

SCOAR Briefing

16 August 2017



U.S. Department of Commerce
National Oceanic and Atmospheric Administration

AGENDA

- **NOAA Manned Aircraft and their Projects**
- **FY17 Aircraft Allocation Plan**
- **FY18 Aircraft Allocation Plan**
- **Relocation of the NOAA Aircraft Operations Center**
- **AOC's Role in the NOAA UAS Program**





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Lockheed Orion WP-3D



Primary Missions: Hurricane Research, and Hurricane Reconnaissance; also tornado res., satellite cal/val, air chemistry and climate studies.

Instruments: C-band nose radar, lower fuselage radar, tail doppler X-band radar, sondes, radiometer, and scatterometers

Crew : 2 pilots, 1 Navigator, 1 Flight Engineer
1 Flight Director, 3-4 Technicians, and 4-9
Additional Mission Crewmembers

Powerplant: 4 Allison T56-14 Series 3.5
Turbo Prop engines

Max Gross Weight: 135,000 lbs

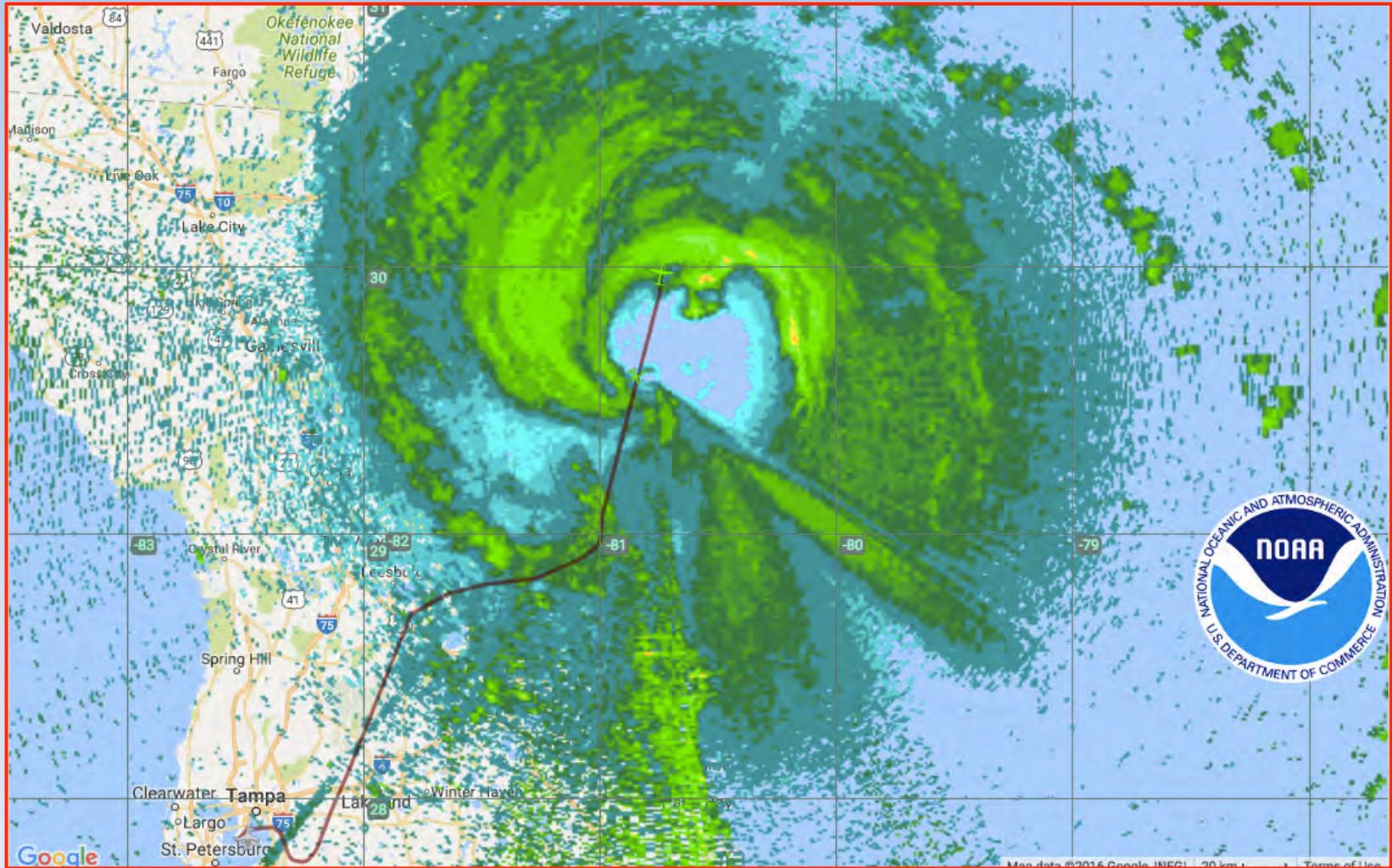
Operational Airspeed: 180-250 KIAS

Scientific Power: 4 Generators each at 120
Volts, 3 phase, 400Hz power 90 KVA
max power



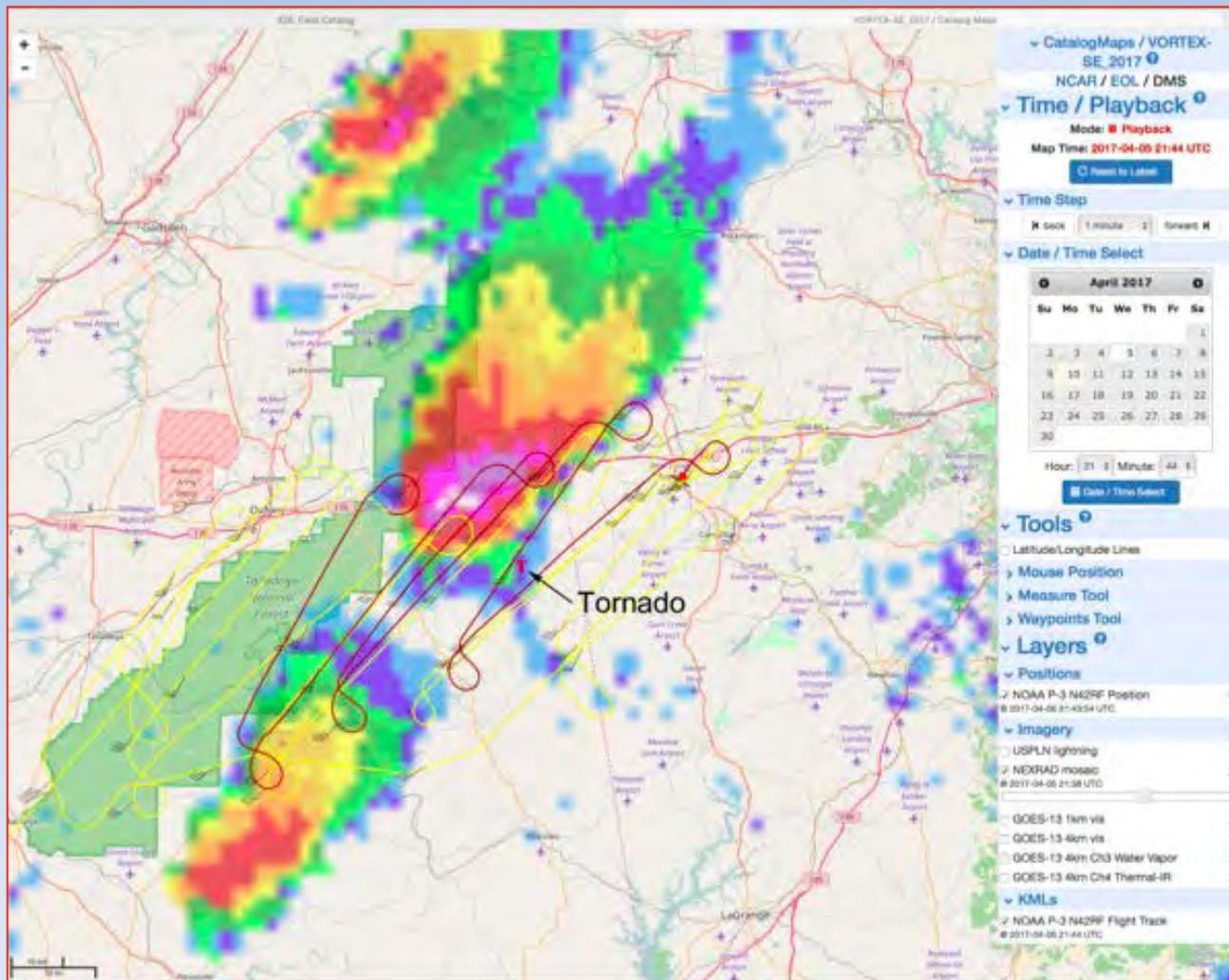
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Hurricane Reconnaissance and Research



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VORTEX



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Gulfstream G-IV



Primary Missions: Hurricane Research, Hurricane Surveillance and Atmospheric Research

Instruments: Tail doppler radar, dropwindsondes, and satellite comm system with voice/data transmission

Crew : 2 pilots, 1 Flight Director, 2-4 Technicians, and 4-6 Scientists

Powerplant: 2 Rolls Royce Tay 611-8 twin spool turbofan jet engines

Max Gross Weight: 74,600 lbs

Operational Airspeed: Mach 0.77 - 0.80 at 41,000-45,000 ft

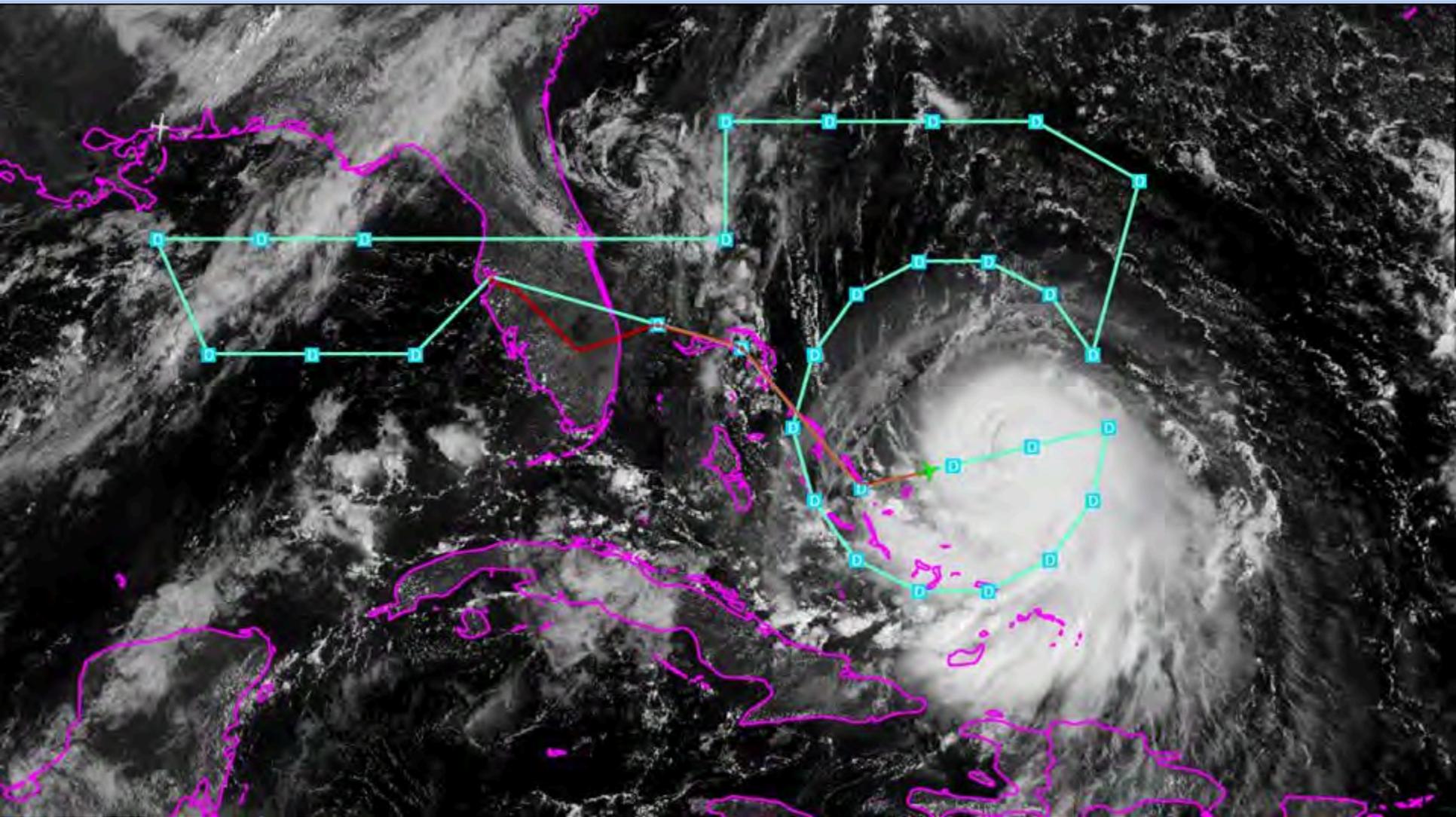
Scientific Power: 2 engine driven alternators, two converters, 23 KVA, 400 Hz, 3 phase AC power, 250 amps, and 28 VDC

Endurance: Up to 8.5 hours



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Hurricane Surveillance



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Hurricane Awareness Tour



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Beechcraft King Air 350C ER



Primary Missions: Coastal Mapping,
Emergency Response, and potential
Snow Survey

Instruments: LIDAR and photography system

Crew : 2 pilots, 1 Photographer, 1-2
Additional Mission Crewmembers

Rate of Climb: 2,400 fpm at sea level
(max takeoff weight, ISA conditions)

Max Gross Weight: 16,500 lbs

Operational Airspeed: 150 – 245 KIAS

Scientific Power: 250 Amps @ 115 VAC
28 VDC

Endurance: Up to 6+ hours

Max Altitude: 35,000 FT



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Coastal Mapping & Emergency Response



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Gulfstream Jet Prop Commander



Primary Missions: Snow Survey and GRAV--D

Instruments: Gamma radiation detection system mounted in the cabin of the aircraft; Gravimeter for GRAV-D

Crew : 2 pilots, 1 observer (as needed)

Powerplant: 2 Garrett TPE-331-10
Engines – 820 SHP

Max Gross Weight: 11,250 lbs

Operational Airspeed: 120 – 250 KIAS

Scientific Power: 2 starter-generators 30V,
300 amps DC power

Endurance: 5-6 hours

Max Altitude: 35,000 ft



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Snow & Water Resource Surveys



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De Havilland Twin Otter



Primary Missions: Coastal Mapping, Snow Survey, Air Chemistry, and Marine Mammal Surveys

Instruments: LIDAR, gamma detector, customizable windows for observers

Crew : 2 pilots, 1-6 Additional Mission Crewmembers

Powerplant: 2 Pratt and Whitney PT6A-27 engines – 620 SHP

Rate of Climb: 2,000 fpm at sea level (max takeoff weight, ISA conditions)

Max Gross Weight: 12,500 lbs (CONUS) or 14,000lbs (Alaskan Operations)

Operational Airspeed: 95-120 KIAS

Scientific Power: 3KVA of 115 VAC, 60 Hz, and 70 amps of 28 VDC

Endurance: Up to 6.5 hours+



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Marine Mammal Surveys



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Aircraft Allocation Plans

FY17 and FY18 Aircraft Allocation Plans



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FY17 Aircraft Allocation Plan

Output As Of 14-Oct-2016

FY 2017 AIRCRAFT ALLOCATION PLAN
FY17 AAP v.2 - Oct 17, 2016

	BH	PH	RH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
AC 695A TURBO COMMANDER - N45RF	720	0	0	SNOW SURVEY (597) 597BH		ENGINE OVERHAUL		FT SNOW SURVEY (597)				FT SNOW SURVEY (597)		GRAV-D 123BH		
DHC-6 TWIN OTTER - N46RF	466	139	0	SNOW SURVEY (468) 378BH	FT	ENGINE OH	SNOW SURVEY (468)			SE AMAPPS 88BH	ATLA 51BH	NE AMAPPS 88BH	SNOW SURVEY (468)		SNOW SURVEY	
DHC-6 TWIN OTTER - N48RF	311	300	0	COASTAL MAPPING/LIDAR (315) 87BH	S	AO SERW (239) 75BH	UTAR WINTERTIME 86BH	SNOW SURVEY (468) 90BH			NERW (187) 150BH		HARBOR AK		COASTAL MAPPI 48BH	
DHC-6 TWIN OTTER - N56RF	136	291	0	CORROSION INSPECTION				SERW (239) 90BH	TRA	NERW (187) 150BH	FT	ARCTIC HE 68BH	RS/STELLER 52BH	SEA ICE 68BH	HARBOR SEALS - AK PL 112BH	ARC
DHC-6 TWIN OTTER - N57RF	376	214	0	NE AMAPPS - FALL 96BH	SE AMAPPS 98BH	AO SE AMAPPS	SERW (239) 74BH	COASTAL MAPPING/LIDAR (315) 180BH					COMMAPPS 130BH	FT	CORROSION INS	
GULFSTREAM G-IV-SP - N49RF	210	0	0	HURRICANE FLIGHTS (210) 210BH		MAINT/AVIONIC		FT		OPS MAINTENANCE		FT	HURRICANE FLIGHTS (210)			
KING AIR 350ER - N68RF	478	0	0	COASTAL MAPPING / EMERGEN 478BH	FT	AO	COASTAL MAPPING / EMERGENCY RESPONSE PHOTOGRAMMETRY						FT	COASTAL MAPPING / EMERGENCY RESPONSE		
WP-3D ORION - N42RF	339	0	0	INSTRUMENTATION/CALIBRATIO		SANDY INSTALL	OCEAN WINDS 102BH		FT	VORTEX-SE 86BH	PHASE/MULTI-M		HURRICANE FLIGHTS (191) 151BH			
WP-3D ORION - N43RF	40	0	0	HURRICANE FLIGHTS (191) 40BH		AO		FT		RE-WING						
Fleet Totals	3076	944	0													



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FY18 Aircraft Allocation Plan

Output As Of 17-Jul-2017

FY 2018 AIRCRAFT ALLOCATION PLAN
FY18 AAP v.1

	BH	PH	RR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
AC 695A TURBO COMMANDER - N45RF	520	60	0	SNOW SURVEY (42) 70BH	PROP OVERHAULS	TRM SNOW SURVEY (425) 275BH						TRM	SNOW SU 30BH	GRAV-D 95BH	GRAV-D 60BH	SNOW SURVEY 50BH	
DHC-6 TWIN OTTER - N46RF	438	80	0	SNOW SURVEY (350) 150BH		AC TRAI				TRAI		ARC 20BH	PROP		TRAI	WEST COAST TURTLE 70BH	
DHC-6 TWIN OTTER - N48RF	230	390	0	COASTAL MAPPING LIDAR 110BH	AC TRAI	TRAI	GOMAPPS		NEMO (280) 280BH							CORROSION INSPECTION	
DHC-6 TWIN OTTER - N56RF	335	415	0	NOG	AC	SERN (225) 225BH				DHC 115BH	ARCTIC 40BH	FLIR I 10BH	STELLER SE 10BH	AR 30	AK HARBOR SEALS 170BH	ARC 30BH	
DHC-6 TWIN OTTER - N57RF	340	50	0	CORROSION INSPECTION/AVIONICS UPGRADE					HEBN (240) 240BH	COASTAL MAPPING LIDAR (450) 340BH							
GULFSTREAM G-IV-SP - N49RF	285	0	0	HX (235) 65BH	AC	SCHED		TRA	GRAV-D 50BH	SCHED MX.		TC	CH	RK	GC	SCI	TRM HX (235) 170BH
KING AIR 350ER - N68RF	600	0	0	COASTAL MAPPING (600) 95BH		AC COASTAL MAPPING (600) 105BH			TRA COASTAL MAPPING (600) 270BH							TRA COASTAL MAPPING (600) 130BH	
WP-3D ORION - N42RF	455	0	0	HX (265) 60BH	MMR INSTALL/400-HR PHASE		TRA NOAA OCEAN WIND 100BH	TORNADO RESEARCH 90BH		PHASE MX		TRM HX (265) 205BH					
WP-3D ORION - N43RF	0	0	0	RE-WING													
Fleet Totals	3203	995	0														



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Hangar 5 MacDill AFB, FL



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AOC Lakeland Facility



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NOAA Hangar at Lakeland



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NOAA UAS Policy Updates



- NOAA UAS Symposium on October, 2016
 - 70 attendees from all Line Offices in NOAA
 - UAS survey conducted
 - Science, aviation policy, and mission/platform requirements topics were highlighted
- NOAA UAS Handbook contains new guidance:
 - Acquisition of UAS and UAS Services (checklist)
 - Line Office Administrative Review of UAS (checklist)
 - UAS Privacy Policy completed (OCIO/OMAO)



UAS Trends in NOAA

- 2016 FAA Regulations for small UAS streamline approval process at FAA and NOAA
- NOAA and FAA trends show demand will increase
- NOAA has approximately 40 sUAS actively flying NOAA missions

