

72662 RAP Rapid City Observations at 00Z 26 Jul 2015

PRES hPa	HGHT m	TEMP C	DWPT C	RELH %	MIXR g/kg	DRCT deg	SKNT knot	THTA K	THTE K	THTV K
1000.0	59									
925.0	749									
896.0	1029	26.6	16.6	54	13.44	275	5	309.3	350.5	311.8
889.0	1098	26.4	12.4	42	10.27	302	6	309.8	341.5	311.7
880.0	1188	26.6	11.6	39	9.84	338	8	310.9	341.4	312.7
876.9	1219	26.5	11.1	38	9.58	350	8	311.1	340.8	312.9
861.0	1379	25.8	8.8	34	8.32	359	11	312.0	338.1	313.6
850.0	1492	24.8	8.8	36	8.43	5	13	312.1	338.5	313.7
817.5	1829	21.7	7.7	41	8.13	0	13	312.3	337.8	313.8
789.1	2134	18.8	6.7	45	7.87	355	11	312.4	337.1	313.9
761.8	2438	16.0	5.7	51	7.61	335	14	312.5	336.5	314.0
758.0	2481	15.6	5.6	51	7.58	331	15	312.5	336.4	314.0
734.8	2743	13.7	4.9	55	7.44	305	18	313.3	336.8	314.7
700.0	3151	10.8	3.8	62	7.23	285	21	314.4	337.4	315.8
682.0	3367	9.0	3.0	66	7.01	277	24	314.8	337.1	316.1
658.0	3658	6.7	0.9	67	6.24	265	28	315.3	335.3	316.5
610.5	4267	1.7	-3.6	68	4.84	265	34	316.5	332.2	317.4
588.0	4572	-0.7	-5.8	69	4.24	265	36	317.0	331.0	317.9
583.0	4642	-1.3	-6.3	69	4.12	267	36	317.2	330.7	317.9
565.9	4877	-2.6	-7.9	67	3.74	275	35	318.3	330.7	319.0
528.0	5425	-5.7	-11.7	63	2.97	284	31	321.0	331.1	321.6
519.0	5559	-6.1	-15.1	49	2.29	286	31	322.1	330.0	322.5
511.0	5681	-6.7	-14.7	53	2.41	288	30	322.8	331.1	323.3
506.0	5757	-6.9	-20.9	32	1.44	289	29	323.5	328.6	323.7
504.0	5788	-7.1	-23.1	27	1.19	290	29	323.6	327.9	323.8
503.8	5791	-7.1	-23.0	27	1.20	290	29	323.6	327.9	323.8
500.0	5850	-7.7	-20.7	34	1.48	290	30	323.6	328.9	323.9
498.0	5881	-7.9	-19.9	38	1.59	289	30	323.7	329.4	324.0
484.4	6096	-9.8	-21.8	37	1.39	280	28	324.0	329.0	324.3
482.0	6134	-10.1	-22.1	37	1.36	278	28	324.0	328.9	324.3
466.0	6394	-10.9	-30.9	18	0.63	260	29	326.2	328.6	326.3
465.6	6401	-10.9	-31.0	17	0.62	260	29	326.2	328.6	326.3
419.0	7203	-16.5	-41.5	10	0.24	264	30	329.1	330.0	329.1
412.8	7315	-17.5	-42.5	9	0.22	265	30	329.1	330.0	329.2
400.0	7550	-19.7	-44.7	9	0.18	270	32	329.3	330.0	329.3
396.2	7620	-20.3	-45.0	9	0.17	270	33	329.4	330.1	329.4
349.0	8543	-28.5	-49.5	11	0.12	267	43	330.5	331.0	330.5
320.5	9144	-32.3	-57.3	7	0.05	265	50	333.3	333.6	333.4
300.0	9610	-35.3	-63.3	4	0.03	260	51	335.5	335.6	335.5
267.0	10414	-40.5	-65.5	5	0.02	260	59	339.3	339.4	339.3
250.0	10860	-42.9	-67.9	5	0.02	260	64	342.1	342.2	342.1
224.2	11582	-46.6	-71.6	4	0.01	260	73	347.3	347.3	347.3
222.0	11648	-47.0	-72.0	4	0.01	260	73	347.7	347.8	347.7
200.0	12340	-50.5	-75.5	4	0.01	255	70	352.6	352.7	352.6
199.0	12373	-50.7	-75.7	4	0.01	255	70	352.8	352.9	352.8
170.0	13382	-57.1	-80.1	4	0.00	247	62	358.4	358.5	358.4
156.0	13924	-57.9	-81.9	3	0.00	242	57	366.0	366.0	366.0
150.0	14170	-59.5	-82.5	4	0.00	240	55	367.4	367.4	367.4
142.0	14511	-62.3	-84.3	4	0.00	238	53	368.3	368.3	368.3
131.0	15007	-63.7	-87.7	3	0.00	236	50	374.4	374.4	374.4
126.1	15240	-65.5	-88.3	3	0.00	235	48	375.2	375.2	375.2
123.0	15390	-66.7	-88.7	3	0.00	240	52	375.7	375.7	375.7
120.0	15539	-67.1	-89.1	3	0.00	245	56	377.6	377.6	377.6

119.9	15545	-67.0	-89.0	3	0.00	245	56	377.9	377.9	377.9
115.0	15798	-63.9	-86.9	3	0.00	262	41	388.2	388.2	388.2
113.0	15906	-63.9	-86.9	3	0.00	269	35	390.1	390.1	390.1
112.0	15960	-62.1	-85.1	3	0.00	272	31	394.5	394.5	394.5
110.0	16072	-60.7	-84.7	3	0.00	280	25	399.2	399.2	399.2
108.5	16154	-61.3	-85.0	3	0.00	285	20	399.6	399.6	399.6
102.0	16538	-64.1	-86.1	4	0.00	274	20	401.3	401.4	401.3
101.0	16598	-61.9	-84.9	3	0.00	272	20	406.7	406.7	406.7
100.0	16660	-61.9	-84.9	3	0.00	270	20	407.9	407.9	407.9
97.7	16805	-59.7	-83.7	3	0.00	267	19	414.9	414.9	414.9
82.4	17860	-64.5	-85.5	4	0.00	244	13	425.8	425.8	425.8
80.7	17989	-62.3	-85.3	3	0.00	241	12	432.8	432.8	432.8
78.1	18192	-61.7	-84.7	3	0.00	237	11	438.1	438.1	438.1
76.9	18288	-59.5	-83.3	3	0.01	235	10	444.7	444.7	444.7
76.7	18305	-59.1	-83.1	3	0.01	237	10	445.8	445.8	445.8
70.0	18880	-58.5	-82.5	3	0.01	290	6	458.9	458.9	458.9
64.7	19375	-58.1	-82.1	3	0.01	311	4	470.2	470.2	470.2
59.4	19917	-54.7	-80.7	3	0.01	334	3	489.4	489.5	489.4
54.9	20422	-54.5	-80.5	3	0.01	355	1	501.0	501.1	501.0
50.0	21020	-54.3	-80.3	3	0.01	80	7	515.1	515.2	515.1
49.3	21110	-54.3	-80.3	3	0.01	89	8	517.1	517.2	517.2
47.6	21336	-53.3	-80.1	2	0.01	110	9	524.7	524.8	524.7
45.3	21655	-51.9	-79.9	2	0.02	85	10	535.6	535.7	535.6
41.3	22250	-51.8	-80.1	2	0.02	40	12	550.2	550.4	550.2
35.9	23165	-51.5	-80.5	2	0.02	70	12	573.5	573.6	573.5
35.3	23271	-51.5	-80.5	2	0.02	68	11	576.2	576.4	576.2
34.2	23470	-50.7	-80.5	2	0.02	65	10	583.5	583.6	583.5
32.8	23749	-49.5	-80.5	1	0.02	76	13	593.8	593.9	593.8
30.0	24330	-51.9	-80.9	2	0.02	100	20	602.5	602.7	602.5
29.8	24384	-51.8	-80.9	2	0.02	100	21	604.2	604.4	604.2
28.4	24689	-51.3	-81.0	2	0.02	85	17	613.9	614.0	613.9
27.1	24994	-50.7	-81.0	2	0.02	115	18	623.6	623.8	623.6
25.9	25298	-50.2	-81.1	1	0.02	95	15	633.5	633.7	633.5
25.6	25362	-50.1	-81.1	1	0.02	93	16	635.6	635.8	635.6
23.6	25908	-47.1	-80.0	1	0.03	75	22	659.5	659.8	659.5
23.4	25953	-46.9	-79.9	1	0.03	77	23	661.5	661.8	661.5
21.5	26518	-47.7	-80.0	1	0.03	100	32	675.5	675.8	675.5
20.6	26795	-48.1	-80.1	1	0.03	100	30	682.4	682.7	682.4
20.0	26990	-47.1	-80.1	1	0.03	100	28	691.2	691.6	691.2
19.6	27124	-46.9	-80.9	1	0.03	98	27	695.9	696.2	695.9
18.7	27432	-44.1	-79.8	1	0.04	95	24	713.9	714.3	713.9
18.6	27473	-43.7	-79.7	1	0.04	95	23	716.3	716.7	716.4
17.9	27737	-43.0	-79.0	1	0.04	95	19	726.6	727.1	726.7
17.6	27845	-42.7	-78.7	1	0.05	95	20	730.9	731.4	730.9
15.6	28651	-42.6	-78.6	1	0.05	95	29	756.5	757.1	756.6
14.9	28956	-42.6	-78.6	1	0.06	105	19	766.5	767.1	766.5
14.3	29261	-42.5	-78.5	1	0.06	80	15	776.6	777.2	776.6
13.3	29736	-42.5	-78.5	1	0.06	72	20	792.5	793.2	792.5
12.3	30268	-38.5	-75.5	1	0.11	63	26	824.5	825.8	824.5
11.9	30480	-38.8	-75.8	1	0.11	60	28	830.8	832.1	830.9
10.7	31223	-39.7	-76.7	1	0.11	84	28	853.5	854.9	853.6
10.4	31394	-37.9	-75.5	1	0.13	90	28	866.1	867.8	866.2
10.2	31552	-36.3	-74.3	1	0.16			877.9	879.9	878.0

Station information and sounding indices

Station identifier: RAP

Station number: 72662

Observation time: 150726/0000

Station latitude: 44.08

Station longitude: -103.21
Station elevation: 1029.0
Showalter index: -0.19
Lifted index: -0.92
LIFT computed using virtual temperature: -1.43
SWEAT index: 161.58
K index: 34.30
Cross totals index: 16.50
Vertical totals index: 32.50
Totals totals index: 49.00
Convective Available Potential Energy: 356.43
CAPE using virtual temperature: 429.49
Convective Inhibition: -139.50
CINS using virtual temperature: -111.99
Equilibrium Level: 275.35
Equilibrium Level using virtual temperature: 274.47
Level of Free Convection: 617.65
LFCT using virtual temperature: 627.74
Bulk Richardson Number: 8.02
Bulk Richardson Number using CAPV: 9.67
Temp [K] of the Lifted Condensation Level: 280.52
Pres [hPa] of the Lifted Condensation Level: 695.73
Mean mixed layer potential temperature: 311.17
Mean mixed layer mixing ratio: 9.44
1000 hPa to 500 hPa thickness: 5791.00
Precipitable water [mm] for entire sounding: 26.65

Description of the [data columns](#) or [sounding indices](#).

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Questions about the weather data provided by this site can be addressed to [Larry Oolman \(ldoolman@uwyo.edu\)](mailto:Larry.Oolman@uwyo.edu)
