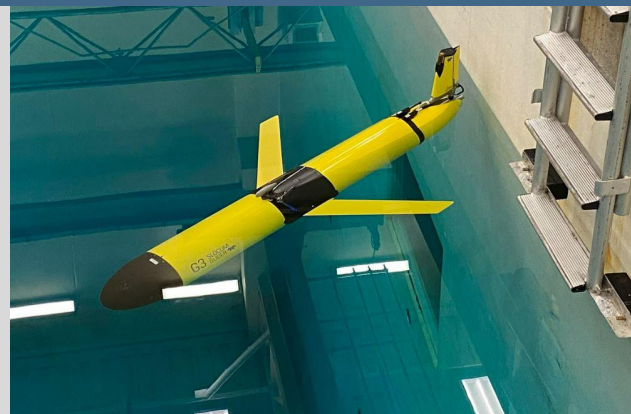




NOAA UxS

Uncrewed Aircraft Systems Division





Agency Overview



Mark Rogers
Deputy Chief Uncrewed Aircraft Systems Division
Lakeland FL



NOAA UxS Operations Center

UxS Operations
Center Headquarters
(Silver Spring, MD)

Uncrewed Marine
Systems Division
(Gulfport, MS)

Administration and
Finance Division

Uncrewed Aircraft
Systems Division
(Lakeland, FL)



Uncrewed Aircraft Systems Division UASD

Ensuring safety (Due diligence)

Operations

- FAA Coordination
- Airspace Vetting
- Policy
- Project Management
- Fleet Management

Safety, Standards, and Training (SST)

- Operational Risk Management
- Standard Operating Procedures
- Training
- Airworthiness
- Investigations

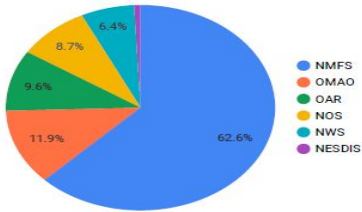
Agency Overview

Flight Time in Minutes
135,639.65

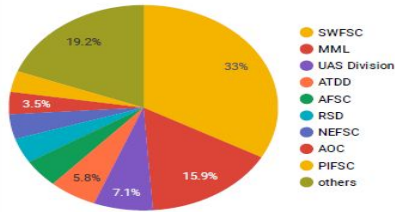
NOAA UAS FLIGHT TIME TOTAL SUMMARY

Number of Landings
13,465

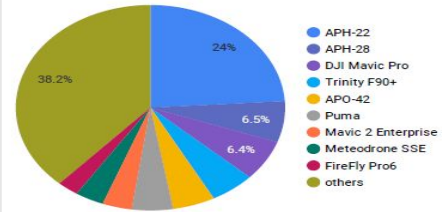
Percentage of Flight Time by Line Office



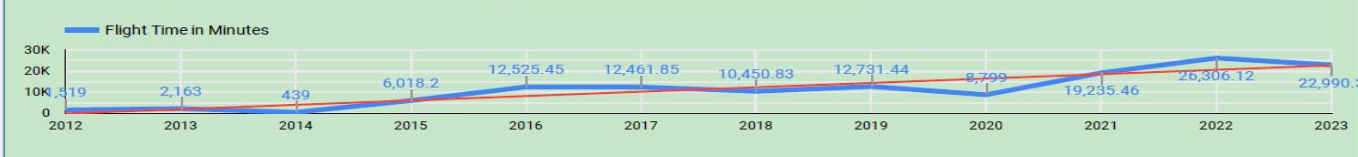
Percentage of Flight Time by Office



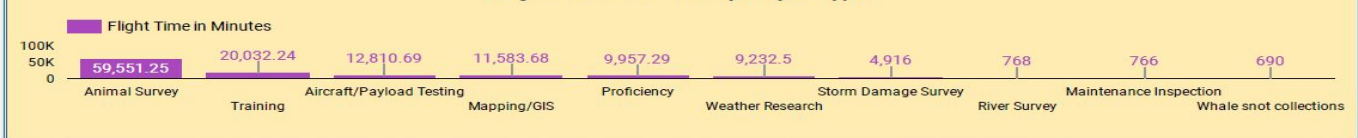
Percentage of Flight Time by Aircraft






Flight Time in Minutes by Calendar Year
























Flight Time in Minutes by Project Type



Aircraft

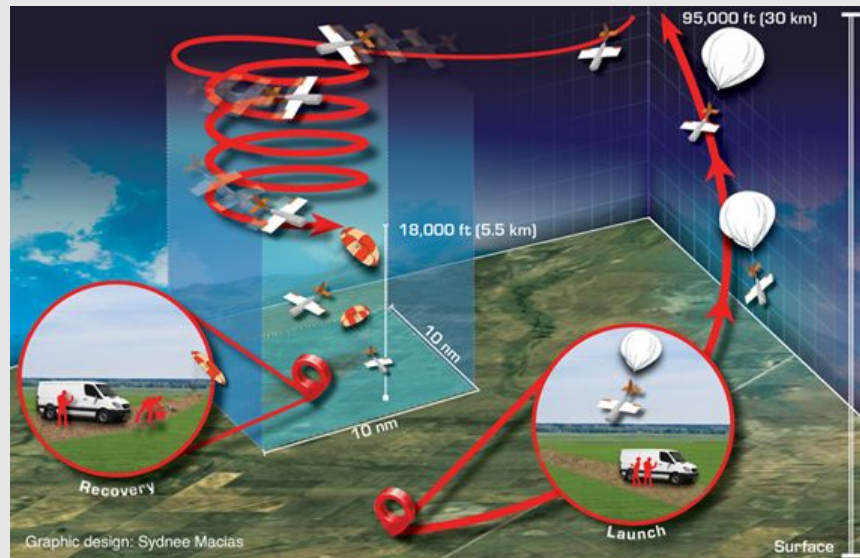
APH-17		Aerial Imaging Solutions	Size: 17 inch diameter Max Flight Time: 30 minutes Max Payload: 11 lbs
APH-22		Aerial Imaging Solutions	Size: 22 inch diameter Max Flight Time: 35 minutes Max Payload: 2 lbs
APH-28		Aerial Imaging Solutions	Size: 28 inch diameter Max Flight Time: 40 minutes Max Payload: 5 lbs (3 batteries), 6 lbs (2 batteries)
APO-42		Aerial Imaging Solutions	Size: 42 inches Max Flight Time: 40 minutes Max Payload: 4 lbs (2 batteries), 7 lbs (4 batteries)
MD4-1000		Microdrones GMBH	Size: 42 inch diameter Max Flight Time: 20-45 minutes Max Payload: 2.7-11 lbs
Skydio 2		Skydio	Size: 13.5 inch diameter Max Flight Time: 23 minutes Max Payload: Integrated Camera
Skydio X2		Skydio	Size: 26.1 x 22.4 x 8.3 inches Max Flight Time: 35 minutes Max Payload: Camera
DJI S1000		DJI	Size: 28 inch diameter Max Flight Time: 15 minutes Max Payload: 21 lbs
DJI Phantom 4		DJI	Size: 13.7 inch diagonal Max Flight Time: 30 minutes Max Payload: Takeoff weight of 3 lbs
DJI Mavic Pro		DJI	Size: 13.1 inch diagonal Max Flight Time: 27 minutes Max Payload: Takeoff weight of 1.64 lbs
DJI Matrice 210		DJI	Size: 25.3 inch diameter Max Flight Time: 34 minutes Max Payload: 2.95 lbs standard, 2.7 lbs RTK

DJI Matrice 300		DJI	Size: 31.9 x 26.4 x 16.9 inches Max Flight Time: 55 minutes Max Payload: 2.7 kg
DJI Matrice 600		DJI	Size: 44.6 inch diameter Max Flight Time: 35 minutes Max Payload: 13.2 lbs
Solo		3DR	Size: 16.5 inch diagonal Max Flight Time: 25 minutes Max Payload: 1 lb
Anafi USA		Parrot	Size: 8.5 inch diagonal Max Flight Time: 32 minutes Max Payload: Integrated Camera
Anafi USA GOV		Parrot	Size: 8.5 inch diagonal Max Flight Time: 32 minutes Max Payload: Integrated Camera
Metodrone SSE		Metecomatics	Size: 15.9 inch diameter Max Flight Time: 17 minutes Max Payload: No payload
MM-641		Metecomatics	Size: 18.9 inch diameter Max Flight Time: 30 minutes Max Payload: Max take-off weight 2.23 lbs
Splashdrone 3		Swell Pro	Size: 18 inch diameter Max Flight Time: 20-23 minutes Max Payload: 2.2 lbs
EVO II		Autel	Size: 15.6 inch diameter Max Flight Time: 38 minutes Max Payload: Max take-off weight 4.4 lbs
H520G		Yuneec	Size: 20.5 inch diameter Max Flight Time: 28 minutes Max Payload: Max take-off weight 5.8lbs
Range Pro X8P		Terraview	Size: 30.7 inch diagonal Max Flight Time: 70 minutes Max Payload: 2.2 lbs
Coptersonde		University of Oklahoma	Size: 400mm x 393mm x 145mm Max Flight Time: 18.5 minutes Max Payload: 1kg

eBee		SenseFly	Size: 38 inch wing span Max Flight Time: 40 minutes Max Payload: Max takeoff weight 1.6 lbs
Puma AE		AeroVironment	Size: 9.2 ft wing span Max Flight Time: 3.5 hours Max Payload: Takeoff weight 13.5 lbs
S2		Black Swift	Size: 10 ft wing span Max Flight Time: 90 minutes Max Payload: 5 lbs
S1		Black Swift	Size: 5.5 ft wing span Max Flight Time: 90 minutes Max Payload: 5.5 lbs
HYBRID			
FireFly 6 Pro		Birds Eye View Aerobotics	Size: 5 ft wing span Max Flight Time: 59 minutes Max Payload: 1.5 lbs
Trinity F90+		Quantum Systems	Size: 7.85 ft wing span Max Flight Time: 60 minutes Max Payload: 1.54 lbs
Edge		Flightwave	Size: 51 inch wing span Max Flight Time: 125 minutes Max Payload: Max takeoff weight 2.45 lbs
FVR-55		L3 Harris	Size: 13 ft wing span Max Flight Time: 4-5 hours/Final state: 10 hours Max Payload: 10 lbs
WingtraONE		Wingtra	Size: 54 x 26 x 9 inch w/4.1 ft wing dimension Max Flight Time: 59 minutes Max Payload: Sensor

UAS in OAR

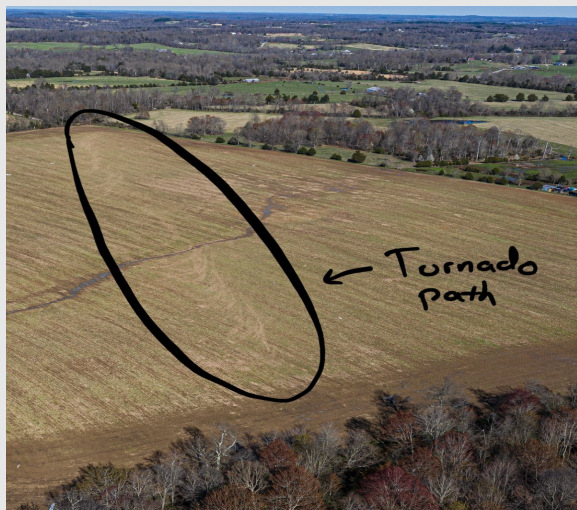
- Hurricane Research
- Boundary Layer Research





UAS in NWS Missions

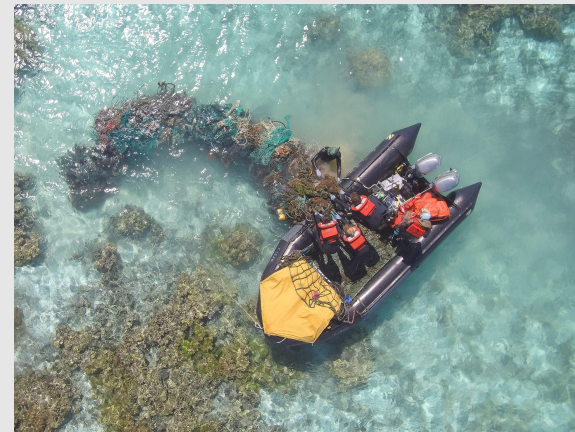
- River Flood Surveys
- Damage Assessment Surveys
- >400 Tower Inspections





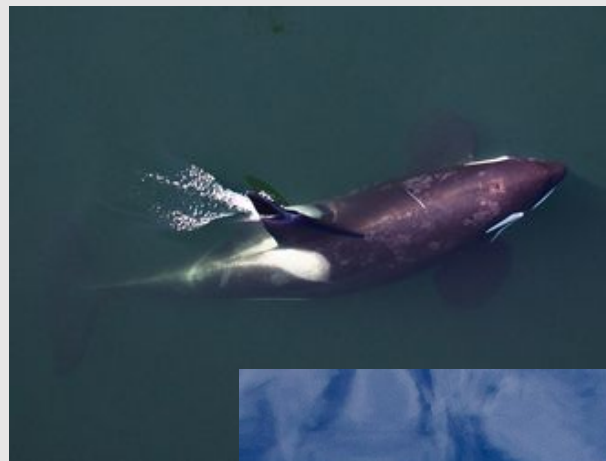
UAS in NMFS Mission

- Animal survey
- Entanglement
- Blow sample collection
- Marine debris





Photogrammetry & Tagging





UAS in NOS Mission

- Shoreline Mapping
- Coral reef Survey





UAS in NESDIS Mission

- Search & Rescue Satellite (SARSAT)
 - Detect and Relay Distress Signals
 - 152 rescues in 2023



PMEL FVR-55 / FVR 90



SPECIFICATIONS

Functional

Endurance	Up to 10 hrs (payload dependent)
Maximum Dash Speed	65 knots (120 km/hr)
Launch and Recovery	VTOL capable from land or boat in ≥ 20 ft x 20 ft area (6m x 6m)
Datalink	Bridged IP and RS-232
Primary Datalink Range	100+ km
Primary Datalink Latency	<500 ms
Datalink Security	AES 256
Primary and Secondary Data Links	
Payload modularity via front bulkhead Universal Interface	
Payload Capacity	Up to 10 lb (4.5 kg)
Main Payload Voltage	12 VDC
Payload Power	200 W
Mechanical provision for dedicated payload GPS antenna	
Fuel Consumption Monitoring	Within 5% accuracy
No critical data stored onboard aircraft	
Loss-of-Link Capability	Autonomous return to base, loiter, and landing
Total Number of Personnel to Operate	2
Time to Deploy (Shipment to Launch)	< 1 hour
Pre-Flight/Post-Flight	30 minutes



SPECIFICATIONS

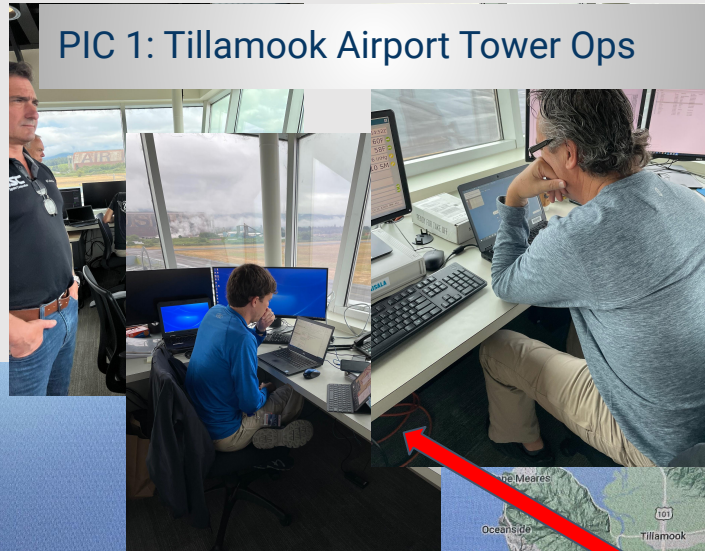
General Characteristics

Length	98 in	(2.5 m)
Wingspan	185 in	(4.7 m)
Height	26 in	(0.66 m)
Empty Weight	70 lbs	(31.75 kg)
Gross Weight	120 lbs	(54.4 kg)
Max Nose Payload	22 lbs	(10 kg)
Power Plant	P4F B100i horizontally opposed 2-stroke	
Maximum Speed	65 kts	
Cruise Speed	50 kts	
Minimum Speed	38 kts	

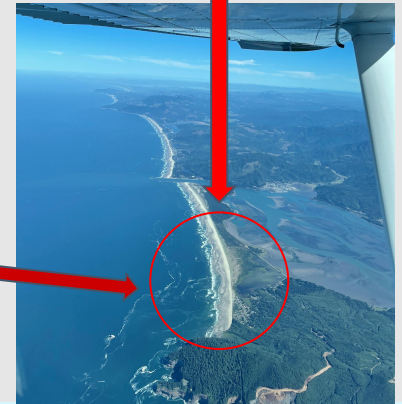
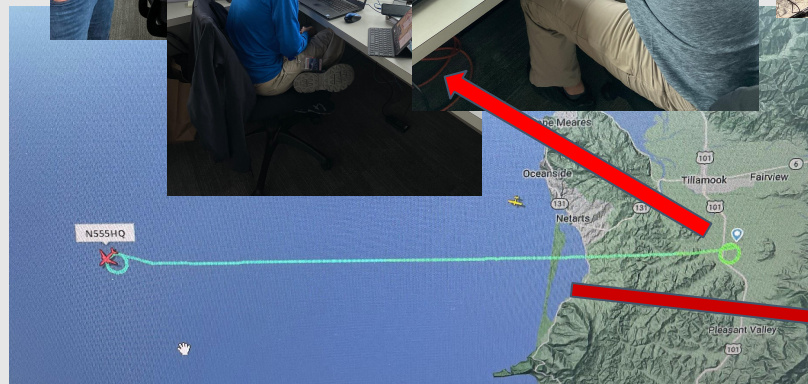
FVR-55 Tillamook

- 10 Consecutive flight days
- 16 Successful flights
- 2,390 minutes / 39.3 hours
- Zero mishaps

PIC 1: Tillamook Airport Tower Ops

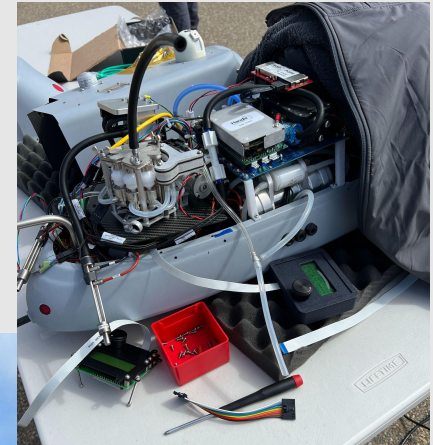
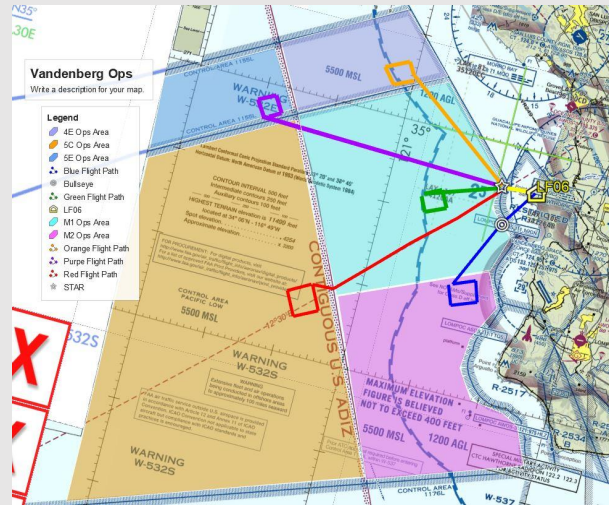


PIC 2: Beach Location 2



FVR-90 Vandenberg

- 15 Successful flights
- 46 Hours flight time
- Zero Mishaps



UMS

Stand alone in-situ / Force multiplier



Questions

