SWA Environment Laser Division: DWL Database Inventory

TODWL, P3DWL, TWOLF and DAWN
2002 – 2020

Mission Local Date/Time	GMT Date/Time	Mission Notes
TODWL	**Monterey, CA**	**Water/Surface Returns; Wind Profiles**
02/11/02 1424 – 1428 02/11/02 1718 - 1750	02/11/02 2224 – 2228 02/12/02 0118 - 0150	Water returns, Monterey Bay
02/13/02 0640 - 0914	02/13/02 1440 - 1714	Surface returns around Monterey Bay
02/14/02 1449 - 1801	02/14-15/02 2249 - 0201	River velocity, wind profiles
02/15/02 1351 - 1455	02/15/02 2151 - 2255	Wind profiles around Monterey Bay
03/12/02 1102 - 1643	03/12-13/02 1932 - 0043	Monterey Bay, misc.
03/13/02 1009 – 1030 1437 - 1505	03/13/02 1809 – 1830 2237 - 2305	Ascent out of Monterey (to Las Vegas) Ascent out of Las Vegas (to Boulder)
03/14/02 1207 - 1248		
03/15/02 0928 - 1116	03/15/02 1728 - 1916	System comparisons, near Boulder
TODWL		
09/12/02 1206 - 1237		
TODWL	**Monterey, CA**	**Cross Mountain Wind Profiles**
02/07/03 2131 - 2327	02/08/03 0531 - 0727	TAMDAR
02/08/03 1425 - 1524 2221 - 2334	02/08/03 2225 – 2324 02/09/03 0621 - 0734	checkout
02/10/03 1450 - 1546		
02/11/03 1106 -1617 1906 -2006 2/11-12/03 2113 - 0020	02/11-12/03 1906 - 0017 02/12/03 0306 – 0406 0513 - 0820	 NAST, data problems NAST, data problems
02/13/03 1105 – 1200	02/13/03 1905 – 2000	

1907 - 2012	02/14/03 0307 - 0412	checkout, wind profiles
02/17/03 1100 - 1642 1906 - 2219	02/17-18/03 1900 – 0042 02/18/03 0306 - 0619	Cross-mountain wind profiles, sfc returns
02/19/03 1246 - 1334		
02/20/03 1143 – 1640 1950 - 2311	02/20-21/03 1943 – 0040 02/21/03 0350 - 0711	Offshore, PBL
02/21/03 1350 - 1832 02/21-22/03 2139 - 0240	02/21-22/03 2150 – 0232 02/22/03 0539 - 1040	Cross-mountain wind profiles
TODWL		
10/09/03 0845 - 1146		
10/10/03 1332 - 1407		
12/04/03 1547 - 1647		
TODWL		
04/03/05 0124	04/03/05 0924	
04/07/05 1943 - 2046	04/08/05 0343 - 0446	
TODWL	**Monterey, CA**	**Check out flights for new system**
12/14/05 0854 - 0857	12/14/05 1654 - 1657	Hardware performance checkout, Evaluate new "complex terrain" scan pattern
12/14/05 1308 - 1613	12/14/05 2108 - 2413	Wind profiles over the ridge/valleys
12/15/05 1202 - 1242	12/15/05 2002 - 2042	Under fly Quikscat and/or WindSat
12/15/05 1455 - 1459	12/15/05 2255 - 2259	
TODWL		
01/19/06 1024 - 1050	01/19/06 1824-1850	
01/21/06 0355 - 0432	01/21/06 1155 - 1232	
TODWL		
02/24/06 1047 - 1313	02/24/06 1847 - 2113	
TODWL	**Salinas Valley**	**Wind Profiles, Ft. Ord Burning**
10/18/06 0216 - 0418	10/18/06 1016 - 1218	Salinas Valley Wind Profiles

10/18/06 0716 - 0953	10/18/06 1516 - 1753	Salinas Valley Wind Profiles, Wild Fires
10/19/06 0141 - 0727	10/19/06 0941 - 1527	Salinas Valley Wind Profiles, Ft. Ord Burning
TODWL	**Monterey Bay Salinas Valley**	**SkyWalker, Rolls**
04/11/07 1047 - 1318	04/11/07 1847 - 2118	STV Checkout Flight over Monterey Bay
04/12/07 0709 - 1129	04/12/07 1509 – 1929	STV Flight over Monterey Bay; Data Questionable
04/13/07 0844 - 1424	04/13/07 1644 - 2224	SkyWalker(SW)/STV Flight; SW Wind Profiles down Salinas Valley; STV over and west of Monterey Bay
04/15/07 0802 - 1422	04/15/07 1602 - 2222	STV flight off Monterey Bay preceded by Raster over Salinas Valley; Rolls and waves
04/16/07 1022 - 1744	04/16-17/07 1822 - 0144	High altitude wind profiles over Salinas Valley; Low-level coastal with STV; High altitude wind profiles over Monterey Bay; Rolls
04/17/07 1316 - 1553	04/17/07 2116 - 2353	Salinas Valley (south) wind profiles, vertical motions and new scanning strategies

04/17/07 1816 - 2155	04/18/07 0216 - 0555	Evening transition flight over Valley; Wind profiles
04/18/07 1200 - 1852	04/18-19/07 2000 - 0252	STV flight Big Sur to east of ADIZ; Profiles on return for Windsat comparison; Rolls
04/19/07 1054 - 1349	04/19/07 1854 - 2149	No flight; Data taken from ground
04/23/07 0950 - 1524	04/23/07 1750 - 2324	STV flight west of Big Sur; Rolls and cloud streets
04/24/07 1312 - 2124	04/24-25/07 2112 - 0524	Salinas Valley flight (mostly south); rasters and wind profiles
04/25/07 1540 - 1953	04/25-26/07 2340 - 0353	STV flight west of Big Sur; windy and cloudy
04/26/07 1220 - 1654	04/26-27/07 2020 - 0054	STV flight west of Big Sur and Monterey Bay
04/27/07 1033 - 1610	04/27-28/07 1833 - 0010	STV flight well west of Big Sur
TODWL	**Salinas Valley**	**SkyWalker**
11/08/07 1035 - 1356	11/08/07 1835 - 2156	Lidar checkout and Skywalker flight down Salinas Valley
11/09/07 1244 - 1926	11/09-10/07 2044 - 0326	ADLAATS/SkyWalker flight over Valley and Mountains; rainy and cloudy conditions
11/10/07 1645 - 1926	11/11/07 0045 - 0326	ADLAATS flight; SW-NE legs across Salinas Valley; Evening
11/11/07 1057 - 2158	11/11-12/07 1857 - 0558	SkyWalker/ADLAATS flight; Zig-zag down Salinas Valley; Wind profiles
11/12/07	11/12/07 0232 - 0559	Zig-zag down Salinas Valley; Wind profiles

11/12/07 1136 - 1316	11/12/07 1936 - 2116	Testing of new point scans; Some wind profiles
11/12/07 1330 - 1544	11/12/07 2130 - 2344	SW-NE legs across northern Salinas Valley and coastal mountains; Wind profiles
11/13/07 0452 - 0807	11/13/07 1252 - 1607	Early morning flight; SW-NE legs across northern Salinas Valley and coastal mountains; Wind profiles
11/13/07 1147 - 1216	11/13/07 1947 - 2016	
11/13/07 1734 - 1750	11/14/07 0134 - 0150	
11/14/07 1208 - 1429	11/14/07 2008 - 2229	No flights; Data taken from Aircraft on ground
11/15/07 0924 - 1224	11/15/07 1724 - 2024	NASA Dryden calibration flight (unsuccessful); Very clear conditions
11/15/07 1254 - 1610	11/15-16/07 2054 - 0010	NASA Dryden calibration flight near airport; Coastal leg between coastline and cloudedge
11/16/07 0929 - 1216	11/16/07 1729 - 2016	NASA Dryden calibration flight near Ft. Ord (successful); Wind profiles
P3DWL	**GUAM**	**TPARC**
07/19/08 2129 - 2234	07/20/08 0412-0534	Colorado
07/23/08 2015 - 2027	07/24/08 0315-0327	Colorado
08/04/08 1837 - 2220	08/05/08 0137-0520	Colorado
08/05/08 1533 - 2356	08/05/08	P3DWL – Ferry flight from CA to HI
08/06/08 0001 - 0806	08/05-06/08	P3DWL – Ferry flight from HI to Guam
08/07/08 0003 - 0533	08/06/08 1403 - 1933	½ day offset not computed for gmt
08/09/08 0430 - 0525	08/08/08 1830 - 1925	
08/12/08 0226 – 0352	08/11/08 1626 - 1752	Calibration flight
08/13/08 0455 – 0507 2354 - 2359	08/12/08 1855 – 1907 08/13/08 1154 - 1159	Ground testing
08/14/08 0004 - 0053	08/13/08 1404 - 1453	Ground testing
08/15/08 2257 – 2356	08/15/08 1257 - 1356	P3DWL Flight 1 Pre TC Nuri
08/16/08 0001 – 0411 2205 - 2355	08/15/08 1401 – 1811 1205 - 1355	P3DWL Flight 2 Pre TC Nuri
08/17/08 0000 – 0346	08/16/08 1400 – 1746	P3DWL Flight 3 TD124/TC Nuri

2115 - 2356	08/17/08 1115 - 1356	
08/18/08 0001 - 0003	08/17/08 1401 - 1403	
08/19/08 0152 – 0225	08/18/08 1552 - 1625	Testing on CMIGITS
08/26/08 1803 - 2150	08/26/08 0803 - 1150	Radar issues; no flight
08/27/08 2320 - 2344	08/27/08 1320 - 1344	P3DWL Flight 4 TCS025
08/28/08 0111 - 0510	08/27/08 1511 - 1920	P3DWL Flight 5 TCS025
08/29/08 0018 - 0447	08/28/08 1418 - 1847	

09/01/08 1924 – 2123 09/02/08 0000 - 0100	09/01/08 0924 – 1123 9/01/08 1400 - 1500	P3DWL Flight 6 TCS030
09/08/08 0059 - 0605	09/07/08 1459 - 2005	P3DWL Flight 7 TCS037
09/09/08 0204 - 0655	09/08/08 1604 - 2055	P3DWL Flight 8 TCS039 and TUTT
09/10/08 2129 – 2357 09/11/08 0002 - 0133	09/10/08 1129 – 1357 09/10/08 1402 - 1533	P3DWL Flight 9 Typhoon Sinlaku
09/13/08 2101 - 2356 09/14/08 0004 - 0233	09/13/08 1101 – 1356 09/13/08 1404 - 1633	P3DWL Flight 10 TCS043
09/14/08 2039 - 2355 09/15/08 0000 - 0110	09/14/08 1039 - 1355 09/14/08 1400 - 1510	
09/16/08 2102 - 2355 09/17/08 0000 - 0442	09/16/08 1102 - 1355 09/16/08 1400 - 1842	P3DWL Flight 11 TCS043 and Typhoon Sinlaku
09/17/08 0000 - 0442 09/17/08 2205 – 2359 09/18/08 0000 - 0610	09/16/08 1400 - 1842 09/17/08 1205 – 1359 09/17/08 1400 - 2010	P3DWL Flight 12 Typhoon Sinlaku
09/19/08 0017 - 0719	09/18/08 1417 - 2119	P3DWL Flight 13 Typhoon Sinlaku
09/20/08 0242 - 0832	09/19/08 1642 - 2232	P3DWL Flight 14 Typhoon Sinlaku

09/21/08 2223 – 2355 09/22/08 0000 - 0612	09/21/08 1223 – 1355 09/21/08 1400 - 2012	P3DWL Flight 15 Typhoon Haugapit
09/23/08 0016 - 0629	09/22/08 1416 - 2029	P3DWL Flight 16 TCS047
09/24/08 2019 – 2355 09/25/08 0000 - 0139	09/24/08 1019 – 1355 09/24/08 1400 - 1539	P3DWL Flight 17 TS Jangmi
09/25/08 2237 - 2358 09/26/08 0000 - 0141	09/25/08 1237 - 1358 09/25/08 1400 - 1541	Calibration Flight
09/26/08 1952 - 2359 09/27/08 0003 - 0426	09/26/08 1052 - 1359 09/26/08 1403 - 1826	P3DWL Flight 18 TS Jangmi
09/28/08 0116 - 0537 09/29/08 2215	09/27/08 1516 - 1937 09/29/08 1215	Time is strange on this day
09/28/08 2054 - 2215 09/29/08 0115 – 0120 09/29/08 2001 - 2357	09/28/08 1054 - 1215 09/28/08 1515 – 1520 09/29/08 1001 - 1357	Time is strange on this day
10/04/08 0039-0200 2355		
10/05/08 0213-0308		
10/05/08 2108 – 2210 10/06/08 1922		
10/07/08 2152 - 2357		P3DWL – Ferry flight from Guam to HI
10/07/08 1657 - 2237 10/08/08 0003-0008 10/08/08 2152 10/09/08 1535 - 1642		P3DWL – Ferry flight from HI to Guam In 10/08/08 directory
10/08/08 0003 – 0132		P3DWL – Ferry flight from CA to east coast In 10/09/08 directory

10/09/08 0015 - 0113		
TWOLF		**Tornado**
07/27/09 1727 - 1733		
07/28/09 1752 - 1943		
07/29/09 2028 - 2226		
07/30/09 1957 - 2234		
TWOLF		**Tornado**
09/12/09 2232		
09/13/09 0106		
09/14/09 0024 - 0250		
09/21/09 2336 - 2338		
TWOLF	**NE, KS, CO**	**Tornado**
05/06/10 1957 - 2004		
05/07/10 1814 - 1931		
05/09/10 1456 - 1536		
05/10/10 2100 - 2358		Managed 3 deployments today, although they were short. Had issues with trees impeding view of lidar. Okemah, Wetumka, Calvin OK
05/12/10 0106 – 0231 2302 - 2317		Deploying just W of hwy 30 on road 1550, 5.5 mi North of Hollis. 34.7687, -99.9215, heading 269.66 Target too far away to be detected with the lidar. Nice strong returns. Data retrieved through ~11 km
05/13/10 0037 - 0222		
05/14/10 1657 - 1708		
05/18/10 2218 - 2358		Deploying SW of Dumas TX: 35.7597, -102.0358, heading: 181°. Scanner problems, clear air boundary layer rolls
05/19/10 0002 – 0126 2025 - 2314		35.8128, -98.9838, heading 23.2° Visual on funnel cloud to our West
05/20/10 0122 - 0146		Deployment was not particularly successful for the lidar owing to rain around the tornado
05/21/10		TWOLF deployed on a supercell that initiated NW of Cheyenne, WY. A series of PPIs, RHIs and VADs were

		collected. RHIs were collected to 90°, with return at 90° up received to about 4 km. The negative velocities, implied downward motion at 90°. This might be kind of interesting to examine! The data did not appear to be very interesting. There was evidence of a jet around 800 m, and wind speeds decreased in the lowest hundred meters or so, but there was not a lot of shear and wind speeds did not exceed 25 m/s.
05/22/10 0039 - 0135		
05/24/10 0057 – 0119 2107 – 2133 2221 – 2253 2336 - 2341		Winds are seriously strong TWOLF - Ogallala, Nebraska 41.06,-101.72 TWOLF – Sutherland 41.15,-101.14 TWOLF – North Platte 41.14,-101.76
05/25/10 0024 – 0035 2320 - 2334		Visual of tornado on ground TWOLF – Gothenberg, NE TWOLF – 38.4775, -101.01 TWOLF's first deployment missed the second V2 tornado by a fewseconds, but still saw the circulation shortly after the tornado dissipated. The signal was extinguished in the area just beyond the circulation. This was possibly due to precipitation or wind speeds that were too fast to be recorded or to show up on the display. During the second deployment, a series ofthree misovortices were observed, almost like a vortex sheet, between 5 and 8 km away from us. TWOLF was unable to collect data at the third deployment. The main computer..
05/26/10 0012 – 0027 0134 2213 – 2252 2316 - 2351		TWOLF deployed three times on a slow moving supercell NE of Denver, CO. The storm never looked imminently tornadic during any of the deployments. TWOLF - Selkirk TWOLF – Merenthall, KS TWOLF – Prospect Valley, CO TWOLF – Wiggins, CO
05/27/10 0015 - 0040		 TWOLF – Wiggins, CO
05/29/10 2157 - 2319		TWOLF deployed 3 times today ahead of an approaching cold front/outflow boundary. The first deployment there were issues with the Lidar software. The second deployment, only the lidar collected data. The front was resolved as it approached, and a series of PPIs and RHIs were collected. The depth of the boundary was also resolved. TWOLF was able to 'see' through the low-level northerly flow to the southerly flow aloft. The upper boundary of the frontal surface was not uniform with height or range. There were pockets where the wind shift occurred at higher elevations, and also pockets where it occurred at lower elevations, resulting in vertical shear signatures at

		intermediate elevation angles. During the third deployment, there was some very interesting structure present. At one point, KH waves were noted briefly. The third deployment had a lot of beam blockage at low elevation angles thanks to the terrain in NC Nebraska Hyannis, NE
05/30/10 0017 - 0112		Thedford, NE
06/02/10 2324 - 2359		A struggling supercell was showing some signs of organization on 88-D, but was too far for the lidar to sample. The most interesting part of the deployment were the RHIs collected during precipitation. Two spectra were seen in the return signal, presumably one from the rain falling and one from the vertical air motion. Bearsley, KS 39.7772, -101.2227, Heading: 267.9
06/04/10 0058 - 0157		Verdigre, NE
06/06/10 2233 - 2321		We deployed on two supercells today, twice on the first one that developed near Bridgeport, NE, and once on a cell that developed again in the same area, but several hours later. The storms had large forward flanks with lots of precipitation, very high reflectivity and lots of hail. The first one was somewhat high-based and never really looked like it would produce a tornado. The wind was really strong – both inflow and outflow. The second one had a very large shelf cloud that remained somewhat confined to the forward flank, and produced a wall cloud occasionally. Unfortunately, the lidar only collected about 5 minutes worth of good data during those three deployments due to technical difficulties. Near Grant Municipal Airport 40.8716, -101.7293, heading: 270.9
06/07/10 2343 - 2358		During the first deployment, TWOLF collected data on a surging outflow boundary, both PPIs and RHIs. The RHIs collected had angular resolution of 0.1°. The second deployment was quite short owing to a hard right turn that put us directly in line with the mesocyclone, which was only several km away to begin with. During the final deployment, again PPIs and RHIs were collected as the outflow boundary was approaching. A 44 mph wind gust was measured by a personal hand-held anemometer at our location with the onset of the outflow. Henry, NE 42.0837, -104.0285, heading: 358.5
06/08/10 0003 – 0101 0155 - 0207		Scottsbluff, NE
06/10/10 0112 – 0124		There were four Cirpas deployments today - three for TWOLF – on two tornadic supercells that formed NE and

0214 – 0224 2346 - 2359		SW of Denver. The first deployment was on the NErn cell. PPIs and RHIs were collected in the inflow and the outflow of the storm. The second and third deployments were on the southern storm. Between the first and the second, a tornado formed with the southern cell. We began the second deployment just minutes after another tornado was produced. The second deployment was short, but there appeared to by circulation visible in the display. The third deployment was entirely outflow, and the wind field was quite turbulent at low levels. A VAD was collected. Return from anvil cloud was visible at 10+ km range in the RHIs at high elevations. 41.7403, -104.28 41.7455,-103.6738 39.9409, -104.0566
06/11/10 0004 - 0137 0153 – 0239 2335		 39.6672,-103.5908 39.6665, -103.4457
TWOLF		
10/13/11 1257 – 1307		BMP of Maintenance Mode CTI RASP
12/07/11 1305 - 1539		
12/08/11 1112		
TODWL	**Monterey**	**UPPEF**
09/11/12 1602 - 1655		
09/12/12 0414 - 0425		
09/13/12 0102 - 0433		
09/14/12 1031 - 1607		
09/17/12 1201 - 1305		
09/18/12 1208 – 1221 1600 - 1605		
09/20/12 1142 - 1212		
09/24/12 1715	09/25/12 0115	TODWL Test flight off Monterey as part of UPPEF Afternoon
09/25/12 1518 - 1701		
09/26/12 0900 - 1240	09/26/12 1700 – 2040	TODWL and CTV survey flight off Monterey coast. Some stratocumulus conditions

09/28/12 1309 - 1607	Afternoon	Over Salinas Valley
09/29/12 1330 - 1341		
09/30/12 0900 – 1140	09/30/12 1700 – 1940	West of Monterey; Some left over clouds; NPS balloons and CTV
09/30/12 1240 – 1540	09/30/12 2040 – 2340	Inland; Lidar needed to be shut down for over-heating; Strong low-level temp. inversion; NPS balloons and CTV
TODWL	**Utah**	**MATERHORN**
10/02/12		Ferry flight from Monterey to Dugway, UT for participation in MATERHORN (boundary layer in complex terrain) Afternoon
10/04/12 0806 - 1310		Nevada 40.73296 -116.0078
10/05/12 1125 - 1146		
10/06/12 1411 – 1430	10/06-07/12 2111 – 0030	MATERHORN Flight 1
10/07/12 0924 - 1343	10/07/12 1624 – 2043	MATERHORN Flight 2
10/09/12 1515 - 1915	10/09-10/12 2215 – 0215	MATERHORN Flight 3
10/10/12 0927 - 1336	10/10/12 1627 – 2036	MATERHORN Flight 4
10/13/12 1119 - 1127	10/13/12 1819 - 1827	
10/14/12 0833 - 1245	10/14/12 1533 – 1945	MATERHORN Flight 5
10/14/12 1431 - 1902	10/14-15/12 2131 – 0202	MATERHORN Flight 6
10/17/12 1321 - 1739	10/17-18/12 2021 – 0139	MATERHORN Flight 7
10/18/12 0834 - 1312		Ferry flight from Dugway, UT back to Monterey, CA
TWOLF		
04/09/14 1257 - 1721		No data, just logdot files
04/10/14 0954 - 1125		No data, just logdot files
04/11/14 1151		No data, just logdot files
TODWL		**C17 Wing Tip Vortices**
04/11/14 1647 – 1722		
04/13/14 1010 - 1232	04/13/14	Ferry Flight

04/14/14 1239 - 1730	04/14/14	
04/15/14 1212 - 1739		
04/16/14 1215 - 1737		
04/17/14 1206 - 1847		
04/18/14 1208 - 1703		
04/20/14 2050 - 2234		
04/21/14 0021 – 0213 2040 - 2246		
04/22/14 0022 – 0147 2104 - 2242		Wing Tip Vortices, 12 different flights passes
04/23/14 0009 - 0141		Wing Tip Vortices, 4 different flights passes
DAWN	**Greenland**	**Polar Winds I**
10/29/14 1151- 1642	10/29/14 1451- 1942	Arctic PBL; Under-flight of existing and planned (AEOLUS) remote sensing platforms. Kangerlussuaq, Greenland
10/30/14 1323 - 1642	10/30/14 1623 - 1942	
10/31/14 1101 - 1918	10/31/14 1401 - 2218	
11/03/14 1356 - 1713	11/03/14 1656 - 2013	
11/04/14 1358 - 1726	11/04/14 1658 - 2026	
11/05/14 1411 - 1700	11/05/14 1711 - 2000	
11/06/14 1405 - 1630	11/06/14 1705 - 1930	
11/07/14 1417 - 1647	11/07/14 1717 - 1947	
11/08/14 1554 - 1912	11/08/14 1854 - 2212	
11/10/14 1428 - 1657	11/10/14 1728 - 1957	
11/11/14 1407 - 1716	11/11/14 1707 - 2016	
11/12/14 1106 - 1853	11/12/14 1406 - 2153	
11/13/14 1403 - 1721	11/13/14 1703 - 2021	

DAWN	Iceland	Polar Winds II
05/11/15 1322 – 1718	05/11/15 1322 – 1718	Arctic PBL and low-level circulations over water, land and ice. Keflavik, Iceland.
05/13/15 1101 - 1456	05/13/15 1101 - 1456	
05/15/15 1604 - 2015	05/15/15 1604 - 2015	
05/16/15 1358 - 2104	05/16/15 1358 - 2104	
05/17/15 1353 - 1630	05/17/15 1353 - 1630	
05/19/15 1201 - 2106	05/19/15 1201 - 2106	
05/21/15 1743 - 2149	05/21/15 1743 - 2149	
05/23/15 1355 - 1951	05/23/15 1355 - 1951	
05/24/15 1154 - 1820	05/24/15 1154 - 1820	
05/25/15 1407 - 1710	05/25/15 1407 - 1710	
P3DWL	**Atlantic Ocean**	**Tropical Storm Erika, needs 1/2 day correction**
08/06/15 0730 - 1929		
08/28/15 0209 - 0837		NOAA 49RF will conduct an NHC-tasked Synoptic Surveillance mission around Tropical Storm Erika in the Atlantic north of Barbados.
P3DWL	**Caribbean**	**Hurricane Earl, needs 1/2 day correction**
06/22/16 1433		
06/23/16 1820		
07/06/16 1419 - 1726		
07/19/16 0954 – 1756 2346 - 2356		
07/20/16 0001 - 0606		
08/02/16		The mission is to conduct a at DWL experiment into Tropical Storm Earl. The system is currently located in the southwestern Caribbean and moving west at about 15 knots. It is embedded in ~20 knots of northwesterly shear causing an asymmetric convection pattern.
08/03/16 1844 - 2356		The mission is to conduct a TDR experiment into Tropical Storm Earl, with a secondary goal of collecting DWL observations. The system is located off the coast of Belize and moving west at about 8 knots. It is located

		between a gradient of westerly shear with 5 knots to its west ranging to ~20 knots on the eastern side. Satellite presentation shows increased convection in all quadrants indicating a possible strengthening of the storm.
08/04/16 0001 - 0021		
08/07/16 1731 - 2359		
08/08/16 0004 - 0120		
08/09/16 0230 - 0802		
TODWL		**C17 Wing Tip Vortices**
01/09/2017 0751 - 0755		?
07/08/2017 1524 - 1826		C17_Marina_Yuma
07/10/2017 1148 - 1328		
07/11/2017 0415 – 0658 0903 - 1100		
07/12/2017 0457 – 0644 0905 - 1110		
07/13/2017 0457 - 0644 0906 - 1109		
07/14/2017 0508 – 0647 0912 - 1116		
07/16/2017 0310 - 0422 1040 – 1257		
07/17/2017 0003 - 0352 2222 - 2353		
P3DWL	**Atlantic**	**Hurricane Maria, needs 1/2 day correction**
09/13/17 1146		lidar attitude corrections flight.
09/16/17 1921 - 1946		Ferry Flight.
09/17/17 0610 – 0650 2003 - 2358		Reconnaissance flight.
09/18/17 0003 - 1045	09/18/17 0507 – 1545	

09/21/17 1815 - 2355	09/21-22/17 2315 - 0455	
09/22/17 0000 – 0111 1738 - 2354	09/22/17 0500 – 0611 09/23/17 2238 - 0454	NOAA 42RF (N42) will perform an HRD-tasked Doppler Winds LIDAR and COYOTE mission into Hurricane Maria. Takeoff from Lakeland is at 1700Z. Following the Figure-4 vortex survey, aircraft will turn inbound and release the Coyote UAS in the eye. Aircraft will then circumnavigate with repeated penetrations into and out of the eyewall, maintaining close communications with the Coyote UAS as the Coyote spirals outward into the eyewall. N42 flight altitude 10,000ft. Pattern may be updated for center position at time of mission. To the extent possible, keep straight legs heading to center during the initial Figure-4, as TDR data will be transmitted to EMC in real time. Plan is for a 9-h duration mission. Expendables: 12 IR sondes, 5 regular sondes, and 12 AXBTs.
09/23/17 0002 – 1029 1713 - 1838	09/23/17 0502 – 1529 2213 – 23-38	NOAA 42RF (N42) will perform an HRD-tasked Doppler Winds LIDAR and COYOTE mission into Hurricane Maria. Takeoff from Lakeland is at 1700Z . Following the Figure-4 vortex survey, aircraft will turn downwind and then release first Coyote UAS at Pt 5. Aircraft will then navigate in a lawnmower pattern toward the eye. The second Coyote UAS will be released within the eye. As during previous flight, aircraft circumnavigate with repeated penetrations into and out of the eyewall, maintaining close communications with the Coyote UAS as the Coyote spirals outward into the eyewall. N42 flight altitude will be 8000-10000ft. The pattern may be updated for center position at time of mission. To the extent possible, keep straight legs heading to center during the initial Figure-4, as TDR data will be transmitted to EMC in real time.
09/24/17 0154 – 0759 1653 - 2358	09/24/17 0654 – 1259 09/24-25/17 2153 - 0458	NOAA 49RF (N49) will fly a synoptic surveillance mission around Hurricane Maria.
09/25/17 0003 – 0058 0102 - 0347	09/25/17 0503 – 0558 0602 - 0847	NOAA 49RF (N49) will fly a synoptic surveillance mission around Hurricane Maria.
09/26/17 ------		Cancelled
DAWN	**Gulf of Mex./Atl.**	**CPEX 2017**
	05/27/17 1817 - 2313	Gulf of Mexico, Undisturbed
	05/29/17 1604 - 2113	West. Caribbean Sea, Off Belize coast, Scatt. Shallow Convection

	05/31/17 1753 - 2258	Atlantic Ocean- East of Bahamas, Scatt./Iso. Shallow Convection
	06/01/17 1706 - 2236	Eastern Gulf of Mexico, Organized Convection
	06/02/17 1658 - 2247	Gulf of Mexico, Convection
	06/06/17 1817 - 2158	Eastern Gulf of Mexico, Undisturbed West Convection East
	06/10/17 1810 - 2310	Atlantic Ocean, East of Bahamas, Scatt, Convection Targeted Mesoscale Cluster
	06/11/17 1610 – 2210	Central Gulf of Mexico, Organized Convection and Inflow
	06/15/17 1721 - 2058	Caribbean Sea, South of western Cuba, Active Convection
	06/16/17 1731 - 2043	West. Caribbean Sea - Off Belize coast, Convective
	06/17/17 1735 - 2351	Caribbean Sea, South of western Cuba, Convective
	06/19/17 1707 - 2237	Eastern/Central Gulf of Mexico, Convective Precursor TS Cindy
	06/20/17 1658 - 2229	Central Gulf of Mexico, TS Cindy, Convective and Inflow
	06/21/17 1834 - 2344	Northern Gulf of Mexico, TS Cindy
	06/23/17 1656 - 2128	Atlantic Ocean, East of Bahamas, Undisturbed Iso. Convection
	06/24/17 1651 - 2225	NW Caribbean Sea - Undisturbed; Convective
TODWL	**Monterey, CA**	**Wing Tip Vortices, OLEs/Rolls, Methane Studies**
08/21/18 1302 - 1643	08/21-22/18 2102 - 0043	
09/04/18 1615 - 1653	09/05/18 0015 - 0053	Wing Tip Vortices over land. Small amounts of data.
09/05/18 1118 - 1414	09/05/18 1818 - 2214	Wing Tip Vortices over water. Small amounts of data.
09/06/18 1118 - 1337	09/06/18 1918 - 2137	Wing Tip Vortices over water. Small amounts of data.
09/07/18 1243 - 1626	09/07-8/18 2043 - 0026	Wing Tip Vortices, Rolls over water.
09/08/18 1111 - 1953	09/08-09/18 1911 - 0353	Rolls over land and water.
09/10/18 1110 - 1550	09/10/18 1910 - 2350	Wing Tip Vortices, Land. No Nav Data.
09/12/18 1109 - 1516	09/12/18 1909 - 2316	Wing Tip Vortices, Land. No Nav Data.
09/13/18 1127 - 1513	09/13/18 1927 - 2313	Wing Tip Vortices, Land. No Nav Data.
09/14/18	09/14/18	Wing Tip Vortices, Land. No Nav Data.

1306 - 1457	2106 - 2257	
09/17/18 0856 - 1433	09/17/18 1656 - 2233	Methane over land.
09/18/18 1344 - 1614	09/18-19/18 2144 - 0014	Rolls over water.
09/19/18 1117 - 1354	09/19/18 1917 - 2154	Methane over land.
09/20/18 1048 - 1532	09/20/18 1848 - 2332	Methane. Rolls over water.
09/21/18 1105 - 1400	09/21/18 1905 - 2200	Rolls over water.
09/24/18 1407 - 1619	09/24-25/18 2207 – 0019	Methane over land.
09/26/18 1411 - 1615	09/26-27/18 2211 - 00615	
09/27/18 1035 - 1301	09/27/18 1835 - 2101	Methane over land.
P3DWL	**Pacific Ocean**	**Hawaii Hurr. Lane, needs 1/2 day correction**
07/30/18 0906 – 1140 1511 - 1652	07/30/18 1906 – 2140 07/31/18 0111 - 0252	Florida flight for lidar attitude corrections.
08/18/18 2030 - 2358	08/19/18 0630 - 0958	
08/19/18 8/18 2030-2138 08/19 0000 - 0520	8/19 0630 – 0738 08/19 1000 - 1520	NOAA 49RF (N49) will fly a NHC-tasked Synoptic Surveillance missions around Hurricane Lane.
08/20/18 8/18 2140 - 2358 8/20 1047 - 2040	08/19/18 0740 – 0958 8/20-21/18 2047 - 0640	The plan for this EMC-tasked mission was to fly a butterfly pattern with three passes through the center, but to first drop an AXBT at the 24-h forecast location to sample changes in the ocean as the hurricane passed. The mission was an EMC-tasked mission.
08/21/18 8/20 0014 – 0855 8/20 1718 – 2309	08/20/18 1014 - 1855 08/21/18 0318 - 0909	The plan for this EMC-tasked mission was to fly a butterfly pattern with three passes through the center, but to first drop an AXBT at the 24-h forecast location to sample changes in the ocean as the hurricane passed. Further modules, such as one for stepped-frequency microwave radiometer circles, and for a gravity-wave module, were at the discretion of time and crew.
08/22/18 8/20 2313 – 2358 8/21 0003 - 0455	08/21/18 0913 – 0958 08/21/18 1003 - 1455	NOAA 42 will fly a rotated pattern for an EMC-tasked mission into Major Hurricane Lane in the Central Pacific. Additional research goals of this mission are to collect Doppler Wind Lidar (DWL) data and high-incidence angle SFMR data. The flight will be conducted at 8,000 ft pressure altitude, which is the optimal altitude for the Wide-Swath Radar Altimeter (WSRA) and to remain unpressurized for internal AXBT drops

DAWN	Pacific Ocean	Aeolus Cal/Val
April 17 - 18	04/17 233359 – 04/18 072213	eastern Pacific Ocean
April 23	000344 - 064521	eastern Pacific Ocean
April 25 - 36	04/25 192214 – 04/26 051314	eastern and central Pacific Ocean
April 27 - 28	04/27 173432 – 04/28 030553	eastern and central Pacific Ocean
April 29 - 30	04/29 204146 – 04/30 041034	eastern Pacific Ocean

Red indicates DWL data that has not been stored to our NAS database.