



AVAPS Dropsonde Report for ACTIVATE
Spring and Summer Campaign 2021
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

This dropsonde reports encompasses the flights for the second year of the Aerosol Cloud meTeorology Interactions oVer the western ATlantic Experiment (ACTIVATE) campaign. For information on the first year of deployment, please refer to the ACTIVATE dropsonde report for 2021 available at <https://www-air.larc.nasa.gov/cgi-bin/ArcView/activate.2021>. ACTIVATE conducted two deployments in 2021, the first deployment conducted from February-April 2021 (Spring) and the second deployed from May-June 2021 (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 251 sondes were launched for both deployments, with 100 sondes launched in the winter deployment and 151 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). There was also a flight track that would exit out one corridor, fly in a triangle or “loop”



and enter the corridor (either same or different), creating a loop to study cold air outbreak conditions (For this document, the track is referred to as a “Cold Air Outbreak Loop” but there is probably another name used by the science team). When not in Cold Air Outbreak conditions, this flight pattern is referred to as “loop”. 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. Please note that since this is the second year of the mission, the Flight Number continues from the previous mission. Since the UC12 was not flying for some of the early flights due to maintenance issues, the flight number starts at RF 44 instead of the expected RF 41. More information about the flight strategies can be found in the flight reports on the archive.

Table 1. Summary of Sondes for the ACTIVATE, Spring and Summer 2021 Campaign

Flight #	Day (YYYYMMDD)	# Sondes	ZIBUT or OXANA	Direction after Corridor	Flight Type*
RF44	20210203	5	OXANA	S	SS
RF45	20210210	2	OXANA	SE	SS
RF46	20210220	9	ZIBUT	NW	CAOL
RF47	20210221	10	OXANA	N	CAOL
RF48	20210304	6	ZIBUT	N	CAOL
RF49	20210305	5	ZIBUT	E	SS
RF50	20210305	5	Other (north corridor)	E	CAOL
RF51	20210308	4	OXANA	S	SS
RF52	20210309	4	OXANA	SE	SS
RF53	20210312	5	OXANA	SE	SS
RF54	20210312	5	OXANA	SE	SS
RF55	20210320	4	ZIBUT	SE	SS
RF56	20210323	5	ZIBUT	SE	SS
RF57	20210329	4	Other (north corridor)	SE	SO
RF58	20210330	4	OXANA	SE	SS
RF59	20210330	5	ZIBUT	SE	SO
RF60	20210402	9	OXANA	SE	SS
RF61	20210402	9	OXANA	SE	SS
RF62	20210513	4	ZIBUT	E	SS
RF63	20210514	4	ZIBUT	E	SS
RF64	20210514	4	ZIBUT	SE	SS
RF65	20210515	4	OXANA	S	SS
RF66	20210518	4	OXANA	S	SS
RF67	20210519	5	OXANA	SE	SS
RF68	20210519	4	OXANA	S	SS
RF69	20210520	4	ZIBUT	SE	SS
RF70	20210521	5	ZIBUT	E	SS
RF71	20210521	4	ZIBUT	NE	SS



RF72	20210525	4	OXANA	SE	SS
RF73	20210526	4	ZIBUT	E	SS
RF74	20210526	4	OXANA	S	SS
RF75	20210601	4	OXANA	SE	SS
RF76	20210602	4	OXANA	SW	SS
RF77	20210602	12	OXANA	SW	PS
RF78	20210605	4	ZIBUT	NE	SS
RF79	20210607	4	ZIBUT	E	SS
RF80	20210607	14	ZIBUT	SW	PS
RF81	20210608	4	ZIBUT	E	SS
RF82	20210608	4	ZIBUT	E	SS
RF83	20210615	4	ZIBUT	NE	SS
RF84	20210616	5	Other (north corridor)	SE	Loop
RF85	20210617	4	ZIBUT	S	SS
RF86	20210622	4	ZIBUT	E	SS
RF87	20210624	4	ZIBUT	NE	SS
RF88	20210626	4	OXANA	S	SS
RF89	20210626	5	OXANA	S	SS?
RF90	20210628	4	ZIBUT	E	SS
RF91	20210629	4	ZIBUT	E	SS
RF92	20210630	4	ZIBUT	E	SS
RF93	20210630	5	OXANA	NE	Loop

*Flight Type: SS, statistical survey; PS, Process study; SO, satellite overpass; CAOL, Cold Air Outbreak Loop

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. 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 2021 Campaign

	Spring Deployment	Summer Deployment
Total Number of Sondes	100	151
Fast Falls	1	2
Ascent Issues	0	1
Time Sync Issues	0	5
Lost Telemetry	1	2



Fast Fall

There was a total of three occurrences during the two deployments where the sonde encountered a “fast fall” scenario, one in the Spring and two in the Summer. Fast Falls occur when a sonde fails to deploy the parachute. No meaningful data could be recovered from the sondes and they are 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
183	RF046	190530084	210220	Fast Fall
292	RF067		210519	Fast Fall
405	RF090	194250504	210628	Fast Fall

Ascent Calculation Error

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

Table 3. Ascent Calculation Error Sonde Information

Sonde #	Flight #	Sonde ID	Flight Date (YYMMDD)	Time (HHMMSS.SS)	Lat	Lon	Alt
319	RF073	194240045	210526	143837.87	36.975442	-71.265958	8963.12

Time Sync Error

There were times in the Spring deployment 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
379	RF084	194320899	210616	151626.31	38.743931	-74.088593	8641.59
380	RF084	171350514	210616	160337.42	36.996609	-70.962036	8838.50
381	RF084	194240048	210616	160543.42	36.993141	-71.076103	8840.71
382	RF084	194220575	210616	162604.47	36.960594	-72.105019	9080.02
383	RF084	194240254	210616	173147.63	36.938171	-75.649841	8770.56
379	RF084	194320899	210616	151626.31	38.743931	-74.088593	8641.59
380	RF084	171350514	210616	160337.42	36.996609	-70.962036	8838.50
381	RF084	194240048	210616	160543.42	36.993141	-71.076103	8840.71

Lost Telemetry

There were three sondes that lost telemetry after being dropped for unknown reasons. These sondes are not on the archive. These “Lost Telemetry” sondes are noted in Table 5.

Table 5. Lost Telemetry Sonde Information

Sonde #	Flight #	Sonde ID	Flight Date (YYMMDD)	Time (HHMMSS.SS)	Lat	Lon	Alt
245	RF058	190640122	210330				
273	RF062	194240286	210513	190734.05	36.078222	-71.850130	7428.16
352	RF079	190520108	210607	153655.67	36.933433	-75.317679	7076.96



Table 6. List of all Sondes for the ACTIVATE Spring and Summer 2021 Campaign

Sonde #	Flight #	Sonde ID	Date (YYMMDD)	Time (HHMMSS.SS)	Lat	Long	Alt (m)	Status	Notes
171	RF044	194240266	210203	145743.40	34.740008	-74.220367	8509.25	Good Drop	none
172	RF044	190520644	210203	152202.45	33.511542	-72.863790	8537.16	Good Drop	none
173	RF044	190520724	210203	153903.49	32.701486	-72.653514	8562.00	Good Drop	none
174	RF044	190640113	210203	160659.55	34.133136	-73.382530	8534.73	Good Drop	none
175	RF044	194320268	210203	164407.63	35.479730	-75.155976	8506.90	Good Drop	none
176	RF045	190630367	210210	161438.87	33.640177	-72.819039	8461.49	Good Drop	none
177	RF045	190630326	210210	174535.07	35.200434	-74.805056	8720.86	Good Drop	none
178	RF046	190630327	210220	152133.75	36.935080	-73.854944	8351.53	Good Drop	none
179	RF046	190630372	210220	153947.80	36.972769	-71.794331	8466.64	Good Drop	none
180	RF046	190630370	210220	154836.82	37.098037	-70.815081	8488.87	Good Drop	none
181	RF046	190530265	210220	160526.85	37.482178	-71.494370	8438.10	Good Drop	none
182	RF046	190530084	210220	162340.90	37.883013	-72.360507	8366.49	Good Drop	none
183	RF046	190530084	210220	164028.00			8366.49	Fast Fall	Unknown cause, lost telemetry data about 1 minute in
184	RF046	190630371	210220	164358.94	38.330207	-73.263280	8330.42	Good Drop	none
185	RF046	190630328	210220	170000.98	38.711468	-74.018305	8303.98	Good Drop	none
186	RF046	190530279	210220	171018.00	38.954436	-74.509099	8290.89	Good Drop	none
187	RF047	190510763	210221	145939.48	35.421583	-75.087993	8325.49	Good Drop	none
188	RF047	194241012	210221	151502.51	34.489032	-73.916063	8358.02	Good Drop	none
189	RF047	190450055	210221	152808.54	34.075258	-72.654754	8384.74	Good Drop	none
190	RF047	190630376	210221	153255.56	34.129936	-72.321586	8370.82	Good Drop	none
191	RF047	190630450	210221	154740.59	34.860758	-72.406324	8320.59	Good Drop	none
192	RF047	190640157	210221	160604.63	35.639849	-72.501565	8595.96	Good Drop	none
193	RF047	190640158	210221	162105.67	36.246022	-72.577217	8561.82	Good Drop	none
194	RF047	194330212	210221	163922.71	36.935313	-72.675642	8516.97	Good Drop	none
195	RF047	190630445	210221	170752.78	36.936531	-73.735069	8539.61	Good Drop	none



196	RF047	190640169	210221	175343.88	36.909913	-75.548502	8562.42	Good Drop	none
197	RF048	190630380	210304	180821.38	36.928458	-74.599829	6921.22	Good Drop	none
198	RF048	190630361	210304	183130.44	37.103749	-72.580243	8439.51	Good Drop	none
199	RF048	190630381	210304	184204.46	37.654847	-72.744700	8411.40	Good Drop	none
200	RF048	194240200	210304	185357.49	38.244695	-72.737352	8386.11	Good Drop	none
201	RF048	194241003	210304	191631.54	38.046702	-71.894874	8377.49	Good Drop	none
202	RF048	180520540	210304	194849.62	36.939991	-73.025461	7828.52	Good Drop	none
203	RF049	190640131	210305	141947.87	36.937062	-73.403240	8338.96	Good Drop	GOOD DROP
204	RF049	190630378	210305	143155.89	36.613216	-72.207078	8344.31	Good Drop	GOOD DROP
205	RF049	190640161	210305	145943.96	35.334258	-70.497485	8419.85	Good Drop	none
206	RF049	190510323	210305	152031.00	35.958460	-71.289946	8379.43	Good Drop	none
207	RF049	190640129	210305	164824.20	36.920379	-75.136277	8380.54	Good Drop	none
208	RF050	190640170	210305	192847.03	38.872195	-74.414393	7320.36	Good Drop	none
209	RF050	194240276	210305	194555.07	38.075625	-72.775732	8248.95	Good Drop	none
210	RF050	190640442	210305	200948.12	36.993233	-71.098197	8306.99	Good Drop	none
211	RF050	194330220	210305	203749.19	36.952111	-72.357378	8339.27	Good Drop	none
212	RF050	190510322	210305	213311.31	36.918935	-75.179479	8393.30	Good Drop	none
213	RF051	190510324	210308	175502.99	34.299772	-73.789547	8571.04	Good Drop	none
214	RF051	190640187	210308	182535.06	32.366402	-74.460241	8640.21	Good Drop	none
215	RF051	194330227	210308	185132.12	33.374949	-73.902387	8610.44	Good Drop	none
216	RF051	180520333	210308	194129.23	35.492785	-75.178917	8566.64	Good Drop	none
217	RF052	190640174	210309	144922.76	34.500775	-73.931149	8692.02	Good Drop	none
218	RF052	190640444	210309	152404.84	32.768112	-71.774379	8706.09	Good Drop	none
219	RF052	190630373	210309	154739.89	33.567490	-72.752612	8695.31	Good Drop	none
220	RF052	190440700	210309	163403.99	35.407266	-75.068580	8694.10	Good Drop	none
221	RF053	190510321	210312	133302.36	34.497778	-73.925555	8819.52	Good Drop	none
222	RF053	194330218	210312	134440.39	33.897979	-73.223377	8808.60	Good Drop	none



223	RF053	190510317	210312	140801.44	32.259903	-72.765766	8826.92	Good Drop	none
224	RF053	194240242	210312	142419.48	33.018527	-72.978199	8810.54	Good Drop	none
225	RF053	194330225	210312	152431.62	35.536883	-75.235463	8805.96	Good Drop	none
226	RF054	194330229	210312	181150.80	34.608651	-74.063029	8824.49	Good Drop	none
227	RF054	190530257	210312	182230.83	34.081183	-73.364566	8809.74	Good Drop	none
228	RF054	194241008	210312	185005.90	32.240050	-72.767917	8826.01	Good Drop	none
229	RF054	190450209	210312	191219.95	33.157391	-73.015650	8821.50	Good Drop	none
230	RF054	190530254	210312	201007.08	35.401280	-75.060623	8797.58	Good Drop	none
231	RF055	194330209	210320	132308.79	36.937377	-72.685356	6438.69	Good Drop	none
232	RF055	194241011	210320	141222.90	36.478155	-70.074076	6449.01	Good Drop	none
233	RF055	190640111	210320	144030.97	35.690427	-71.584880	6460.53	Good Drop	none
234	RF055	190640188	210320	154236.11	36.961569	-75.499327	6749.93	Good Drop	none
235	RF056	190530256	210323	164144.51	37.129405	-75.154300	8440.23	Good Drop	none
236	RF056	194241014	210323	171946.61	36.804010	-72.557580	8737.54	Good Drop	none
237	RF056	190640117	210323	175704.69	34.517484	-70.764264	8729.52	Good Drop	none
238	RF056	190640116	210323	182456.76	35.611531	-71.605239	8740.52	Good Drop	none
239	RF056	190450207	210323	192610.90	36.921612	-75.030803	8767.25	Good Drop	none
240	RF057	190640115	210329	154234.08	37.306201	-72.552937	8563.42	Good Drop	none
241	RF057	194330207	210329	162059.17	36.683962	-70.261193	8613.80	Good Drop	none
242	RF057	194330223	210329	170908.28	37.845195	-72.322746	8542.99	Good Drop	none
243	RF057	190640125	210329	175600.39	38.944016	-74.487885	8537.15	Good Drop	none
244	RF058	190640122	210330	130337.98	34.434569	-73.847402	8511.32	Good Drop	none
245	RF058	190640122	210330						Lost telemetry during the drop, could not recover
246	RF058	190510564	210330	140431.13	34.093524	-72.640054	8515.56	Good Drop	none
247	RF058	190530278	210330	144429.22	35.505361	-75.195058	8505.83	Good Drop	none
248	RF059	194330208	210330	175240.62	36.940088	-72.664330	8799.97	Good Drop	none
249	RF059	194241007	210330	180741.66	37.450172	-71.595600	8827.29	Good Drop	none



250	RF059	190640121	210330	183737.73	35.701833	-71.075922	8832.11	Good Drop	none
251	RF059	194330206	210330	185603.77	34.626346	-70.769170	8833.08	Good Drop	none
252	RF059	194241004	210330	202105.97	36.920070	-75.125749	8821.59	Good Drop	none
253	RF060	194330233	210402	132613.62	34.588410	-74.038977	8146.01	Good Drop	none
254	RF060	190640164	210402	133304.64	34.298123	-73.678101	8180.70	Good Drop	none
255	RF060	194330232	210402	135101.68	33.545726	-72.728645	8226.24	Good Drop	none
256	RF060	194320896	210402	141202.73	32.710430	-71.767351	8299.33	Good Drop	none
257	RF060	194330215	210402	143058.77	33.530447	-72.706142	8252.45	Good Drop	none
258	RF060	194320270	210402	144455.80	34.091915	-73.411747	8187.14	Good Drop	none
259	RF060	194240285	210402	145228.82	34.386327	-73.786910	8173.18	Good Drop	none
260	RF060	194330211	210402	150533.85	34.900604	-74.424328	8125.19	Good Drop	none
261	RF060	190640109	210402	152028.88	35.459646	-75.131847	8063.25	Good Drop	none
262	RF061	194320281	210402	182133.38	34.555887	-73.998297	8104.40	Good Drop	none
263	RF061	190510320	210402	182617.39	34.361562	-73.758932	8121.92	Good Drop	none
264	RF061	194241006	210402	184611.44	33.528739	-72.706889	8180.16	Good Drop	none
265	RF061	190440697	210402	190631.49	32.749562	-71.741798	8244.92	Good Drop	none
266	RF061	190640132	210402	192857.54	33.569694	-72.755443	8159.55	Good Drop	none
267	RF061	194241005	210402	194104.57	34.046285	-73.354233	8122.29	Good Drop	none
268	RF061	190530253	210402	195003.59	34.391236	-73.792915	8085.94	Good Drop	none
269	RF061	190640108	210402	200102.61	34.816893	-74.320116	8039.57	Good Drop	none
270	RF061	194330213	210402	201556.65	35.394543	-75.048970	7998.89	Good Drop	none
271	RF062	194240224	210513	174837.88	36.931201	-72.673169	8675.22	Good Drop	none
272	RF062	194240248	210513	182311.95	36.648421	-70.714334	8363.18	Good Drop	none
273	RF062	194240286	210513	190734.05	36.078222	-71.850130	7428.16	Good Drop	RSS421 Sensor broken, no RH data, not on archive
274	RF062	194240172	210513	202906.24	36.927373	-75.275897	8602.02	Good Drop	none
275	RF063	194240061	210514	133436.15	36.857901	-72.330418	8576.54	Good Drop	none
276	RF063	194240067	210514	141027.23	36.006663	-69.031140	8652.68	Good Drop	none



277	RF063	194240079	210514	144903.32	36.436850	-70.641658	8600.65	Good Drop	none
278	RF063	195110622	210514	161303.51	36.935392	-75.329205	5235.23	Good Drop	none
279	RF064	194410216	210514	183417.20	36.937764	-72.767782	8579.20	Good Drop	none
280	RF064	194250493	210514	191952.30	34.484184	-70.489280	8677.35	Good Drop	none
281	RF064	190640119	210514	195220.37	35.795847	-71.629508	8630.48	Good Drop	none
282	RF064	194230792	210514	210236.53	36.963647	-75.509824	6625.30	Good Drop	none
283	RF065	190640114	210515	183829.65	34.414134	-73.825488	8625.16	Good Drop	none
284	RF065	194240257	210515	192228.76	32.086476	-73.055162	8718.65	Good Drop	none
285	RF065	194320269	210515	194105.80	33.179505	-73.372769	8674.89	Good Drop	none
286	RF065	190510319	210515	203158.91	35.520306	-75.212215	8604.05	Good Drop	none
287	RF066	194250495	210518	163104.60	34.236276	-73.771377	8765.29	Good Drop	none
288	RF066	194240088	210518	170739.68	32.138459	-74.017349	8834.21	Good Drop	none
289	RF066	194240087	210518	173104.74	33.428257	-73.855326	8804.56	Good Drop	none
290	RF066	194150641	210518	182856.87	35.756992	-75.518848	8782.80	Good Drop	none
291	RF067	194250498	210519	133501.41	34.435375	-73.852334	8490.68	Good Drop	none
292	RF067		210519					Fast Fall	Fast Fall
293	RF067	194240047	210519	141240.50	32.867564	-71.847157	8481.07	Good Drop	none
294	RF067	194250494	210519	143042.54	33.559779	-72.743398	8489.25	Good Drop	none
295	RF067	195040291	210519	152027.66	35.617141	-75.338701	8526.65	Good Drop	none
296	RF068	194240078	210519	183721.73	34.547271	-74.061702	8828.03	Good Drop	none
297	RF068	194240075	210519	185202.76	33.527140	-73.773792	8820.88	Good Drop	none
298	RF068	193940254	210519	191329.81	32.006342	-73.360048	8819.26	Good Drop	none
299	RF068	194240076	210519	202457.97	35.497357	-75.185405	8852.09	Good Drop	none
300	RF069	194150642	210520	155658.23	36.937469	-72.617065	8631.35	Good Drop	none
301	RF069	194210866	210520	165027.35	35.871934	-69.803905	8768.23	Good Drop	none
302	RF069	193940256	210520	171833.40	36.999561	-71.018753	8805.00	Good Drop	none
303	RF069	194210798	210520	180705.51	36.922708	-74.968898	5801.68	Good Drop	none



304	RF070	194210859	210521	131331.73	36.937917	-73.405563	8858.10	Good Drop	none
305	RF070	194240052	210521	135927.84	37.005901	-70.131261	8803.71	Good Drop	none
306	RF070	194250345	210521	140859.87	37.005932	-69.466566	8783.27	Good Drop	none
307	RF070	190530261	210521	142331.90	37.004269	-68.475231	8768.21	Good Drop	none
308	RF070	194210863	210521	153635.07	36.924637	-74.811312	8904.85	Good Drop	none
309	RF071	194210771	210521	181521.12	36.979491	-72.615291	8851.35	Good Drop	none
310	RF071	193871015	210521	190804.25	38.953601	-70.116586	8843.74	Good Drop	none
311	RF071	194240090	210521	193100.30	38.234017	-71.978782	8862.71	Good Drop	none
312	RF071	194210815	210521	201235.40	36.924800	-74.814692	8636.92	Good Drop	none
313	RF072	194210799	210525	170933.88	34.173678	-73.698087	8975.29	Good Drop	none
314	RF072	194140458	210525	173636.94	32.514051	-73.072732	8961.56	Good Drop	none
315	RF072	194210868	210525	175810.99	33.621535	-73.515308	8969.28	Good Drop	none
316	RF072	194210865	210525	184141.09	35.587189	-75.299798	8989.64	Good Drop	none
317	RF073	190450005	210526	133003.70	36.943493	-72.511623	8972.17	Good Drop	none
318	RF073	194330224	210526	141009.80	37.013884	-69.275817	8963.75	Good Drop	none
319	RF073	194240045	210526	143837.87	36.975442	-71.265958	8963.12	Good Drop	Ascent Data Incorrect
320	RF073	194210862	210526	153300.99	36.923242	-75.247693	8318.41	Good Drop	none
321	RF074	194210800	210526	182438.64	34.297320	-73.738817	8663.35	Good Drop	none
322	RF074	190640120	210526	185554.71	32.409995	-73.182579	8650.90	Good Drop	none
323	RF074	190450238	210526	191303.75	33.371048	-73.434501	8648.12	Good Drop	none
324	RF074	190450056	210526	195353.84	35.386356	-75.041797	8649.41	Good Drop	none
325	RF075	194210813	210601	153604.29	34.375780	-73.776513	8930.98	Good Drop	none
326	RF075	194320279	210601	161504.38	33.654217	-70.994493	8931.13	Good Drop	none
327	RF075	194240174	210601	163831.43	34.092241	-72.631388	8930.37	Good Drop	none
328	RF075	194240253	210601	171743.53	35.404423	-75.065931	8938.06	Good Drop	none
329	RF076	190450237	210602	133346.31	34.327343	-73.805459	8615.62	Good Drop	none
330	RF076	194240258	210602	141302.40	32.813353	-75.674791	8627.77	Good Drop	none



331	RF076	190450239	210602	143339.45	33.537808	-74.791403	8613.25	Good Drop	none
332	RF076	190450001	210602	151803.56	35.504443	-75.193675	8599.05	Good Drop	none
333	RF077	190640127	210602	182920.03	34.389343	-74.690106	8943.05	Good Drop	none
334	RF077	190510767	210602	183642.04	34.095779	-75.074193	8938.94	Good Drop	none
335	RF077	194330205	210602	183923.05	34.203787	-75.169368	8939.62	Good Drop	none
336	RF077	194320265	210602	184503.06	34.275638	-74.820639	8937.68	Good Drop	none
337	RF077	194320973	210602	185004.07	34.302820	-74.417538	8935.61	Good Drop	none
338	RF077	190640126	210602	185318.08	34.134683	-74.407957	8939.67	Good Drop	none
339	RF077	190450236	210602	190507.11	34.551471	-75.011860	8937.90	Good Drop	none
340	RF077	190450004	210602	190842.12	34.686440	-74.828220	8932.12	Good Drop	none
341	RF077	190530263	210602	191856.14	34.076194	-74.714603	8945.70	Good Drop	none
342	RF077	190530267	210602	192213.15	34.075245	-74.900234	8943.91	Good Drop	none
343	RF077	190640128	210602	192910.16	34.487428	-74.809159	8936.15	Good Drop	none
344	RF077	194320247	210602	193539.18	34.611348	-74.534545	8924.48	Good Drop	none
345	RF078	190450003	210605	152645.16	37.242113	-71.990438	8567.46	Good Drop	none
346	RF078	190520734	210605	155204.21	38.196355	-70.356177	8528.40	Good Drop	none
347	RF078	190640124	210605	163309.30	36.943364	-72.740771	8582.49	Good Drop	none
348	RF078	190450002	210605	170727.38	36.924267	-75.255455	8589.46	Good Drop	none
349	RF079	190530601	210607	132827.36	36.949311	-72.546340	8984.94	Good Drop	none
350	RF079	190530259	210607	141711.48	37.215750	-68.985636	8973.58	Good Drop	none
351	RF079	194140493	210607	144057.54	37.115277	-70.843595	8983.08	Good Drop	none
352	RF079	190520108	210607	153655.67	36.933433	-75.317679	7076.96	Good Drop	Data missing at beginning of drop, not on archive
353	RF080	190630368	210607	182554.30	36.389154	-73.595066	8828.16	Good Drop	none
354	RF080	194250354	210607	182832.30	36.372925	-73.787809	8835.62	Good Drop	none
355	RF080	190640110	210607	183255.31	36.211501	-73.654268	8835.60	Good Drop	none
356	RF080	190510768	210607	183732.33	36.085821	-73.325775	8823.34	Good Drop	none
357	RF080	190530264	210607	184022.33	36.225418	-73.268070	8840.79	Good Drop	none



358	RF080	190520106	210607	185101.36	36.263305	-74.023017	8837.03	Good Drop	none
359	RF080	190630733	210607	185356.36	36.105520	-73.996516	8832.92	Good Drop	none
360	RF080	190630735	210607	190503.39	36.463225	-73.334105	8835.79	Good Drop	none
361	RF080	194240071	210607	190810.40	36.572919	-73.490840	8840.86	Good Drop	none
362	RF080	194140332	210607	191723.42	36.030396	-73.692582	8834.56	Good Drop	none
363	RF080	171330111	210607	192048.43	35.997944	-73.464179	8825.96	Good Drop	none
364	RF080	194240080	210607	192748.44	36.369310	-73.577768	8840.70	Good Drop	none
365	RF080	194140334	210607	193155.45	36.596618	-73.684851	8834.90	Good Drop	none
366	RF080	194240199	210607	193522.46	36.504425	-73.880009	8846.19	Good Drop	none
367	RF081	190630737	210608	132904.27	36.945288	-72.591056	8976.36	Good Drop	none
368	RF081	194240271	210608	141542.38	37.177401	-69.481742	8961.69	Good Drop	none
369	RF081	194250499	210608	143557.43	37.087360	-71.153108	8981.36	Good Drop	none
370	RF081	194240082	210608	152729.55	36.940549	-75.360450	7755.61	Good Drop	none
371	RF082	190630734	210608	183928.35	36.511365	-71.639745	8975.42	Good Drop	none
372	RF082	194220573	210608	185408.38	36.801489	-72.374512	8989.41	Good Drop	none
373	RF082	194140563	210608	193521.47	36.676050	-70.046941	8959.79	Good Drop	none
374	RF082	193940260	210608	203800.61	36.923711	-74.889166	9017.62	Good Drop	none
375	RF083	183630662	210615	172228.76	39.441990	-71.364744	7221.35	Good Drop	none
376	RF083	194240102	210615	174905.83	38.317846	-72.181087	7222.61	Good Drop	none
377	RF083	180450533	210615	181128.88	37.160080	-72.659517	6608.66	Good Drop	none
378	RF083	194220576	210615	185110.98	36.920558	-75.086375	8163.43	Good Drop	none
379	RF084	194320899	210616	151626.31	38.743931	-74.088593	8641.59	Good Drop	Had a time sync issue, recovered by Holger
380	RF084	171350514	210616	160337.42	36.996609	-70.962036	8838.50	Good Drop	Had a time sync issue, recovered by Holger
381	RF084	194240048	210616	160543.42	36.993141	-71.076103	8840.71	Good Drop	Had a time sync issue, recovered by Holger
382	RF084	194220575	210616	162604.47	36.960594	-72.105019	9080.02	Good Drop	Had a time sync issue, recovered by Holger
383	RF084	194240254	210616	173147.63	36.938171	-75.649841	8770.56	Good Drop	Had a time sync issue, recovered by Holger
384	RF085	194240255	210617	153255.05	34.667659	-73.388922	8764.82	Good Drop	none



385	RF085	190630793	210617	154436.08	35.279552	-73.242219	8713.94	Good Drop	none
386	RF085	194220598	210617	163701.20	36.661358	-72.954372	8651.08	Good Drop	none
387	RF085	190630332	210617	170334.27	36.928262	-74.630068	8667.24	Good Drop	none
388	RF086	190640134	210622	130640.65	36.938285	-72.727401	8946.04	Good Drop	none
389	RF086	194240098	210622	134659.75	36.968433	-69.549044	8970.10	Good Drop	none
390	RF086	190230194	210622	140834.80	36.981366	-70.974926	8958.44	Good Drop	none
391	RF086	190640130	210622	151059.95	36.924687	-75.260184	6978.29	Good Drop	none
392	RF087	190630374	210624	131328.43	36.938246	-72.710501	8402.79	Good Drop	none
393	RF087	194240100	210624	135532.53	39.465357	-71.269670	8818.12	Good Drop	none
394	RF087	194410229	210624	142129.60	38.205975	-71.990606	8821.81	Good Drop	none
395	RF087	190550237	210624	152245.75	36.930026	-75.288168	7538.45	Good Drop	none
396	RF088	190520104	210626	133541.72	34.404354	-73.803459	9003.57	Good Drop	none
397	RF088	190630813	210626	142103.83	32.902816	-73.288251	8987.57	Good Drop	none
398	RF088	194140461	210626	143659.87	33.885224	-73.603232	8999.68	Good Drop	none
399	RF088	194330275	210626	150922.95	35.605134	-74.890305	9020.96	Good Drop	none
400	RF089	190550244	210626	180828.34	35.841070	-74.233938	9015.66	Good Drop	none
401	RF089	190630377	210626	181057.34	35.689295	-74.261407	9020.83	Good Drop	none
402	RF089	183630623	210626	182556.38	35.186164	-73.954319	9003.19	Good Drop	none
403	RF089	180450503	210626	190814.48	35.790711	-73.391644	9013.53	Good Drop	none
404	RF089	194230782	210626	200539.62	36.833898	-75.010394	9034.00	Good Drop	none
405	RF090	194250504	210628	132739.94	36.951251	-72.571170	9064.51	Good Drop	Fast Fall
406	RF090	194240086	210628	141205.04	37.706157	-69.507444	9070.00	Good Drop	none
407	RF090	190630366	210628	143502.10	37.325465	-71.206862	9068.50	Good Drop	none
408	RF090	194410233	210628	152620.22	36.918336	-75.200842	9070.96	Good Drop	none
409	RF091	190630762	210629	131413.90	36.938312	-72.656931	9070.08	Good Drop	none
410	RF091	174310384	210629	140116.01	37.247678	-69.277140	9077.31	Good Drop	none
411	RF091	180520335	210629	142340.07	37.110953	-70.914884	9082.28	Good Drop	none



412	RF091	194240057	210629	151621.19	36.920442	-75.068256	8424.91	Good Drop	none
413	RF092	193940257	210630	132000.02	36.996646	-72.424011	9037.32	Good Drop	none
414	RF092	194230789	210630	135730.11	37.626018	-69.634865	9038.63	Good Drop	none
415	RF092	194210795	210630	142259.17	37.183045	-70.931386	9042.96	Good Drop	none
416	RF092	194240050	210630	151928.31	36.921853	-75.013865	9035.27	Good Drop	none
417	RF093	193871097	210630	182028.81	34.427299	-73.839047	9009.67	Good Drop	none
418	RF093	190630365	210630	185027.88	35.317768	-72.101304	9023.03	Good Drop	none
419	RF093	194140457	210630	192427.96	36.497452	-71.556827	9027.45	Good Drop	none
420	RF093	194210796	210630	194216.00	36.939025	-72.847279	9028.70	Good Drop	none
421	RF093	194240064	210630	201257.07	36.918125	-75.227167	9027.89	Good Drop	none