



Alaska Department of Transportation & Public Facilities

Share The Knowledge: UAS

Ryan Marlow, CMS

August 11th, 2020

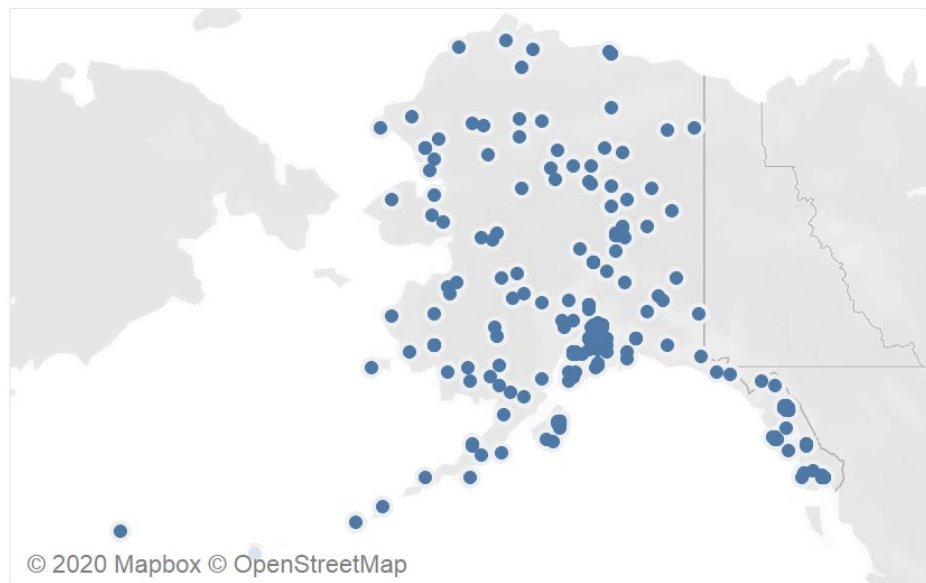
Our mission is to **Keep Alaska Moving** through service and infrastructure.

Total Flights

613

Total Flights Hours

917.6

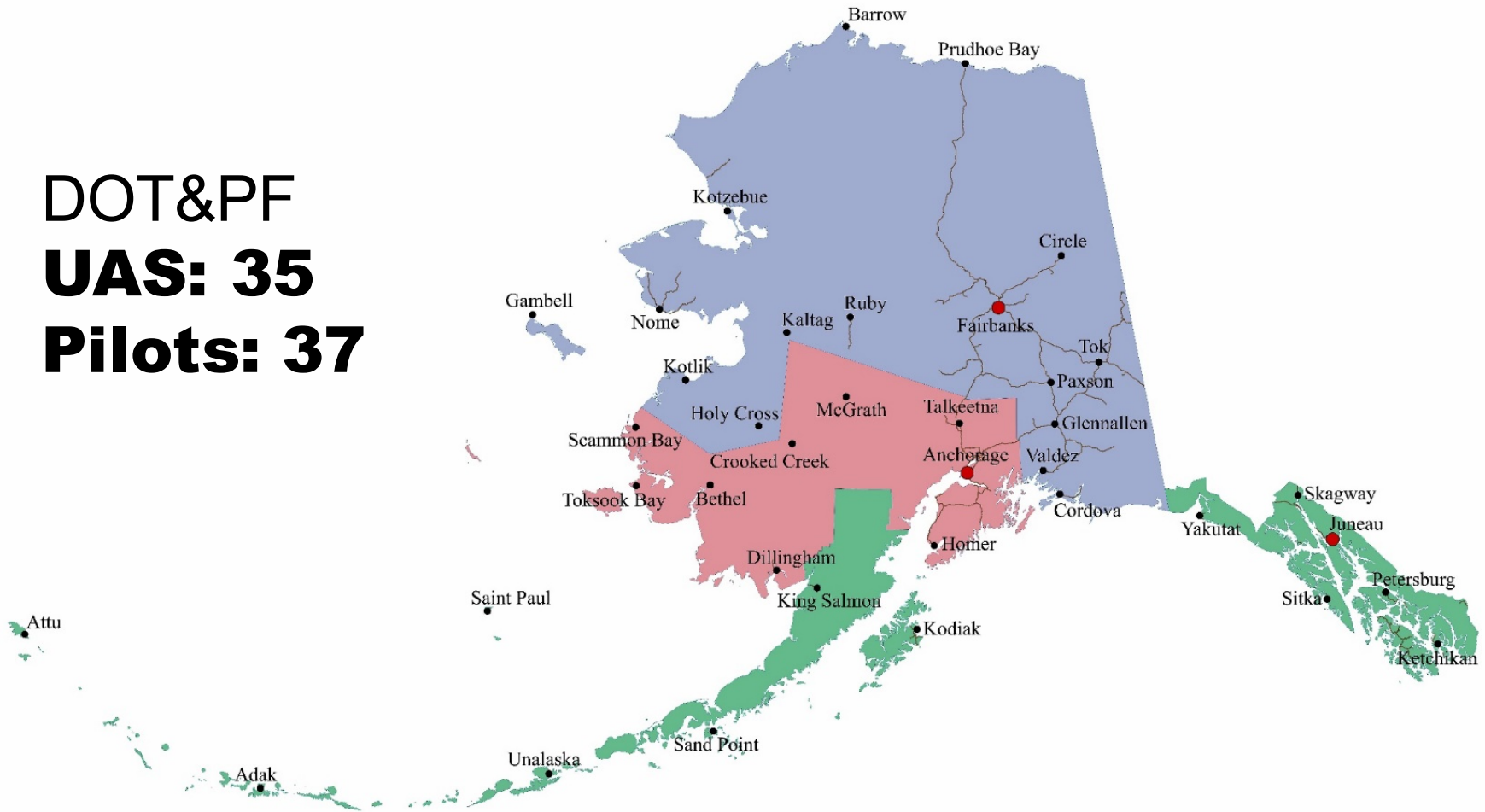


Top Aircraft

Aircraft Name	
DJI Mavic 2 Pro	31.97%
GoPro Karma	16.64%
Unknown	11.09%
DJI Mavic Air	7.34%
DJI Phantom 4	5.55%
DJI Mavic Mini	4.08%
DJI Phantom 4 Pro	4.08%
DJI Inspire 2	3.43%
DJI Mavic Pro	3.26%
DJI Mavic Air 2	2.61%
DJI Mavic 2 Zoom	2.45%
Other Multirotor < 55 pounds	1.63%

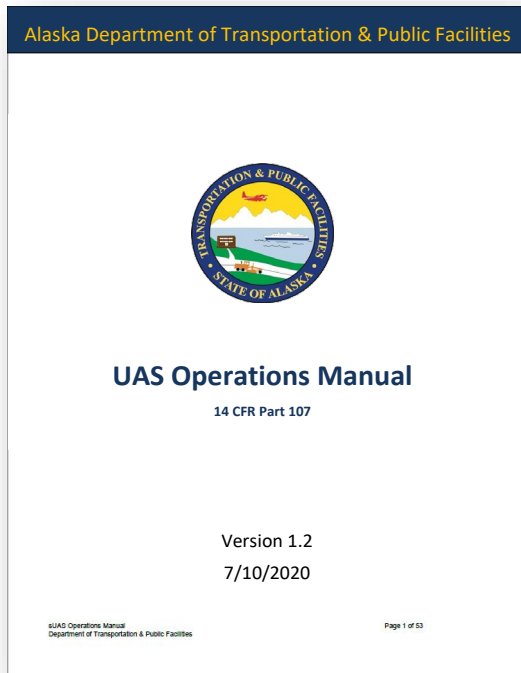


DOT&PF
UAS: 35
Pilots: 37

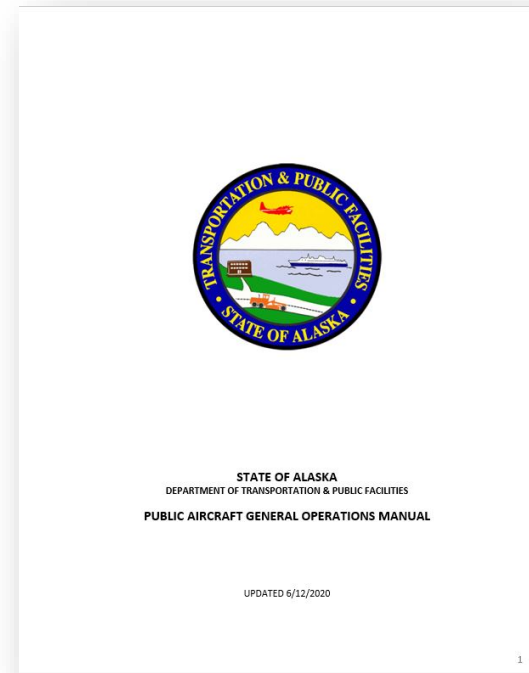


DOT&PF Operations Manuals

**AVAILABLE
NOW**



**PART 107
COMMERCIAL**



**TITLE 49
PUBLIC**





UAS Restricted Area FDC 7/7137
Bryant AAF is National Defense Airspace.
UAS Operations Prohibited.
POC: COL Timothy Wulff (907) 552-6732

Close

Upper Limit Undefined

CLASS E

FL 600
18,000 MSL

CLASS A

CLASS E

14,500 MSL

CLASS B

Air traffic
authorization
required

1,200 AGL

700 AGL

CLASS G
400 AGL

1,200 AGL

700 AGL

CLASS G
400 AGL

700 AGL

CLASS C

Air traffic
authorization
required

Needs Waiver
above 400ft

1,200 AGL

700 AGL

CLASS G
400 AGL

CLASS D

Air traffic
authorization
required

CLASS E
Surface Area

Air traffic
authorization
required

AGL Above Ground Level
FL Flight Level
MSL Mean Sea Level

Class E Surface Extension

Airspace Guidance for Small UAS Operators



Federal Aviation
Administration



AREAS OF INTEREST

Anchorage

61° 11' 29.99971" N 149° 51' 27.88983" W

21° F / -6° C

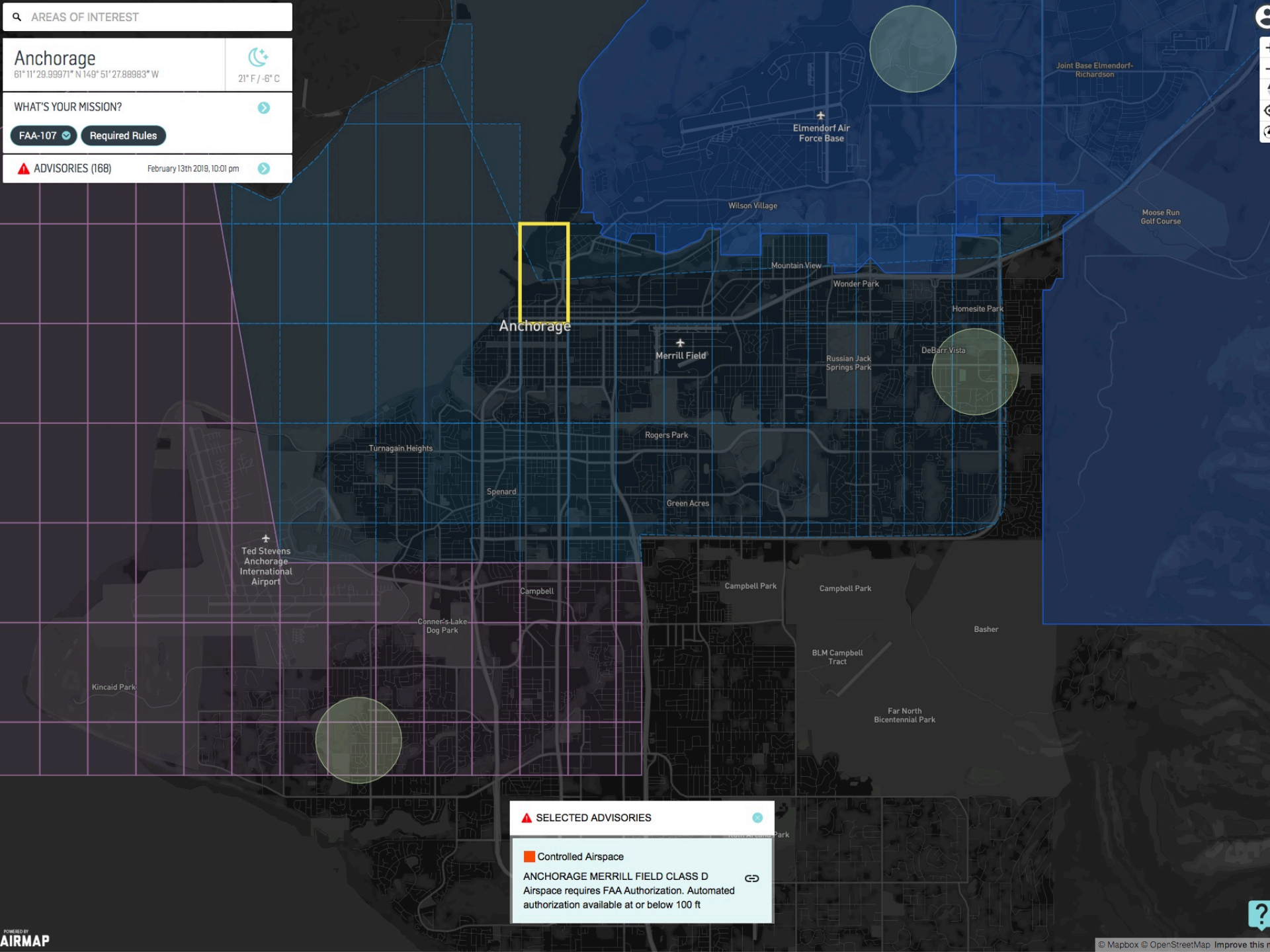
WHAT'S YOUR MISSION?

FAA-107

Required Rules

ADVISORIES (168)

February 13th 2019, 10:01 pm



SELECTED ADVISORIES

Controlled Airspace

ANCHORAGE MERRILL FIELD CLASS D

Airspace requires FAA Authorization. Automated authorization available at or below 100 ft

L.A.A.N.C.

Low Altitude Authorization Notification Capability

✓ Create Flight

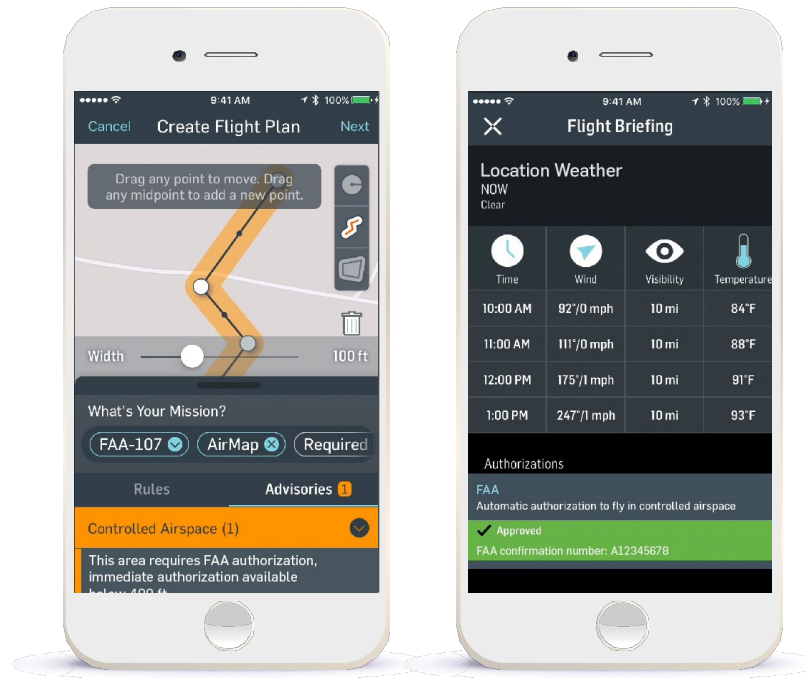
✓ View Advisories

✓ Add Mission Details

Submit Flight ✓

Receive Authorization ✓

Fly Safe! ✓



NEW

AIRCRAFT AT THE SIL

(Survey Instrument Lab)



Ebee X



Phantom 4 RTK



Small Areas

sUAS

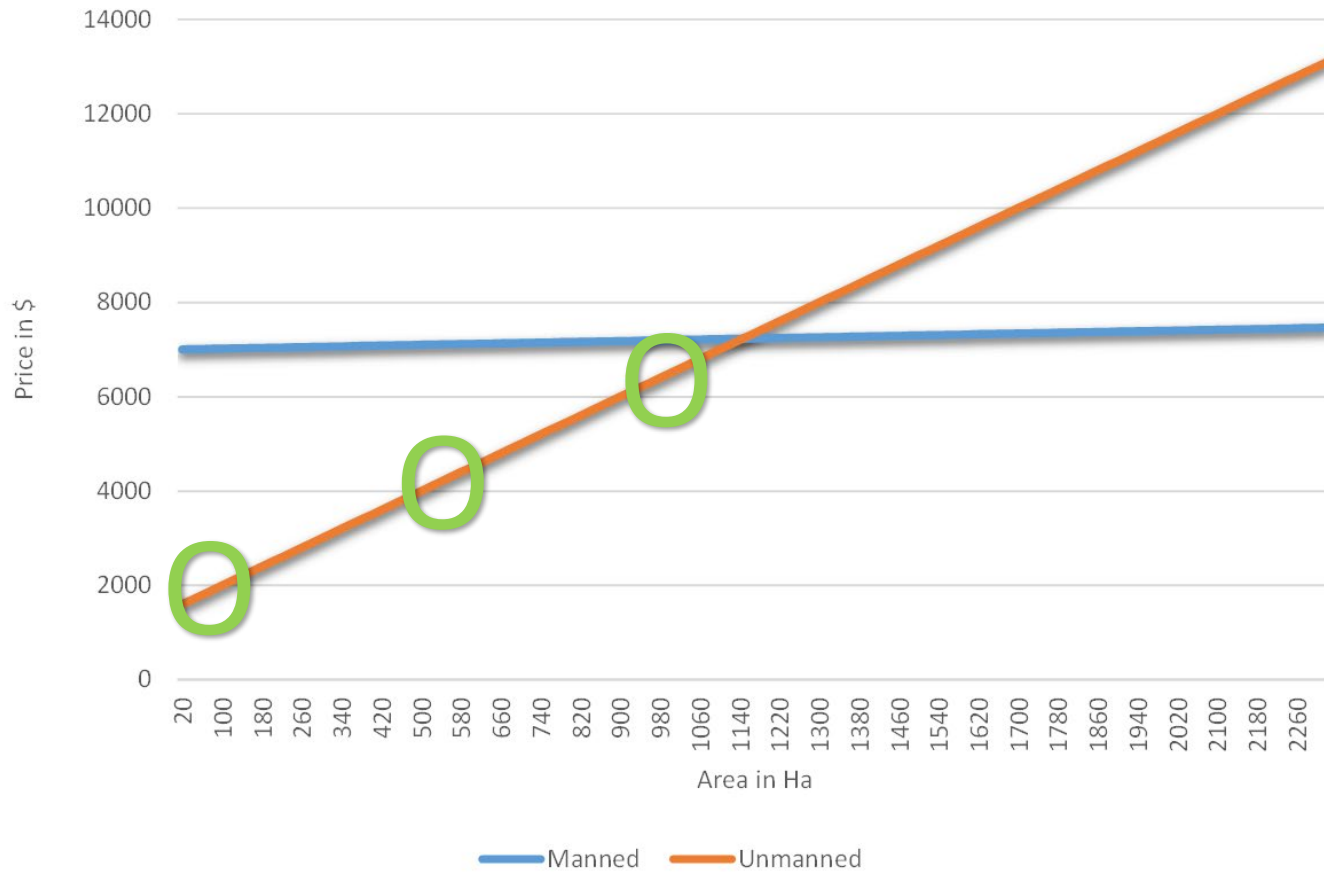
Medium Areas

Heavy lift

Large Areas

Fixed Wing

\$/Ha: Manned vs Unmanned mapping





Small Areas

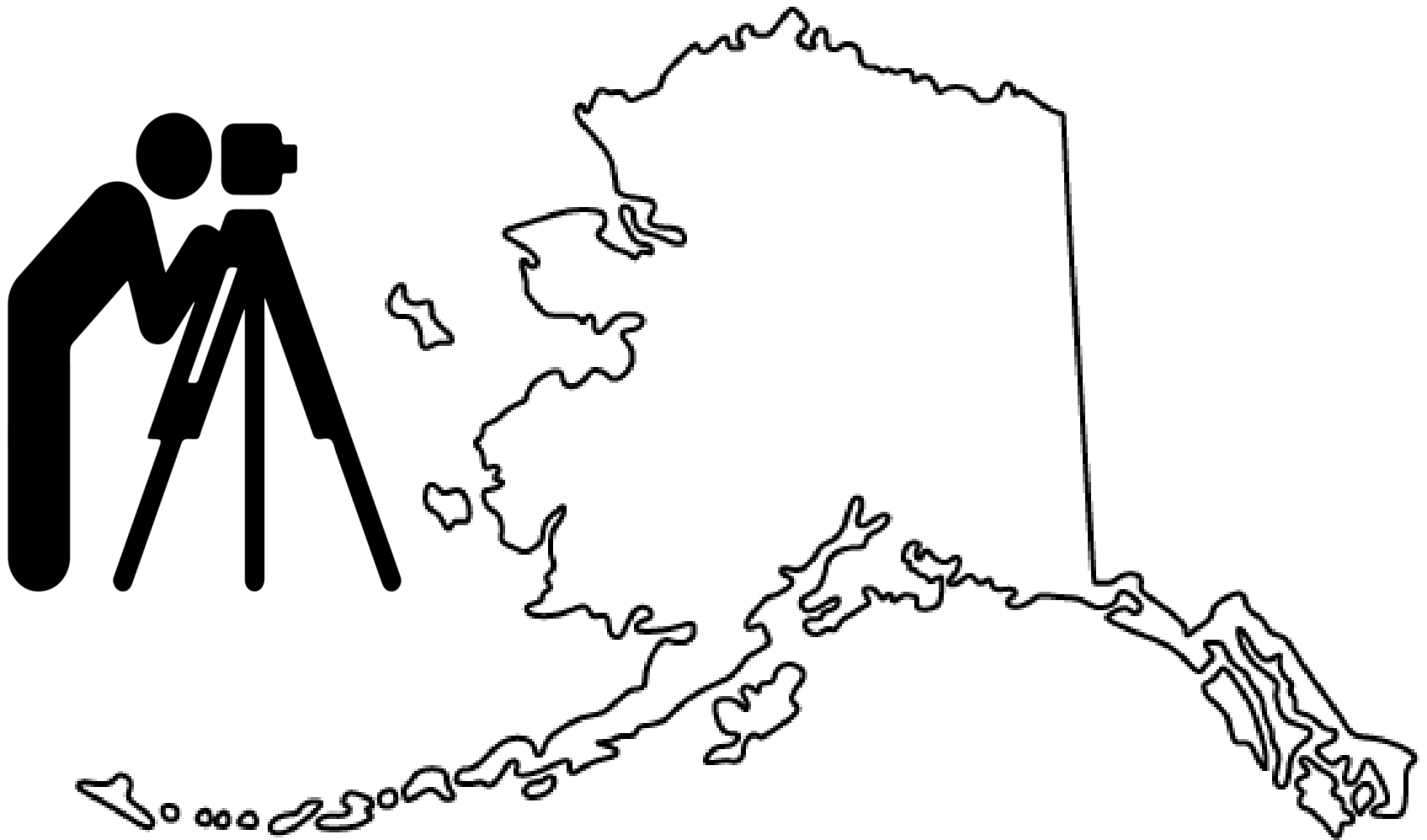


Medium Areas



Large Areas

ARE YOU PROFESSIONAL LIENCED TO PRACTICE LAND SURVEYING IN ALASKA?





GRID MISSION
Best for 2D maps



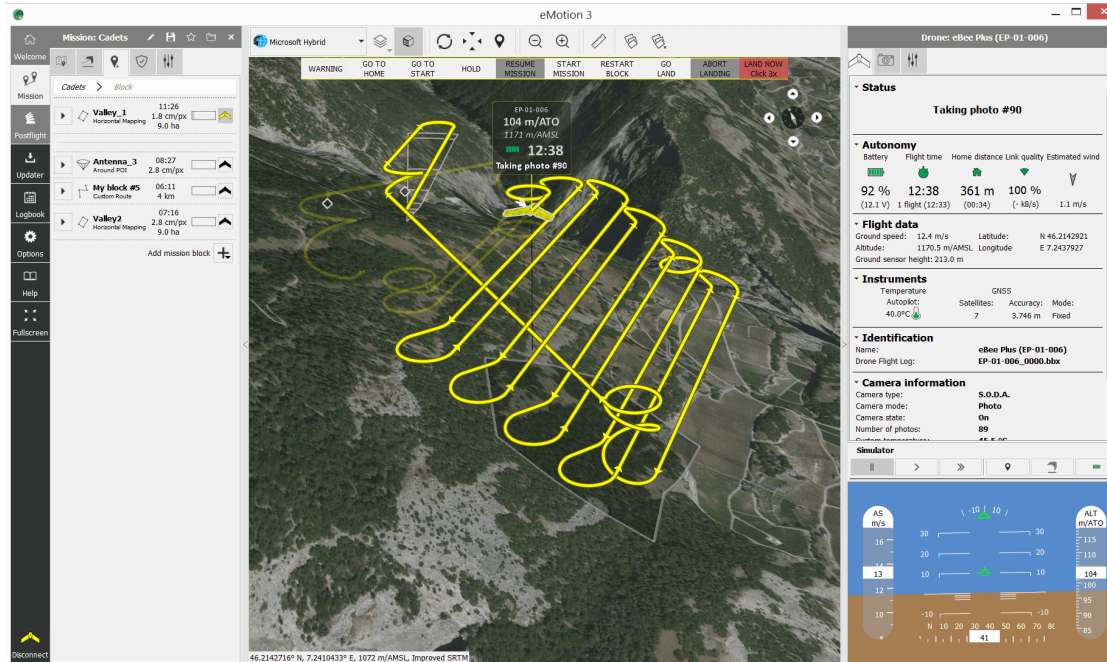
DOUBLE GRID MISSION
Best for 3D models

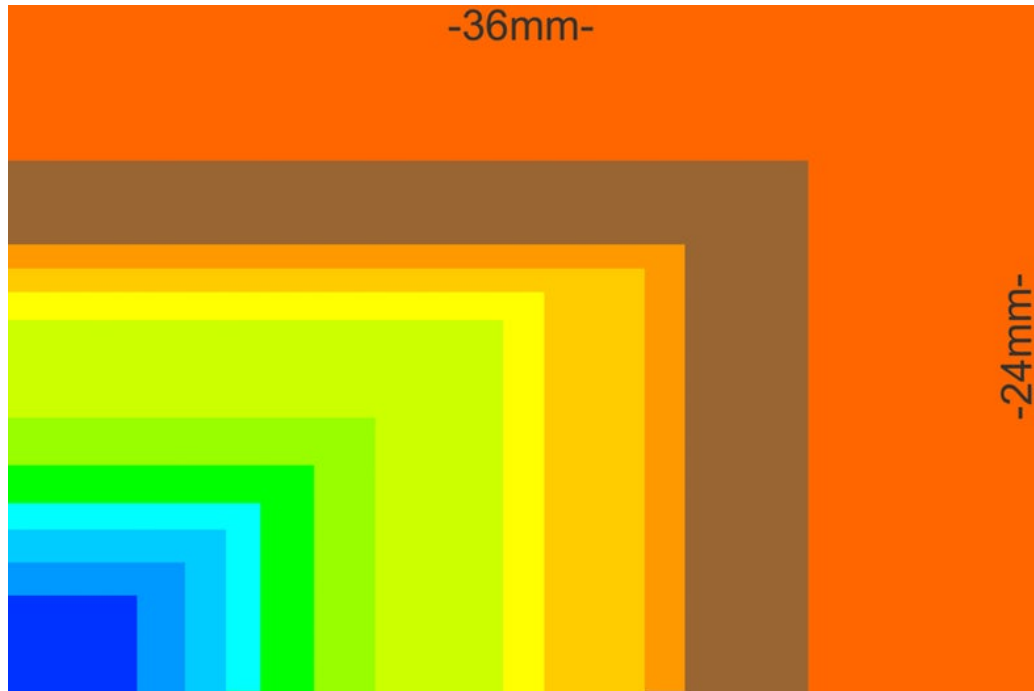


CIRCULAR MISSION
Best for single 3D models

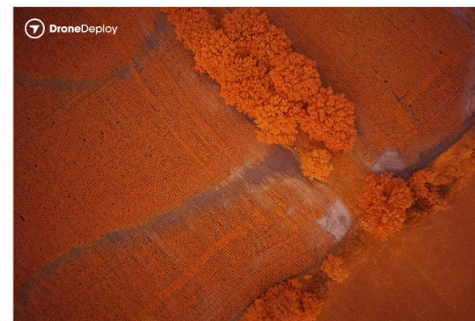
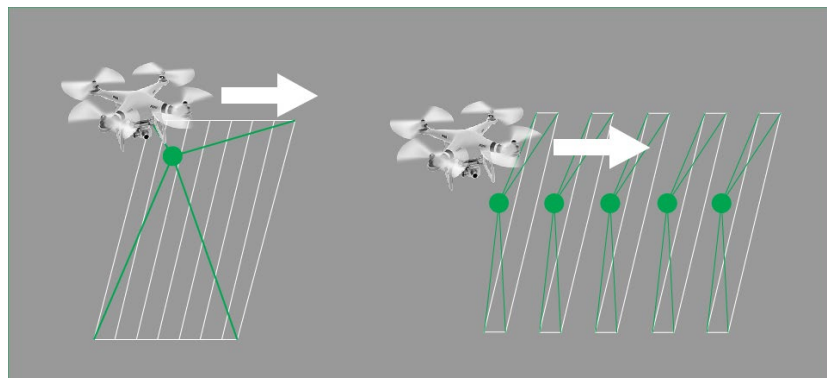


FREE FLIGHT MISSION
For advanced users

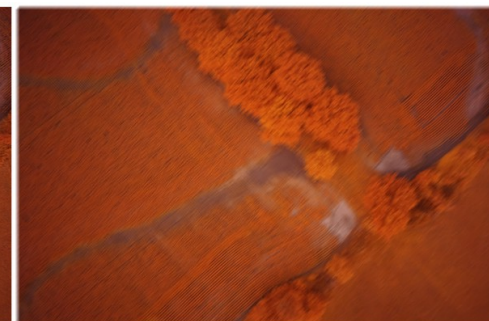




- Full Frame
- APS-H
- APS-C
- APS-C (Canon)
- 1.5"
- MFT 4/3"
- 1"
- 1/1.2"
- 2/3"
- 1/1.7"
- 1/2.3"
- 1/3.2"

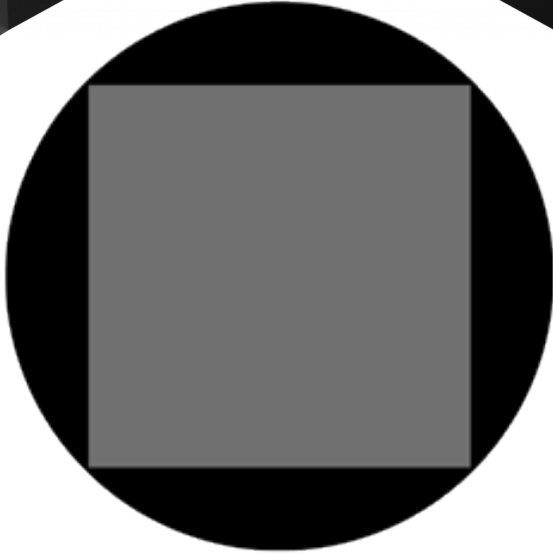
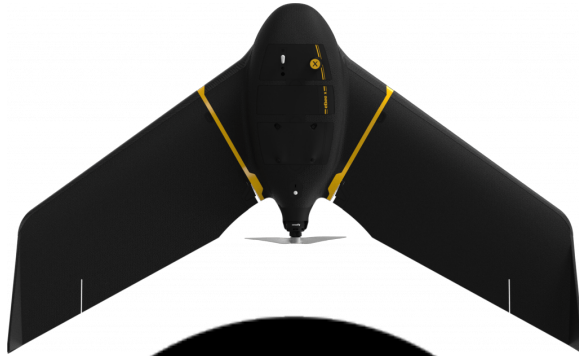


Normal image



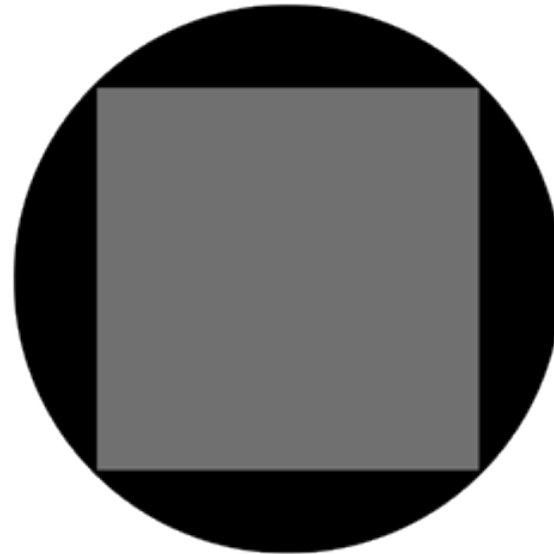
Motion blur

THE ROLLING SHUTTER EFFECT



GLOBAL SHUTTER

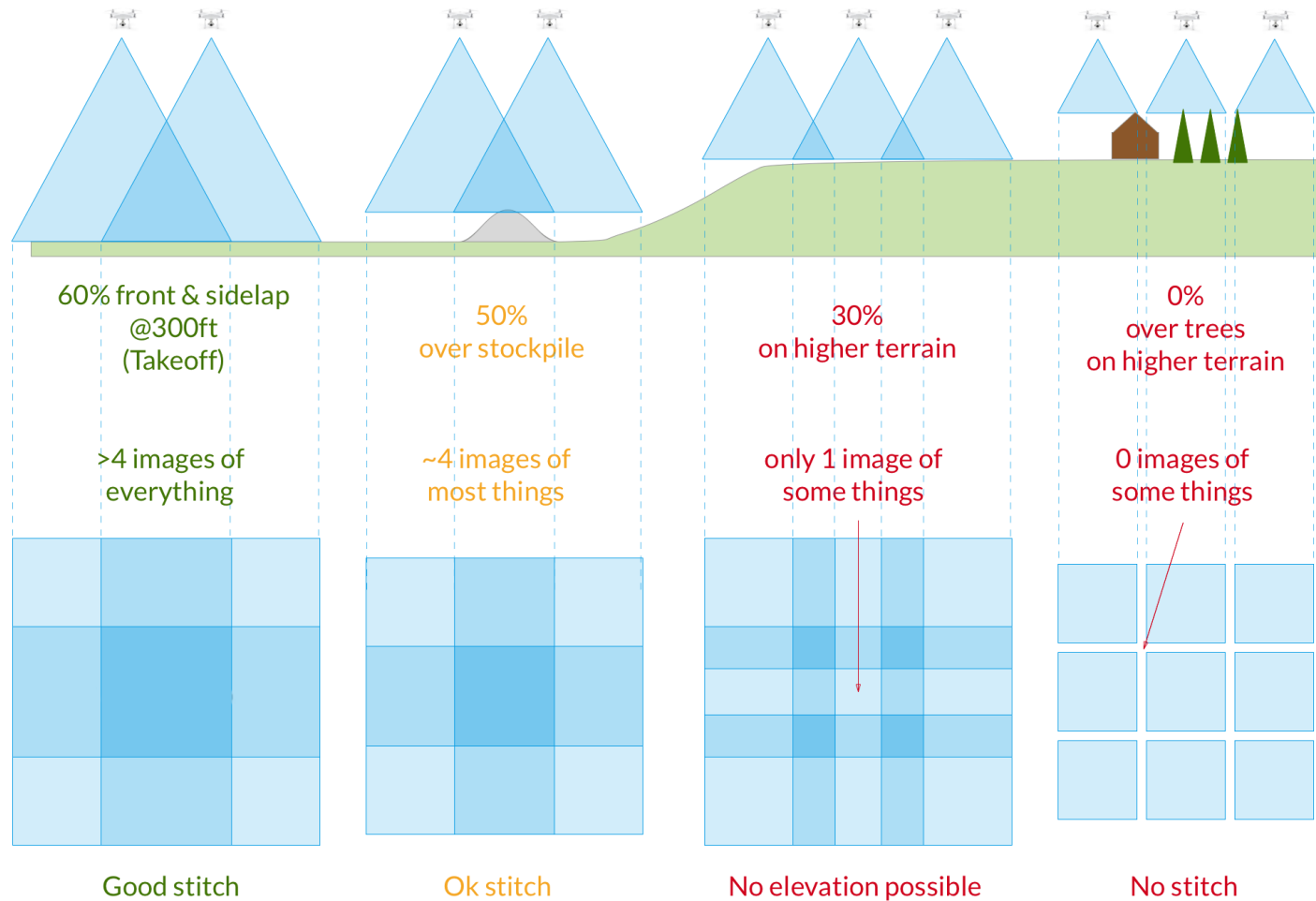
32 MPH

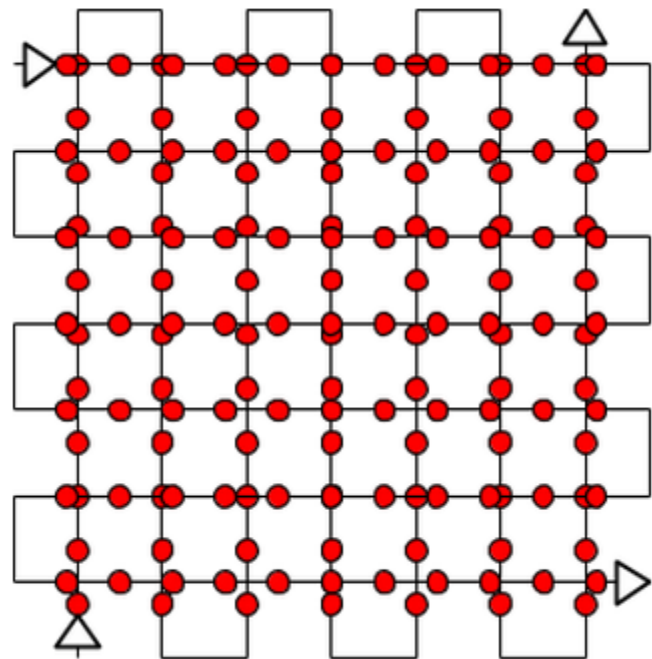


ROLLING SHUTTER

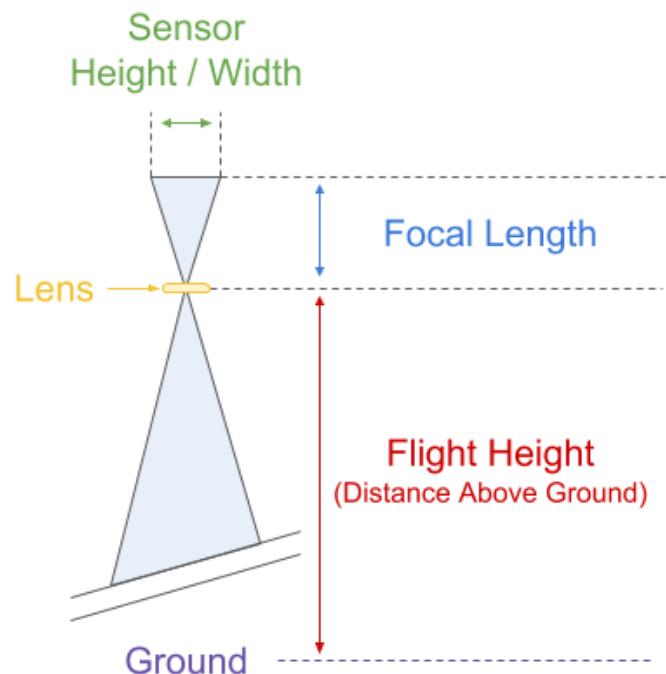
17 MPH

Imagery Overlap





Ground Sampling Distance



Phantom RTK

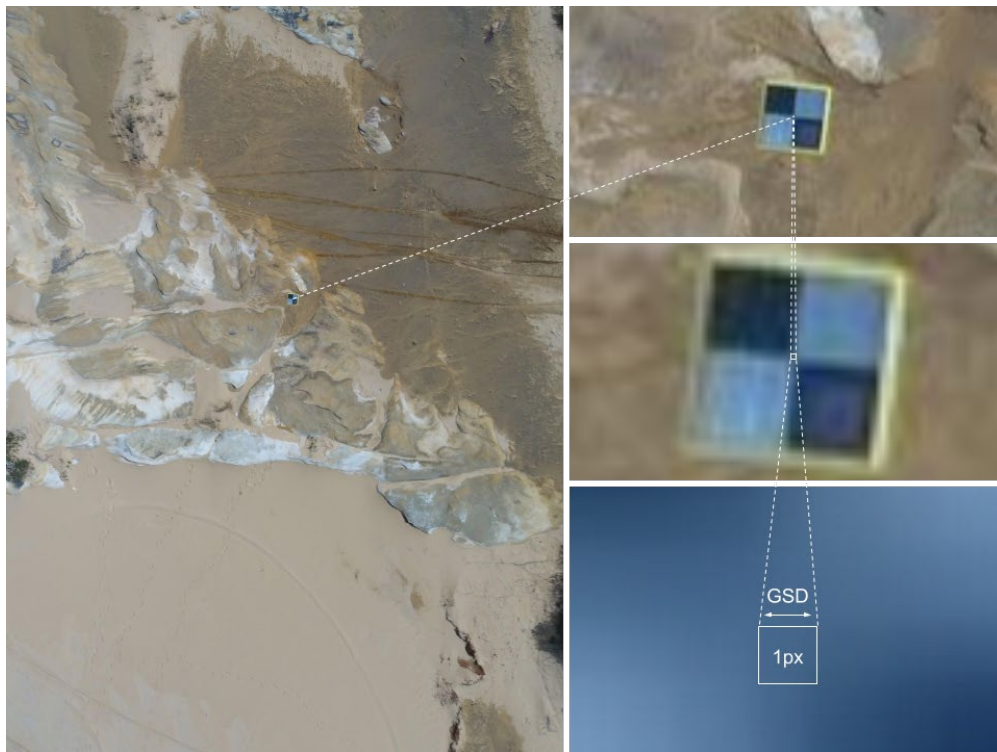
Image Width **5472px**

Image Height **3648px**

Sensor Width **13.2mm**

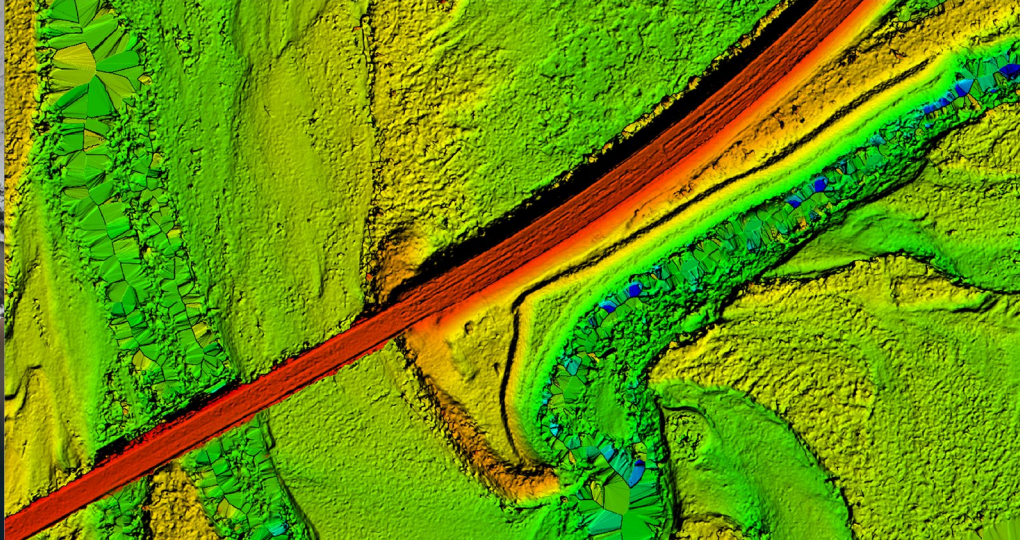
Sensor Height **8mm**

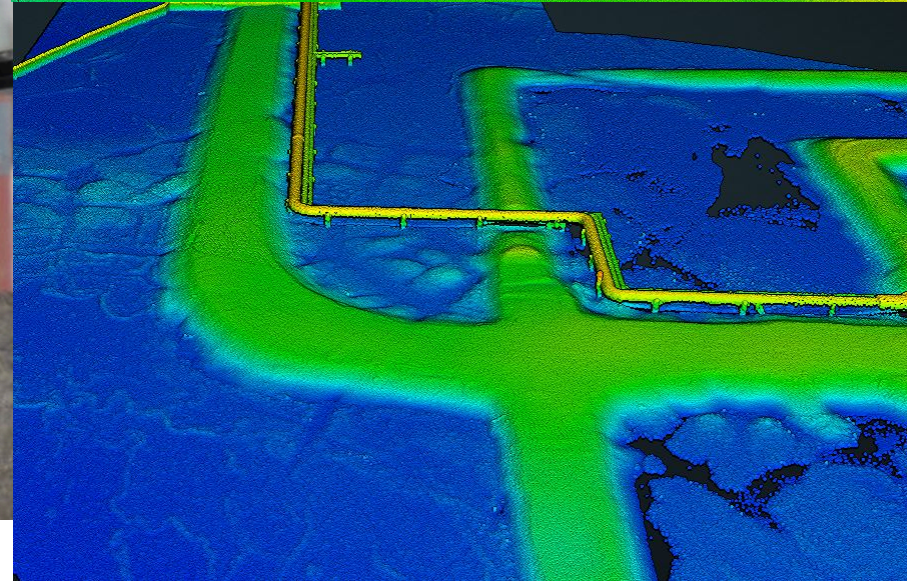
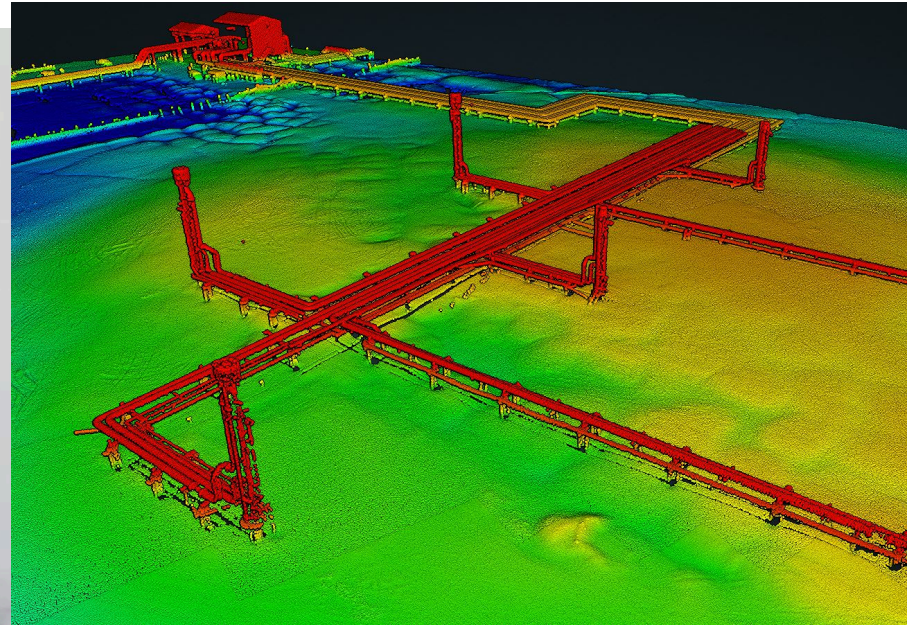
Focal Length **8.8mm**

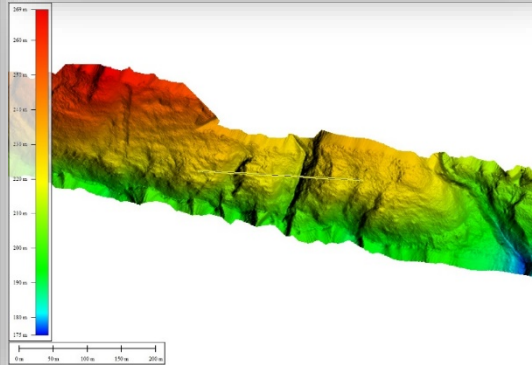
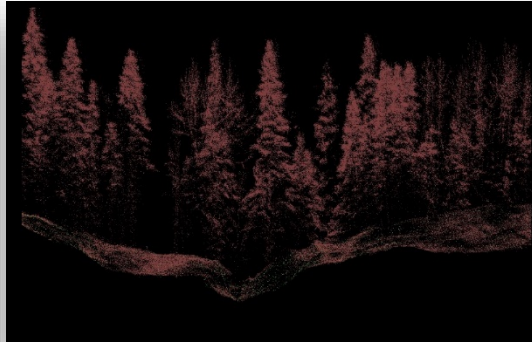
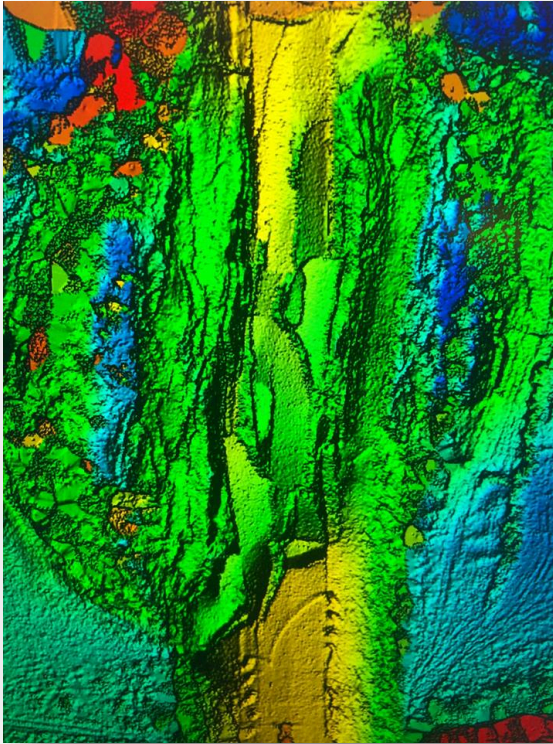


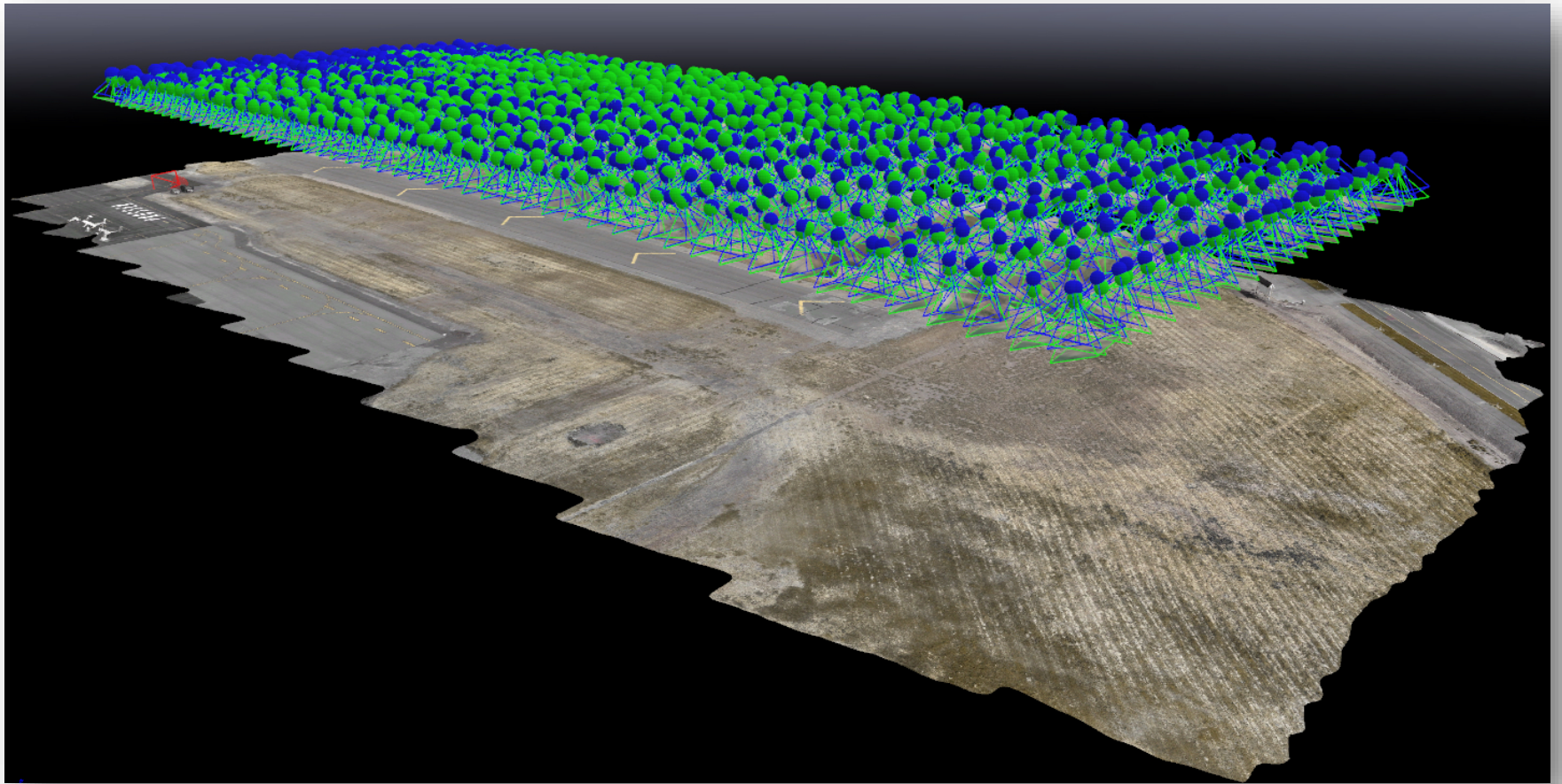
$$\text{GSD} = 1.32 \text{ in/px}$$

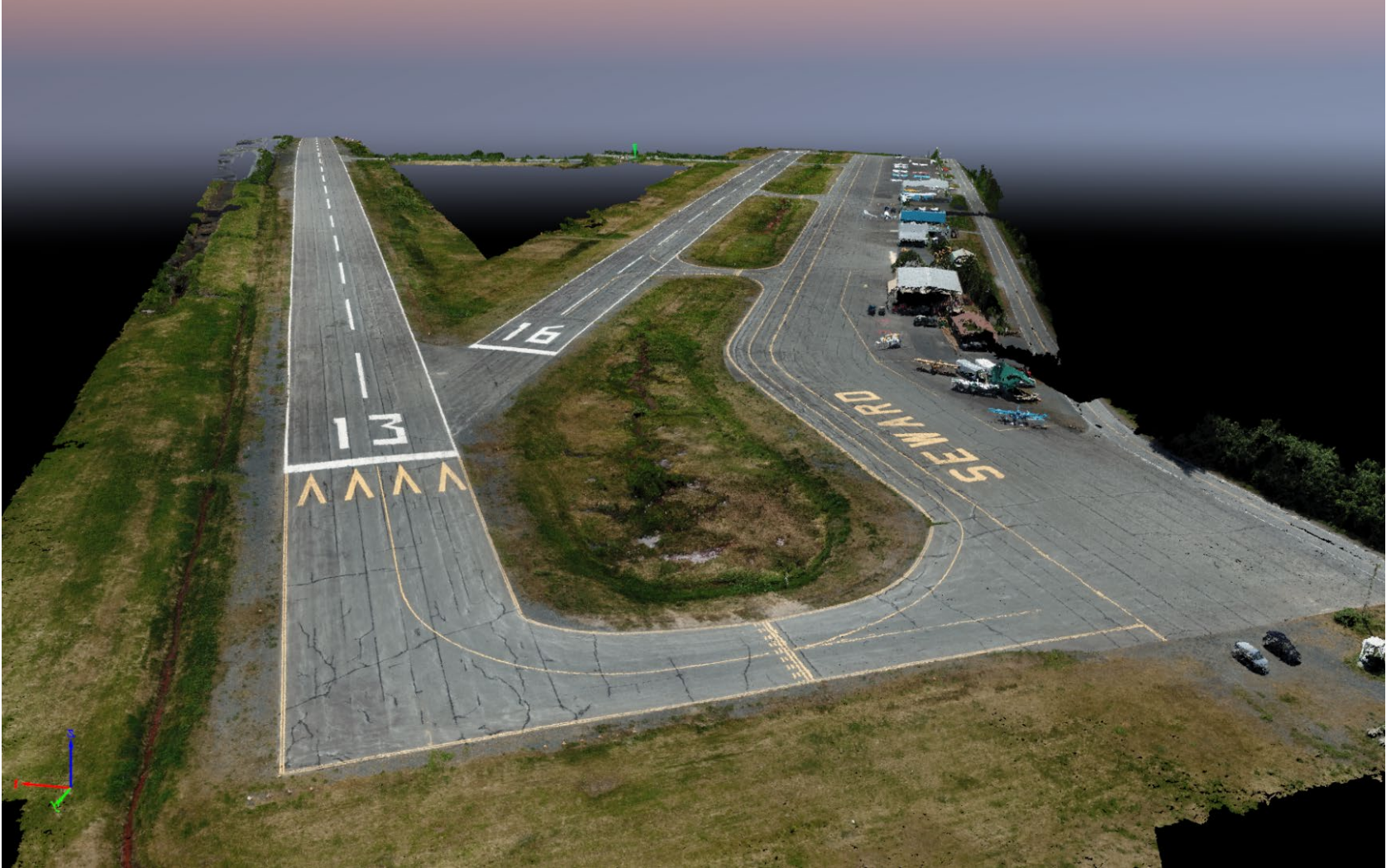










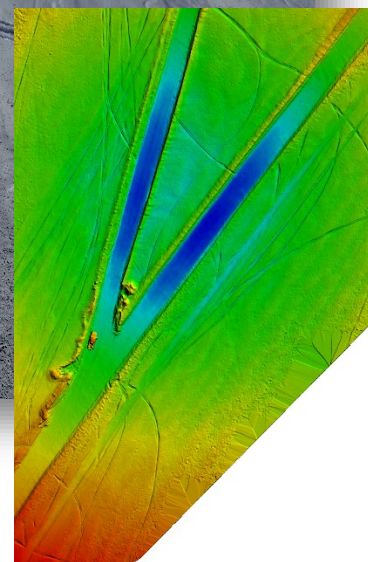




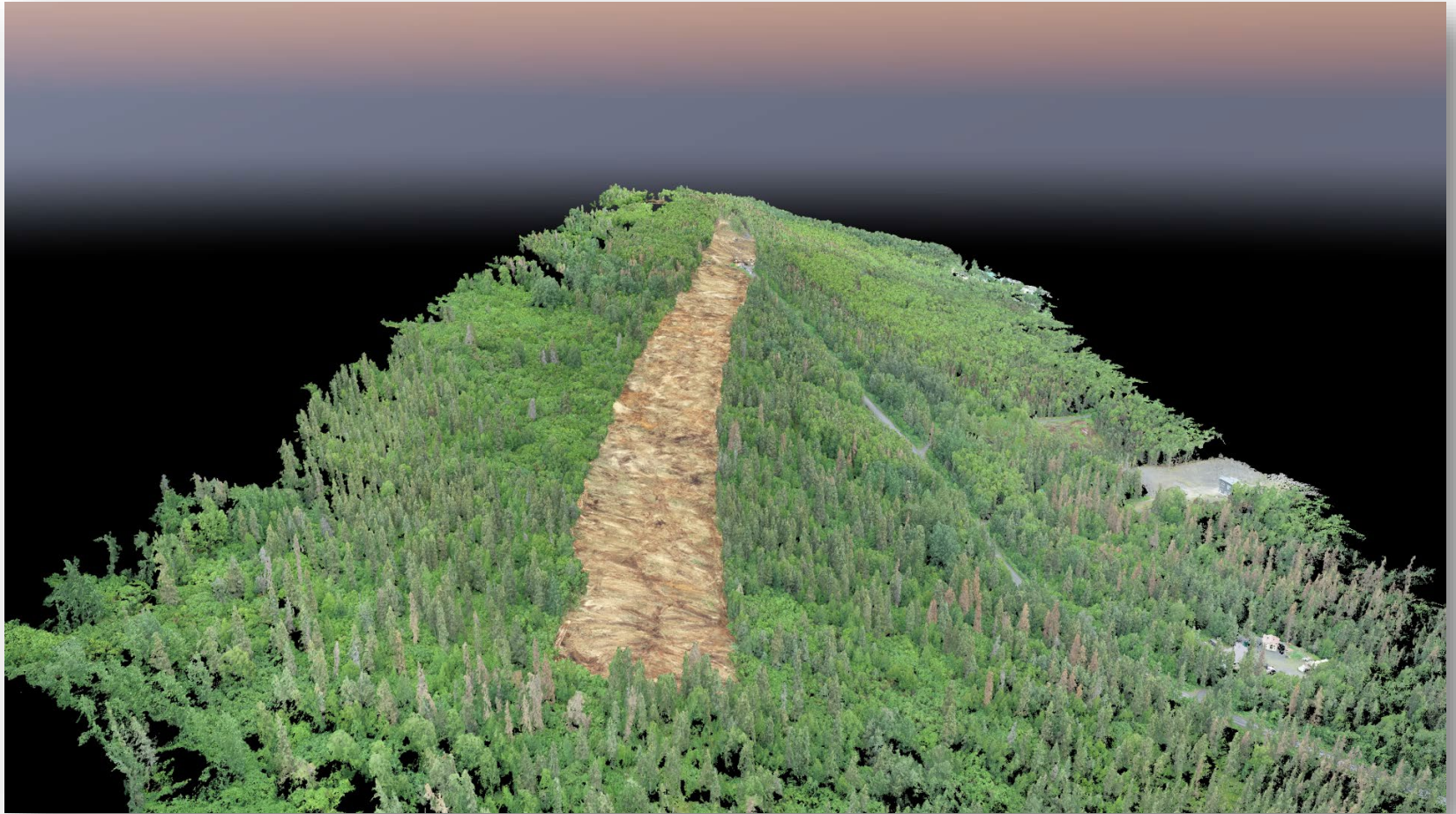


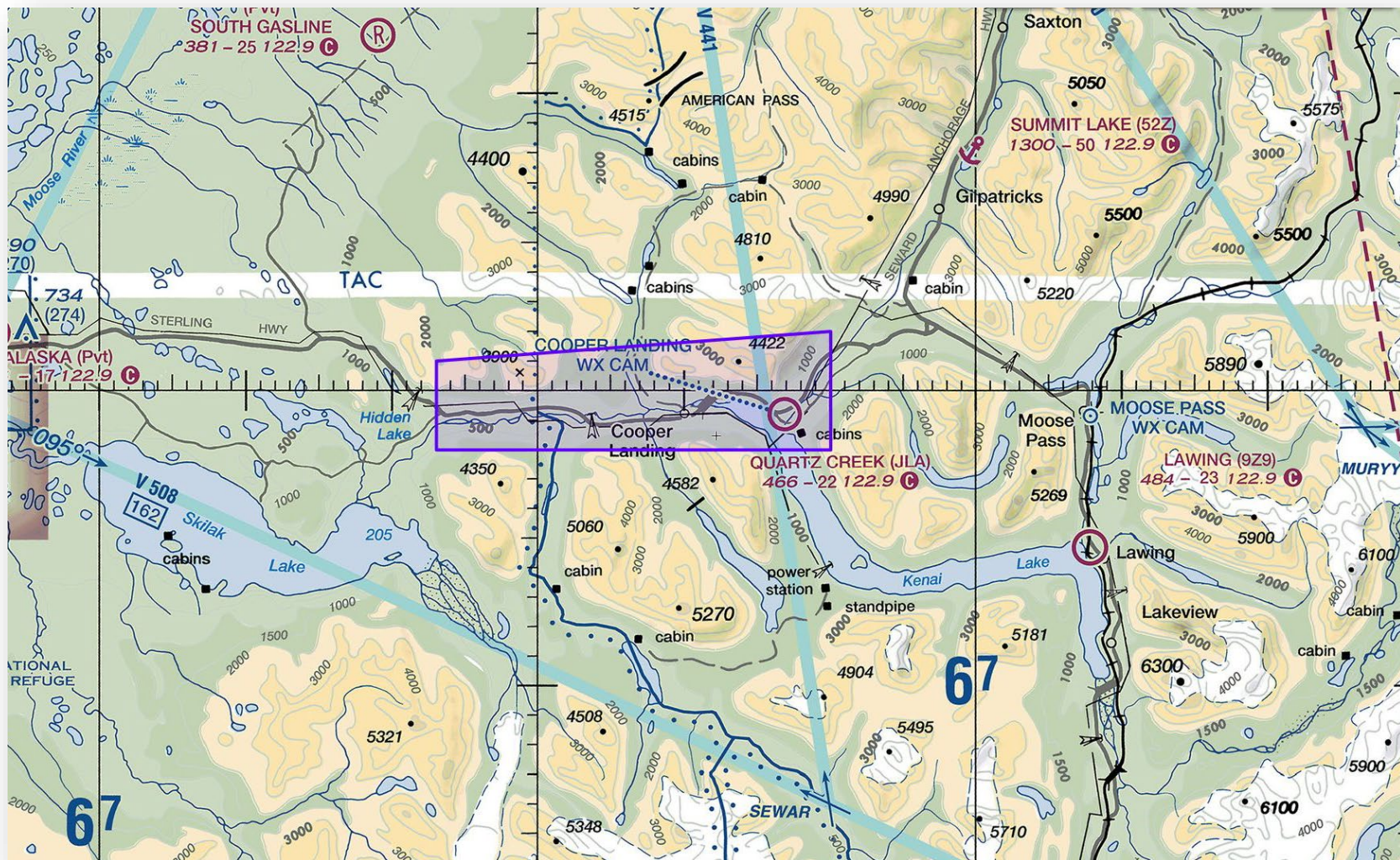




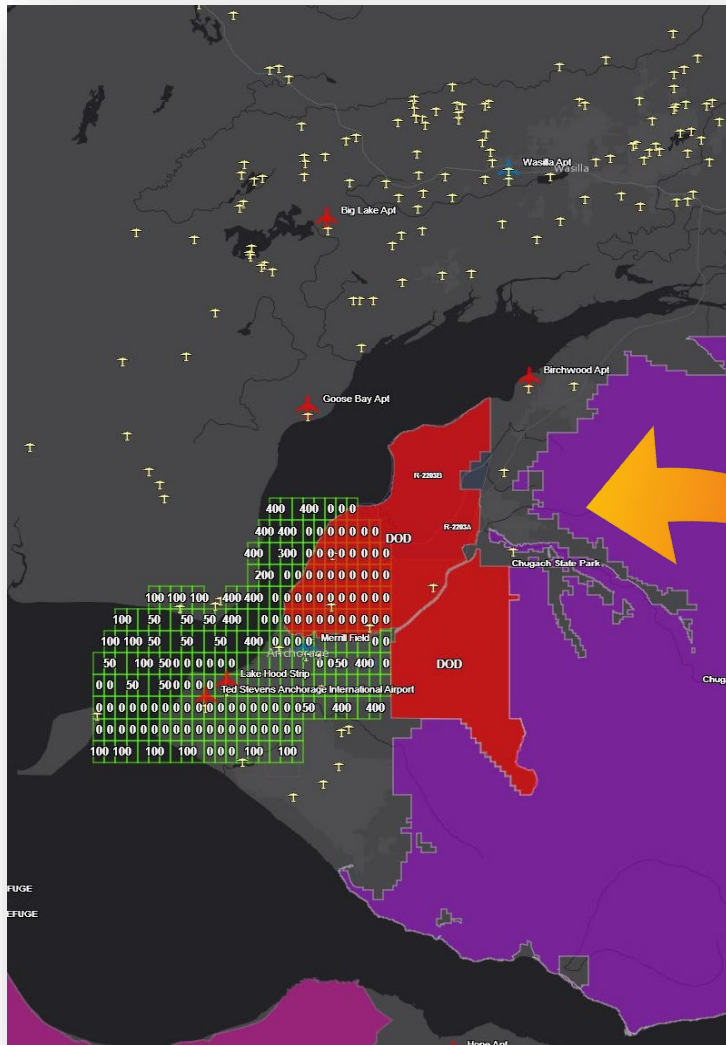








dot.alaska.gov/uas/



Alaska Department of Transportation and Public Facilities
UNMANNED AIRCRAFT SYSTEMS

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UNMANNED AIRCRAFT SYSTEMS (UAS)

Whether you're a new pilot or have years of experience, rules and safety tips exist to help you fly safely in the State of Alaska. To get started, be sure to select which type of user you are and find out what rules and regulations apply to your specific situation. Alaska DOT&PF has the authority to implement and manage regulations pertaining to state laws concerning unmanned aircraft operations within the state.

Click on one of the categories below to find out what is required before you can operate in Alaska.

Recreational User

Commercial Operator

Public Operator

UAS Airspace Alerts and Restrictions Map

In order to fly your drone under the FAA's Small UAS Rule (Part 107), you must obtain a Remote Pilot Certificate.

[Get your Part 107 Today](#)

UAS Program Coordinator
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ryan.marlow@alaska.gov

Quick Resources:

- FAA UAS Facility Map Dashboard LAANC
- Know Before you Fly FAA APP
- UAS Integration Pilot Program
- Best Practices UAS Safety Guidelines eSMB
- Alaska Center for Unmanned Aircraft Systems Integration
- FAA Drones & Wildfires Digital Toolkit
- Acronyms





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