

2019 NOAA/AOML/HRD Hurricane Field Program - IFEX

APPENDIX E Aircraft Instrumentation List

Table E-1. WP-3D (N42RF) instrumentation

Instrument	Parameter	PI	Group	Electronics Location	Instrument Location	Priority
Navigation						
INE1/2	lat, lon		AOC			1
GPS1/2	lat, lon		AOC			1
Honeywell HG9550 altimeter	Radar altitude		AOC			1
Standard Meteorological						
Buck1101c, Edgetech Vigilant, Maycom TDL	T, T _W		AOC			1
Rosemount temp	T, T _W		AOC			1
Static pressure	p		AOC			1
Dynamic pressure	p'		AOC			1
Horizontal wind	V _h		AOC			1
Vertical wind	w		AOC			1
Infrared Radiation						
Side CO ₂ radiometer	T		AOC			1
AOC down radiometer	SST		AOC	Under floor	Down radiometer port	1
Weather Radar						
LF radar (MMR)	R		AOC	Station 3	Lower fuselage	1
TA Doppler radar	V, R		AOC	Station 3	Fuselage tail	1
Passive Microwave						
AOC SFMR/pod	V ₀ , Z		AOC	pod	Inner left pylon	1
Airborne Ocean Profiler						
AOC AXBT (MK-21) receivers	TS vs z	(N. Shay)	AOC (UM)	Station 5		1
Dropsonde Systems						
GPS AVAPS Dropsonde-BCH	V, T, RH, p vs z		AOC	Station 5	Aft station 5	1
Video Systems						
Down video	F(%) _h , WD		AOC		Vert. Camera port	1
Right Side, and nose			AOC		Side, nose camera port	1
On board processing						
PC/LINUX workstation	Radar Processing (TBD on software, based on workstation upgrade)	Hill	AOC	Station 3	Station 3 - outboard seat	1
PC/LINUX workstation	Dropsonde/LPS - xchat, Web, AAAPS, ASPEN	Hill	AOC	Station 3	Station 3 - inboard seat	1
PC/LINUX workstation	Dropsonde/LPS - xchat, Web, AAAPS, ASPEN	Hill	AOC	Station C3X	Station C3X - prefer	1
Real-time data communications systems	FL radar data		AOC		outboard	1
Active Microwave						
WRAP (CSCAT, KSCAT)	V10, Z, V vs z	Chang	NESDIS			1
Ka-band radar/precision altimeter system		Chang	NESDIS			1
Cloud Microphysics/Sea Spray						
DMT CCP probe	Cloud particle spectra	(R. Black)	AOC (HRD)			1
DMT PIP probe	Precipitation particle spectra	(R. Black)	AOC (HRD)			1
DMT CAS probe	Aerosol/cloud droplet spectra	(R. Black)	AOC (HRD)			1
DMT DAS	processor	(R. Black)	AOC (HRD)			1
SEA probe	liquid water	(R. Black)	AOC (HRD)			1
Turbulence Systems						
Fiehe radome gust probe system	U,V,W,T	J. Zhang, Drennan	HRD, UM	Nose radome bulkhead	Nose radome	2
UAS						

Table E-2. WP-3D (N43RF) instrumentation

Instrument	Parameter	PI	Group	Electronics Location	Instrument Location	Priority
Navigation						
INE1/2	lat, lon		AOC			1
GPS1/2	lat, lon		AOC			1
Honeywell HG9550 altimeter	Radar altitude		AOC			1
Standard Meteorological						
Buck1101c, Edgetech Vigilant, Maycom TDL	T, T _W		AOC			1
Rosemount temp	T, T _W		AOC			1
Static pressure	p		AOC			1
Dynamic pressure	p'		AOC			1
Horizontal wind	V _h		AOC			1
Vertical wind	w		AOC			1
LICOR Hygrometer (either P-3)	q	J. Zhang	HRD			2
Infrared Radiation						
Side CO ₂ radiometer	T		AOC			1
AOC down radiometer	SST		AOC	Under floor	Down radiometer port	1
Weather Radar						
LF radar (MMR)	R		AOC	Station 3	Lower fuselage	1
TA Doppler radar	V, R		AOC	Station 3	Fuselage tail	1
Passive Microwave						
AOC SFMR/pod	V ₀ , Z		AOC	pod	Inner left pylon	1
UMASS SFMR	V ₀ , Z	Chang	NESDIS			1
Airborne Ocean Profiler						
AOC AXBT (MK-21) receivers	TS vs z	(N. Shay)	AOC (UM)	Station 5		1
Dropsonde Systems						
GPS AVAPS Dropsonde-BCH	V, T, RH, p vs z		AOC	Station 5	Aft station 5	1
Video Systems						
Down video	F(%) _h , WD		AOC		Vert. Camera port	1
Right Side, and nose			AOC		Side, nose camera port	1
On board processing						
PC/LINUX workstation	Radar Processing (TBD on software, based on workstation upgrade)	Hill	AOC	Station 3	Station 3 - outboard seat	1
PC/LINUX workstation	Dropsonde/LPS - xchat, Web, AAAPS, ASPEN	Hill	AOC	Station 3	Station 3 - inboard seat	1
PC/LINUX workstation	Dropsonde/LPS - xchat, Web, AAAPS, ASPEN	Hill	AOC	Station C3X	Station C3X - prefer	1
Real-time data communications systems	FL radar data		AOC		outboard	1
Active Microwave						
ProSensing WSR	HS, WPS, WDS	Farral	ESRL, NHC	Fore Press Dome	Fore Press Dome	1
Cloud Microphysics/Sea Spray						
DMT CCP probe	Cloud particle spectra	(R. Black)	AOC (HRD)			1
DMT PIP probe	Precipitation particle spectra	(R. Black)	AOC (HRD)			1
DMT CAS probe	Aerosol/cloud droplet spectra	(R. Black)	AOC (HRD)			1
DMT DAS	processor	(R. Black)	AOC (HRD)			1
SEA probe	liquid water	(R. Black)	AOC (HRD)			1
Weather Lidar						
Doppler Wind Lidar	V, R	Atlas	HRD			1
Turbulence Systems						
Fiehe radome gust probe system	U,V,W,T	J. Zhang, Drennan	HRD, UM	Nose radome bulkhead	Nose radome	2
UAS						

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APPENDIX E *Aircraft Instrumentation List*

Table E-3. G-IV (N49RF) instrumentation

Instrument	Parameter	PI	Group	Electronics Location	Instrument Location	Priority
Navigational						
INE1/2	lat, lon		AOC			1
GPS1/2	lat, lon		AOC			1
Honeywell HG9550 altimeter	Radar altitude		AOC			1
Standard Meteorological						
Buck1101c, Edgetech Vigilant, Maycom TDL	T _d		AOC			1
Rosemount temp	T, T'		AOC			1
Static pressure	p		AOC			1
Dynamic pressure	p'		AOC			1
Horizontal wind	V _h		AOC			1
Vertical wind	w		AOC			1
Weather Radar						
TA Doppler radar	V, R		AOC			1
Passive Microwave						
SFMR	V ₁₀ , Z	Goldstein	AOC			1
Dropsonde Systems						
GPS AVAPS Dropsonde-8CH	V, T, RH, p vs z	Smith	AOC			1
On board processing						
Real-time data communications systems	FL, radar data		AOC			1
PC/LINUX Computer	radar data, sondes		AOC			1