AVAPS Dropsonde Report for ACTIVATE
Winter and Summer Campaign 2020
Updated R1: 20230131

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Any questions, comments, or concerns with the sonde data can be directed to the PI and/or the DM. Users are strongly encouraged to consult with the PI and/or DM for data usage. More information about individual sondes is available in the header of each data file.

For R1 Data:

All soundings were reprocessed from raw data. The details of this processing are described in

Vömel et al. (2023): Dropsonde observations during the Aerosol Cloud meTeorology Interactions oVer the western ATlantic Experiment, Scientific Data, submitted.

Most changes compared to release R0 are minor and it is not expected that studies are required to use the updated data set.
Release R1 contains more data compared to the previous releases.
New users of the ACTIVATE dropsonde data should use release R1.

The most significant difference to the earlier release R0 are:

* All soundings processed with the same ASPEN version (3.4.7)

* Almost all profiles contain more data closer to the aircraft (on average 700 m more data).

* Twenty three soundings were added to the archive, which had not been included in the initial data release. Test flight soundings were also included in this release.

* Vertical wind speed were bias adjusted and noise to due pressure sensor removed.
  The vertical wind data field is called "Wwind" instead of "Ascent".
  Studies using vertical winds must use the vertical wind speed estimate of release R1.
  See Vömel et al. (2023) for details on the vertical wind calculations.

* The precision of latitude and longitude was increased from 2 decimals to 6 decimals.

* All parameters may see insignificant changes in values due to updates in smoothing and filtering.

* Data files contain a few additional metadata fields, in particular launch latitude, longitude, and altitude.

* For a few soundings the launch time and launch lat/lon was updated.
  The correct launch time is part of the metadata and may be inconsistent with the file name (see Vömel et al. for additional information).
  The date stamps in the filename between release R0 and release R1 are consistent.

* Four soundings have significant changes in the reported pressure after a missing offset correction was applied

Overview

Aerosol Cloud meTeorology Interactions oVer the western ATlantic Experiment (ACTIVATE) conducted two deployments in 2020, the first deployment conducted from February-March 2020 (Spring) and the second deployed from August-September 2020 (Summer). The Airborne Vertical Atmospheric Profiling System (AVAPS) was mounted on the NASA King Air (UC12) and utilized the NCAR NRD41 mini sondes for the duration of the mission. A total of 167 sondes were launched for both deployments, with 59 sondes launched in the winter deployment and 108 launched in the summer deployment. Sonde release strategies were determined on a flight by flight basis. There were three commonly conducted flight tracks; a “statistical survey” (out to a certain point and back), a “process study” (a circle of sonde launches around a determined point), and a “satellite overpass” (flying under the satellite track, dropping sondes along the path). Table 1 contains information about each flight including the number of sondes launched, the transit path taken, and the approximate direction the sondes were launched after transit.

Table 1. Summary of Sondes for the ACTIVATE, Spring and Summer 2020 Campaign

Flight #	Day (YYYYMMDD)	# Sondes	ZIBUT or OXANA	Direction after Corridor	Flight Type*
RF01	20200214	4	ZIBUT	NE	SS
RF02	20200215	4	OXANA	SE	SS

RF03	20200217	4	Other	NE	SS
RF09	20200227	2	ZIBUT	S	SS
RF10	20200228	11	OXANA	SE	PS
RF11	20200228	2	OXANA	NE	SS
RF12	20200229	2	ZIBUT	NE	SS
RF13	20200301	11	Other	NE	PS
RF14	20200301	2	Other	SE	SS
RF15	20200302	2	OXANA	S	SS
RF16	20200306	3	OXANA	S	SS
RF17	20200308	2	OXANA	SE	SS
RF18	20200308	2	OXANA	SE	SS
RF19	20200309	2	OXANA	SW	SS
RF20	20200311	2	ZIBUT	E	SS
RF21	20200312	2	ZIBUT	E	SS,SO
RF22	20200312	2	OXANA	S	SS
RF23	20200813	5	ZIBUT	S	SS
RF24	20200817	6	ZIBUT	N	SS
RF25	20200820	5	ZIBUT	N	SS
RF26	20200821	5	ZIBUT	NE	SS
RF27	20200825	6	ZIBUT	E	SS
RF28	20200826	6	OXANA	E	SS
RF29	20200828	8	ZIBUT	NW	SO
RF30	20200902	6	OXANA	SW	SS
RF31	20200903	6	OXANA	S	SS
RF32	20200910	4	ZIBUT	S	SS
RF33	20200911	6	ZIBUT	S	SS,SO
RF34	20200915	6	ZIBUT	NE	SS
RF36	20200921	6	ZIBUT	NE	SS
RF37	20200922	7	OXANA	SW	SS
RF38	20200923	8	ZIBUT	E	SO
RF39	20200929	13	ZIBUT	E	PS
RF40	20200930	5	ZIBUT	N	SS

*Flight Type: SS, statistical survey; PS, Process study; SO, satellite overpass

Sonde Performance

Overall, sonde performance was optimal for the duration of both campaigns. Table 1 highlights the overall performance parameters for the sondes during both campaigns. The spring deployment did not release as many sondes as initially expected due to aircraft maintenance at

the beginning of the campaign and also the coronavirus pandemic shutting down operations in early March 2020. For sonde performance of each individual sonde, please refer to the header for each sonde data file.

Table 1. Overview of Sondes for ACTIVATE, Spring and Summer 2020 Campaign

	Spring Deployment	Summer Deployment
Total Number of Sondes	59	108
Fast Falls	0	1
Ascent Issues	0	2
Time Sync Issues	6	2
Late Winds	0	1

Fast Fall

During the second deployment, only one sonde failed to deploy the parachute, creating the fast fall scenario. No meaningful data could be recovered from the sonde and is not part of the archive. All other sondes from both campaigns had successful parachute deployments and transferred data down to the surface. Table 2 has the information for the fast fall sonde and the information can also be seen in the table displaying all sondes for both campaigns.

Table 2. Fast Fall Sonde Information

Sonde #	Flight #	Sonde ID	Release Date (YYMMDD)	Note
129	RF036	194220132	200921	Fast Fall

Ascent Calculation Error

During the second deployment, ascent data for the sondes (variable name: Ascent) was added to the archived data. Two of the sondes contained incorrect ascent data and the ascent data for those sondes was removed from the archived data until it could be further examined. Table 3 contains the sondes in question. All other data outputted by the sondes in question should be correct and is present in the archive. These sondes should also be marked in the header. Please contact the PI and/or the DM with any questions regarding these sondes.

Table 3. Ascent Calculation Error Sonde Information

Sonde #	Flight #	Sonde ID	Flight Date (YYMMDD)	Time (HHMMSS.SS)	Lat	Lon	Alt

135	RF037	190630325	200922	181332.95	35.240402	-74.899031	8717.50
161	RF039	194320252	200929	162326.10	37.682392	-70.122100	8962.39

Time Sync Error

There were times in both campaigns where the computer clock and the time in the AVAPS software were not in sync. When this happened, sondes would not transmit the sonde data properly to a format that was easy to read by the QC program (ASPEN). When this occurred, sonde data had to be recovered using the decoded binary files. This work was completed by Holger Vömel at NCAR. This created uncertainty in the launch time for these sondes. Table 4 includes the sondes that suffered from the time sync issue. The issue was prevented by ensuring that the computer time and the time in the AVAPS program were synced.

Table 4. Time Sync Error Sonde Information

Sonde #	Flight #	Sonde ID	Flight Date (YYMMDD)	Time (HHMMSS.SS)	Lat	Lon	Alt
1	RF001	194410131	200214	172930.75	36.942004	-74.082881	6146.44
2	RF001	194240099	200214	174742.51	37.433839	-72.399397	5401.94
3	RF001	194240270	200214	182629.98	39.042251	-71.530127	6052.52
4	RF001	194220118	200215	192529.30	36.938821	-73.051771	6138.56
13	RF009	190630336	200227	183434.25	36.873949	-74.300869	8090.60
14	RF009	190530258	200227	195633.25	34.783121	-73.445979	8582.72
113	RF032	194320976	200910	174711.00	36.938140	-72.896100	8108.1
114	RF032	194230785	200910	182907.00	34.673940	-73.396670	9418.6

Late Winds

There was only one occurrence of a sonde taking longer than a minute after launch to transmit winds data. This “Late Winds” sonde is noted in Table 5. It did take time for all the sondes to equilibrate after launch since not all aircraft data was available to the AVAPS system at launch.

Table 5. Late Winds Sonde Information

Sonde #	Flight #	Sonde ID	Flight Date (YYMMDD)	Time (HHMMSS.SS)	Lat	Lon	Alt
99	RF029	193871019	200828	190931.18	38.078036	-71.943409	8963.41

Table 6. List of all Sondes for the ACTIVATE Spring and Summer 2020 Campaign

Dropsonde Launch Log									
Line	Flight	Sonde ID	Date	Time	Latitude	Longitude	Altitude	Status	Notes

#			YYMMDD	HHMMSS.SS	deg	deg	m, GPS		
1	RF001	194410131	200214	172930.75	36.942004	-74.082881	6146.44	Good Drop	Computer time error resulted in logging errors. Data needs to be recovered from the binary data files
2	RF001	194240099	200214	174742.51	37.433839	-72.399397	5401.94	Good Drop	Computer time error resulted in logging errors. Data needs to be recovered from the binary data files
3	RF001	194240270	200214	182629.98	39.042251	-71.530127	6052.52	Good Drop	Computer time error resulted in logging errors. Data needs to be recovered from the binary data files
4	RF001	194220118	200215	192529.30	36.938821	-73.051771	6138.56	Good Drop	Computer time error resulted in logging errors. Data needs to be recovered from the binary data files
5	RF002	194330214	200215	172514.00	35.209065	-74.818000	8726.25	Good Drop	none
6	RF002	194320278	200215	175135.00	33.830100	-73.149066	8728.70	Good Drop	none
7	RF002	194340747	200215	182313.00	33.426938	-72.546078	8743.75	Good Drop	none
8	RF002	190530082	200215	185506.00	34.576212	-74.022673	8737.54	Good Drop	none
9	RF003	194240268	200217	164400.00	38.200069	-74.332388	7624.50	Good Drop	none
10	RF003	190530266	200217	170544.00	38.067999	-72.757355	7607.85	Good Drop	none
11	RF003	194240288	200217	173058.00	39.112871	-71.647040	7579.33	Good Drop	none
12	RF003	190530270	200217	181118.00	38.488727	-73.575486	7001.51	Good Drop	none
13	RF009	190630336	200227	183434.25	36.873949	-74.300869	8090.60	Good Drop	Computer time error resulted in logging errors. Data needs to be recovered from the binary data files
14	RF009	190530258	200227	195633.25	34.783121	-73.445979	8582.72	Good Drop	Computer time error resulted in logging errors. Data needs to be recovered from the binary data files
15	RF010	194220124	200228	154012.09	33.117870	-73.342431	8574.16	Good Drop	none
16	RF010	194220133	200228	154933.11	33.112936	-73.685750	8547.14	Good Drop	none
17	RF010	194220140	200228	155618.12	33.295539	-73.974415	8516.27	Good Drop	none
18	RF010	194150640	200228	160108.13	33.588439	-74.082545	8499.54	Good Drop	none
19	RF010	194220127	200228	160452.14	33.881246	-73.962830	8488.08	Good Drop	none
20	RF010	194220122	200228	160827.15	34.066735	-73.648631	8475.86	Good Drop	none
21	RF010	194150637	200228	161503.16	34.048003	-73.292369	8481.23	Good Drop	none

22	RF010	194220125	200228	161951.18	33.858634	-72.996074	8503.32	Good Drop	none
23	RF010	194220142	200228	162633.19	33.567444	-72.896352	8521.25	Good Drop	none
24	RF010	194230777	200228	163532.21	33.278942	-73.019039	8546.87	Good Drop	none
25	RF010	194220119	200228	164526.23	33.107420	-73.317160	8533.18	Good Drop	none
26	RF011	194220141	200228	204707.45	33.630435	-73.289959	8512.33	Good Drop	none
27	RF011	194210843	200228	210048.48	33.927660	-71.881984	8528.30	Good Drop	none
28	RF012	194320977	200229	151131.15	37.692525	-73.272132	7862.86	Good Drop	none
29	RF012	190640440	200229	154641.23	39.449549	-70.425578	7831.78	Good Drop	none
30	RF013	194240169	200301	145120.90	38.590588	-71.438024	8222.20	Good Drop	none
31	RF013	194240263	200301	145609.91	38.383104	-71.177061	8250.67	Good Drop	none
32	RF013	194240907	200301	150103.92	38.077175	-71.131382	8246.95	Good Drop	none
33	RF013	194340749	200301	150620.93	37.811032	-71.318802	8255.43	Good Drop	none
34	RF013	194240171	200301	151212.95	37.678976	-71.668964	8275.48	Good Drop	none
35	RF013	190450208	200301	151857.96	37.732603	-72.048626	8282.30	Good Drop	none
36	RF013	194340746	200301	152628.98	37.953819	-72.316807	8281.17	Good Drop	none
37	RF013	190530269	200301	153309.99	38.258193	-72.371722	8272.52	Good Drop	none
38	RF013	194240256	200301	153834.00	38.528691	-72.186624	8257.76	Good Drop	none
39	RF013	194241013	200301	154321.02	38.664828	-71.831922	8252.97	Good Drop	none
40	RF013	190530255	200301	154742.02	38.606560	-71.447138	8239.86	Good Drop	none
41	RF014	190640104	200301	194329.89	38.107219	-71.633499	8042.80	Good Drop	none
42	RF014	194330217	200301	200358.94	37.077012	-69.652688	8005.26	Good Drop	none
43	RF015	194150639	200302	175153.87	34.415474	-73.826507	8538.42	Good Drop	none
44	RF015	194230776	200302	181514.92	32.741741	-73.245176	8575.19	Good Drop	none
45	RF016	194210861	200306	190211.56	35.076381	-74.649585	8482.08	Good Drop	none
46	RF016	194240081	200306	194541.65	33.584297	-74.474065	8577.09	Good Drop	none
47	RF016	190530277	200306	204057.78	34.850275	-74.364094	8470.45	Good Drop	none
48	RF017	194210809	200308	150840.14	34.334704	-73.722104	8643.34	Good Drop	none
49	RF017	194240066	200308	152740.18	33.301435	-72.386514	8637.20	Good Drop	none
50	RF018	194210807	200308	195238.00	33.011630	-72.021188	8659.81	Good Drop	none
51	RF018	194220134	200308	210735.17	34.922875	-74.455446	8687.25	Good Drop	none

52	RF019	194240992	200309	173527.18	33.945289	-73.990285	8443.47	Good Drop	none
53	RF019	194240068	200309	181540.28	32.863684	-75.503399	8487.55	Good Drop	none
54	RF020	194320897	200311	134234.40	36.866574	-72.369376	8621.52	Good Drop	none
55	RF020	194240267	200311	143008.51	36.886466	-72.085464	8601.10	Good Drop	none
56	RF021	194330276	200312	152902.01	37.858140	-69.633559	7931.50	Good Drop	none
57	RF021	194220126	200312	163934.17	36.936726	-73.639598	7422.24	Good Drop	none
58	RF022	194320889	200312	200836.23	33.833199	-74.151806	8378.48	Good Drop	none
59	RF022	194320893	200312	204608.32	32.607751	-75.849027	8430.25	Good Drop	none
60	RF023	194240994	200813	143247.48	36.930829	-74.223349	8426.82	Good Drop	none
61	RF023	194240991	200813	150719.56	36.192522	-72.387168	9029.80	Good Drop	none
62	RF023	194230786	200813	153936.63	34.319668	-71.796349	9029.13	Good Drop	none
63	RF023	194320891	200813	160602.69	35.234357	-72.099707	9026.85	Good Drop	none
64	RF023	194140331	200813	163527.75	36.843220	-72.945463	9026.73	Good Drop	none
65	RF024	194220120	200817	150506.33	36.912503	-74.297866	7989.38	Good Drop	none
66	RF024	194230784	200817	153316.39	36.670329	-71.852445	7996.49	Good Drop	none
67	RF024	194210848	200817	160917.47	38.735931	-72.207141	8925.14	Good Drop	none
68	RF024	194250915	200817	163323.53	37.404650	-72.008325	8950.70	Good Drop	none
69	RF024	194220131	200817	165858.59	36.717508	-72.657049	8951.75	Good Drop	none
70	RF024	190630794	200817	174059.69	36.928660	-75.496262	8936.36	Good Drop	none
71	RF025	194230778	200820	143517.65	36.987736	-74.082552	8234.28	Good Drop	none
72	RF025	194210845	200820	145736.70	37.476802	-72.468814	8922.94	Good Drop	none
73	RF025	194150638	200820	153459.78	39.514330	-72.493942	8878.70	Good Drop	none
74	RF025	194220136	200820	160610.85	38.418801	-72.146160	8937.65	Good Drop	none
75	RF025	194210810	200820	163501.91	37.147899	-73.077651	8944.02	Good Drop	none
76	RF026	194210844	200821	142900.65	36.929133	-74.425025	8111.07	Good Drop	none
77	RF026	194210844	200821	142900.65	36.929133	-74.425025	8111.07	Good Drop	none
78	RF026	194220138	200821	152827.78	38.291088	-69.532326	8953.21	Good Drop	none
79	RF026	194220128	200821	155834.84	37.661738	-71.023787	8961.48	Good Drop	none
80	RF026	194220135	200821	163917.93	36.937296	-73.488178	8957.21	Good Drop	none
81	RF027	190630333	200825	143113.26	36.929294	-74.410269	8201.03	Good Drop	none

82	RF027	194210860	200825	145730.32	37.133692	-72.039556	8652.64	Good Drop	none
83	RF027	194220137	200825	152534.38	37.790982	-69.708367	8632.20	Good Drop	none
84	RF027	194140875	200825	155939.45	37.602419	-70.949176	8951.06	Good Drop	none
85	RF027	194210842	200825	164000.54	36.938903	-73.163522	8966.09	Good Drop	none
86	RF027	194210791	200825	172115.63	36.995979	-75.702061	8979.99	Good Drop	none
87	RF028	194240272	200826	143802.29	35.089251	-74.664629	8982.37	Good Drop	none
88	RF028	194220123	200826	145900.34	34.224534	-73.214104	8997.06	Good Drop	none
89	RF028	193940255	200826	151830.38	33.943799	-71.926466	8985.48	Good Drop	none
90	RF028	194140333	200826	153235.41	34.397288	-72.406967	8979.45	Good Drop	none
91	RF028	194240091	200826	160958.49	34.560113	-74.002282	8989.24	Good Drop	none
92	RF028	194240275	200826	163542.54	35.515822	-75.215422	9007.63	Good Drop	none
93	RF029	194320890	200828	175213.99	36.713653	-70.249817	8651.12	Good Drop	none
94	RF029	194140509	200828	180506.02	37.269921	-70.479078	8677.38	Good Drop	none
95	RF029	190630814	200828	181401.05	37.755522	-70.624904	8973.62	Good Drop	none
96	RF029	194340757	200828	182532.07	38.397163	-70.818789	8974.33	Good Drop	none
97	RF029	194330222	200828	183236.09	38.784976	-70.937311	8951.51	Good Drop	none
98	RF029	194240083	200828	184301.12	39.365238	-71.108926	8948.99	Good Drop	none
99	RF029	193871019	200828	190931.18	38.078036	-71.943409	8963.41	Good Drop	Late Winds
100	RF029	190630363	200828	194839.27	36.934760	-73.912144	8994.20	Good Drop	none
101	RF030	194240093	200902	160431.79	34.926305	-74.459762	9088.32	Good Drop	none
102	RF030	194250502	200902	162800.84	33.850991	-74.043409	9091.06	Good Drop	none
103	RF030	194240101	200902	170005.91	32.488826	-75.583097	9096.59	Good Drop	none
104	RF030	194240173	200902	172328.96	33.476017	-74.454345	9088.78	Good Drop	none
105	RF030	194340761	200902	174628.01	34.571026	-74.015866	9089.13	Good Drop	none
106	RF030	194140470	200902	181058.06	35.570821	-75.279623	9075.87	Good Drop	none
107	RF031	194240074	200903	152042.15	35.003385	-74.557557	9078.91	Good Drop	none
108	RF031	190630816	200903	154146.20	34.008936	-73.758342	9072.94	Good Drop	none
109	RF031	190630736	200903	161133.27	32.417406	-73.842062	9083.98	Good Drop	none
110	RF031	194240998	200903	162959.31	33.502657	-73.754294	9075.24	Good Drop	none
111	RF031	194340760	200903	164839.35	34.516653	-73.947953	9074.34	Good Drop	none

112	RF031	194140872	200903	171503.41	35.541870	-75.241225	9065.18	Good Drop	none
113	RF032	194320976	200910	174711.00	36.938140	-72.896100	8108.1	Time Issue	Computer time error resulted in logging errors. Data needs to be recovered from the binary data files
114	RF032	194230785	200910	182907.00	34.673940	-73.396670	9418.6	Time Issue	Computer time error resulted in logging errors. Data needs to be recovered from the binary data files
115	RF032	194140495	200910	184940.27	35.815614	-73.018515	9085.03	Good Drop	none
116	RF032	194220574	200910	192253.35	36.936495	-73.759801	9112.55	Good Drop	none
117	RF033	194240095	200911	144913.91	36.936981	-73.601631	8489.25	Good Drop	none
118	RF033	190630822	200911	151618.97	36.820607	-71.545154	8720.21	Good Drop	none
119	RF033	194210869	200911	153708.01	36.773010	-71.194597	8715.78	Good Drop	none
120	RF033	194320975	200911	154959.04	36.013367	-71.404169	8795.56	Good Drop	none
121	RF033	194230775	200911	160409.07	35.224405	-71.630946	9046.88	Good Drop	none
122	RF033	194140496	200911	162438.12	36.195503	-72.236505	9043.66	Good Drop	none
123	RF034	190630362	200915	163019.04	37.180694	-73.995128	8862.98	Good Drop	none
124	RF034	194140560	200915	165542.10	37.326898	-72.328071	8947.45	Good Drop	none
125	RF034	194240284	200915	173213.17	39.199840	-70.641526	8918.04	Good Drop	none
126	RF034	194220596	200915	180150.24	38.185472	-71.570376	8938.56	Good Drop	none
127	RF034	194140860	200915	183117.30	36.939505	-72.990994	8961.30	Good Drop	none
128	RF034	194320894	200915	190407.37	36.955337	-75.459247	8966.00	Good Drop	none
129	RF036	194220132	200921					Fast Fall	none
130	RF036	190640133	200921	165807.29	37.102762	-72.522615	8502.74	Good Drop	none
131	RF036	194230779	200921	175158.40	39.170948	-70.668620	8464.91	Good Drop	none
132	RF036	190630815	200921	181835.45	38.282057	-71.482948	8799.93	Good Drop	none
133	RF036	193940253	200921	184806.51	36.938896	-73.047915	8816.82	Good Drop	none
134	RF036	194240269	200921	191944.57	36.946689	-75.404996	8876.55	Good Drop	none
135	RF037	190630325	200922	181332.95	35.240402	-74.899031	8717.50	Good Drop	Possible Ascent Calc issue
136	RF037	194320266	200922	183631.00	34.071351	-74.296798	8872.13	Good Drop	none
137	RF037	194220143	200922	190912.07	32.715947	-75.896924	8924.74	Good Drop	none
138	RF037	194240264	200922	192705.11	32.180033	-76.764408	8947.16	Good Drop	none

139	RF037	190630330	200922	200201.19	33.545338	-74.728843	8886.99	Good Drop	none
140	RF037	194240094	200922	202804.24	34.746114	-74.295981	8867.37	Good Drop	none
141	RF037	190630761	200922	204644.28	35.409131	-75.107027	8877.05	Good Drop	none
142	RF038	190640194	200923	175102.79	36.131101	-70.818041	8786.18	Good Drop	none
143	RF038	194240262	200923	180617.83	35.652081	-69.499034	8794.29	Good Drop	none
144	RF038	190630811	200923	181537.85	36.135155	-69.651875	8776.61	Good Drop	none
145	RF038	190640107	200923	182733.88	36.781508	-69.840650	8747.40	Good Drop	none
146	RF038	194220121	200923	183427.89	37.153136	-69.950806	8733.73	Good Drop	none
147	RF038	194320892	200923	184313.91	37.592784	-70.133064	8742.05	Good Drop	none
148	RF038	194240274	200923	185827.94	37.321740	-71.210918	8754.00	Good Drop	none
149	RF038	190520103	200923	192823.00	36.939378	-73.281334	8810.74	Good Drop	none
150	RF039	190630338	200929	152341.97	37.787513	-70.593048	8957.29	Good Drop	none
151	RF039	190640105	200929	152709.98	37.639067	-70.476954	8960.06	Good Drop	none
152	RF039	180520531	200929	153849.00	37.687896	-70.144642	8964.59	Good Drop	none
153	RF039	190630379	200929	154230.01	37.793809	-69.847131	8962.08	Good Drop	none
154	RF039	190640118	200929	154525.02	37.915013	-69.930953	8961.38	Good Drop	none
155	RF039	190630382	200929	155458.04	37.474363	-70.286510	8968.51	Good Drop	none
156	RF039	180520535	200929	155739.04	37.429612	-70.115976	8961.09	Good Drop	none
157	RF039	190510766	200929	160608.06	37.925068	-70.196838	8968.27	Good Drop	none
158	RF039	190630329	200929	160845.07	37.883313	-70.310672	8951.98	Good Drop	none
159	RF039	190440797	200929	161620.08	37.519288	-69.905382	8959.67	Good Drop	none
160	RF039	190530281	200929	161829.09	37.605113	-69.814235	8960.93	Good Drop	none
161	RF039	194320252	200929	162326.10	37.682392	-70.122100	8962.39	Good Drop	Possible Ascent Calc Issue
162	RF039	190630369	200929	162801.11	37.709038	-70.439895	8968.79	Good Drop	none
163	RF040	190630339	200930	163541.29	36.933722	-74.116907	7771.96	Good Drop	none
164	RF040	190630384	200930	165403.33	37.135697	-72.622537	8921.37	Good Drop	none
165	RF040	190530083	200930	172149.39	39.357618	-72.151514	8845.86	Good Drop	none
166	RF040	190530262	200930	180106.48	38.083614	-72.411090	8891.71	Good Drop	none
167	RF040	190510764	200930	184517.57	36.938127	-73.423532	8923.01	Good Drop	none