



NOAA UAS Operations

Scientific Committee for Oceanographic Aircraft Research (SCOAR)

April 14, 2015

CAPT Philip Hall, OMAO



Office of Marine and Aviation Operations



NOAA Unmanned Aircraft Systems OMAO Partnership with OAR



- OMAO – Responsible for UAS Operations
 - Safety, Operational, and Airworthiness review of all UAS operations
 - UAS Pilots (Puma, VTOL, Global Hawk) – full and part time
 - FAA Certification of Authorization (COA) and FAA liaison for UAS
 - Subject matter experts for UAS transition to operations
- UAS Program Office (OAR)
 - UAS research and demonstrations
 - Sensing Hazards with Operational Unmanned Technology (SHOUT)
(Partnership with NASA Global Hawk – Hurricane Sandy DRA funds)
- OMAO Updating NOAA Administrative Order for Aircraft to Include UAS



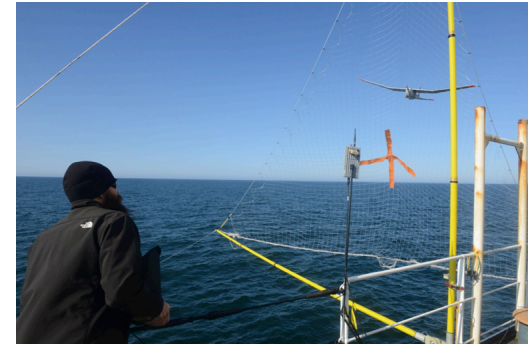
UAS Operations



APH-22 Hexacopter – NMFS/OMAO



Sensintel Coyote – OAR/UASPO/OMAO



AeroVironment Puma AE
NOS/UASPO/OMAO



Insitu Scan Eagle
2015 Marine Mammal Arctic Study
NMFS/OMAO/ONR/UASPO/BOEM



USCG Arctic Shield



Killer Whale Survey



NASA Global Hawk Partnership
Sensing Hazards with Operational
Unmanned Technology (SHOUT)



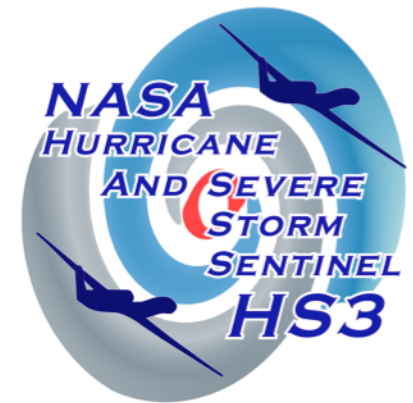
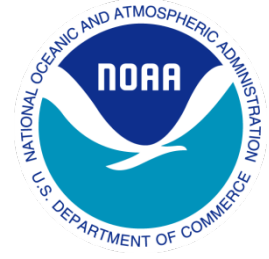
NOAA's Unmanned Platforms

Type	Asset	Quantity	Location	Custodian	Status
UAS	GlobalHawk	1	Wallops	NASA	Op T&E
UAS	RQ-20A Puma AE DDL	6	Tampa, FL	OMAO	R20
UAS	MD4-1000 Quadcopter	1	Tampa, FL	OMAO	R20
UAS	Coyote expendable	1	Tampa, FL	OMAO	R20
UAS	WMD-59 Quadcopter	1	Tampa, FL	OMAO	Training platform
UAS	Hexacopter	4	San Diego, CA	NMFS	Operational
UAS	Hexacopter	2	Seattle, WA	NMFS	Op T&E
UAS	SkyWisp	3	Boulder, CO	OAR	Op T&E
UAS	Manta	2	Seattle, WA	OAR	Op T&E
UUV	Remus 600	1	Silver Spring	NOS	Op T&E
UUV	Remus 100	2	Silver Spring	NOS	Op T&E
UUV	Seabed	1	Seattle, WA	NMFS	Op T&E
UUV	OceanServer Iver 2	2	Various	NMFS / NOS	Op T&E
UUV	HaborScan	1	Silver Spring	NOS	Op T&E
USV	Emily	10	Various	OAR	Op T&E
USV	WaveGlider	4	Stennis / Seattle	NWS / OAR	Op T&E
USV	Profiling Glider	2	Stennis / Miami	NWS	Op T&E





NASA & NOAA Partnership Sensing Hazards with Operational Unmanned Technology (SHOUT)



Office of Marine and Aviation Operations

SHOUT Objectives

Overall Goal

- **Demonstrate and test prototype UAS concept of operations that could be used to mitigate the risk of diminished high impact weather forecasts and warnings in the case of polar-orbiting satellite observing gaps**

Objective 1

- **Conduct data impact studies**
 - **Observing System Experiments (OSE) using data from UAS field missions**
 - **Observing System Simulation Experiments (OSSE) using simulated UAS data**

Objective 2

- **Evaluate cost and operational benefit through detailed analysis of life-cycle operational costs and constraints**

