

Memo

Date: October 5th, 2018
To: Kevin Stewart
From: Markus Ritsch
Subject: September 2018 ALERT Data Analysis

I. ALERT Data Source

Raw ALERT data records extracted from the Urban Drainage and Flood Control District's NovaStar 5 base station were analyzed for the period September 1 through September 30, 2018.

II. General System Analysis Summary

The District receives data through both the legacy ALERT channel and through the ALERT2 (concentrator plus A2 self-reports) channel. The following quantifies the data reports received by each channel at Diamond Hill (Table 1).

Table 1. Reception of Data at Diamond Hill (Legacy, ALERT2 and Concentrator Reports from Recdatalog)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Tot
Legacy ALERT (line 1)	208,189	170,938	214,572	224,711	215,631	215,515	228,428	217,039	192,724				1,887,747
DHill Conc (line 2)	369,547	328,399	383,229	359,855	327,392	365,225	380,878	369,881	343,040				3,227,446
DHill ALERT2 (line 4)	608,216	474,112	513,779	511,112	563,921	562,145	578,579	574,552	557,204				4,943,620
Westy ALERT2 (line 8)		472,878	513,257	549,423	601,462	560,429	524,276	573,128	549,992				4,344,845
Westy Conc (line 6)		327,438	382,812	386,882	382,751	364,046	343,901	368,820	338,472				2,895,122
TOTAL	1,185,952	1,773,765	2,007,649	2,031,983	2,091,157	2,067,360	2,056,062	2,103,420	1,981,432	0	0	0	17,298,780
Con/Leg	1.78	1.92	1.79	1.60	1.52	1.69	1.67	1.70	1.78	0.00	0.00	0.00	1.71
DataChr	713,367	590,020	715,298	743,578	765,183	735,108	747,353	749,605	711,716				6,471,228

A new ALERT2 receiver/decoder was installed in Westy, Colorado in January of 2018. This redundant data feed was added to NovaStar5 in late January. The new data feeds (lines 6 and 8) were added to both the Diamond Hill base station and to the Greenhouse base station for backup. Data from this new source will be quantified as part of this report.

The District operates two NovaStar5 base stations: the primary (ns5a) at Diamond Hill and a redundant base (ns5b) at Greenhouse Data. Additional analyses are conducted on the data received by these two base stations (Table 2). The data received by both base stations for the month are shown below.

The battery charger powering the ALERT2 decoder at Diamond Hill failed on April 22, 2018. The charger was replaced by OneRain on April 26, 2018. The number of ALERT2 and concentrator reports through Diamond Hill is decreased in April due to the failure of the battery charger. The ratio between legacy reports and concentrator reports is also decreased for these four days.

Network issues were present that degraded data collection on the Greenhouse server between July 2 and July 9, 2018. An uninterruptible power supply (UPS) malfunctioned around July 2 which caused a network switch to go down at Diamond Hill. The network was fully restored on July 9.

Network issues at the District were encountered that degraded data collection between September 11 through September 13th. Network issues at the Westy ALERT2 decoder were evident on September 20th. All network issues were resolved.

Table 2. Comparison of Data Reception by ns5a and ns5b

NS5A (Diamond Hill)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Tot
Legacy	208,189	170,938	214,572	224,711	215,631	215,515	228,428	217,039	192,724				1,887,747
Concentrator	369,547	328,399	383,229	359,855	327,392	365,225	380,878	369,881	343,040				3,227,446
ALERT2	608,216	474,112	513,779	511,112	563,921	562,145	578,579	574,552	557,204				4,943,620
Westy (Conc)		327,438	382,812	386,882	382,751	364,046	343,901	368,820	338,472				2,895,122
Westy (A2)		472,878	513,257	549,423	601,462	560,429	524,276	573,128	549,992				4,344,845
NS5B (Greenhouse)													
Legacy	207,991	167,936	176,780	223,474	212,628	213,434	226,850	217,135	192,702				1,838,930
Concentrator	369,370	297,198	289,542	357,805	322,706	361,904	367,354	368,785	342,499				3,077,163
ALERT2	608,348	437,957	389,787	510,718	557,093	557,214	559,618	573,486	556,396				4,750,617
Westy (Conc)		304,809	292,048	386,008	382,805	361,518	367,720	368,477	338,261				2,801,646
Westy (A2)		446,873	398,421	548,228	601,760	556,688	560,820	572,515	549,753				4,235,058
Diff (NS5a-NS5b)													
Legacy (Digi One)	198	3,002	37,792	1,237	3,003	2,081	1,578	-96	22	0	0	0	48,817
Concentrator (B2010)	177	31,201	93,687	2,050	4,686	3,321	13,524	1,096	541	0	0	0	150,283
ALERT2 (B2010)	-132	36,155	123,992	394	6,828	4,931	18,961	1,066	808	0	0	0	193,003
Westy (Conc)	0	22,629	90,764	874	-54	2,528	-23,819	343	211	0	0	0	93,476
Westy (A2)	0	26,005	114,836	1,195	-298	3,741	-36,544	613	239	0	0	0	109,787
Comments		Network issues experienced this month at DH	New line numbers were assigned at GH	Data script updated									

The daily ratio of concentrator to legacy reports is shown (Figure 1).

In March, the system configuration for data reception at Greenhouse was changed so that unique line numbers could be used to quantify data reports received uniquely at each base station. The automated script used to quantify reports was not updated until April. That's why the large discrepancy in reporting was quantified in March between Diamond Hill and Greenhouse. The new line numbering convention is as follows:

Primary Node Diamond Hill Base Station

-) Line 1 = Legacy ALERT
-) Line 2 = Concentrator from Diamond Hill Decoder
-) Line 4 = ALERT2 from Diamond Hill Decoder
-) Line 6 = Concentrator from Westminster Decoder
-) Line 8 = ALERT2 at Westminster Decoder

Backup Node Greenhouse Base Station

-) Line 1 = Legacy ALERT
-) Line 3 = Concentrator from Diamond Hill Decoder
-) Line 5 = ALERT2 from Diamond Hill Decoder
-) Line 7 = Concentrator from Westminster Decoder
-) Line 9 = ALERT2 at Westminster Decoder

Ratio of Concentrator/Legacy for 2015, 2016, 2017, 2018

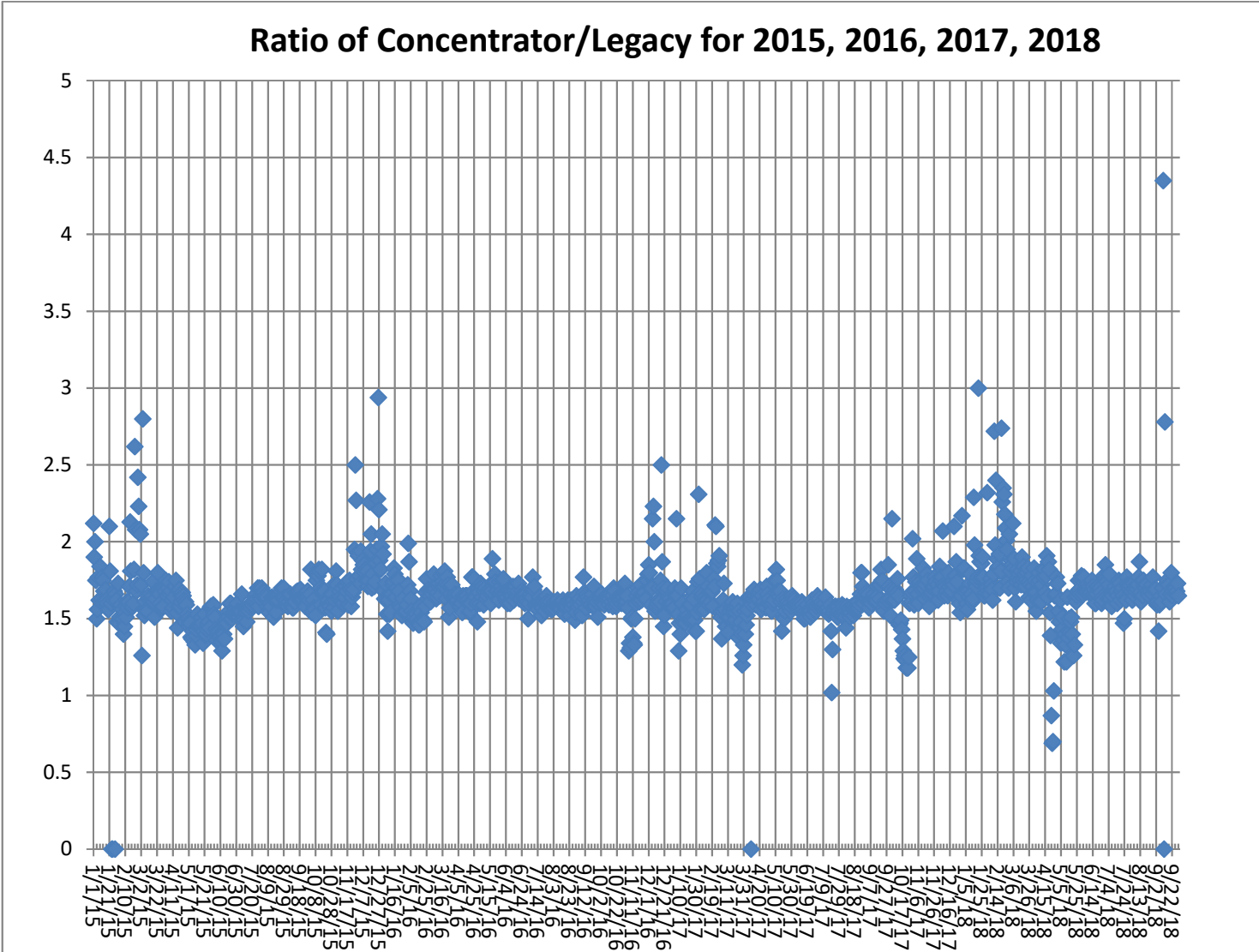


Figure 1. Daily Ratio of Concentrator Reports to Legacy Reports

The ratio becomes more volatile in the cold months as the Blue Mountain repeater has problems with legacy ALERT reporting when the temperature drops below zero.

The ratio on January 21, 2018 was very high with a value of 3. The system experienced a significant decrease in legacy ALERT reports on this day. The loss of ALERT legacy reports on January 21, 2018 are from Blue Mountain, Elbert, Urban Farm, and Marston Lake North. The most likely explanation is that the legacy ALERT output from the Blue Mountain repeater was down due to the cold weather experienced on both January 21 and January 15.

A cold spell in February likely contributed to the higher than expected ratio of concentration to legacy reporting.

The failure of the battery charger at the Diamond Hill ALERT2/Concentrator decoder for the period April 22 through April 26 is evident in the decreased ratios for these days.

Decoder issues at the District were encountered that degraded data collection from the legacy ALERT feed between September 11 through September 13th. Additionally, network issues during the same period affected the collection of both ALERT1 and ALERT2 data during the period September 11 through September 13th. These issues were resolved by September 13th. The ALERT legacy decoder was power cycled to fix the problem.

A. Continuous Operation of Base Receiver/Decoder

Data was collected on a continuous basis for a total of 720 hours of operation. Outages of less than one hour are not identified.

B. Specific Issues Identified

Performance of the following sensors (Table 3) was questionable this month.

Table 3. Sensors with Poor Performance Characteristics

Sensor ID	Description	Comments
2101	Unknown	Concentrator received 8,518 reports from this ID with SA 9001
2330	Morrison	Consistently poor timer and event performance
2803	Columbine Open Space	High latency and large amount of invalid data
3050	East/West Trailhead	Had the highest and lowest latency
0, 1, 2	Unknown	Unknown IDS transmitted on legacy ALERT

C. ALERT2 Repeater Loading

The District's ALERT2 architecture utilizes 5 repeaters with a single transmit frequency (170.300 MHz) to Diamond Hill. The repeaters utilize a 20 second frame where each repeater is allocated a slot of specific size and an offset within the frame. The slot allocated to each repeater is sized appropriately to accommodate the total number of existing and future remote sites routed through that repeater. Each repeater is shown along with its designated slot (Table 4). Currently there is no pass-listing for the ALERT2 repeaters. Any remote ALERT2 site can be received by all repeaters and re-broadcast to the base except for West Creek which has an input frequency unique to Douglas County.

Table 4. ALERT2 Repeater Architecture

Repeater	Slot Size (sec)	Slot Offset (sec)	Source Address	ALERT2 Input Frequency (MHz)	ALERT2 Output Frequency (MHz) – received at Diamond Hill
West Creek	2	0	6001	169.425	170.300
Smoky	3	2	6502	169.525	170.300
Blue Mt.	4	5	6503	169.525	170.300
Lee Hill	3	9	6505	169.525	170.300
Gold Hill	3	12	6506	169.525	170.300
Magnolia	5	15	6507		170.300
Frame Size	20				

The following tables summarize the total number of reports received through each repeater (Table 5). This helps to quantify repeater loading for the ALERT2 backbone.

Table 5. ALERT2 Reports Received through Each Repeater (Only A2 Self Reports)

Month-Yr	West Creek (6001)	Smoky (6502)	Blue Mt. (6503)	Lee Hill (6505)	Gold Hill (6506)	TOTAL
Jan-15	0	44,501	44,636	44,783	39,007	172,927
Feb-15	0	58,543	56,150	61,160	57,764	233,617
Mar-15	346	73,198	69,604	77,968	65,323	286,439
Apr-15	595	73,711	69,568	79,215	72,310	295,399
May-15	5,259	78,694	72,340	86,297	77,174	319,764
Jun-15	11,987	72,449	65,742	82,998	69,570	302,746
Jul-15	28,595	75,379	71,394	79,026	74,041	328,435
Aug-15	28,409	92,299	84,057	84,363	87,211	376,339
Sep-15	26,809	84,143	84,776	84,289	85,123	365,140
Oct-15	19,775	82,683	83,390	63,475	84,825	334,148
Nov-15	6,438	62,615	61,477	50,888	58,004	239,422
Dec-15	9,835	72,886	72,465	73,431	47,996	276,613
Jan-16	4,034	38,348	36,826	37,168	19,768	138,160
Feb-16	11,732	93,120	99,206	96,284	99,188	399,530
Mar-16	12,533	126,123	134,329	140,226	139,536	552,747
Apr-16	13,262	128,473	130,223	135,499	133,197	540,654
May-16	27,002	125,098	124,280	138,033	130,513	544,926
Jun-16	30,405	117,877	111,309	133,036	122,798	515,425
Jul-16	37,492	108,334	102,335	115,028	110,577	473,766
Aug-16	48,323	130,666	123,827	136,746	131,957	571,519
Sep-16	49,555	122,625	115,898	129,454	127,606	545,138
Oct-16	51,170	111,105	110,038	116,087	116,489	504,889
Nov-2016	47,039	72,761	92,941	100,083	99,508	412,332
Dec-2016	48,946	102,329	97,321	79,274	102,097	429,967
Jan-2017	47,286	50,748	27,307	97,947	104,689	327,977
Feb-2017	45,366	96,629	94,065	88,239	98,411	422,710
Mar-2017	53,021	87,160	33,983	121,578	126,722	422,464
Apr-2017	49,833	110,418	116,486	122,506	120,727	519,970
May-2017	54,375	128,362	128,310	118,908	134,173	564,128
Jun-2017	60,671	131,745	124,019	146,333	138,056	600,824
Jul-2017	58,442	137,750	130,136	146,134	139,778	612,240
Aug-2017	60,322	136,739	128,716	145,280	139,257	610,314
Sep-2017	58,388	146,759	135,632	157,248	150,762	648,789
Oct-2017	48,644	148,071	149,899	159,639	157,788	664,041
Nov-2017	39,868	123,026	134,197	141,153	140,478	578,722
Dec-2017	38,801	138,219	137,672	142,389	141,303	598,384
Jan-2018	45,373	140,341	139,290	141,045	142,167	608,216
Feb-2018	30,490	110,604	109,467	111,922	111,629	474,112
Mar-2018	72,863	110,844	106,466	112,417	111,189	513,779
Apr-2018	71,726	120,656	114,768	125,831	116,442	549,423
May-2018	44,674	132,258	125,752	144,129	117,108	563,921
Jun-2018	95,030	115,819	110,643	124,698	115,955	562,145
Jul-2018	101,000	119,381	112,276	127,372	118,550	578,579
Aug-2018	101,506	118,221	112,287	125,491	117,047	574,552
Sep-2018	87,151	118,143	111,706	124,499	115,705	557,204

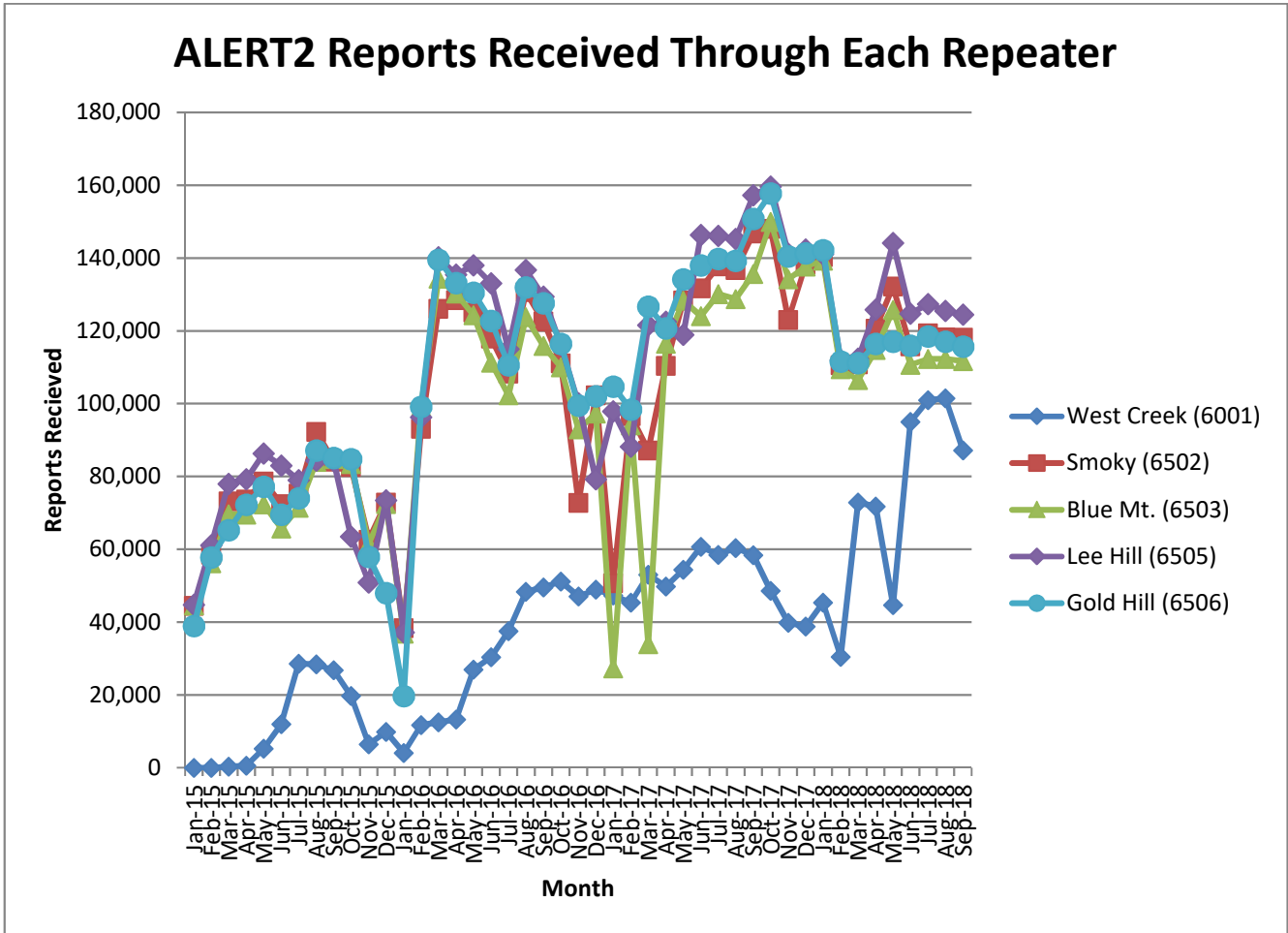


Figure 2. Reports received through each repeater (ALERT2 Only)

A convenient mechanism to track repeater performance throughout the year is to monitor total ALERT2 reports passed by each repeater. In general, each of the primary repeaters in the District process an equivalent number of ALERT2 reports because pass/block filtering is not being used. Several months are evident where the throughput of one repeater is not consistent with the other three.

Network outages were experienced on February 22 and February 23 which decreased the reception of data at the base station from all repeaters.

The throughput at the West Creek repeater increased in June and July as the Hayman Burn stations came on-line and additional sites are converted to ALERT2.

The throughput at the West Creek repeater decreased in September.

The following tables summarize the system-wide latency of ALERT2 self-reports (Table 6 and Table 7).

Table 6. System-Wide Latency of ALERT2 Self-Reports (seconds)

Statistical Parameter	Value (sec)	Comments
Mean	58.98	The average time it took a report from the field to reach the base
Minimum	-1042	The minimum time it took for a report to go from the field to the base
Maximum	39,518	The maximum time it took for a report to go from the field to the base

Table 7. Summary of ALERT2 System-Wide Latency (seconds)

Statistical Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	48.79	51.82	60.96	75.43	117.33	63.90	323.46	54.91	58.98			
Minimum	-34	-23	-23	-963	-23	-46	-3	-2	-1042			
Maximum	37,677	33,597	30,677	42,277	36,100	43,300	43,280	3,702	39,518			
Station with Minimum Latency	West Creek WX	West Creek WX	West Creek WX	West Creek WX	West Creek WX	East Cherry Creek at Russellville	OneRain Weather	West Creek WX	East/ West Trailhead			
Station with Maximum Latency	West Creek WX	West Creek WX	West Creek WX	West Creek WX	West Creek WX	Happy Canyon at North Surrey Drive	Pine Cliff Road	Columbine Open Space	East/ West Trailhead			

Large positive and negative latencies were observed from the station West Creek WX. A new ALERT2 board was installed in mid May 2018 at this station which resolved the issue.

D. Rain Sensor Timer Reporting Summary

The following analysis assumes that each legacy rain sensor has a 12-hour timer-reporting interval and each A2 rain sensor has a 1-hour timer-reporting interval. The worst performing rain sensors for the month are summarized (Table 8).

Table 8. Monthly Summary of Sensors with Poor Timer Performance (Sensor ID)

Jan*	Feb*	Mar*	Apr	May	Jun	Jul	Aug	Sep	Oct*	Nov*	Dec*
2790	2790	2340	2790	700	420	2360	1620	3070			
4550	3020	2360	2240	2330	2330	2340	2360	2330			
1660	1110	2230	2340	2340	4870	330	3010	6601			
2330	3010	2250	2330	2850	330	2330	100260	1620			
2980	1660	2270	3020	1620	940	2320	2330	1660			
5940	4550	2350	5720	4870	1660	2350	4510	3010			

*- Only sensors that operate year-round (weather stations and stations in Boulder County) are included for the analysis in these months.

Sensors identified as having poor timer performance in multiple months are shaded with unique colors. A developing trend can thus be identified from the color shading as the year progresses.

III. Rain Sensor Event Reporting Summary

A. District-Wide Total Tip/Count Statistics

The incrementing reports from all 1-mm rain sensors were analyzed to quantify the District-wide statistical total monthly tip summary (Table 9). For the months of January, February, March, October, November and December only the stations that operate year-round are included in the rain event analysis. These stations include all weather stations and the stations in Boulder County.

Table 9. District-Wide Total Tip/Count Statistical Summary

Statistical Parameter	Value	Comments
Mean	24.36	Only the 1-mm rain sensors were included in the analysis
Median	20	Only the 1-mm rain sensors were included in the analysis
Standard deviation	19.50	Only the 1-mm rain sensors were included in the analysis
Mean plus three standard deviations	82.87	Only the 1-mm rain sensors were included in the analysis
Mean minus two standard deviations	-14.6	Only the 1-mm rain sensors were included in the analysis
Minimum total count	1	SBC @ SB Road (4870)
Maximum total count	139	Temple Pond at DTC (630)
Sensors showing NO rain for the month		None
Sensors greater than 3 SD (over reporting)	3	Expo Park (420), Utah Park (430), Temple Pond at DTC (630)

B. Monthly Average Tip/Count Summary

A monthly summary of the District-wide mean total tip/count is presented (Table 10).

Table 10. Monthly Summary of District-Wide Mean Total 1-mm Tip/Count

Year	Jan*	Feb*	Mar*	Apr	May	Jun	Jul	Aug	Sep	Oct*	Nov*	Dec*	Ave
2006	4.62	5.92	18.39	20.47	19.44	13.75	74.03	46.89	24.17	41.13	5.04	16.45	24.19
2007	11.56	5.40	29.75	65.03	68.30	15.87	36.20	46.38	22.13	29.50	6.54	11.29	29.00
2008	4.05	7.38	12.26	20.57	54.82	26.06	16.43	90.20	37.54	19.59	2.82	9.24	25.08
2009	6.33	3.11	11.37	59.26	63.45	68.00	65.00	20.00	27.29	30.24	11.00	5.60	30.89
2010	5.97	11.90	32.54	70.57	39.63	56.04	50.23	31.01	4.18	18.31	8.30	3.31	27.67
2011	6.78	7.45	7.54	33.94	92.68	39.42	90.87	18.25	37.67	25.73	10.41	13.59	32.03
2012	4.89	13.57	2.35	30.17	38.97	19.35	73.03	11.31	48.81	22.32	2.98	4.18	22.66
2013	2.96	14.31	21.86	35.96	45.87	16.39	52.33	50.63	229.74	29.64	5.86	4.00	42.46
2014	6.88	11.86	25.91	29.30	77.30	29.16	99.73	43.59	50.96	29.26	13.36	8.11	35.45
2015	9.88	24.42	20.78	69.75	143.07	86.93	54.59	29.95	7.16	53.28	22.08	10.80	44.39
2016	4.68	9.91	32.30	52.10	49.40	40.50	24.20	31.00	8.86	7.51	8.56	8.74	23.23
2017	13.3	5.84	27.70	39.10	99.60	15.33	40.80	44.58	40.74	31.88	7.38	5.35	31.13
2018	4.70	8.34	29.1	24.53	64.17	30.76	58.05	24.18	24.36				
Ave	6.66	9.95	20.91	42.37	65.90	35.20	56.58	37.54	43.35	26.03	8.03	7.74	28.32

*- Only sensors that operate year-round (weather stations and stations in Boulder County) are included for the analysis in these months.
229.74 – This represents an extreme monthly value.

C. Sensors with a Jump of Six or More in the Sequential Count

The following sensors experienced a large jump in the sequential tip count (Table 11).

Table 11. Sensors with a Jump of 6 or More in Sequential Count

Sensor Description	Sensor ID	Comment
Slaughterhouse Gulch	1620	All >6 tips were breaks in data
El Rancho	2340	Missed 9 tips between 9/5 and 9/6

D. Sensor-by-Sensor Incrementing Count Summary

The system-wide reception rate of incrementing, 1-mm tip reports for the month was approximately 95 percent. A total of 4,465 incrementing reports were received and a total of 4,717 reports were expected. The total loss of incrementing reports for the month was approximately 5 percent. Those sensors with the worst event transmission performance are summarized (Table 12).

Table 12. Monthly Summary of Sensors with the Worst Performance

Jan*	Feb*	Mar*	Apr	May	Jun	Jul	Aug	Sep	Oct*	Nov*	Dec*
1700	2810	2270	2270	4470	3090	2360	940	2960			
2980	1110	2230	1620	2340	2340	2340	1620	4510			
4790	540	4870	1710	2330	100260	940	650	2340			
4320	2330	940	2240	4270	2330	100260	4490	2330			
3010	4330	100140	4270	1620	3010	2280	1640	4490			
3030	3020	1530	4870	100420	4040	2970	840	2360			

*-Only sensors that are operational year-round (weather stations and stations in Boulder County) are included for the analysis in these months.

Sensors identified as having poor event performance in multiple months are shaded with unique colors. A developing trend can thus be identified from the color shading as the year progresses.

IV. Unknown Device Analysis – Received Data Log

The ALERT IDs present in the audio signal received by the decoder are compared against a list of “active” device IDs that are defined within NovaStar. Those IDs received by the decoder that are not defined within NovaStar are considered to be “unknown” and may be the result of radio noise or problems with the telemetry system. The reception of “unknown” device reports for the month is summarized (Table 13).

Table 13. Summary of Unknown IDs

Description	Concentrator	Legacy	A2
Total number of unknown IDs (IDs without a device definition)	196	137	0
Total reports from unknown IDs	4,199	467	0
Unknown IDs with only a single received report (potential noise)	135	104	0
Total reports from all IDs – RecData Log entire month	343,040	192,724	557,204
Unknown reports as a fraction of total reports	1.22%	0.24%	0.00%

The total number of reports from unknown sensors is very small relative to the total reports received for the month. Shown below (Table 14) are the total reports received from unknown sensor IDs for each month of the year.

Table 14. Monthly Summary of Total Reports from Unknown IDs (Concentrator)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	1,220	1,474	1,276	1,174	721	5,707	610	1,738	442	533	2,857	6,396
2011	1,231	2,165	3,065	1,254	2,051	439	489	456	191	683	747	861
2012	692	750	1,575	977	5,469	11,016	453	683	774	2,657	3,854	5,466
2013	4,265	994	1,100	2,589	3,623	6,973	5,230	1,070	4,429	781	13,459	1,213
2014	870	4,284	2,399	2,104	25,746	1,832	3,983	268	369	448	470	1,099
2015	542	9,137	1,524	1,007	946	699	1,179	1,860	1,153	1,063	600	619
2016	323	1,241	3,085	3,586	1,268	945	1,408	2,029	1,413	753	617	879
2017	11,875	844	1,207	3,700	2,693	642	610	6,678	780	5,097	3,532	3,282
2018	788	771	1,178	936	749	484	1,349	8,946	4,199			

The fraction of reports from unknown sensors relative to the total number of reports is shown below (Table 15).

Table 15. Monthly Percent of Unknown Sensor Reports (Concentrator)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	0.42%	0.56%	0.38%	0.32%	0.20%	1.61%	0.17%	0.49%	0.13%	0.16%	0.93%	1.88%
2011	0.39%	0.73%	0.90%	0.37%	0.58%	0.12%	0.12%	0.05%	0.12%	0.18%	0.22%	0.26%
2012	0.30%	0.25%	0.43%	0.26%	1.37%	2.74%	0.11%	0.18%	0.20%	0.72%	1.15%	1.62%
2013	1.40%	0.31%	0.29%	0.60%	0.37%	0.61%	0.82%	0.21%	0.96%	0.31%	5.37%	0.23%
2014	0.14%	0.94%	0.40%	0.34%	3.95%	0.34%	0.66%	0.03%	0.03%	0.07%	0.11%	0.26%
2015	0.15%	2.25%	0.34%	0.22%	0.19%	0.14%	0.26%	0.42%	0.29%	0.24%	0.15%	0.15%
2016	0.10%	0.30%	0.69%	0.82%	0.28%	0.22%	0.33%	0.50%	0.36%	0.18%	0.17%	0.22%
2017	3.29%	0.23%	0.31%	0.97%	0.58%	0.16%	0.16%	1.16%	0.21%	1.40%	0.96%	0.87%
2018	0.21%	0.23%	0.31%	0.26%	0.23%	0.13%	0.35%	2.42%	1.22%			

Any month shaded in yellow has an excessive number of reports from unknown sensors.

A number of “unknown” sensors had multiple reports, which may indicate the existence of a transmitter that is sending information on an ID that is not currently defined within NovaStar. The unknown IDs with multiple reports including the number of reports received by each are shown (Table 16).

Unknown data transmissions from an ALERT legacy transmitter are being received containing sensor ID 2101 as seen in the table below. These transmissions are received at the base as ALERT2 data concentration packets initiating from source address 9001. The transmissions are received through the Blue Mountain and the Gold Hill repeaters.

Table 16. Reports Received by Unknown IDs

Concentrator		Legacy ALERT		Comment
Unknown ID	Reports	Unknown ID	Reports	
2101	3,692			Large amount of invalid data from this ID
		0,1,2	53,52,75	Legacy reports for IDs 0,1,2 only
2271	59	2271	55	Cub Creek Below Blue Crk possibly sending invalid ID
2272	59	2272	55	Cub Creek Below Blue Crk possibly sending invalid ID
3071	26			Newlin Gulch at Jordan Road possibly sending invalid ID

V. Sensors with Invalid Reports

The sensors below (Table 17 and Table 18) have the largest number of invalid decodes as determined by the validation process defined at the District NovaStar5 base station. These invalid reports may indicate poor radio paths (bit flip/contention errors/random decode) or validation criteria that do not match the physical installation at the site.

Table 17. Rain Sensors with the Most Invalid Reports

Sensor ID	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1530-Bear Cr. At Lowell	10	5	3	4	1	--	1	--	--			
2810-Pine Cliff Rd.	14	10	10	6	6	3	2	3	2			
2880-Happy Canyon	--	--	47*	--	77*	--	--	--	--			
3010-Wx-EPC @ 105	3	5	7	5	1	4	4	4	--			
3050-E/W Trailhead	7	12	3	9	--	3	4	4	7			
4030-Red Garden	--	3	3	--	--	7	1	--	1			
4330-Hansen	--	3	--	--	1	3	4	1	1			
4240-Sunset	1	4	2	1	1	--	--	7	--			
4790-Wx-Button Rock	--	--	--	1	2	--	1	2	--			

*-Happy Canyon (2880) All invalid data points are because this station went through maintenance to upgrade to ALERT2.

Table 18. Level Sensors with the Most Invalid Reports

Sensor ID	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
413-Kelly Dam	--	--	5	--	12	3	6	9	4			
403-Montview Park	1171**	766**	411**	--	--	--	--	--	1			
213-Leyden Confluence	--	--	3	--	--	--	2	8	--			
723-WTG above Conf Pond	--	--	3	--	2	--	--	3	--			
1523-Marston Lake North	9	7	10	8	4	2	1	1	2			
1649-SPR at 19th Street	--	--	1	4	--	--	1	1	1			
2223-Evergreen Lake	--	--	2	2	--	3	2	--	1			
2273-Cub Cr below Blue	--	--	3	--	--	2	3	3	2			
2803-Columbine Open Space	--	--	--	1	3	--	--	13	41			
2813-Pine Cliff Road	15	13	9	10	3	--	5	5	4			
3013-EPC@Hwy 105	18	20	8	10	9	13	4	13	9			
4383-Eldorado Springs	--	4	1	--	1	3	--	1	--			

** -Montview Park (403) All data values are marked as questionable data values because they exceeded an allowable upper boundary. Kate Malers developed a new rating for this site which needs to be incorporated into both NovaStar5 and Contrail in 2018.

VI. Rainfall Alarms and Intensity Analysis

The following rainfall rate alarms from the Urban Drainage and Flood Control District NovaStar 5.0 Web Server were identified this month.

Point ID	Point Name	Trigger Name	Alarm Time
3040	East Cherry Creek at Russellville Road Precip-DG	Douglas County 10 minute rainfall	9/1/2018 15:18
4350	Conifer Hill Precipitation-BO	Boulder County 10 minute rainfall	9/4/2018 22:45
4510	Pinewood Springs Precipitation-BO	Boulder County 10 minute rainfall	9/4/2018 22:50
2360	Indian Hills Precipitation-JF	Jefferson County 10 minute rainfall	9/4/2018 23:17
4510	Pinewood Springs Precipitation-BO	Boulder County 1 hour rainfall	9/4/2018 23:23
2320	Choke Cherry Reservoir Precipitation-JF	Jefferson County 10 minute rainfall	9/4/2018 23:28
4350	Conifer Hill Precipitation-BO	Boulder County 1 hour rainfall	9/4/2018 23:33
2360	Indian Hills Precipitation-JF	Jefferson County 1 hour rainfall	9/4/2018 23:38
4520	Eagle Ridge Precipitation-BO	Boulder County 10 minute rainfall	9/4/2018 23:41
4520	Eagle Ridge Precipitation-BO	Boulder County 1 hour rainfall	9/4/2018 23:49
4520	Eagle Ridge Precipitation-BO	Boulder County 10 minute rainfall	9/4/2018 23:51
4730	Sugarloaf Precipitation-BO	FMC-BA 0.50" in 30 Min Rainfall	9/5/2018 0:51
4130	Swiss Peaks Precipitation-BO	FMC-BA 0.50" in 30 Min Rainfall	9/5/2018 0:58
4730	Sugarloaf Precipitation-BO	FMC-BA 0.75" in 1 Hour Rainfall	9/5/2018 1:01
4030	Red Garden Precipitation-BO	Boulder County 10 minute rainfall	9/5/2018 1:02
4730	Sugarloaf Precipitation-BO	Boulder County 1 hour rainfall	9/5/2018 1:06
4130	Swiss Peaks Precipitation-BO	FMC-BA 0.75" in 1 Hour Rainfall	9/5/2018 1:08
1060	Heritage Square Precipitation-JF	Jefferson County 1 hour rainfall	9/5/2018 1:30
1300	Hidden Lake Precipitation-AD	Plains 1 hour rainfall	9/5/2018 2:43
1360	Denver Zoo Precipitation-DN	Plains 1 hour rainfall	9/5/2018 2:47
1360	Denver Zoo Precipitation-DN	UDFCD 1 hour rainfall	9/5/2018 2:47
1360	Denver Zoo Precipitation-DN	Plains 10 minute rainfall	9/5/2018 2:47
1360	Denver Zoo Precipitation-DN	UDFCD 10 minute rainfall	9/5/2018 2:47
630	Temple Pond at DTC Precipitation-DN	Plains 10 minute rainfall	9/5/2018 3:10
630	Temple Pond at DTC Precipitation-DN	UDFCD 10 minute rainfall	9/5/2018 3:10
1720	Cherry Creek @ Steele Precipitation-DN	Plains 1 hour rainfall	9/5/2018 3:12
1720	Cherry Creek @ Steele Precipitation-DN	UDFCD 1 hour rainfall	9/5/2018 3:12
630	Temple Pond at DTC Precipitation-DN	Plains 1 hour rainfall	9/5/2018 3:20
630	Temple Pond at DTC Precipitation-DN	UDFCD 1 hour rainfall	9/5/2018 3:20
630	Temple Pond at DTC Precipitation-DN	Plains 10 minute rainfall	9/5/2018 3:21
630	Temple Pond at DTC Precipitation-DN	UDFCD 10 minute rainfall	9/5/2018 3:21
1340	Sanderson at Xavier Precipitation-DN	Plains 10 minute rainfall	9/5/2018 14:57
1340	Sanderson at Xavier Precipitation-DN	UDFCD 10 minute rainfall	9/5/2018 14:57

1550	Lakewood CC Precipitation-JF	Jefferson County 10 minute rainfall	9/5/2018 15:07
1550	Lakewood CC Precipitation-JF	Jefferson County 1 hour rainfall	9/5/2018 15:13
1550	Lakewood CC Precipitation-JF	Jefferson County 10 minute rainfall	9/5/2018 15:17
1010	Denver West Precipitation-JF	Jefferson County 10 minute rainfall	9/5/2018 15:18
1000	Maple Grove Reservoir Precipitation-JF	Jefferson County 10 minute rainfall	9/5/2018 15:24
1400	Upper Sloan Detention Precipitation-JF	Jefferson County 10 minute rainfall	9/5/2018 15:24
1000	Maple Grove Reservoir Precipitation-JF	Jefferson County 1 hour rainfall	9/5/2018 15:30
1000	Maple Grove Reservoir Precipitation-JF	Jefferson County 10 minute rainfall	9/5/2018 15:36
1400	Upper Sloan Detention Precipitation-JF	Jefferson County 1 hour rainfall	9/5/2018 15:47
100270	Westcreek Fire Station Wx Precipitation	Hayman 30 minute rainfall	9/5/2018 18:28
650	Iliff Pond Precipitation-DN	Plains 10 minute rainfall	9/19/2018 17:37
650	Iliff Pond Precipitation-DN	UDFCD 10 minute rainfall	9/19/2018 17:37
650	Iliff Pond Precipitation-DN	Plains 1 hour rainfall	9/19/2018 17:42
650	Iliff Pond Precipitation-DN	UDFCD 1 hour rainfall	9/19/2018 17:42
1710	Shop Creek Precipitation-AR	Plains 10 minute rainfall	9/19/2018 17:44
1710	Shop Creek Precipitation-AR	UDFCD 10 minute rainfall	9/19/2018 17:44
760	Mission Viejo Park Precipitation-AR	Plains 10 minute rainfall	9/19/2018 17:47
760	Mission Viejo Park Precipitation-AR	UDFCD 10 minute rainfall	9/19/2018 17:47
720	Confluence Pond Precipitation-AR	Plains 10 minute rainfall	9/19/2018 17:49
720	Confluence Pond Precipitation-AR	UDFCD 10 minute rainfall	9/19/2018 17:49
870	Murphy Creek Golf Course Precipitation-AR	Plains 10 minute rainfall	9/19/2018 18:01
870	Murphy Creek Golf Course Precipitation-AR	UDFCD 10 minute rainfall	9/19/2018 18:01
870	Murphy Creek Golf Course Precipitation-AR	Plains 1 hour rainfall	9/19/2018 18:07
870	Murphy Creek Golf Course Precipitation-AR	UDFCD 1 hour rainfall	9/19/2018 18:07
870	Murphy Creek Golf Course Precipitation-AR	Plains 10 minute rainfall	9/19/2018 18:15
870	Murphy Creek Golf Course Precipitation-AR	UDFCD 10 minute rainfall	9/19/2018 18:15

General System Analysis

Database Name P:\A207-UDFCD-Data-Analysis\2018\09-2018\2018Sep.mdb

Summarize

First Date in Database	9/1/18 12:00 AM	Total Days	30.0
Last Date in Database	10/1/18 12:00 AM	Total Hours	720.0

Total Records Analyzed 1,092,968

Records by Group	Legacy	%	Concentrator	%	ALERT	%
Wind Data	57,795	30%	121,820	36%	143,557	26%
Temperature	31,743	16%	60,282	18%	71,392	13%
Relative Humidity	30,881	16%	53,140	15%	60,320	11%
Barometric Pressure	14,420	7%	25,336	7%	4,109	1%
Water Level	14,072	7%	16,264	5%	69,199	12%
Precipitation	10,997	6%	14,034	4%	58,521	11%
Battery Voltage	10,215	5%	25,006	7%	86,690	16%
Fuel Temperature	5,358	3%	5,731	2%	0	0%
Fuel Moisture	5,352	3%	5,730	2%	0	0%
Solar Radiation	4,658	2%	4,994	1%	19,405	3%
Soil Moisture	2,659	1%	2,843	1%	0	0%
Repeater Status Report	2,186	1%	1,885	1%	0	0%
ET-Hourly	660	0%	714	0%	0	0%
Repeater Pass List	501	0%	60	0%	0	0%
Unknown	467	0%	4,199	1%	0	0%
12Hr Status Report	310	0%	335	0%	2,276	0%
Not Used	255	0%	305	0%	0	0%
Water Temp	112	0%	120	0%	0	0%
Handar 585 ALARM Status	57	0%	60	0%	0	0%
ET-Daily	26	0%	29	0%	0	0%
GPS Lock	0	0%	153	0%	37,743	7%
Flasher Status	0	0%	0	0%	3,992	1%
Total	192,724		343,040		557,204	

Traffic Loading Summary	Legacy	Concentrator	ALERT
Alert Reports	192,724	343,040	557,204
Average Daily Traffic	6,424	11,435	18,573
Average Hourly Traffic	268	476	774
Median Hourly Traffic	275	472	769
Peak Hourly Traffic	898	1,165	1,356
2nd Max	869	1,105	1,242
3rd Max	740	980	1,227
4th Max	634	870	1,210
5th Max	597	800	1,135

hour beginning	Legacy	Concentrator	ALERT
hour beginning	275	472	769
Sep 5, 3:00 AM	898	1,165	1,356
Sep 19, 5:00 PM	869	1,105	1,242
Sep 5, 3:00 PM	740	980	1,227
Sep 19, 6:00 PM	634	870	1,210
Sep 5, 4:00 PM	597	800	1,135

Rain Timer Performance

Analyze Rain Sensors

0.50

0.946

Rain Sensors	Description	Rcv	Timer	Exp	Performance
3070	A2-Newlin Gulch Precip	324	1:00	720	45%
2330	Morrison	33	20:19	60	55%
6601	Wx-A2-Magnolia WX-Precip	102	4:00	180	57%
1620	Slaughterhouse Glch	44	15:33	60	73%
1660	SPR at Henderson	44	15:13	60	73%
3010	WX-EPC at Hwy 105	44	15:48	60	73%
4330	Hansen Rain	45	14:47	60	75%
100260	Wx-A2-Trumbull (Hayman) - Precip	548	1:00	720	76%
2360	Indian Hills	46	13:54	60	77%
2730	Wx-Salisbury Park	47	14:52	60	78%
4510	Pinewood Springs	47	14:53	60	78%
5940	Log Jumper	47	14:43	60	78%
1710	Shop Creek	48	14:08	60	80%
2980	Dakan Rd	48	14:39	60	80%
4870	SBC @ SB Road	48	14:36	60	80%
4470	Little Narrows	49	14:36	60	82%
5720	Four Mile Creek	49	14:36	60	82%
2340	El Rancho	50	13:14	60	83%
4490	Apple Valley	50	13:56	60	83%
540	Parker/Mississippi	51	13:44	60	85%
2230	Bear Cr below Cub	51	13:29	60	85%
100150	A2-Sellers Gulch at Haystack Precip	626	1:00	720	87%
2280	Kinney Peak	53	12:13	60	88%
2870	Cottonwood (Apache)	53	13:10	60	88%
2890	Spruce Mt - Douglas	53	13:24	60	88%
3030	WX-Bingham Lake Park	53	12:44	60	88%
4270	Cannon Mountain	53	13:24	60	88%
4790	Wx-Button Rock	53	12:55	60	88%
2710	Wx-Highlands Ranch WTP	55	12:41	60	92%
2750	Wx-Castle Rock	55	12:56	60	92%
2850	Cherry Cr bl Bayou Glch	55	12:56	60	92%
2920	West Cherry Head-Douglas Cnty	55	12:44	60	92%
4040	Martin Gulch	55	12:40	60	92%
310	Guy Hill Ranch	56	12:25	60	93%
410	Kelly Dam	56	12:40	60	93%
420	Expo Park	56	12:17	60	93%
650	Iliff Pond	56	12:27	60	93%
810	Granby Ditch @ 6th	56	12:25	60	93%
1520	Wx-Marston Lake North	56	12:13	60	93%
2270	Cub Cr below Blue	56	12:26	60	93%
2900	Russelville Gulch-Douglas	56	12:40	60	93%
2930	Wx-Spring Valley Rd-DougCnty	56	12:40	60	93%
4030	Red Garden	56	12:39	60	93%
4180	Gold Lake	56	12:11	60	93%
4220	Fling's	56	12:40	60	93%
4250	Geer Canyon	56	12:37	60	93%
4290	Red Hill	56	11:57	60	93%
4320	Lee Hill Rain 2012	56	12:26	60	93%
4770	Wx-Cal-Wood Ranch	56	12:27	60	93%
4830	SBC @ San Souci	56	12:25	60	93%
140	Wx-Blue Mountain	57	12:27	60	95%
200	Leyden Reservoir	57	12:11	60	95%
210	Leyden Confluence	57	12:11	60	95%
320	Sports Complex	57	12:25	60	95%

440	Fire Station #7	57	12:25	60	95%
530	Fire Station #19	57	12:25	60	95%
630	Temple Pond at DTC	57	11:56	60	95%
820	ETG @ Buckley	57	12:25	60	95%
1350	Chatfield COE	57	12:13	60	95%
1360	Denver Zoo	57	12:10	60	95%
2370	Red Rocks Park	57	12:10	60	95%
2910	East Cherry Cr-Douglas	57	12:26	60	95%
2950	DC Public Works	57	12:27	60	95%
2990	Wx-Tomah Rd-DougCnty	57	12:26	60	95%
3080	Tallman Gulch	57	12:13	60	95%
4260	Taylor Mountain	57	12:24	60	95%
4340	Riverside	57	12:25	60	95%
5740	Trail Creek	57	12:13	60	95%
2800	Columbine Open Space	695	1:00	720	97%
110	Ralston Reservoir	58	12:24	60	97%
430	Utah Park	58	11:57	60	97%
620	Quincy/Highline	58	12:24	60	97%
640	Goldsmith @ Eastman	58	12:11	60	97%
760	Mission Viejo Park	58	12:11	60	97%
940	Aurora Regional Pond	58	12:23	60	97%
970	Pump Sta 3	58	12:00	60	97%
1030	NREL/S. Table Mtn.	58	11:57	60	97%
1050	Jeffco Fairgrounds	58	11:57	60	97%
1200	Broomfield 3207	58	11:58	60	97%
1300	Hidden Lake	58	12:13	60	97%
1400	Upper Sloan Det.	58	12:25	60	97%
1440	Wx-Elbert	58	12:00	60	97%
1460	Wx-Urban Farm	58	12:13	60	97%
1480	Third Creek at DIA	58	12:12	60	97%
1530	Bear Creek @ Lowell	58	12:10	60	97%
1550	Lakewood CC	58	12:10	60	97%
1600	Englewood Dam	58	12:11	60	97%
1700	Cherry Cr @ Champa	58	12:10	60	97%
1720	Cherry Cr @ Steele	58	11:57	60	97%
1800	Sand Creek Park	58	12:11	60	97%
1900	Niver Detention	58	12:11	60	97%
2240	Cold Sprg Glch conf	58	12:11	60	97%
2260	Brook Forest	58	12:12	60	97%
2310	Genesee Village	58	12:24	60	97%
2820	Haskins Gulch Conf	58	12:13	60	97%
2840	Sulphur Gulch	58	12:13	60	97%
2860	CC at Stroh Rd	58	12:10	60	97%
2960	Indian Creek	58	12:12	60	97%
4020	Rio Grande	58	12:10	60	97%
4060	Lakeshore	58	12:10	60	97%
4070	Bear Peak	58	12:11	60	97%
4080	Twin Sisters	58	11:57	60	97%
4090	Magnolia	58	11:57	60	97%
4110	Betasso	58	12:10	60	97%
4130	Swiss Peaks	58	12:11	60	97%
4160	Sunshine	58	12:11	60	97%
4190	Slaughterhouse	58	12:11	60	97%
4200	Lazy Acres	58	11:59	60	97%
4230	Golden Age	58	12:11	60	97%
4360	Justice Center	58	12:10	60	97%
4570	St. Antons	58	12:13	60	97%
4710	Wx-Ward C-1	58	12:00	60	97%
5810	Stump Bump	58	12:00	60	97%

100290	A2-PlumCr at Sedalia - Precip	697	1:00	720	97%
2810	Pine Cliff Road	703	1:00	720	98%
120	West Woods	59	11:58	60	98%
150	Nott Creek	59	11:57	60	98%
220	Upper Leyden	59	12:00	60	98%
300	Van Bibber Park	59	11:58	60	98%
330	Van Bibber @ Hwy 93	59	11:57	60	98%
400	Montview Park	59	12:00	60	98%
500	Havana Park	59	12:11	60	98%
520	Jewell Detention	59	11:57	60	98%
600	Harvard Gulch Park	59	11:57	60	98%
610	Harvard @ Jackson	59	11:57	60	98%
700	Toll Gate @ 6th	59	12:00	60	98%
710	Horseshoe Park Drop	59	11:58	60	98%
720	Confluence Pond	59	11:58	60	98%
730	No Name @ Quincy	59	11:58	60	98%
750	Wx-Quincy Reservoir	59	12:00	60	98%
800	Sable Ditch @ 18th	59	11:57	60	98%
830	Side Creek Park	59	12:00	60	98%
840	Fire Station 12	59	12:00	60	98%
850	Flying J	59	12:00	60	98%
900	Wx-Aurora Reservoir	59	12:00	60	98%
1010	Denver West	59	12:11	60	98%
1060	Heritage Square	59	11:57	60	98%
1100	Louisville Rec Ctr	59	11:59	60	98%
1320	SPR at 3rd Ave	59	11:58	60	98%
1370	West Metro FS13	59	11:58	60	98%
1420	Wx-A2-Diamond Hill	59	12:00	60	98%
1500	Powers Park	59	11:57	60	98%
1570	Wx-Brighton Ditch	59	12:00	60	98%
1920	Wx-Brighton	59	12:00	60	98%
2210	Wx-Hiwan G.C.	59	12:00	60	98%
2250	Rosedale	59	11:57	60	98%
2320	Choke Cherry Resvr	59	12:00	60	98%
2350	Idledale	59	11:59	60	98%
2940	Willow Creek - DougCnty	59	12:00	60	98%
4050	Walker Ranch	59	12:10	60	98%
4100	Filter Plant	59	12:00	60	98%
4140	Logan Mill	59	11:58	60	98%
4150	Gold Hill	59	11:58	60	98%
4170	Pine Brook	59	11:57	60	98%
4300	Big Elk Park	59	11:57	60	98%
4310	Johnny Park	59	12:09	60	98%
4350	Conifer Hill	59	11:57	60	98%
4520	Eagle Ridge	59	12:00	60	98%
4530	Winiger Ridge	59	12:10	60	98%
4730	Wx-Sugarloaf	59	12:00	60	98%
4750	Wx-Louisville Lake	59	12:00	60	98%
4810	Shanahan Ridge	59	11:57	60	98%
4840	SBC@S Boulder Ditch	59	11:57	60	98%
4860	Fairview Peak	59	12:00	60	98%
5730	West Creek	59	12:00	60	98%
5860	Cedar Mountain	59	12:00	60	98%
5880	Hackett Mountain	59	12:00	60	98%
100100	A2-Blackstone Precip	59	12:00	60	98%
100110	A2-ETG @ Hampden Precip	59	12:00	60	98%
100200	Wx-A2-OneRain Weather - Precipitation	59	12:00	60	98%
3050	East/West Trailhead	708	1:00	720	98%
100270	Wx-A2-WestCreek (Hayman) - Precip	709	1:00	720	98%

2880	Happy Canyon at N Surrey Dr	712	1:00	720	99%
3020	Wx-West Creek WX	714	1:00	720	99%
100140	A2-Upper Sellers Gulch Precip	717	1:00	720	100%
100420	A2-Thorncreek - Precip	717	1:00	720	100%
1000	A2-Maple Grove Resv.	718	1:00	720	100%
1340	Sanderson at Xavier	718	1:00	720	100%
3040	CC @ Russelville Road Precip	718	1:00	720	100%
100300	A2-CoalCreek at McCaslin - Precip	718	1:00	720	100%
100	A2-Carr Street	719	1:00	720	100%
870	A2-Murphy Creek GC	719	1:00	720	100%
1310	LDC at 64th	719	1:00	720	100%
3060	Fire Sta 47	719	1:00	720	100%
4850	Porphory Mtn	719	1:00	720	100%
100160	A2-Sand Creek at Colfax Precip	719	1:00	720	100%
100230	A2-Havana Pond Precip	719	1:00	720	100%
100240	A2-Westerly Cr Dam Precip	719	1:00	720	100%
100320	A2-Weir Gulch - Precip	719	1:00	720	100%
100410	A2-Brantner Gulch - Precip	719	1:00	720	100%
100490	Coal Creek at Twin Spruce Rd - Precipitation	719	1:00	720	100%
100500	Upper Coal Creek at Camp Eden Rd - Precipitation	719	1:00	720	100%
510	Virginia Court	60	11:56	60	100%
950	Piney at Liverpool	60	11:57	60	100%
1040	Lena @ U.S. Hwy 6	60	11:56	60	100%
1110	Gunbarrel	60	11:58	60	100%
1640	SPR at Union Ave.	60	11:57	60	100%
4010	Crescent	60	11:58	60	100%
4240	Sunset	60	11:45	60	100%
4550	Boulder Jail	60	11:57	60	100%
4820	Doudy Draw	60	11:57	60	100%
4880	Whispering Pines	60	11:57	60	100%
2970	Rampart Range Rd-Satellite	192		192	100%
3090	A2-Highland Heritage Park	720	1:00	720	100%
5900	Horse Creek-Satellite	1109		1109	100%

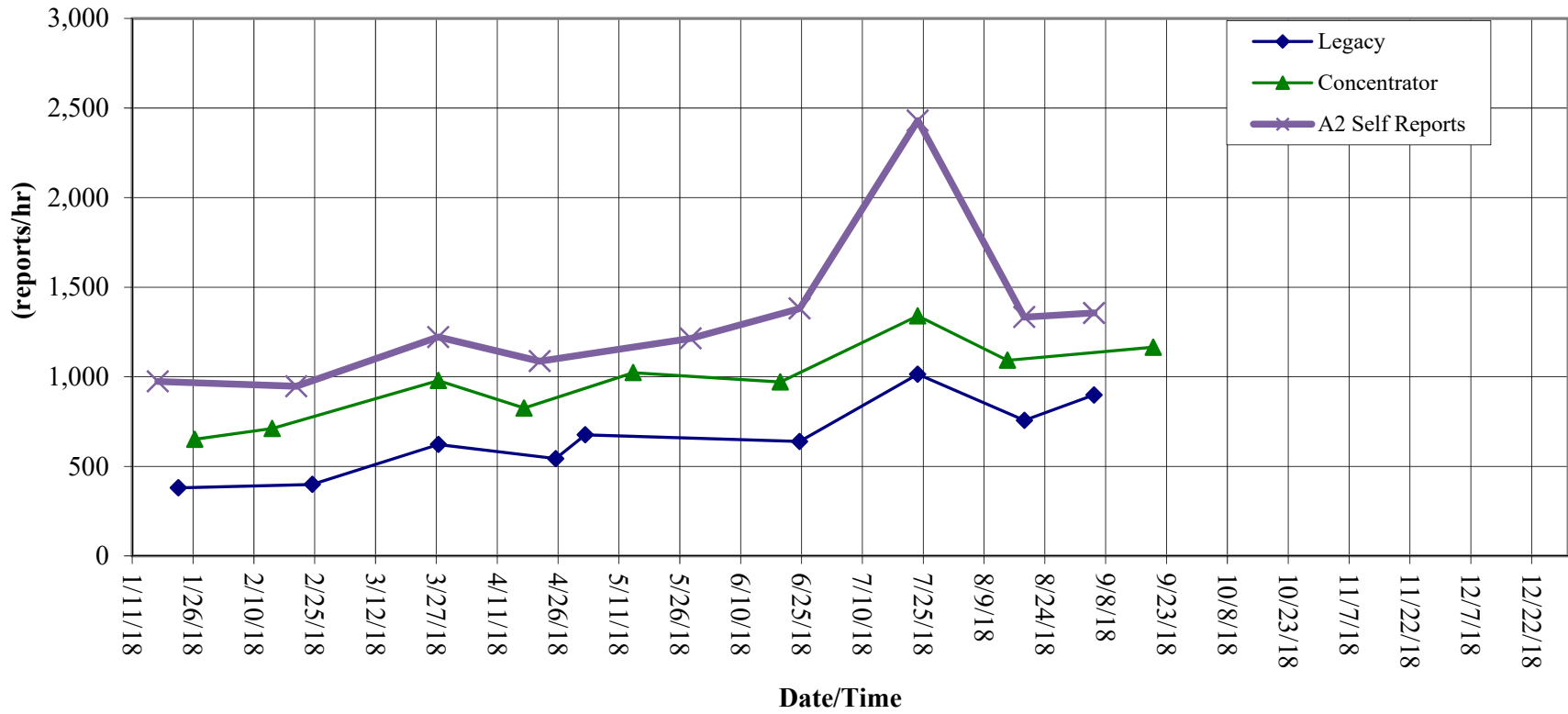
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Rain Event Performance				Analyze Rain Sensors					0	<<show stations with zero rain (1=yes, 0=no)						
2		Reports Received	Reports Received	4,465													
3		Systemwide Avg	Total Tips	4,717													
4		95.00%	Data Loss	5.34%													
5	Description	Sensor	Performance	1-tips	2-tips	3-tips	4-tips	5-tips	6-tips	>6-tips	Rcv	Exp	Miss	Hold	Bucket		
6	Indian Creek	2960	50%	0	1	0	0	0	0	0	1	2	1	0	0.0393701		
7	Pinewood Springs	4510	60%	14	6	3	0	1	0	0	24	40	16	0	0.0393701 Mean	24.36	
8	El Rancho	2340	61%	16	4	0	0	0	0	1	20	33	13	0	0.0393701 Median	20	
9	Morrison	2330	61%	14	5	1	1	1	0	0	22	36	14	0	0.0393701 St. Dev	19.5	
10	Apple Valley	4490	69%	13	3	1	1	0	0	0	18	26	8	0	0.0393701 Mean plus 3 SD	82.87	
11	Indian Hills	2360	70%	25	9	2	1	0	0	0	37	53	16	1	0.0393701 mean minus 2 SD	-14.65	
12	Slaughterhouse Glch	1620	70%	5	1	1	0	0	0	1	7	10	3	0	0.0393701 Min	1	
13	Rampart Range Rd-Satellite	2970	73%	6	1	1	0	0	0	0	8	11	3	0	0.0393701 Max	139	
14	Hansen Rain	4330	76%	12	3	1	0	0	0	0	16	21	5	0	0.0393701		
15	Shop Creek	1710	80%	16	3	1	0	0	0	0	20	25	5	0	0.0393701		
16	Red Hill	4290	80%	3	1	0	0	0	0	0	4	5	1	0	0.0393701		
17	Iliff Pond	650	82%	21	6	0	0	0	0	0	27	33	6	0	0.0393701		
18	Happy Canyon at N Surrey Dr	2880	82%	8	0	1	0	0	0	0	9	11	2	0	0.0393701		
19	Russelville Gulch-Douglas	2900	82%	7	2	0	0	0	0	0	9	11	2	0	0.0393701		
20	Spruce Mt - Douglas	2890	83%	4	1	0	0	0	0	0	5	6	1	0	0.0393701		
21	Eagle Ridge	4520	83%	25	4	1	0	0	0	0	30	36	6	0	0.0393701		
22	SPR at Henderson	1660	86%	5	1	0	0	0	0	0	6	7	1	0	0.0393701		
23	Bear Cr below Cub	2230	86%	16	1	1	0	0	0	0	18	21	3	0	0.0393701		
24	Haskins Gulch Conf	2820	86%	10	2	0	0	0	0	0	12	14	2	0	0.0393701		
25	Martin Gulch	4040	86%	43	6	1	0	0	0	0	50	58	8	0	0.0393701		
26	Lazy Acres	4200	87%	11	2	0	0	0	0	0	13	15	2	0	0.0393701		
27	Virginia Court	510	88%	18	3	0	0	0	0	0	21	24	3	0	0.0393701		
28	Golden Age	4230	88%	6	1	0	0	0	0	0	7	8	1	0	0.0393701		
29	Nott Creek	150	88%	25	4	0	0	0	0	0	29	33	4	0	0.0393701		
30	Heritage Square	1060	88%	45	5	1	0	0	0	0	51	58	7	0	0.0393701		
31	Cub Cr below Blue	2270	88%	38	6	0	0	0	0	0	44	50	6	0	0.0393701		
32	SBC @ San Souci	4830	88%	19	3	0	0	0	0	0	22	25	3	0	0.0393701		
33	Parker/Mississippi	540	88%	26	4	0	0	0	0	0	30	34	4	0	0.0393701		
34	Havana Park	500	89%	14	2	0	0	0	0	0	16	18	2	0	0.0393701		
35	Third Creek at DIA	1480	89%	7	1	0	0	0	0	0	8	9	1	0	0.0393701		
36	Idledale	2350	89%	44	4	1	0	0	0	0	49	55	6	0	0.0393701		
37	Denver Zoo	1360	89%	51	7	0	0	0	0	0	58	65	7	1	0.0393701		
38	Gold Lake	4180	89%	15	2	0	0	0	0	0	17	19	2	0	0.0393701		
39	Lee Hill Rain 2012	4320	89%	16	0	1	0	0	0	0	17	19	2	0	0.0393701		
40	Fire Station #19	530	90%	24	3	0	0	0	0	0	27	30	3	0	0.0393701		
41	Fire Station 12	840	90%	8	1	0	0	0	0	0	9	10	1	0	0.0393701		
42	Wx-Tomah Rd-DougCnty	2990	90%	8	1	0	0	0	0	0	9	10	1	0	0.0393701		
43	Lakeshore	4060	90%	16	2	0	0	0	0	0	18	20	2	0	0.0393701		
44	Wx-A2-Trumbull (Hayman) - Precip	100260	90%	8	1	0	0	0	0	0	9	10	1	0	0.0393701		
45	Quincy/Highline	620	91%	18	2	0	0	0	0	0	20	22	2	0	0.0393701		
46	Horseshoe Park Drop	710	91%	18	2	0	0	0	0	0	20	22	2	0	0.0393701		
47	Upper Sloan Det.	1400	91%	37	2	1	0	0	0	0	40	44	4	0	0.0393701		
48	Niver Detention	1900	91%	36	4	0	0	0	0	0	40	44	4	0	0.0393701		
49	Granby Ditch @ 6th	810	91%	19	2	0	0	0	0	0	21	23	2	0	0.0393701		
50	No Name @ Quincy	730	92%	10	1	0	0	0	0	0	11	12	1	0	0.0393701		
51	DC Public Works	2950	92%	11	1	0	0	0	0	0	12	13	1	0	0.0393701		
52	Upper Leyden	220	93%	39	3	0	0	0	0	0	42	45	3	0	0.0393701		
53	Confluence Pond	720	93%	26	2	0	0	0	0	0	28	30	2	1	0.0393701		
54	Sand Creek Park	1800	93%	13	1	0	0	0	0	0	14	15	1	0	0.0393701		
55	Genesee Village	2310	93%	39	3	0	0	0	0	0	42	45	3	0	0.0393701		
56	Fire Station #7	440	94%	14	1	0	0	0	0	0	15	16	1	0	0.0393701		
57	Chatfield COE	1350	94%	14	1	0	0	0	0	0	15	16	1	0	0.0393701		
58	Four Mile Creek	5720	94%	14	1	0	0	0	0	0	15	16	1	0	0.0393701		
59	Conifer Hill	4350	94%	30	0	1	0	0	0	0	31	33	2	0	0.0393701		
60	SPR at 3rd Ave	1320	94%	15	1	0	0	0	0	0	16	17	1	0	0.0393701		
61	Bear Creek @ Lowell	1530	94%	15	1	0	0	0	0	0	16	17	1	0	0.0393701		
62	Wx-Louisville Lake	4750	94%	15	1	0	0	0	0	0	16	17	1	0	0.0393701		
63	Bear Peak	4070	94%	47	3	0	0	0	0	0	50	53	3	0	0.0393701		

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
64	Goldsmith @ Eastman	640	94%	32	2	0	0	0	0	0	0	34	36	2	0	0.0393701	
65	Wx-Ward C-1	4710	94%	16	1	0	0	0	0	0	0	17	18	1	0	0.0393701	
66	Guy Hill Ranch	310	95%	49	3	0	0	0	0	0	0	52	55	3	0	0.0393701	
67	Harvard Gulch Park	600	95%	50	1	1	0	0	0	0	0	52	55	3	0	0.0393701	
68	Englewood Dam	1600	95%	17	1	0	0	0	0	0	0	18	19	1	0	0.0393701	
69	A2-Upper Sellers Gulch Precip	100140	95%	17	1	0	0	0	0	0	0	18	19	1	0	0.0393701	
70	Ralston Reservoir	110	95%	35	2	0	0	0	0	0	0	37	39	2	0	0.0393701	
71	Kelly Dam	410	95%	18	1	0	0	0	0	0	0	19	20	1	0	0.0393701	
72	Louisville Rec Ctr	1100	95%	18	1	0	0	0	0	0	0	19	20	1	0	0.0393701	
73	Broomfield 3207	1200	95%	18	1	0	0	0	0	0	0	19	20	1	0	0.0393701	
74	Leyden Reservoir	200	95%	19	1	0	0	0	0	0	0	20	21	1	0	0.0393701	
75	Toll Gate @ 6th	700	95%	19	1	0	0	0	0	0	0	20	21	1	0	0.0393701	
76	Pump Sta 3	970	95%	19	1	0	0	0	0	0	0	20	21	1	0	0.0393701	
77	Cherry Cr @ Champa	1700	95%	19	1	0	0	0	0	0	0	20	21	1	0	0.0393701	
78	Harvard @ Jackson	610	95%	20	1	0	0	0	0	0	0	21	22	1	1	0.0393701	
79	Wx-Elbert	1440	95%	20	1	0	0	0	0	0	0	21	22	1	0	0.0393701	
80	Justice Center	4360	96%	21	1	0	0	0	0	0	0	22	23	1	0	0.0393701	
81	ETG @ Buckley	820	96%	23	1	0	0	0	0	0	0	24	25	1	0	0.0393701	
82	Choke Cherry Resvr	2320	96%	47	2	0	0	0	0	0	0	49	51	2	0	0.0393701	
83	Cold Sprg Glch conf	2240	96%	24	1	0	0	0	0	0	0	25	26	1	0	0.0393701	
84	Lakewood CC	1550	96%	50	2	0	0	0	0	0	0	52	54	2	1	0.0393701	
85	Red Garden	4030	96%	50	2	0	0	0	0	0	0	52	54	2	0	0.0393701	
86	Temple Pond at DTC	630	96%	131	1	2	0	0	0	0	0	134	139	5	0	0.0393701	
87	Rosedale	2250	96%	26	1	0	0	0	0	0	0	27	28	1	0	0.0393701	
88	Crescent	4010	97%	27	1	0	0	0	0	0	0	28	29	1	0	0.0393701	
89	Wx-A2-WestCreek (Hayman) - Precip	100270	97%	27	1	0	0	0	0	0	0	28	29	1	0	0.0393701	
90	Doudy Draw	4820	97%	29	1	0	0	0	0	0	0	30	31	1	0	0.0393701	
91	West Metro FS13	1370	97%	32	1	0	0	0	0	0	0	33	34	1	0	0.0393701	
92	Van Bibber @ Hwy 93	330	97%	36	1	0	0	0	0	0	0	37	38	1	0	0.0393701	
93	Cherry Cr @ Steele	1720	97%	36	1	0	0	0	0	0	0	37	38	1	0	0.0393701	
94	Denver West	1010	98%	44	1	0	0	0	0	0	0	45	46	1	0	0.0393701	
95	Expo Park	420	98%	90	2	0	0	0	0	0	0	92	94	2	0	0.0393701	
96	Sports Complex	320	98%	49	1	0	0	0	0	0	0	50	51	1	0	0.0393701	
97	Hidden Lake	1300	98%	49	1	0	0	0	0	0	0	50	51	1	0	0.0393701	
98	Brook Forest	2260	98%	58	1	0	0	0	0	0	0	59	60	1	0	0.0393701	
99	Wx-Blue Mountain	140	98%	61	1	0	0	0	0	0	0	62	63	1	0	0.0393701	
100	A2-Maple Grove Resv.	1000	99%	68	1	0	0	0	0	0	0	69	70	1	4	0.0393701	
101	A2-Brantner Gulch - Precip	100410	100%	12	0	0	0	0	0	0	0	12	12	0	0	0.0393701	
102	A2-Thorncreek - Precip	100420	100%	28	0	0	0	0	0	0	0	28	28	0	0	0.0393701	
103	A2-Carr Street	100	100%	54	0	0	0	0	0	0	0	54	54	0	0	0.0393701	
104	West Woods	120	100%	22	0	0	0	0	0	0	0	22	22	0	0	0.0393701	
105	Leyden Confluence	210	100%	27	0	0	0	0	0	0	0	27	27	0	0	0.0393701	
106	Van Bibber Park	300	100%	36	0	0	0	0	0	0	0	36	36	0	0	0.0393701	
107	Montview Park	400	100%	18	0	0	0	0	0	0	0	18	18	0	0	0.0393701	
108	Utah Park	430	100%	103	0	0	0	0	0	0	0	103	103	0	0	0.0393701	
109	Jewell Detention	520	100%	39	0	0	0	0	0	0	0	39	39	0	0	0.0393701	
110	Wx-Quincy Reservoir	750	100%	14	0	0	0	0	0	0	0	14	14	0	0	0.0393701	
111	Mission Viejo Park	760	100%	25	0	0	0	0	0	0	0	25	25	0	0	0.0393701	
112	Sable Ditch @ 18th	800	100%	24	0	0	0	0	0	0	0	24	24	0	0	0.0393701	
113	Side Creek Park	830	100%	19	0	0	0	0	0	0	0	19	19	0	0	0.0393701	
114	Flying J	850	100%	26	0	0	0	0	0	0	0	26	26	0	0	0.0393701	
115	A2-Murphy Creek GC	870	100%	34	0	0	0	0	0	0	0	34	34	0	0	0.0393701	
116	Piney at Liverpool	950	100%	3	0	0	0	0	0	0	0	3	3	0	0	0.0393701	
117	NREL/S. Table Mtn.	1030	100%	4	0	0	0	0	0	0	0	4	4	0	0	0.0393701	
118	Lena @ U.S. Hwy 6	1040	100%	53	0	0	0	0	0	0	0	53	53	0	0	0.0393701	
119	Jeffco Fairgrounds	1050	100%	38	0	0	0	0	0	0	0	38	38	0	0	0.0393701	
120	Gunbarrel	1110	100%	14	0	0	0	0	0	0	0	14	14	0	0	0.0393701	
121	LDC at 64th	1310	100%	37	0	0	0	0	0	0	0	37	37	0	1	0.0393701	
122	Sanderson at Xavier	1340	100%	30	0	0	0	0	0	0	0	30	30	0	5	0.0393701	
123	Wx-A2-Diamond Hill	1420	100%	20	0	0	0	0	0	0	0	20	20	0	0	0.0393701	
124	Wx-Urban Farm	1460	100%	19	0	0	0	0	0	0	0	19	19	0	0	0.0393701	
125	Powers Park	1500	100%	74	0	0	0	0	0	0	0	74	74	0	0	0.0393701	
126	Wx-Marston Lake North	1520	100%	20	0	0	0	0	0	0	0	20	20	0	1	0.0393701	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
127	Wx-Brighton Ditch	1570	100%	9	0	0	0	0	0	0	0	9	9	0	0	0.0393701	
128	Wx-Hiwan G.C.	2210	100%	22	0	0	0	0	0	0	0	22	22	0	0	0.0393701	
129	Kinney Peak	2280	100%	24	0	0	0	0	0	0	0	24	24	0	0	0.0393701	
130	Red Rocks Park	2370	100%	27	0	0	0	0	0	0	0	27	27	0	0	0.0393701	
131	Wx-Highlands Ranch WTP	2710	100%	4	0	0	0	0	0	0	0	4	4	0	0	0.0393701	
132	Wx-Castle Rock	2750	100%	4	0	0	0	0	0	0	0	4	4	0	0	0.0393701	
133	Columbine Open Space	2800	100%	10	0	0	0	0	0	0	0	10	10	0	0	0.0393701	
134	Pine Cliff Road	2810	100%	2	0	0	0	0	0	0	0	2	2	0	0	0.0393701	
135	Sulphur Gulch	2840	100%	4	0	0	0	0	0	0	0	4	4	0	0	0.0393701	
136	Cherry Cr bl Bayou Glch	2850	100%	5	0	0	0	0	0	0	0	5	5	0	0	0.0393701	
137	CC at Stroh Rd	2860	100%	1	0	0	0	0	0	0	0	1	1	0	0	0.0393701	
138	Cottonwood (Apache)	2870	100%	1	0	0	0	0	0	0	0	1	1	0	0	0.0393701	
139	East Cherry Cr-Douglas	2910	100%	7	0	0	0	0	0	0	0	7	7	0	0	0.0393701	
140	West Cherry Head-Douglas Cnty	2920	100%	17	0	0	0	0	0	0	0	17	17	0	0	0.0393701	
141	Wx-Spring Valley Rd-DougCnty	2930	100%	7	0	0	0	0	0	0	0	7	7	0	0	0.0393701	
142	Willow Creek - DougCnty	2940	100%	5	0	0	0	0	0	0	0	5	5	0	0	0.0393701	
143	Dakan Rd	2980	100%	9	0	0	0	0	0	0	0	9	9	0	0	0.0393701	
144	WX-EPC at Hwy 105	3010	100%	5	0	0	0	0	0	0	0	5	5	0	0	0.0393701	
145	Wx-West Creek WX	3020	100%	9	0	0	0	0	0	0	0	9	9	0	0	0.0393701	
146	WX-Bingham Lake Park	3030	100%	8	0	0	0	0	0	0	0	8	8	0	0	0.0393701	
147	CC @ Russelville Road Precip	3040	100%	46	0	0	0	0	0	0	0	46	46	0	0	0.0393701	
148	East/West Trailhead	3050	100%	11	0	0	0	0	0	0	0	11	11	0	0	0.0393701	
149	Fire Sta 47	3060	100%	2	0	0	0	0	0	0	0	2	2	0	0	0.0393701	
150	A2-Newlin Gulch Precip	3070	100%	4	0	0	0	0	0	0	0	4	4	0	0	0.0393701	
151	Tallman Gulch	3080	100%	3	0	0	0	0	0	0	0	3	3	0	0	0.0393701	
152	A2-Highland Heritage Park	3090	100%	4	0	0	0	0	0	0	0	4	4	0	0	0.0393701	
153	Rio Grande	4020	100%	37	0	0	0	0	0	0	0	37	37	0	0	0.0393701	
154	Walker Ranch	4050	100%	35	0	0	0	0	0	0	0	35	35	0	0	0.0393701	
155	Twin Sisters	4080	100%	18	0	0	0	0	0	0	0	18	18	0	0	0.0393701	
156	Magnolia	4090	100%	27	0	0	0	0	0	0	0	27	27	0	0	0.0393701	
157	Filter Plant	4100	100%	18	0	0	0	0	0	0	0	18	18	0	0	0.0393701	
158	Betasso	4110	100%	14	0	0	0	0	0	0	0	14	14	0	0	0.0393701	
159	Swiss Peaks	4130	100%	30	0	0	0	0	0	0	0	30	30	0	0	0.0393701	
160	Logan Mill	4140	100%	13	0	0	0	0	0	0	0	13	13	0	0	0.0393701	
161	Gold Hill	4150	100%	21	0	0	0	0	0	0	0	21	21	0	0	0.0393701	
162	Sunshine	4160	100%	21	0	0	0	0	0	0	0	21	21	0	0	0.0393701	
163	Pine Brook	4170	100%	10	0	0	0	0	0	0	0	10	10	0	0	0.0393701	
164	Slaughterhouse	4190	100%	6	0	0	0	0	0	0	0	6	6	0	0	0.0393701	
165	Fling's	4220	100%	7	0	0	0	0	0	0	0	7	7	0	0	0.0393701	
166	Sunset	4240	100%	6	0	0	0	0	0	0	0	6	6	0	0	0.0393701	
167	Geer Canyon	4250	100%	3	0	0	0	0	0	0	0	3	3	0	0	0.0393701	
168	Taylor Mountain	4260	100%	2	0	0	0	0	0	0	0	2	2	0	0	0.0393701	
169	Cannon Mountain	4270	100%	2	0	0	0	0	0	0	0	2	2	0	0	0.0393701	
170	Big Elk Park	4300	100%	1	0	0	0	0	0	0	0	1	1	0	0	0.0393701	
171	Johnny Park	4310	100%	5	0	0	0	0	0	0	0	5	5	0	0	0.0393701	
172	Riverside	4340	100%	6	0	0	0	0	0	0	0	6	6	0	0	0.0393701	
173	Little Narrows	4470	100%	3	0	0	0	0	0	0	0	3	3	0	0	0.0393701	
174	Winiger Ridge	4530	100%	20	0	0	0	0	0	0	0	20	20	0	0	0.0393701	
175	Boulder Jail	4550	100%	18	0	0	0	0	0	0	0	18	18	0	0	0.0393701	
176	St. Antons	4570	100%	8	0	0	0	0	0	0	0	8	8	0	0	0.0393701	
177	Wx-Sugarloaf	4730	100%	42	0	0	0	0	0	0	0	42	42	0	0	0.0393701	
178	Wx-Cal-Wood Ranch	4770	100%	9	0	0	0	0	0	0	0	9	9	0	0	0.0393701	
179	Shanahan Ridge	4810	100%	35	0	0	0	0	0	0	0	35	35	0	0	0.0393701	
180	SBC@S Boulder Ditch	4840	100%	23	0	0	0	0	0	0	0	23	23	0	0	0.0393701	
181	Whispering Pines	4880	100%	19	0	0	0	0	0	0	0	19	19	0	0	0.0393701	
182	West Creek	5730	100%	13	0	0	0	0	0	0	0	13	13	0	0	0.0393701	
183	Trail Creek	5740	100%	13	0	0	0	0	0	0	0	13	13	0	0	0.0393701	
184	Stump Bump	5810	100%	18	0	0	0	0	0	0	0	18	18	0	0	0.0393701	
185	Cedar Mountain	5860	100%	21	0	0	0	0	0	0	0	21	21	0	0	0.0393701	
186	Hackett Mountain	5880	100%	15	0	0	0	0	0	0	0	15	15	0	0	0.0393701	
187	Horse Creek-Satellite	5900	100%	15	0	0	0	0	0	0	0	15	15	0	0	0.0393701	
188	Log Jumper	5940	100%	13	0	0	0	0	0	0	0	13	13	0	0	0.0393701	
189	A2-Blackstone Precip	100100	100%	4	0	0	0	0	0	0	0	4	4	0	0	0.0393701	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
190	A2-ETG @ Hampden Precip	100110	100%	14	0	0	0	0	0	0	0	14	14	0	0	0.0393701	
191	A2-Sellers Gulch at Haystack Precip	100150	100%	9	0	0	0	0	0	0	0	9	9	0	0	0.0393701	
192	A2-Sand Creek at Colfax Precip	100160	100%	19	0	0	0	0	0	0	0	19	19	0	0	0.0393701	
193	A2-Havana Pond Precip	100230	100%	23	0	0	0	0	0	0	0	23	23	0	0	0.0393701	
194	A2-Westerly Cr Dam Precip	100240	100%	22	0	0	0	0	0	0	0	22	22	0	0	0.0393701	
195	A2-PlumCr at Sedalia - Precip	100290	100%	1	0	0	0	0	0	0	0	1	1	0	0	0.0393701	
196	A2-CoalCreek at McCaslin - Precip	100300	100%	18	0	0	0	0	0	0	0	18	18	0	0	0.0393701	
197	A2-Weir Gulch - Precip	100320	100%	16	0	0	0	0	0	0	0	16	16	0	0	0.0393701	
198	Coal Creek at Twin Spruce Rd - Precipitation	100490	100%	34	0	0	0	0	0	0	0	34	34	0	0	0.0393701	
199	Upper Coal Creek at Camp Eden Rd - Precipitation	100500	100%	22	0	0	0	0	0	0	0	22	22	0	0	0.0393701	
200		Total Tips		4248	189	23	3	2	0								
201																	
202																	
203	Wx-A2-OneRain Weather - Precipitation	100200	98%	57	1	0	0	0	0	0	0	58	59	1	0	0.01	
204	Wx-A2-Magnolia WX-Precip	6601	98%	62	1	0	0	0	0	0	0	63	64	1	0	0.01	
205	Porphory Mtn	4850	100%	15	0	0	0	0	0	0	0	15	15	0	0	0.01	
206	Fairview Peak	4860	100%	53	0	0	0	0	0	0	0	53	53	0	3	0.01	

2018 Monthly Peak Hour ALERT Radio Traffic Summary



Sunburst Plot

Inner Ring: Displays the ratio of ALERT2 data reports between the Diamond Hill and Westy decoders

Second Ring: Displays the ratio of ALERT2 data reports between the five repeaters

Third Ring: Displays the event performance for each ALERT2 site

Outer Ring: Displays the timer performance for each ALERT2 site

