge tests: General procedures and passing grades.
- 107.69 Knowledge tests: Cheating or other unauthorized conduct.
- 107.71 Retesting after failure.
- 107.73 Initial and recurrent knowledge tests.
- 107.74 Initial and recurrent training courses.
- 107.77 Change of name or address.
- 107.79 Voluntary surrender of certificate.

Waivers





# Skyward



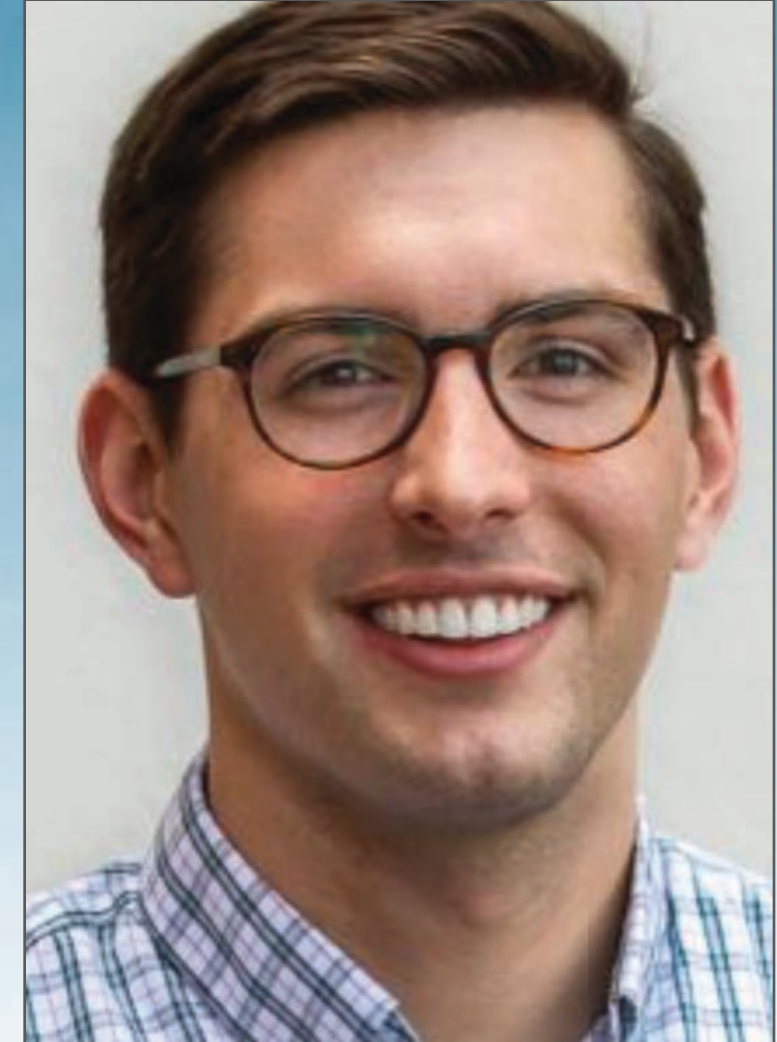
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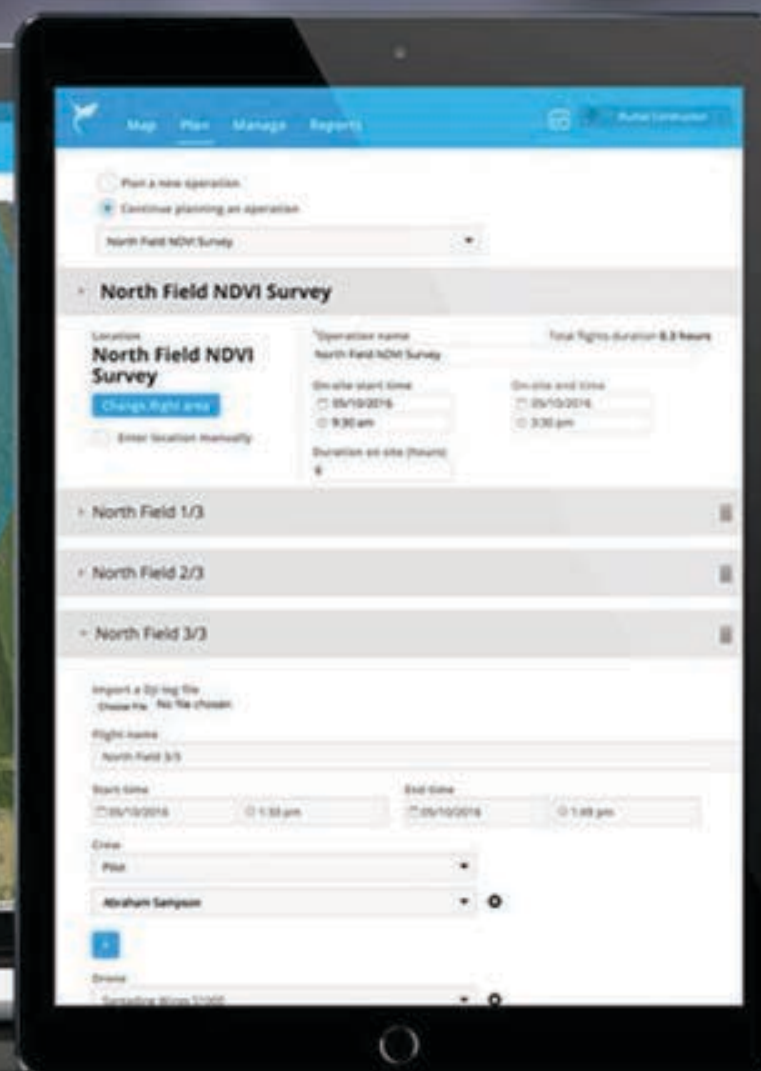
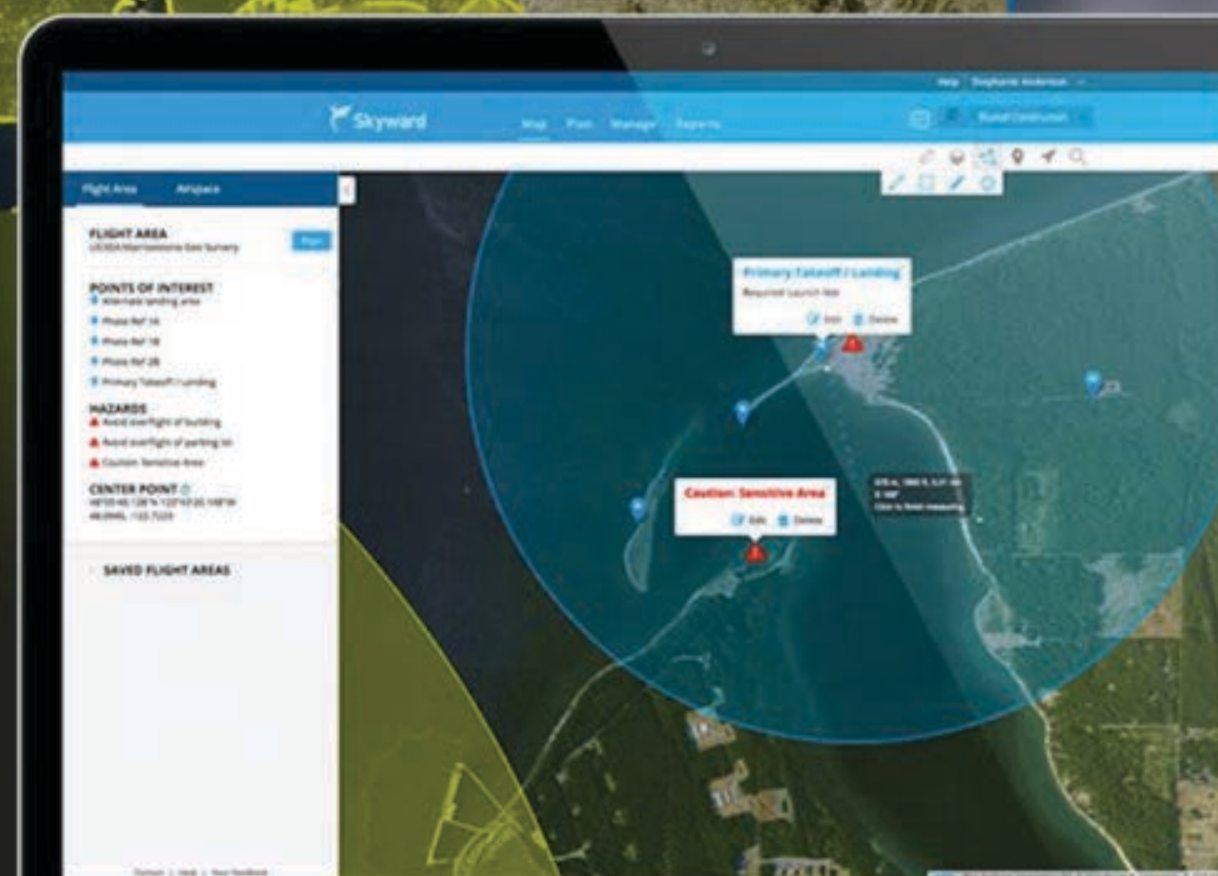


Drone  
Airspace Map

Fleet & Equipment  
Management

Digital System  
of Record

Flight Planning  
& Logging





## Guest Panelist



Jim Williams

**Dentons**

[Jim.williams@dentons.com](mailto:Jim.williams@dentons.com)

- Member of Denton's Public Policy and Regulation practice and the Aviation and Aerospace Sector
- Served as the Manager of the FAA's Unmanned Aircraft System (UAS) Integration Office
- Shaped Part 107 to get us where we are today
- 30 Years of experience in the aviation sector
- Six years as the Director of Engineering for the FAA's NextGen Office





Overview

Airspace

Testing

Growing Your Business





# Industry Terms & Jargon

Term	Definition
<b>ATC</b>	Air Traffic Control
<b>Daisy Chain</b>	Use of multiple, successive observers to extend the flight of a drone beyond the direct visual line of sight of any other pilot in command or observer
<b>METAR</b>	Format for reporting weather information
<b>Non-Participants</b>	People who are not part of the operation or under protective cover
<b>NOTAM</b>	Notice to Airmen - notice filed with aviation authority to alert aircraft of potential hazards along a flight route or at a location that could affect the safety of the flight
<b>Part 107</b>	Rule for commercial small unmanned aircraft (UAS) operations
<b>Section 333</b>	Section of the FAA Modernization & Reform Act of 2012 that grants the Secretary of Transportation the authority to determine whether an airworthiness certificate is required for UAS to operate safely in the National Airspace System
<b>Sectional</b>	Sectional Aeronautical Charts are the primary navigational reference tool used by the VFR pilot community
<b>Supplement</b>	Figures and reference books used during FAA Knowledge Exams
<b>TFR</b>	Temporary Flight Restrictions define a certain area of airspace where air travel is limited



Topic	General 333 and Blanket COA	Part 107
TRAINING	At least a sport-pilot's license and current flight review	Pass FAA knowledge test every 24 months
MEDICAL CERTIFICATE	FAA medical certificate	Self-reported
CREW SIZE	At least 2: Pilot + visual observer(s)	1: Pilot
FLIGHT RESTRICTIONS	<p>Must not operate in:</p> <ol style="list-style-type: none"> <li>1. Prohibited Areas</li> <li>2. Special Flight Rule Areas</li> <li>3. DC Flight Restricted Zone</li> <li>4. Temporary/Permanent Flight Restricted Areas</li> </ol> <p>Special permission for airports in controlled airspace and certain airports in uncontrolled airspace.</p>	<p>Must not operate in:</p> <ol style="list-style-type: none"> <li>1. Class A airspace (18,000 feet and above)</li> <li>2. Prohibited or restricted areas</li> <li>3. Temporary/Permanent Flight Restricted Areas</li> </ol> <p>Special permission needed when in controlled airspace (Class B, C, D and E)</p>
TIME OF DAY	Day only	Daylight or Twilight (30 min before meteorological sunrise and 30 min after meteorological sunset)
HEIGHT LIMIT	400 feet	400 feet
VISUAL LINE OF SIGHT	Required	Required
OPERATION OVER PEOPLE	Not allowed if not participating or under covered structure providing protection	Not allowed if not participating or under covered structure providing protection or inside covered stationary vehicle
BUFFER	At least 500 feet from other property	No buffer
AIRCRAFT ALLOWED	Specified by FAA	Any aircraft under 55 pounds
FILE NOTAM	Yes	No
INCIDENT REPORTING	Yes	Yes



# Part 107: Is It Allowed?

**YES**

Flights below 400ft or within 400ft of object of inspection (tower, building, etc)

Operate in Class B,C, D, and E airspace *with ATC permission*

Delivery (as long as attached cargo does not move total weight above 55lb)

Operations within civil twilight

Daisy chain pilots

Operations from a moving vehicle (in sparsely populated areas)

**NO**

Flights over 100 mph (ground speed)

Flights with less than 3 miles visibility from control station

Acting as remote pilot in command for more than one aircraft at a time

Night time operations

Flights over non-participants without cover (concerts, live news events, sports, etc)

Daisy chain observers



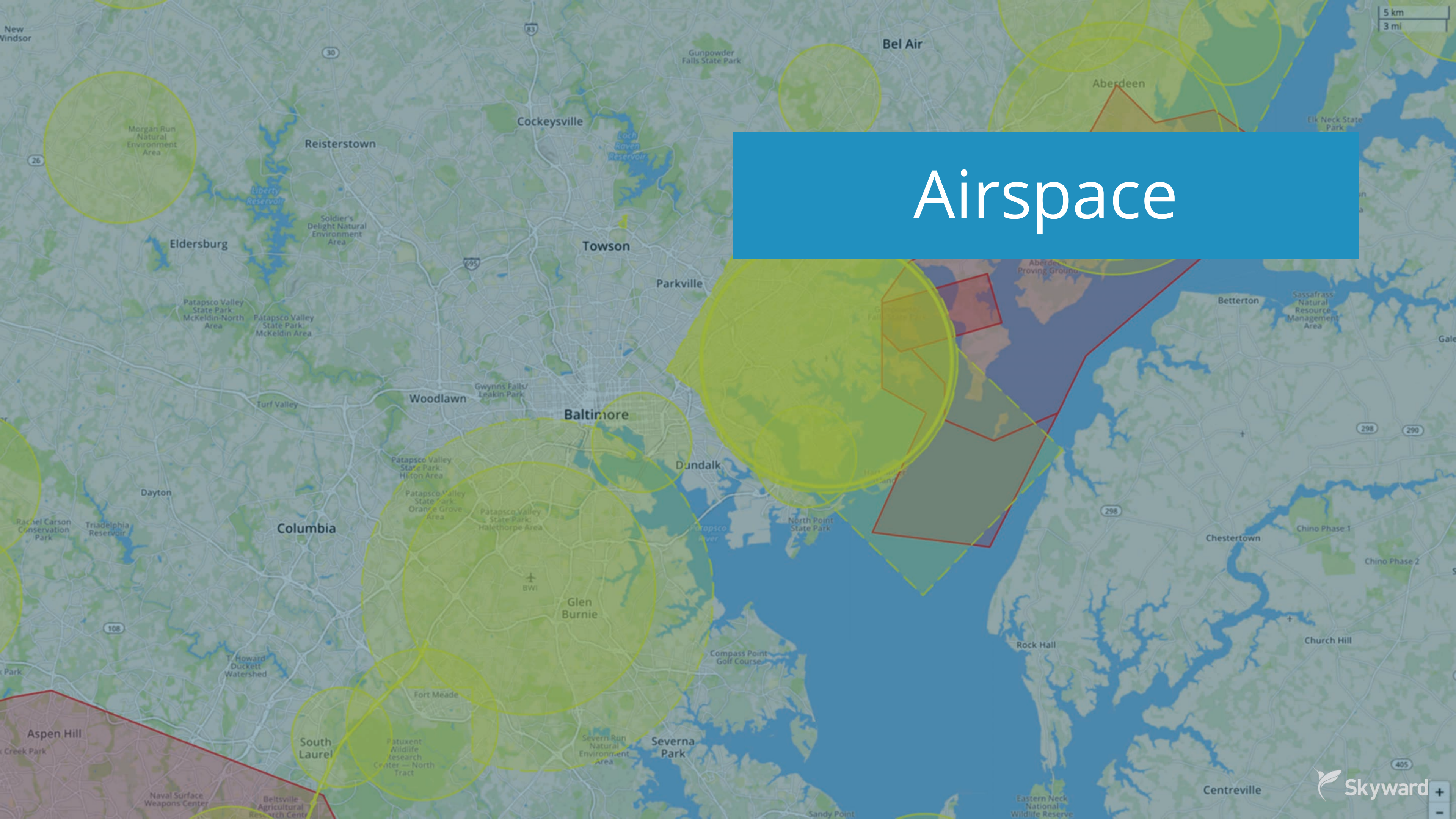
# Pending Section 333

	TIER 1	TIER 2	TIER 3
	<ul style="list-style-type: none"><li>• The entire operation can be conducted under Part 107</li><li>• Review the Part 107 regulation, and may begin operations in compliance with the new rules on the effective date (August 29th, 2016)</li></ul>	<ul style="list-style-type: none"><li>• Requested operation able to be waived in Part 107. FAA will contact you within 60 days. Docket will be closed and FAA will consider your petition for exemption/waiver to Part 107</li></ul>	<ul style="list-style-type: none"><li>• Requested operations outside of the Part 107 that are not able to be waived.</li></ul>
EXAMPLES	Real-estate photography shoot w/no special permission requests.	Night Operations	Flying a drone that weighs over 55lbs.
RESULT	Petition CLOSED	Considered for 107 Waiver	333 Exemption will continue to be reviewed and processed.

*The FAA will evaluate waiver proposals based on operating restrictions, locations of the flight, and hazards unique to each individual request.*



# Airspace





# Before Part 107

Data from [app.skyward.io](https://app.skyward.io)



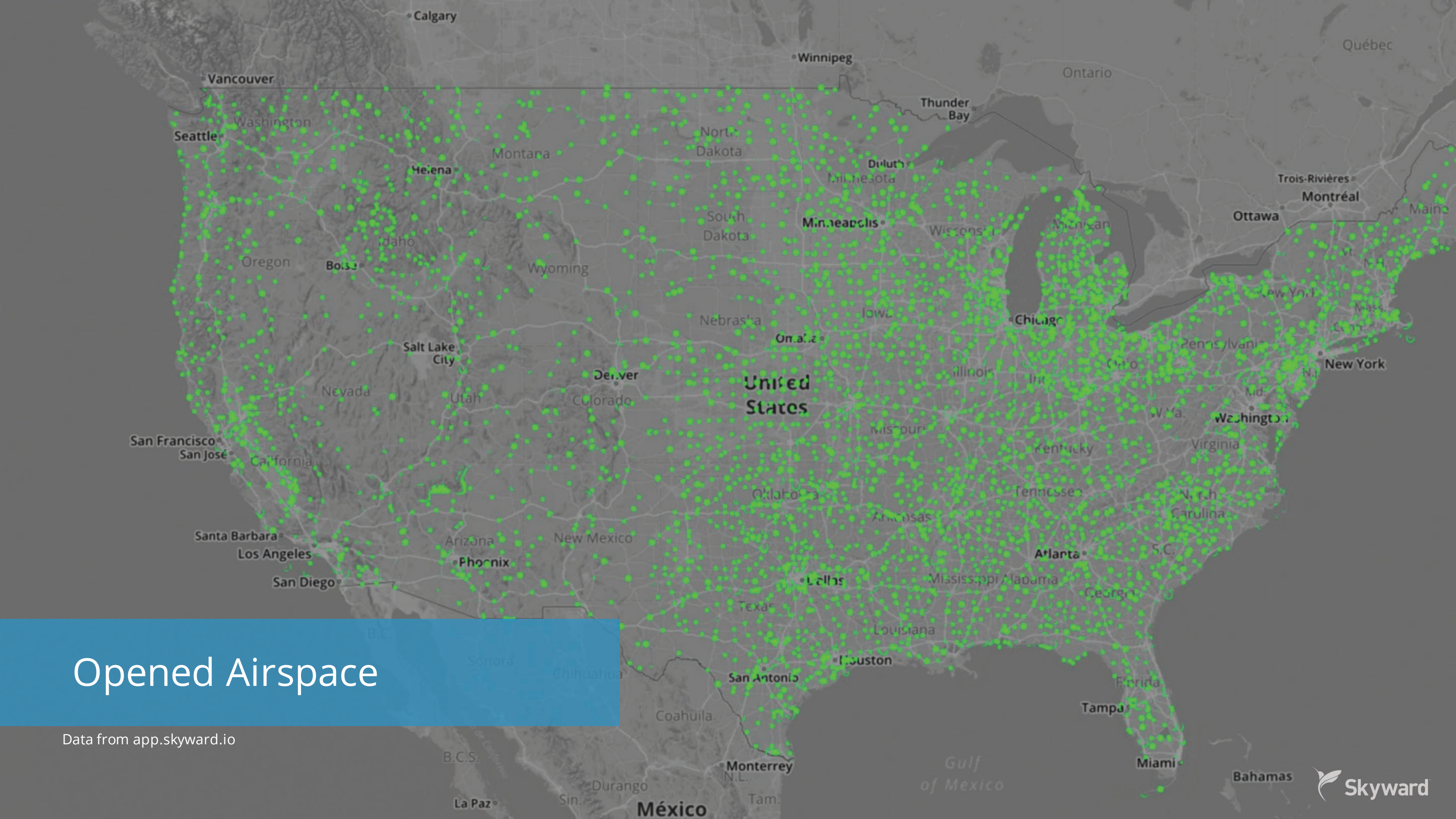
# After Part 107

Data from [app.skyward.io](https://app.skyward.io)



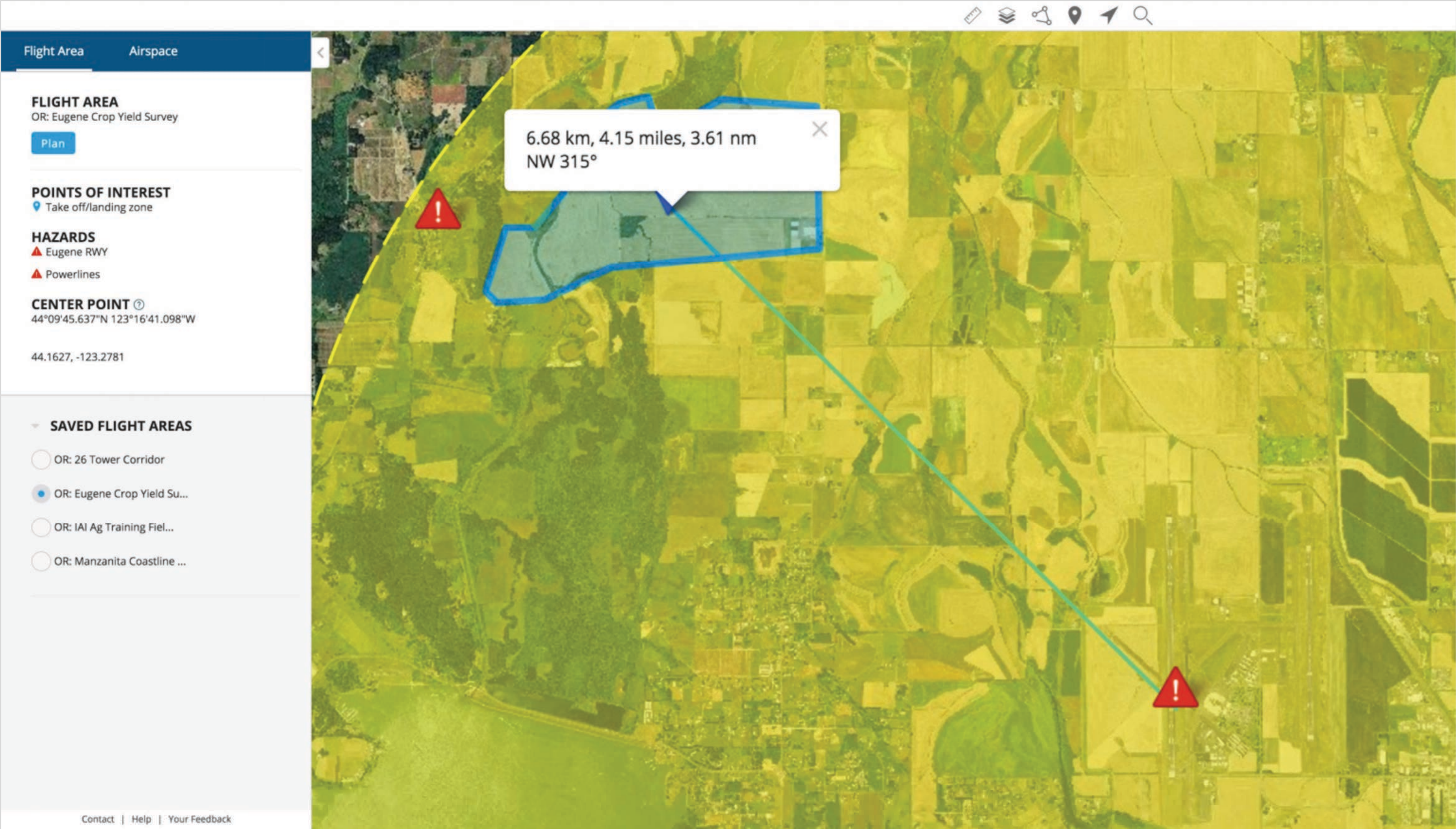
# Opened Airspace

Data from [app.skyward.io](https://app.skyward.io)



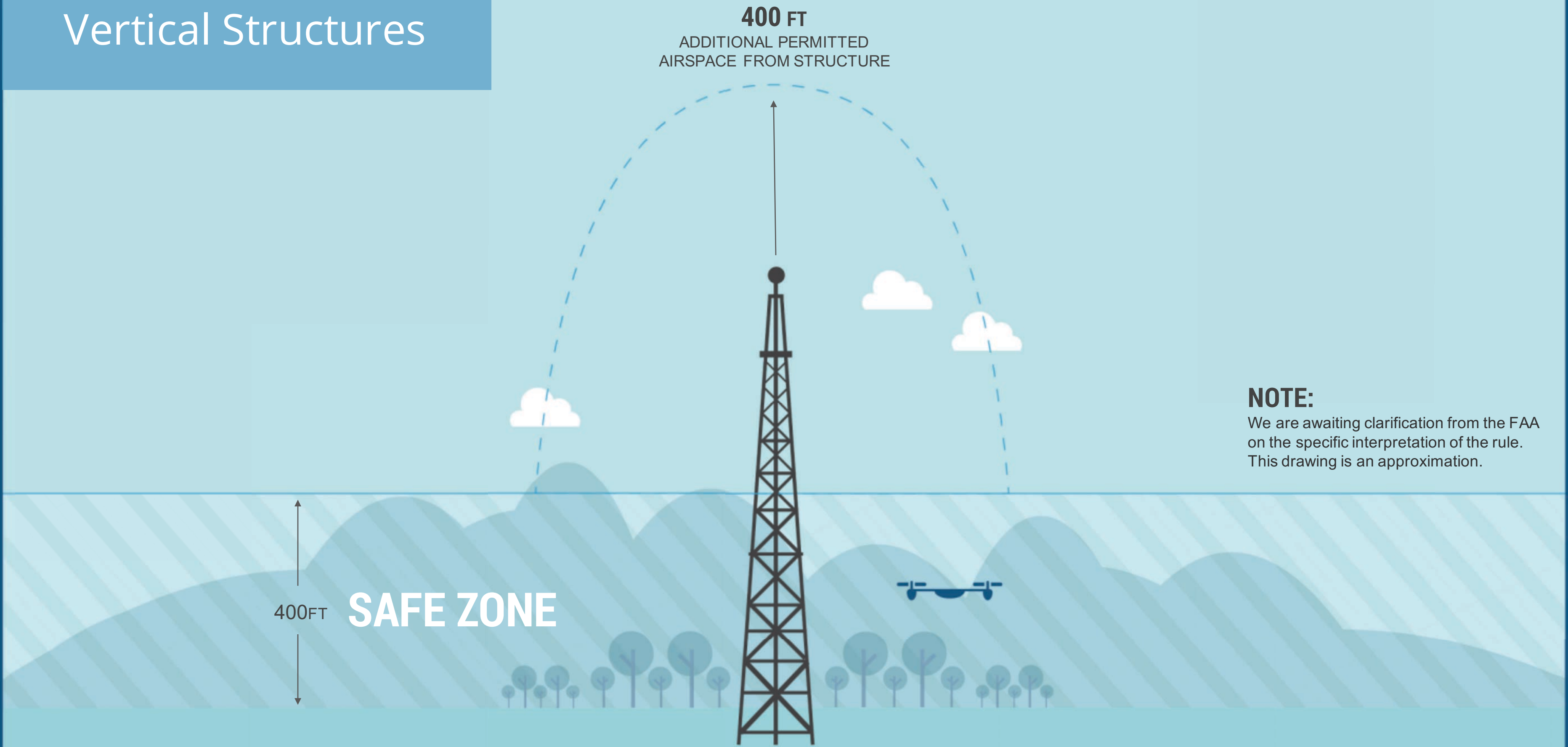


# Coordinating with ATC





# Vertical Structures



**NOTE:**  
We are awaiting clarification from the FAA on the specific interpretation of the rule. This drawing is an approximation.



3 (Refer to FAA-CT-8080-2G, Figure 23, area 3.) What is the floor of the Savannah (outer circle)?

- A. 1,300 feet AGL.
- B. 1,300 feet MSL.
- C. 1,700 feet MSL.

PLT040 / UA.II.A.K1b

General airspace: Class C controlled airspace.

4 (Refer to FAA-CT-8080-2G, Figure 59, area 2.) The chart shows a gray line VR1668." Could this area present a hazard to the operations of a small aircraft?

- A. No, all operations will be above 400 feet.
- B. Yes, this is a Military Training Route from 1,500 feet AGL.
- C. Yes, the defined route provides traffic separation to manned aircraft.

PLT064 / UA.II.A.K2

Special use within airspace. (Prohibited, restricted, alert, and controlled firing.)

the remote pilot-in-command (PIC) c

Testing



# Testing Process

No Current Pilot License	Current Part 61
<ol style="list-style-type: none"><li>1. Find a test center: <a href="https://www.faa.gov/training_testing/testing/media/test_centers.pdf">https://www.faa.gov/training_testing/testing/media/test_centers.pdf</a></li><li>2. Schedule and pay for test (\$150)</li><li>3. Pass Test</li><li>4. Pass TSA Background Check</li></ol>	<ol style="list-style-type: none"><li>1. Take online course</li><li>2. Start application for integrated airman certificate online</li><li>3. Take Logbooks and course certificate to a person who can authenticate</li><li>4. Temporary remote pilot certificate e-mailed</li></ol>

Minimum Qualifications
<ul style="list-style-type: none"><li>● Proficient in English</li><li>● At least 16 years old</li><li>● Pass a TSA Background Check</li></ul>

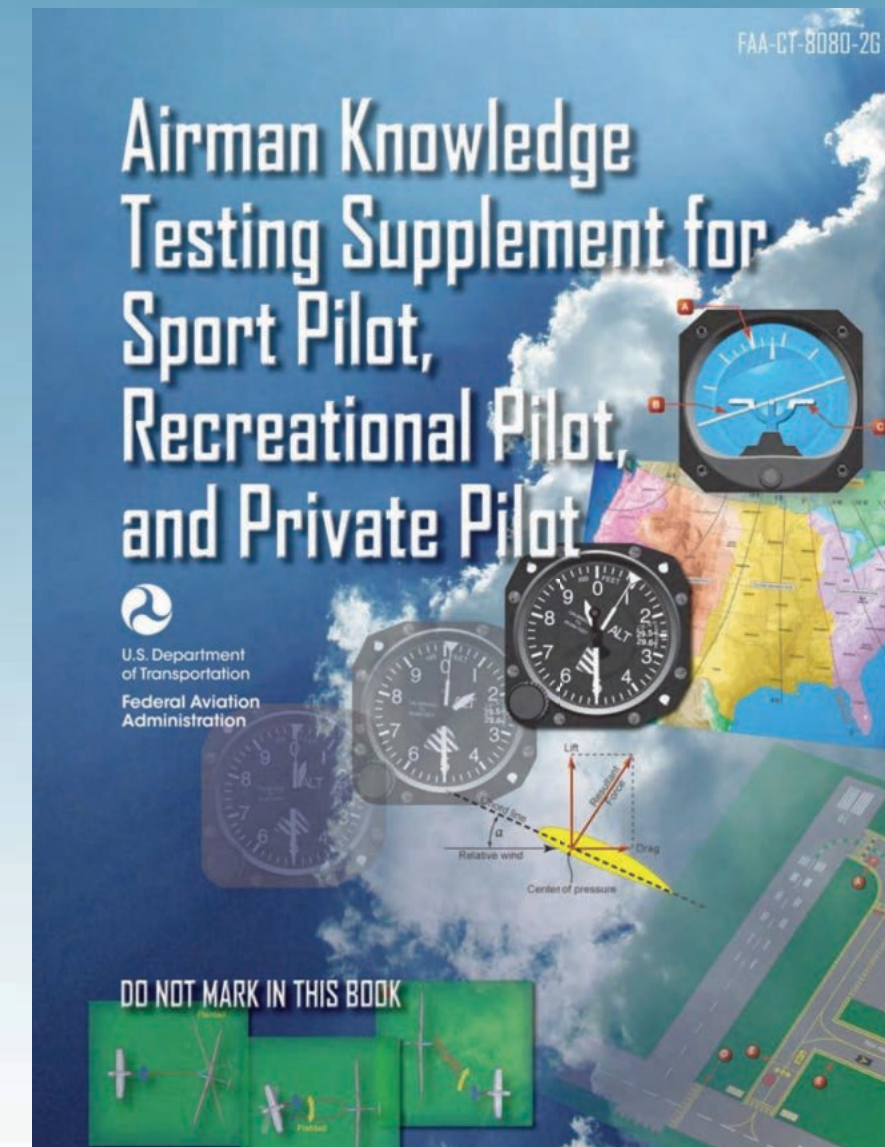
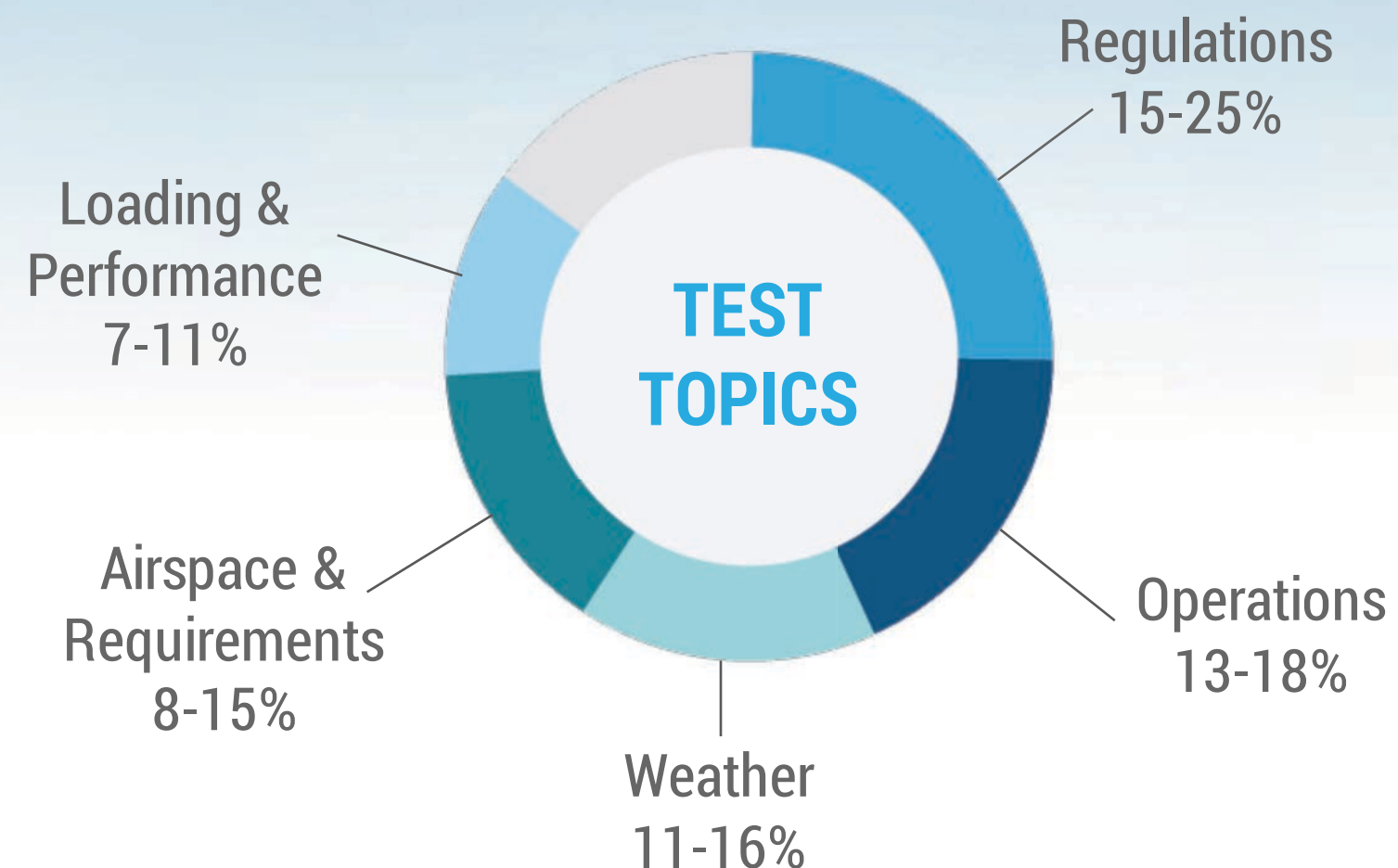
Timeline
Total Process expected to take 6-8 weeks per applicant



# About the Test

## Unmanned Aircraft General - Small

- 60 Questions
- 2 Hours to Complete
- 70% Correct to Pass
- 14 Day Waiting Period for Retesting



The FAA estimates that a small UAS remote pilot applicant will spend 20 hours of self-study in preparation for taking the initial knowledge test

### PRO TIP

Sign up to take your Unmanned Aircraft General Knowledge Exam **now** to secure your reservation.



# Taking the Test

1 (Refer to FAA-CT-8080-2G, Figure 21.) What airport is located approximately 47 (degrees) 40 (minutes) N latitude and 101 (degrees) 26 (minutes) W longitude?

- A. Mercer County Regional Airport.
- B. Semshenko Airport.
- C. Garrison Airport.

PLT064 / UA.V.B.K6a Sources for airport data: Aeronautical charts.

Appendix 2

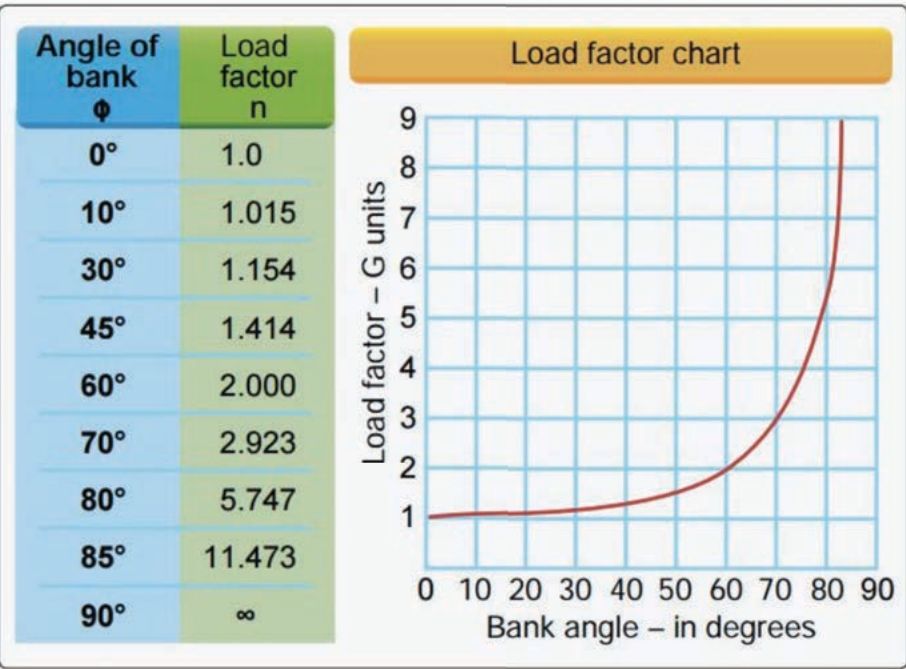
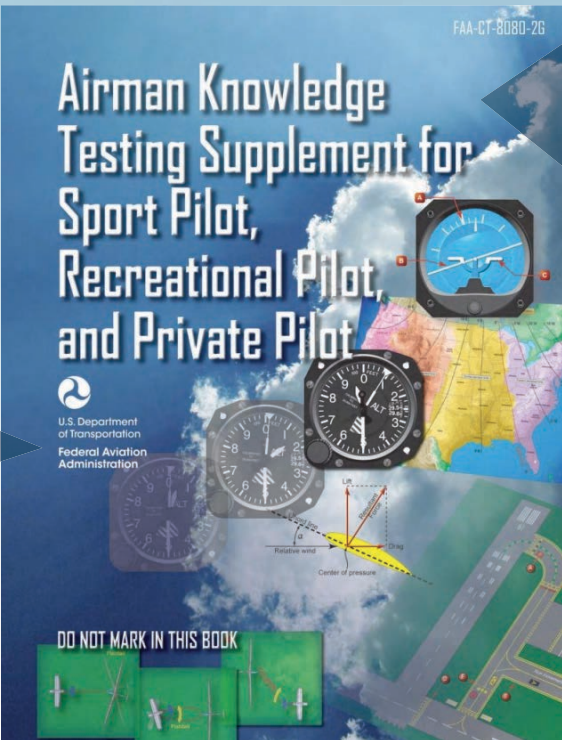


FIGURE 2.—Load Factor Chart.



11 (Refer to FAA-CT-8080-2G, Figure 2.) If an unmanned airplane weighs 33 pounds, what approximate weight would the airplane structure be required to support during a 30° banked turn while maintaining altitude?

- A. 34 pounds.
- B. 47 pounds.
- C. 38 pounds.

PLT309 / UA.IV.A.K3 Determining performance.

Appendix 2



FIGURE 21.—Sectional Chart Excerpt.  
NOTE: Chart is not to scale and should not be used for navigation. Use associated scale.



# Training Options

## Online Training Programs\*

Good option for those w/out aviation background or need a refresher on key concepts:

### Self-paced courses will cover:

- Pre-flight Procedures
- Understanding Sectionals
- Temperature Inversion
- Flight Restrictions
- Responding to Emergencies
- Airport Operations & Radio Communications

**Cost:** \$50 - \$350 (self-paced, online)

\*Not a guarantee you will pass the remote pilot certificate exam and not endorsed by FAA.

## FAA Resources

2 Hour [sUAS course available directly through FAA](#)

**Browse Practice Questions - [FAA released 40 practice questions](#)**

**Cost:** Free

May not cover all of the concepts you need to know for the Unmanned Aircraft General Knowledge Exam.

## PRO TIP

*The FAA estimates 20 hours of self-study in preparation for taking the initial knowledge test - consider finding a study partner to practice!*



## New to Aviation?

UAS Training Programs can help break down larger aviation concepts and get you prepared.



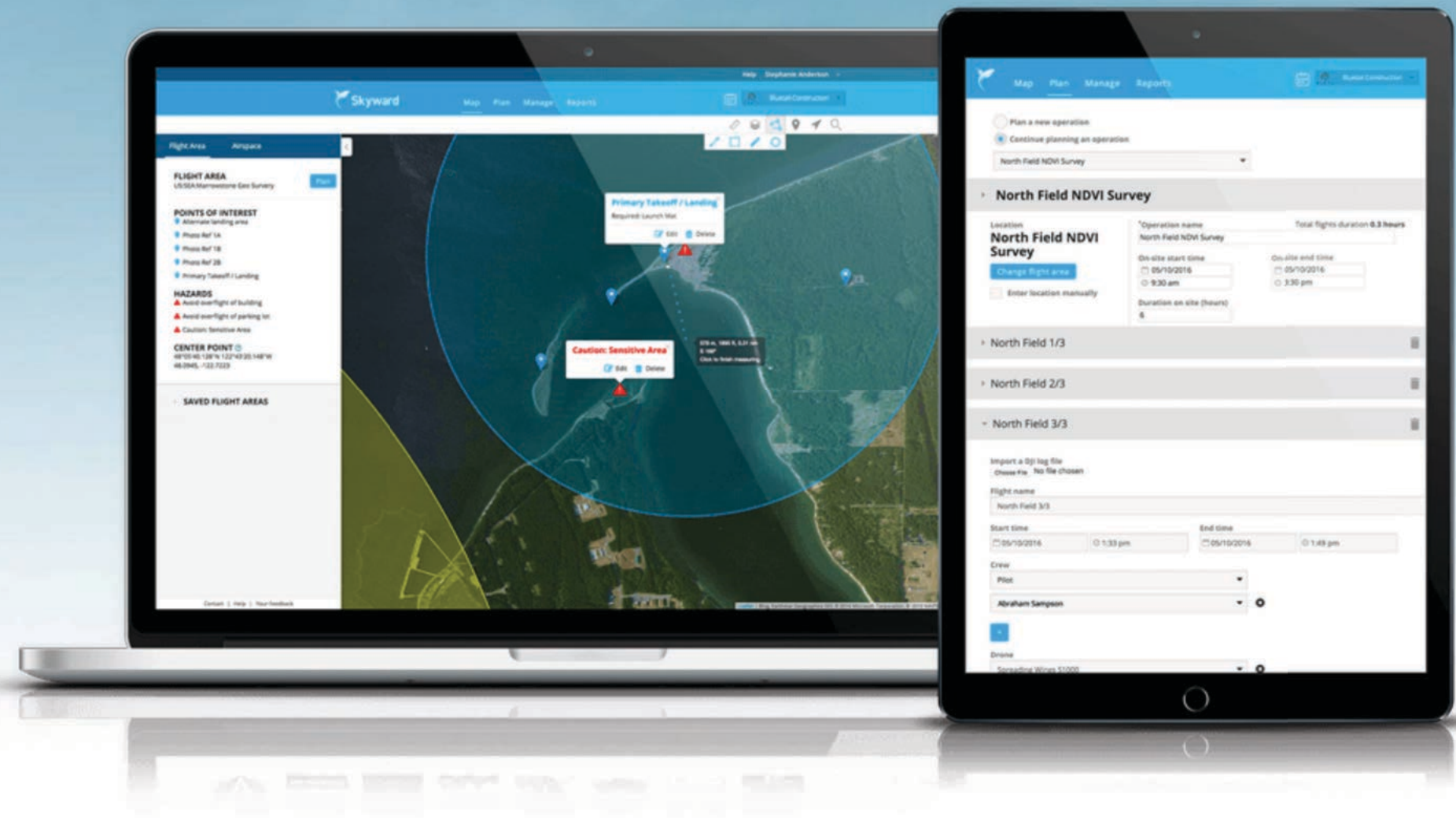


# Growing Your Business



# Professionalism & Quality

- 1. Insurance** - Proving that you are running a professional, safe operation can save you money on insurance.
- 2. Flight Logging** - Log flights and set yourself apart from the competition with the Skyward hours badge.
- 3. Record Keeping** - Keep all of your important documents in one place (Registration, COA, Remote Pilot Certificates, Training Manuals, etc.)
- 4. Efficiency** - Plan missions ahead of time, communicate with your team and reduce risk.





# Marketing Your Business

## 1. Know Your Customer -

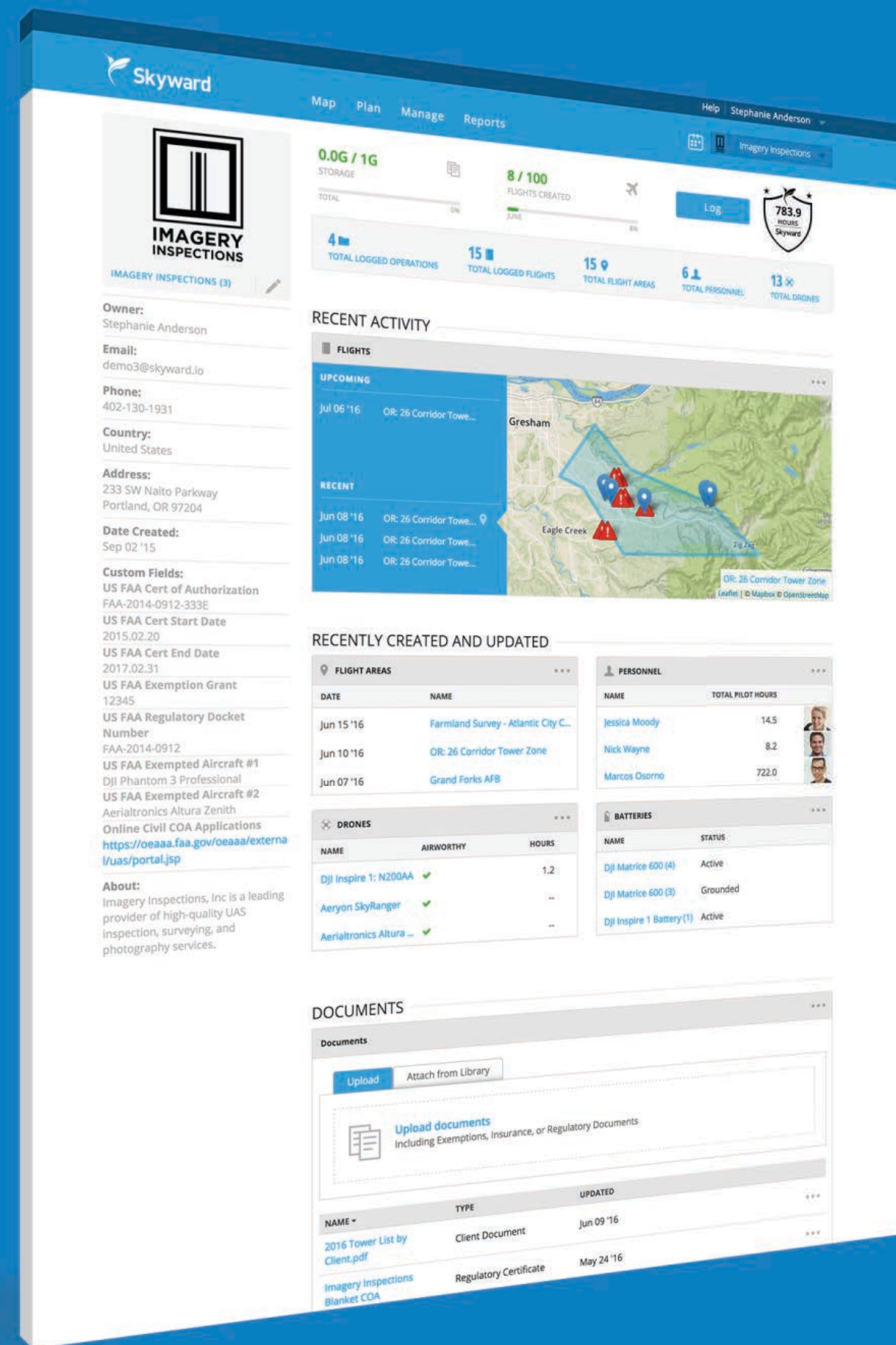
What problem you are trying to solve for them?

## 2. Know Why You Are Different -Be clear about what sets you apart from the rest.

## 3. Professionalism Matters - *Show off your experience to build trust.* Highlight your organization's flight hours, certifications and quality standards.





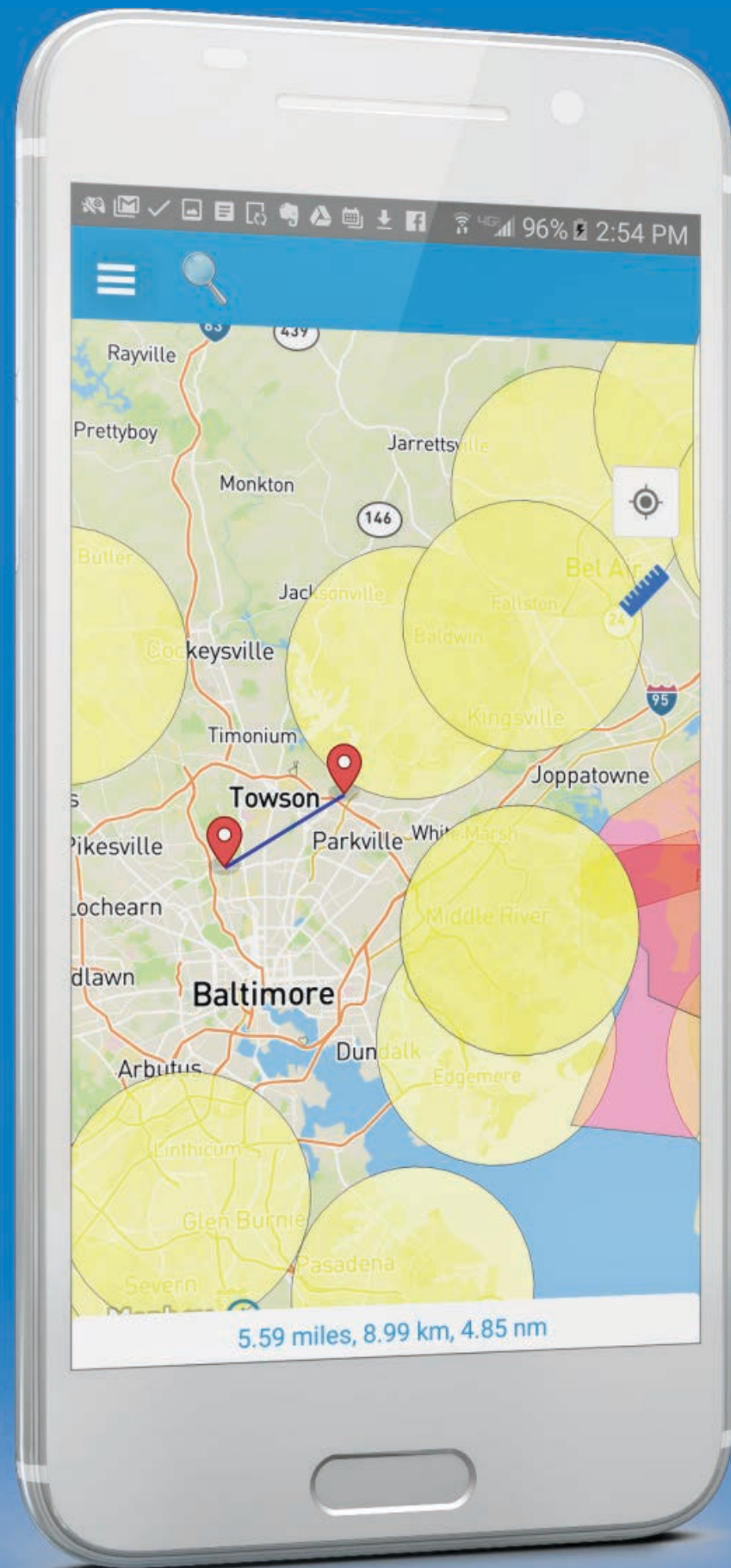


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- Meet regulatory requirements
- Gain a competitive advantage and meet customer requirements





## UP NEXT FROM SKYWARD

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- International Airspace
- Offline Access  
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Pilots in the Field
- *Stay Tuned for...*  
Mobile Flight Logging  
& Checklists



eBook

Insurance Checklist

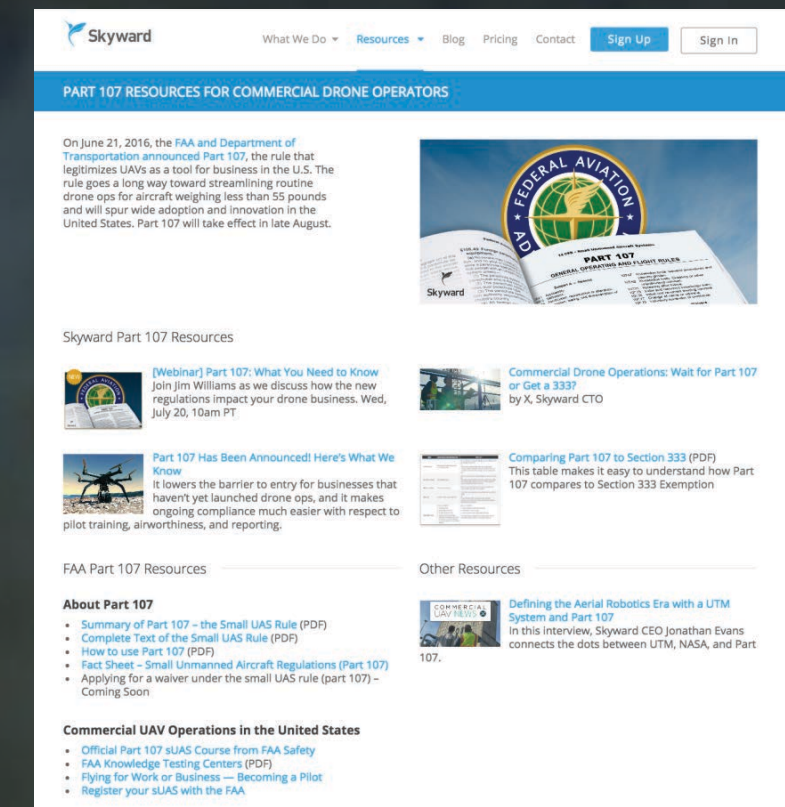
Part 107 Resource Page



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# AUDIENCE QUESTIONS

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## PANELISTS



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Eric Ringer  
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