



# ATLAS

## WEATHERING SERVICES GROUP

Latitude 33° 54' North, Longitude 112° 08' West, Elevation 610 (m)

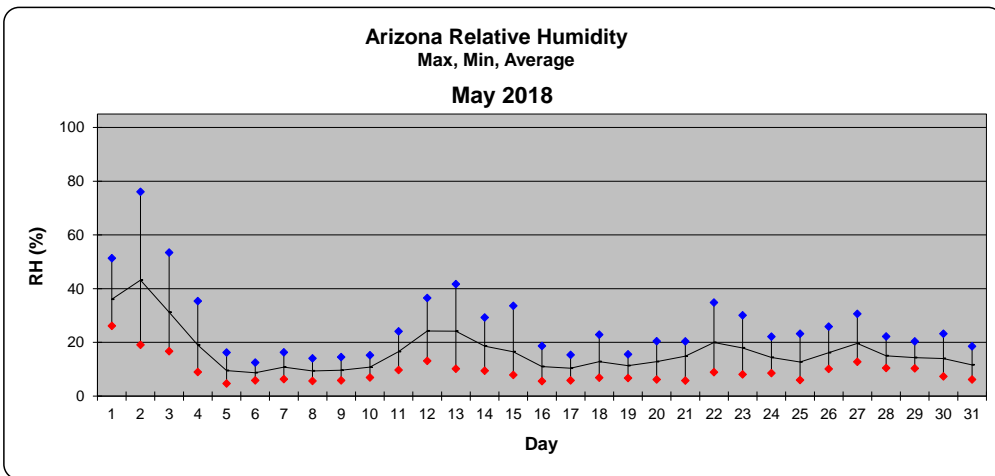
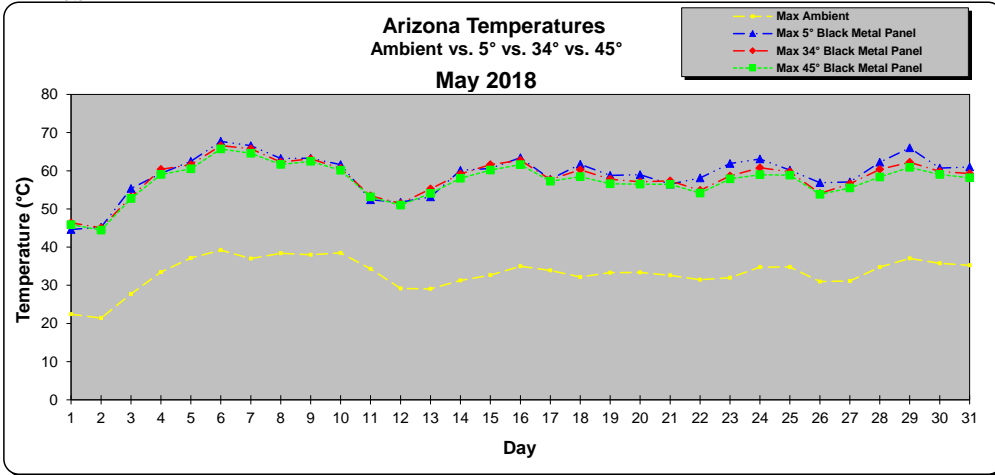


# Weather Summary May 2018 Phoenix, Arizona

AWSG	Temperature Summary												Climate Summary						
	Month	Ambient Temperature			Black Metal Panel Temperature (ASTM G179) (° C)									Relative Humidity			Wind Speed		Wind Direction
May	(° C)			5°			34°			45°			(%)			m/sec		360°/70° = N	(mm)
Day	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Avg.	Avg	Total
1	22	13	18	45	8	21	46	9	21	46	9	21	51	26	36	11.0	2.1	174°	0.0
2	21	11	16	45	11	19	45	11	19	44	12	20	76	19	43	8.4	2.1	174°	0.0
3	28	11	20	55	10	26	53	10	26	53	10	25	53	17	31	8.3	2.4	8°	0.0
4	33	17	25	59	15	31	60	16	31	59	16	30	35	9	19	9.9	2.6	24°	0.3
5	37	22	30	62	20	34	62	20	35	61	20	35	16	5	10	17.2	2.8	68°	0.0
6	39	24	31	68	22	35	67	22	35	66	22	35	13	6	9	8.4	2.3	54°	0.0
7	37	22	30	67	19	34	66	19	34	65	20	34	16	6	11	6.5	1.6	98°	0.0
8	38	22	30	63	20	36	62	20	36	62	21	35	14	6	9	7.1	2.2	123°	0.0
9	38	21	30	63	18	35	63	18	35	62	18	35	15	6	10	10.0	1.7	121°	0.0
10	38	22	30	62	18	35	61	19	35	60	19	35	15	7	11	15.5	2.1	189°	0.0
11	34	21	28	52	16	31	53	17	31	53	17	31	24	10	17	12.2	2.9	209°	0.0
12	29	18	24	52	16	29	51	15	28	51	16	28	37	13	24	9.9	2.4	199°	0.0
13	29	15	22	53	12	28	55	13	28	54	13	28	42	10	24	12.9	1.6	152°	0.0
14	31	15	24	60	11	30	59	11	30	58	12	29	29	9	19	8.5	1.6	159°	0.0
15	33	16	26	61	12	32	62	13	31	60	13	31	34	8	16	11.1	1.4	80°	0.0
16	35	19	28	63	16	34	63	17	33	62	17	33	19	6	11	7.1	1.9	82°	0.0
17	34	19	27	58	16	32	58	17	32	57	17	32	15	6	10	8.5	2.1	180°	0.0
18	32	16	25	62	12	31	60	13	30	58	13	30	23	7	13	9.9	1.5	172°	0.0
19	33	18	26	59	14	32	58	15	31	57	15	31	16	7	11	9.1	1.7	114°	0.0
20	33	18	26	59	14	32	57	14	31	56	15	31	20	6	13	8.0	1.5	239°	0.0
21	33	19	26	56	16	30	57	16	30	56	16	30	20	6	15	9.8	1.9	175°	0.0
22	31	17	25	58	13	30	55	14	30	54	14	30	35	9	20	13.8	1.7	177°	0.0
23	32	17	25	62	13	31	59	14	30	58	14	30	30	8	18	11.0	1.6	148°	0.0
24	35	19	27	63	16	33	61	16	33	59	17	32	22	9	14	8.4	2.0	352°	0.0
25	35	18	27	60	14	33	60	15	32	59	15	32	23	6	13	8.4	1.7	147°	0.0
26	31	18	25	57	13	30	54	14	29	54	14	29	26	10	16	10.8	2.0	184°	0.0
27	31	17	25	57	13	31	57	14	30	56	14	30	31	13	20	9.4	1.6	143°	0.0
28	35	20	28	62	17	34	60	17	33	58	17	33	22	10	15	8.5	2.0	137°	0.0
29	37	23	31	66	20	37	62	21	36	61	21	36	20	10	14	11.2	2.4	160°	0.0
30	36	21	30	61	17	35	60	18	35	59	18	35	23	7	14	9.0	1.5	206°	0.0
31	35	19	28	61	14	33	59	15	33	58	15	33	19	6	12	13.0	1.8	179°	0.0
Monthly Avg.	33	18	26	59	15	31	58	16	31	57	16	31	27	9	17	10.1	2.0	149°	
Monthly Total																			0.3
YTD <sup>†</sup> Avg.	26	13	19	48	10	22	52	10	23	52	10	24	39	14	25	9.4	2.2	101°	
YTD <sup>†</sup> Total																			46.7

<sup>†</sup> Year To Date

Note:



Latitude 25° 34' North, Longitude 80° 28' West, Elevation 2 (m)

**Miami, Florida**

Latitude 33° 54' North, Longitude 112° 08' West, Elevation 610 (m)

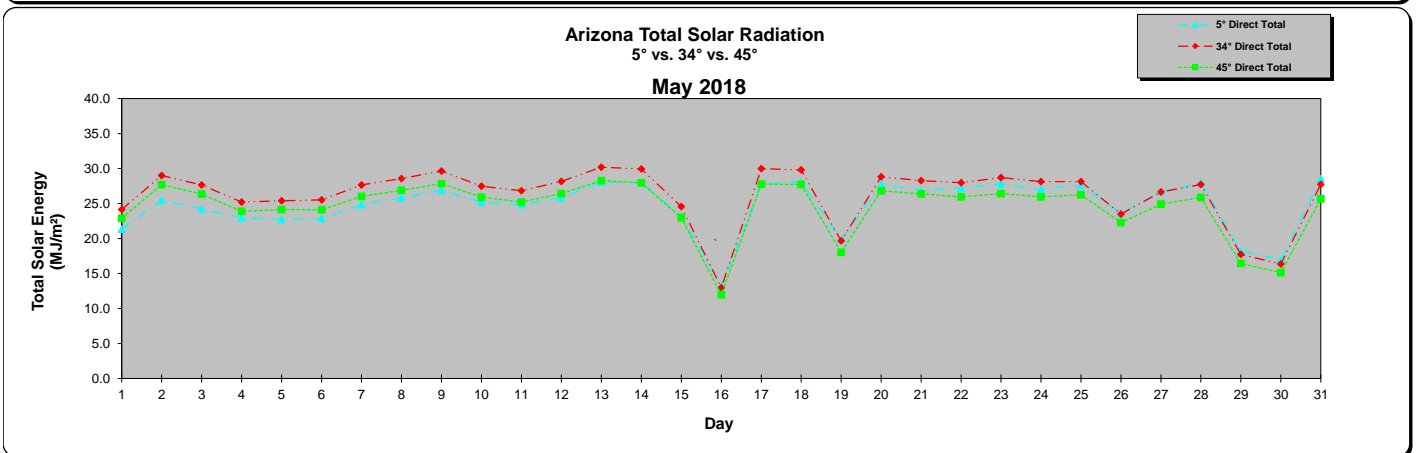
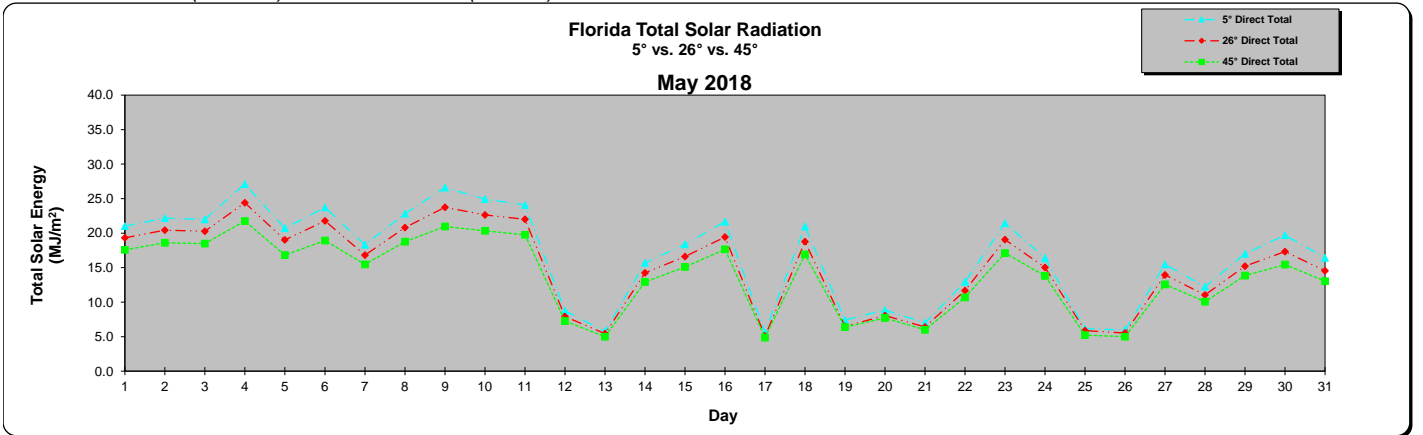
**Phoenix, Arizona**

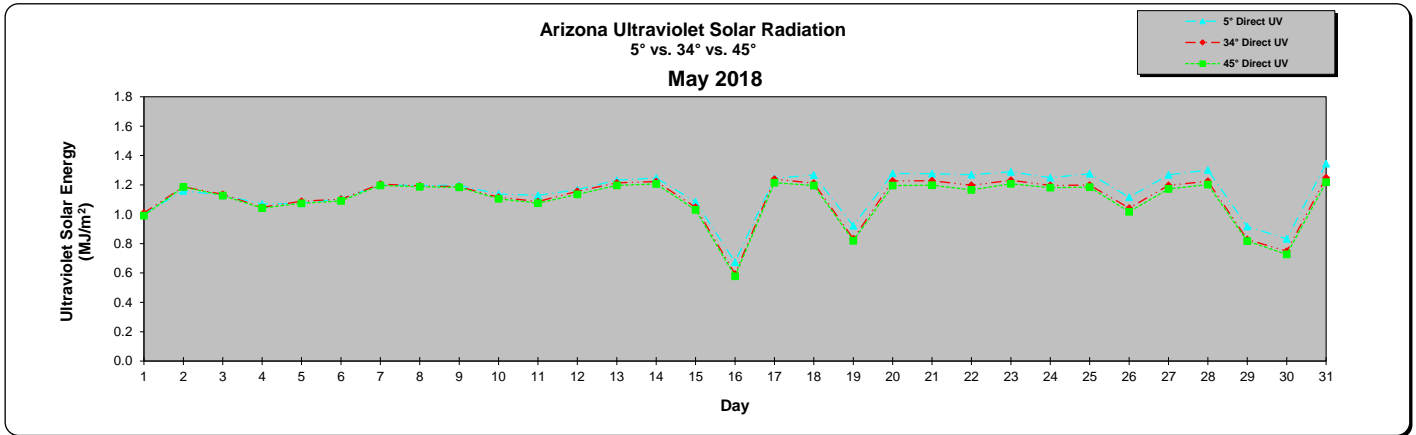
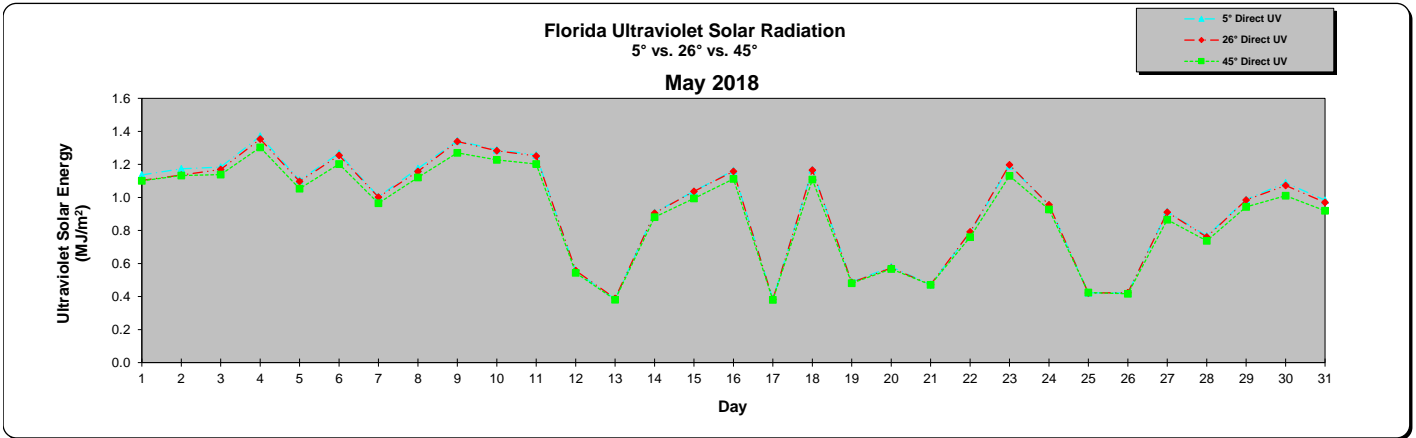
Solar Radiation Summary														
Month	Total Solar Radiation (MJ/m2)						Ultraviolet Solar Radiation (MJ/m <sup>2</sup> )						EMMAQUA™	
May	Direct			Underglass			Direct			Underglass			Total	UV
Day	5°	26°	45°	5°	26°	45°	5°	26°	45°	5°	26°	45°		
1	21.0	19.3	17.6	16.8	16.9	14.2	1.14	1.10	1.10	0.74	0.64	0.55		
2	22.2	20.4	18.6	18.0	18.0	15.2	1.17	1.14	1.13	0.76	0.67	0.57		
3	22.0	20.3	18.5	17.5	17.5	15.0	1.18	1.17	1.14	0.76	0.67	0.57		
4	27.1	24.4	21.8	21.4	21.4	17.8	1.37	1.35	1.30	0.89	0.78	0.66		
5	20.7	19.0	16.8	16.1	16.1	13.5	1.10	1.10	1.05	0.73	0.63	0.53		
6	23.7	21.8	18.9	18.7	18.4	15.3	1.27	1.25	1.20	0.83	0.71	0.61		
7	18.3	16.8	15.5	14.8	14.8	12.6	1.01	1.00	0.96	0.66	0.57	0.49		
8	22.8	20.8	18.8	18.6	17.8	15.3	1.17	1.16	1.12	0.77	0.67	0.57		
9	26.6	23.7	21.0	21.2	20.1	17.0	1.34	1.34	1.27	0.89	0.77	0.64		
10	24.9	22.6	20.3	19.9	19.4	16.7	1.29	1.28	1.23	0.85	0.74	0.63		
11	24.1	22.0	19.8	19.5	18.8	16.0	1.26	1.25	1.20	0.82	0.72	0.61		
12	8.7	7.9	7.3	7.0	6.6	5.8	0.55	0.56	0.54	0.36	0.31	0.26		
13	5.8	5.4	5.0	4.7	3.6	3.8	0.38	0.39	0.38	0.26	0.22	0.19		
14	15.7	14.2	12.9	12.4	11.0	10.3	0.91	0.90	0.88	0.60	0.51	0.44		
15	18.4	16.6	15.1	14.9	13.4	12.0	1.04	1.04	0.99	0.68	0.58	0.50		
16	21.7	19.4	17.6	17.5	16.2	14.0	1.16	1.16	1.11	0.77	0.65	0.56		
17	5.7	5.1	4.8	4.7	3.6	3.9	0.38	0.38	0.38	0.26	0.22	0.19		
18	21.0	18.8	16.9	16.9	15.9	13.9	1.17	1.17	1.11	0.77	0.65	0.56		
19	7.4	6.5	6.4	6.0	5.2	5.1	0.49	0.49	0.48	0.32	0.28	0.25		
20	8.9	8.0	7.7	7.2	6.5	6.1	0.58	0.57	0.57	0.38	0.32	0.29		
21	7.0	6.4	6.0	5.7	4.9	4.8	0.47	0.47	0.47	0.31	0.26	0.23		
22	12.9	11.7	10.7	10.4	9.3	8.6	0.78	0.79	0.76	0.51	0.44	0.37		
23	21.5	19.1	17.1	17.2	16.0	13.9	1.19	1.20	1.13	0.78	0.66	0.56		
24	16.4	15.0	13.8	13.3	12.4	11.3	0.96	0.95	0.93	0.62	0.54	0.46		
25	6.2	5.9	5.2	5.1	4.0	4.4	0.42	0.42	0.42	0.28	0.24	0.21		
26	6.0	5.5	5.0	5.0	4.1	4.1	0.42	0.42	0.42	0.28	0.24	0.22		
27	15.5	13.9	12.6	12.6	11.6	10.4	0.91	0.91	0.87	0.59	0.50	0.44		
28	12.2	11.0	10.1	9.9	9.0	8.1	0.77	0.76	0.74	0.49	0.42	0.36		
29	17.0	15.2	13.8	13.8	12.3	11.1	0.99	0.98	0.94	0.64	0.54	0.46		
30	19.7	17.3	15.4	15.8	14.3	12.6	1.09	1.07	1.01	0.70	0.59	0.49		
31	16.4	14.5	13.0	16.8	16.9	14.2	0.98	0.97	0.92	0.63	0.54	0.45		
Monthly Total	517.3	468.8	424.0	419.3	395.8	347.4	28.96	28.75	27.76	18.95	16.29	13.89		
YTD <sup>†</sup> Total	2705.2	2886.3	2883.8	2269.7	2466.3	2388.9	139.27	145.81	150.36	94.05	88.85	82.47		

Solar Radiation Summary																			
Total Solar Radiation (MJ/m2)																			
Direct						Underglass						Ultraviolet Solar Radiation (MJ/m2)						EMMAQUA™	
5°	34°	45°	5°	34°	45°	5°	34°	45°	5°	34°	45°	5°	34°	45°	5°	34°	45°	Total	UV
21.3	24.2	22.9	18.4	20.0	20.4	1.00	1.01	0.99	0.58	0.66	0.68	0	6.30						
25.5	29.0	27.7	21.7	23.9	24.2	1.16	1.19	1.19	0.68	0.79	0.81	199	3.53						
24.2	27.7	26.4	20.8	22.8	23.2	1.13	1.14	1.13	0.66	0.76	0.78	180	6.31						
23.0	25.2	23.9	19.5	20.6	20.6	1.07	1.05	1.04	0.62	0.69	0.70	91	6.30						
22.7	25.4	24.1	19.9	21.3	21.6	1.07	1.09	1.08	0.63	0.72	0.74	143	3.53						
22.9	25.5	24.1	19.8	21.1	21.5	1.11	1.10	1.09	0.64	0.73	0.75	120	6.31						
24.8	27.7	26.0	21.4	22.8	23.0	1.20	1.21	1.20	0.69	0.79	0.81	176	6.30						
25.8	28.6	26.9	21.9	23.3	23.5	1.20	1.19	1.19	0.68	0.78	0.80	180	3.53						
26.9	29.6	27.8	22.9	24.3	24.2	1.20	1.19	1.18	0.69	0.78	0.81	155	6.31						
25.2	27.5	25.9	21.3	22.5	22.3	1.14	1.12	1.11	0.65	0.73	0.75	154	6.30						
24.8	26.8	25.2	20.9	21.7	21.7	1.13	1.09	1.08	0.65	0.71	0.73	143	3.53						
25.8	28.2	26.4	22.3	23.4	23.4	1.17	1.16	1.14	0.68	0.76	0.78	89	6.31						
28.1	30.2	28.3	23.9	25.0	24.5	1.23	1.21	1.20	0.73	0.82	0.82	60	6.30						
28.0	29.9	28.0	23.8	24.7	24.2	1.25	1.22	1.21	0.73	0.82	0.82	138	3.53						
23.2	24.6	23.0	20.1	20.4	20.0	1.09	1.05	1.03	0.63	0.69	0.69	142	6.31						
13.3	13.0	12.0	11.2	10.5	10.1	0.68	0.59	0.58	0.39	0.39	0.38	0	6.30						
27.8	30.0	27.8	24.2	24.6	24.1	1.25	1.24	1.22	0.75	0.82	0.83	214	3.53						
28.1	29.8	27.7	24.1	24.5	23.9	1.27	1.21	1.20	0.74	0.82	0.82	193	6.31						
19.8	19.7	18.0	16.3	15.6	15.0	0.92	0.83	0.82	0.53	0.55	0.54	28	6.30						
27.7	28.8	26.8	24.2	24.2	23.5	1.28	1.23	1.20	0.74	0.82	0.83	198	3.53						
26.9	28.3	26.4	23.5	23.7	23.1	1.28	1.23	1.20	0.73	0.81	0.82	163	6.31						
27.2	28.0	26.0	23.5	23.2	22.5	1.27	1.20	1.17	0.72	0.78	0.79	147	6.30						
27.8	28.7	26.4	23.9	23.7	23.1	1.29	1.23	1.21	0.73	0.81	0.82	202	3.53						
27.0	28.1	26.0	23.6	23.3	22.7	1.25	1.20	1.18	0.73	0.79	0.80	191	6.31						
27.6	28.1	26.3	24.0	23.5	22.5	1.28	1.20	1.19	0.73	0.80	0.80	198	6.30						
23.6	23.5	22.3	20.3	19.6	19.3	1.12	1.04	1.02	0.64	0.67	0.68	103	3.53						
26.7	26.7	24.9	23.1	22.4	21.8	1.27	1.20	1.17	0.73	0.78	0.79	179	5.94						
28.0	27.7	25.9	24.1	23.2	22.4	1.30	1.23	1.20	0.74	0.80	0.80	183	6.19						
18.3	17.7	16.5	15.8	14.9	14.3	0.92	0.83	0.82	0.53	0.55	0.55	80	2.73						
17.0	16.4	15.1	14.4	13.6	13.1	0.83	0.75	0.73	0.49	0.50	0.50	0	0.00						
28.6	27.8	25.7	24.6	23.3	22.1	1.35	1.25	1.22	0.79	0.83	0.82	201	6.66						
767.6	812.1	760.1	659.2	671.3	661.8	35.66	34.45	33.93	20.63	22.71	23.03	4250	160.53						
2995.8	3626.1	3546.6	2513.2	2982.8	3117.7	136.24	140.96	140.91	79.57	93.75	97.73	16629	634.56						

<sup>†</sup> Year To Date

Note: Total Solar Radiation - (290-3000 nm) Ultraviolet Solar Radiation - (295-385 nm).

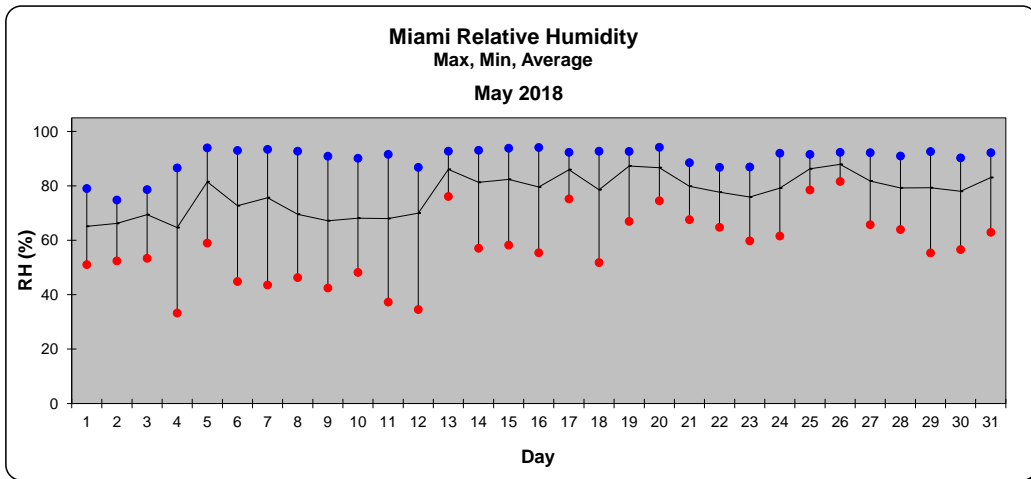
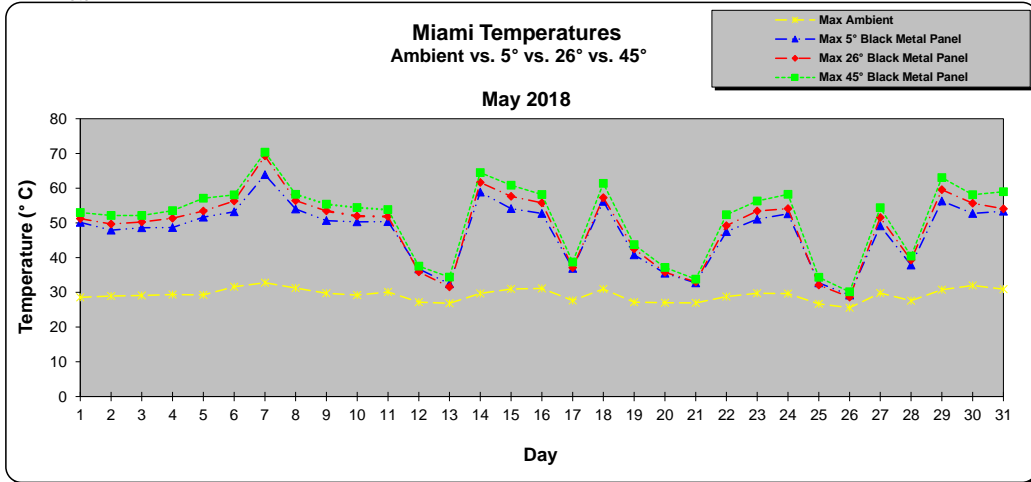




Latitude 25° 34' North, Longitude 80° 28' West, Elevation 2 (m)

Month	Temperature Summary												Climate Summary						
	Ambient Temperature			Black Metal Panel Temperature (ASTM G179) (° C)									Relative Humidity			Wind Speed		Wind Direction	Rainfall
Day	° C			5 °			26 °			45 °			%			m/sec		360°/0°=N	(mm)
Day	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Avg.	Avg	Total
1	29	20	25	50	18	28	51	18	28	53	17	28	79	51	65	6.6	3.0	73°	0.0
2	29	24	26	48	22	29	50	22	29	52	22	30	75	52	66	6.9	3.9	75°	0.0
3	29	24	26	49	22	29	50	22	29	52	22	30	79	53	69	7.1	4.0	75°	0.0
4	29	22	26	49	21	30	51	21	30	54	21	31	87	33	65	6.9	3.1	79°	0.0
5	29	21	25	52	20	28	53	20	29	57	20	29	94	59	82	5.3	2.0	174°	8.4
6	32	22	26	53	20	30	56	20	31	58	20	31	93	45	73	5.7	1.7	167°	3.8
7	33	20	26	64	18	30	69	18	30	70	18	31	93	44	76	4.5	1.3	202°	7.6
8	31	22	26	54	20	30	56	20	30	58	20	31	93	46	70	5.7	2.0	221°	0.0
9	30	19	25	51	17	29	53	17	30	55	17	30	91	42	67	5.8	2.2	216°	0.0
10	29	19	25	50	16	29	52	16	29	54	16	30	90	48	68	5.3	2.1	226°	0.0
11	30	20	26	50	18	29	52	18	30	54	18	30	92	37	68	5.1	2.0	233°	0.0
12	27	23	25	37	21	26	36	21	26	38	21	26	87	35	70	5.3	1.7	225°	0.3
13	27	22	24	32	20	25	32	20	24	34	20	25	93	76	86	5.3	1.4	243°	7.9
14	30	22	25	59	20	28	62	20	28	64	20	29	93	57	81	5.9	1.8	261°	10.2
15	31	21	25	54	20	28	58	20	28	61	20	29	94	58	82	5.4	1.9	275°	7.1
16	31	21	26	53	20	29	56	20	30	58	19	30	94	55	80	5.9	1.8	279°	0.3
17	28	22	24	37	21	25	37	21	25	39	21	25	92	75	86	5.4	0.9	260°	24.6
18	31	22	26	56	20	29	57	20	30	61	20	30	93	52	79	4.9	1.6	244°	0.0
19	27	21	24	41	20	24	43	20	24	44	20	24	93	67	87	5.5	1.7	255°	19.1
20	27	22	24	36	21	25	36	21	25	37	21	25	94	75	87	5.3	2.2	275°	63.8
21	27	24	26	33	23	26	33	23	26	34	23	26	89	68	80	5.7	2.6	284°	1.0
22	29	24	26	48	23	28	49	23	28	52	23	28	87	65	78	6.4	2.8	282°	0.0
23	30	24	26	51	22	30	53	22	30	56	21	31	87	60	76	5.6	2.2	274°	0.0
24	30	23	26	53	22	29	54	21	29	58	21	30	92	62	79	5.2	1.7	265°	0.8
25	27	22	25	33	21	25	32	22	25	34	22	25	92	79	86	6.7	1.5	268°	21.1
26	26	22	24	29	21	24	29	21	23	30	21	24	92	82	88	6.5	2.7	268°	25.9
27	30	23	26	49	23	28	52	22	28	54	22	29	92	66	82	8.3	3.9	317°	16.8
28	28	23	25	38	22	27	39	22	27	40	22	28	91	64	79	6.2	2.8	304°	2.0
29	31	23	26	56	22	30	60	22	30	63	22	31	93	55	79	4.7	1.6	272°	9.4
30	32	26	28	53	24	31	56	24	32	58	24	32	90	57	78	4.9	2.2	292°	0.0
31	31	24	26	53	22	29	54	22	29	59	22	30	92	63	83	5.0	1.4	251°	0.0
Monthly Avg.	29	22	25	47	21	28	49	21	28	51	20	29	90	57	77	5.9	2.2	230°	
Monthly Total																			229.9
YTD <sup>†</sup> Avg.	28	18	22	50	16	25	53	16	26	53	15	26	91	49	73	5.7	2.1	165°	
YTD <sup>†</sup> Total																			398.3

<sup>†</sup> Year To Date  
Note:





# ATLAS

## WEATHERING SERVICES GROUP

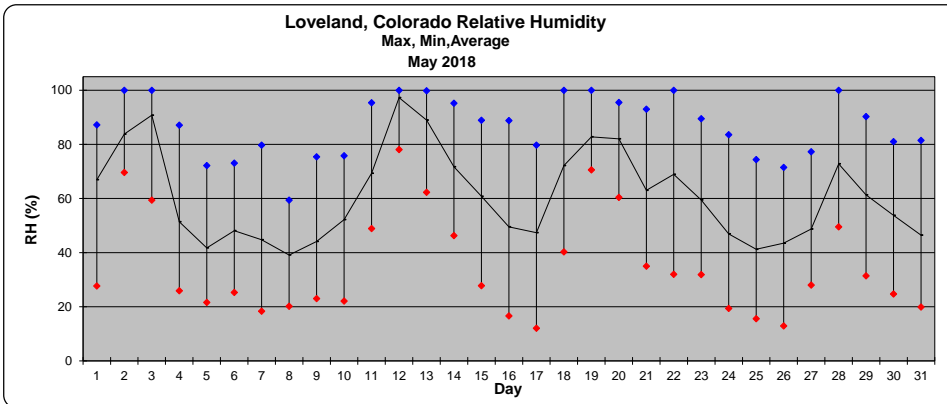
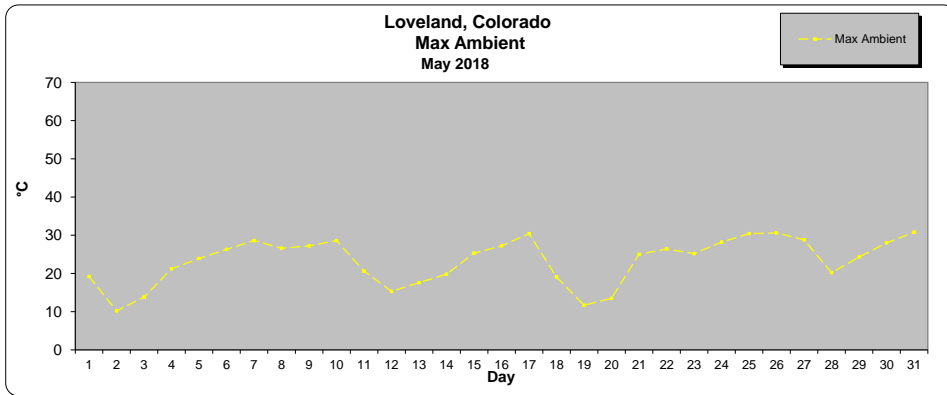


### Weather Summary May 2018 Loveland, Colorado

Latitude 40° 25' North Longitude 104° 59' West Elevation 1527 (m).

Month	Temperature Summary			Climate Summary					
	Ambient Temperature			Relative Humidity			Wind Speed		Wind Direction
May	(^ C)			(%)			(m/s)		360°/0°= N
Day	Max	Min	Avg	Max	Min	Avg	Max	Avg	Avg
1	19	7	11	87	28	67	11.4	2.4	114
2	10	6	8	100	70	84	6.9	2.9	202
3	14	3	7	100	59	91	9.5	4.8	266
4	21	6	14	87	26	51	5.3	1.7	184
5	24	8	17	72	22	42	7.1	1.5	188
6	26	9	18	73	25	48	4.1	1.9	190
7	29	10	19	80	18	45	5	2.0	200
8	27	13	20	59	20	39	7.8	2.8	194
9	27	10	19	75	23	44	6.1	2.3	170
10	29	11	19	76	22	52	9.9	3.6	164
11	21	9	15	95	49	69	8.4	3.5	143
12	15	9	11	100	78	97	5.7	2.8	111
13	18	10	12	100	62	89	6.1	2.0	125
14	20	11	14	95	46	72	10.3	2.0	156
15	25	7	16	89	28	61	6.5	1.8	157
16	27	11	20	89	17	50	5.5	1.9	160
17	30	12	21	80	12	47	10.8	2.5	182
18	19	9	15	100	40	72	15.8	3.5	148
19	12	7	10	100	71	83	9.8	4.4	111
20	14	6	9	96	60	82	5	2.1	135
21	25	6	16	93	35	63	4.7	1.9	156
22	26	12	17	100	32	69	7.7	3.0	153
23	25	10	18	90	32	59	7.6	2.1	159
24	28	11	20	84	19	47	11	2.0	196
25	30	11	22	74	16	41	3.7	1.6	142
26	31	13	23	72	13	44	4.2	1.8	185
27	29	16	21	77	28	49	13.7	3.7	125
28	20	9	16	100	50	73	15	2.7	167
29	24	11	17	90	31	61	6.1	1.9	156
30	28	11	19	81	25	54	6.4	1.7	138
31	31	12	22	82	20	46	8.7	2.7	160°
<b>Monthly Avg.</b>	<b>23</b>	<b>9</b>	<b>16</b>	<b>87</b>	<b>35</b>	<b>61</b>	<b>7.9</b>	<b>2.5</b>	<b>162°</b>
<b>YTD<sup>†</sup> Avg.</b>	<b>14</b>	<b>-1</b>	<b>6</b>	<b>77</b>	<b>30</b>	<b>53</b>	<b>8.4</b>	<b>2.9</b>	<b>167°</b>

<sup>†</sup> Year To Date  
Note:





# ATLAS WEATHERING SERVICES GROUP

## Solar Radiation Summary May 2018 Loveland, Colorado

Latitude 40° 25' North Longitude 104° 59' West Elevation 1527 (m).

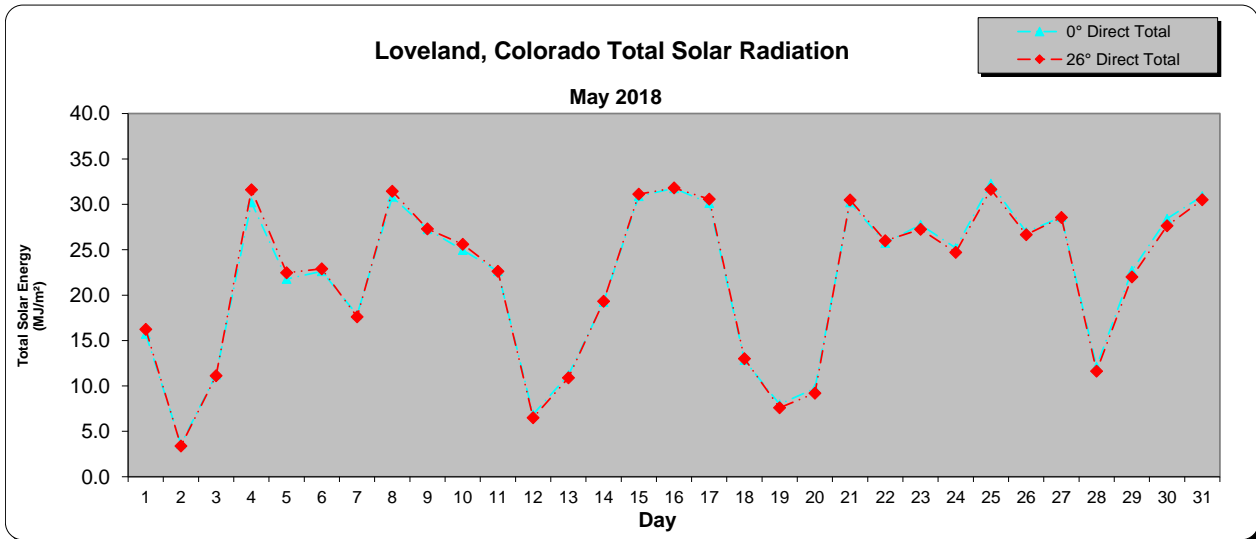


AWSG	Radiation	
Month	Total Solar	
May	Direct	
Day	0°	26°
1	15.7	16.2
2	3.6	3.4
3	11.2	11.1
4	30.2	31.6
5	21.8	22.5
6	22.6	22.9
7	17.8	17.6
8	30.8	31.5
9	27.3	27.3
10	25.0	25.6
11	22.6	22.6
12	6.9	6.5
13	11.2	10.9
14	19.2	19.3
15	30.9	31.1
16	31.8	31.8
17	30.1	30.6
18	12.8	13.0
19	8.0	7.6
20	9.7	9.2
21	30.2	30.5
22	25.7	26.0
23	27.8	27.3
24	25.2	24.7
25	32.3	31.6
26	27.0	26.6
27	28.6	28.6
28	12.2	11.6
29	22.7	22.0
30	28.4	27.6
31	30.9	30.5
<b>Monthly Total</b>	<b>680.3</b>	<b>679.4</b>
<b>YTD<sup>†</sup> Total</b>	<b>2510.3</b>	<b>2920.8</b>

<sup>†</sup> Year To Date

Note:

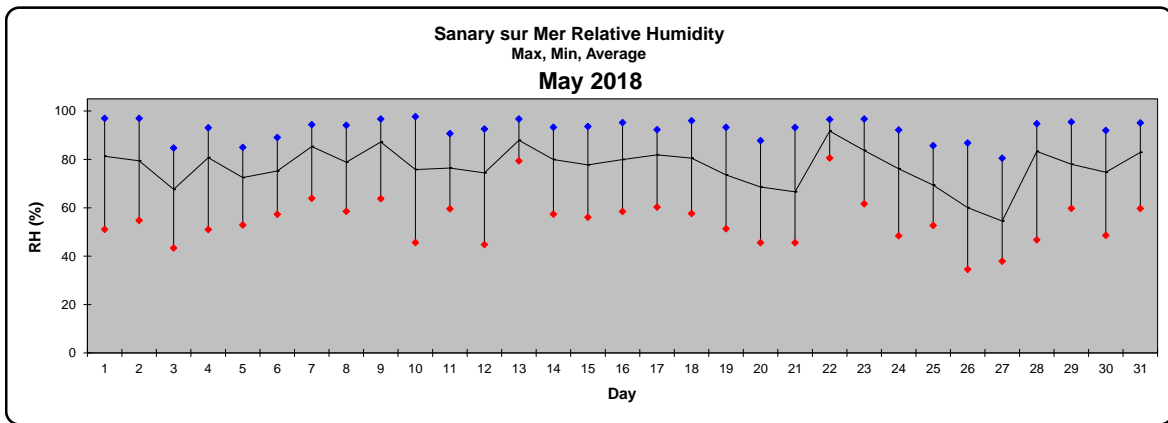
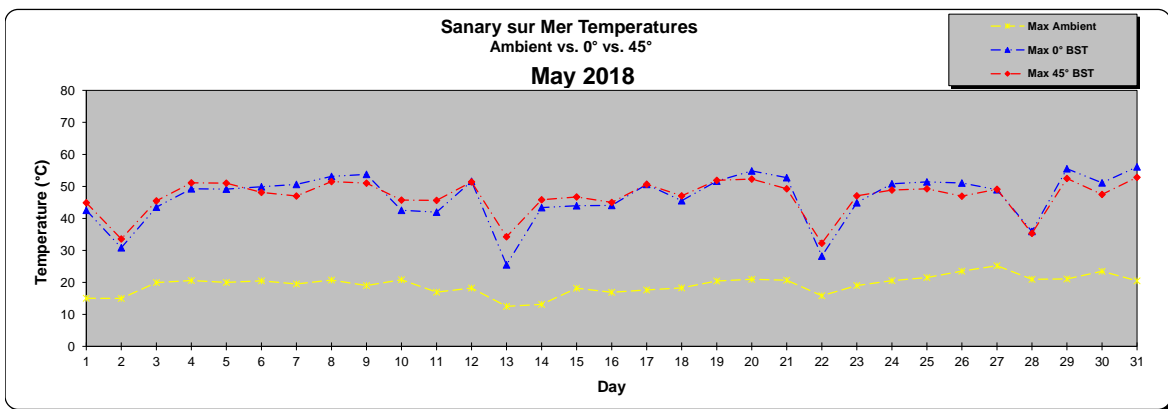
\*No data available



Month	Temperature Summary																		Climate Summary										
	Ambient Temperature			Black Standard Temperature BST (°C)						Black Panel Temperature BPT (°C)						Black Metal Panel Temperature (ASTM G179) (°C)						Relative Humidity			Wind Speed		Wind Direction	Rainfall	
	°C			0°			45°			0°			45°			0°			45°			%			(m/s)		360°/0°=N	(mm)	
Day	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Avg	Avg	Total	
1	15	6	10	43	8	16	45	8	17	40	7	16	41	5	14	46	7	16	50	8	17	97	51	81	5.3	0.9	56°	13.0	
2	15	6	11	31	10	16	34	10	17	29	9	16	29	7	15	34	9	17	35	10	17	97	55	79	3.8	0.6	336°	0.3	
3	20	8	14	44	9	21	45	9	21	39	8	20	38	7	19	46	8	21	48	9	21	85	43	68	5.2	0.6	343°	0.0	
4	21	11	14	49	13	19	51	13	20	46	12	19	47	12	18	50	13	20	53	13	20	93	51	81	5.2	0.5	353°	6.1	
5	20	12	15	49	13	22	51	14	23	43	13	21	44	12	20	49	14	22	52	14	22	85	53	73	4.2	0.6	348°	0.0	
6	20	12	16	50	14	22	48	15	22	43	14	22	43	13	20	50	14	22	52	14	22	89	57	75	2.6	0.5	315°	0.0	
7	20	12	15	51	13	21	47	14	22	43	13	20	43	12	20	47	13	21	48	14	22	94	64	85	3.2	0.5	60°	0.5	
8	21	11	15	53	13	25	52	13	25	44	13	23	44	12	22	51	13	25	52	13	25	94	59	79	4.7	0.9	286°	0.0	
9	19	10	14	54	12	20	51	12	21	44	12	19	45	10	18	52	12	20	54	12	20	97	64	87	4.2	0.5	20°	5.3	
10	21	10	15	43	11	22	46	11	24	40	10	21	40	9	21	45	11	23	47	11	23	98	46	76	6.7	1.0	309°	0.0	
11	17	9	13	42	10	23	46	10	24	38	10	21	40	8	20	44	10	23	47	10	23	91	60	76	4.6	0.9	274°	0.0	
12	18	11	14	52	12	25	51	13	25	44	12	23	46	11	22	49	12	24	52	12	25	93	45	74	5.0	0.8	91°	0.0	
13	13	4	8	25	7	12	34	7	13	28	7	12	27	5	10	35	7	13	37	7	13	97	79	88	7.1	1.2	262°	22.9	
14	13	4	8	43	6	15	46	6	16	37	6	14	36	4	13	45	6	16	47	6	16	93	57	80	6.7	1.3	276°	4.1	
15	18	5	12	44	7	19	47	7	19	40	6	17	40	5	16	48	6	19	50	7	19	94	56	78	5.9	1.0	285°	0.0	
16	17	8	12	44	10	19	45	10	19	42	9	18	41	8	17	49	10	19	50	10	19	95	58	80	4.1	0.8	310°	0.0	
17	18	9	13	51	10	21	51	11	21	45	10	20	44	9	19	52	10	20	52	10	20	92	60	82	4.6	0.8	63°	0.0	
18	18	9	14	46	10	21	47	11	22	40	10	20	40	10	19	48	10	22	49	11	22	96	58	81	3.9	0.7	286°	0.0	
19	20	10	15	52	11	26	52	12	26	47	11	25	48	10	23	50	11	26	53	11	26	93	51	74	4.0	0.6	63°	0.0	
20	21	11	16	55	12	27	52	12	26	47	11	25	48	10	23	52	11	26	54	12	26	88	46	69	4.8	0.8	17°	0.0	
21	21	12	16	53	13	23	49	13	23	44	12	22	45	11	21	48	12	23	49	13	23	93	46	67	7.6	1.1	69°	8.6	
22	16	11	13	28	14	17	32	14	18	29	14	17	29	13	17	38	14	18	37	14	18	97	81	92	3.5	0.3	306°	6.9	
23	19	10	15	45	12	24	47	12	25	40	11	23	41	11	22	47	12	24	48	12	24	97	62	84	4.5	0.9	269°	0.0	
24	21	10	16	51	11	24	49	12	25	42	11	23	43	9	21	49	11	24	50	12	24	92	48	76	4.3	1.0	286°	0.0	
25	21	11	17	51	12	27	49	12	27	47	11	25	45	10	24	50	12	26	51	12	26	86	53	69	3.9	0.8	289°	0.0	
26	24	13	18	51	14	26	47	15	26	47	14	25	48	13	24	52	14	25	53	14	25	87	35	60	6.2	0.9	76°	0.0	
27	25	18	21	49	19	28	49	19	28	43	19	27	42	17	26	48	19	27	49	19	27	81	38	55	9.0	1.7	90°	0.0	
28	21	13	16	36	14	21	35	15	21	37	14	21	36	13	20	40	14	21	40	15	21	95	47	83	6.8	1.5	95°	0.0	
29	21	12	17	56	13	28	53	14	27	46	13	26	47	12	25	52	13	27	53	13	27	96	60	78	5.1	0.9	88°	0.0	
30	23	14	18	51	16	25	47	16	25	48	16	24	45	13	22	52	16	24	52	16	25	92	49	75	6.4	0.8	88°	0.0	
31	20	13	16	56	15	25	53	15	25	47	14	23	46	12	22	54	15	25	55	15	25	95	60	83	4.2	0.8	237°	1.0	
Monthly Avg.	19	10	14	47	12	22	47	12	22	42	11	21	42	10	20	47	12	22	49	12	22	93	54	77	5.1	0.8	201°		
Monthly Total																													68.6
YTD <sup>1</sup> Avg.	14	5	9	33	6	15	39	7	16	30	6	14	34	5	14	34	6	15	39	6	16	88	51	72	6.6	1.4	167°	463.3	
YTD <sup>1</sup> Total																													

<sup>1</sup> Year To Date

Note: \*No data available



**Solar Radiation Summary**

May 2018

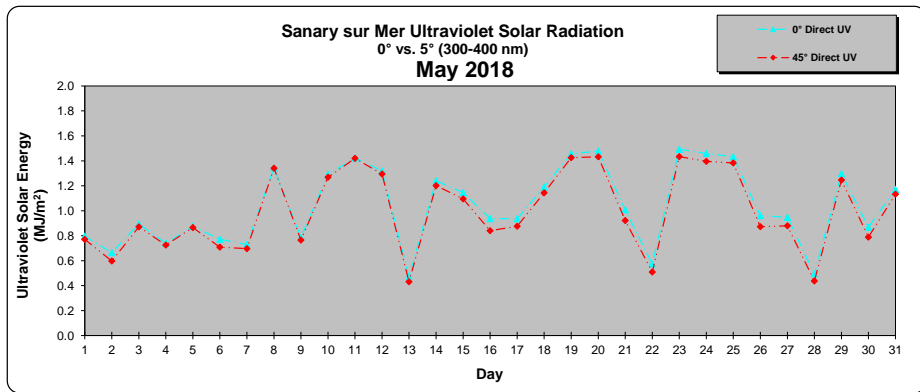
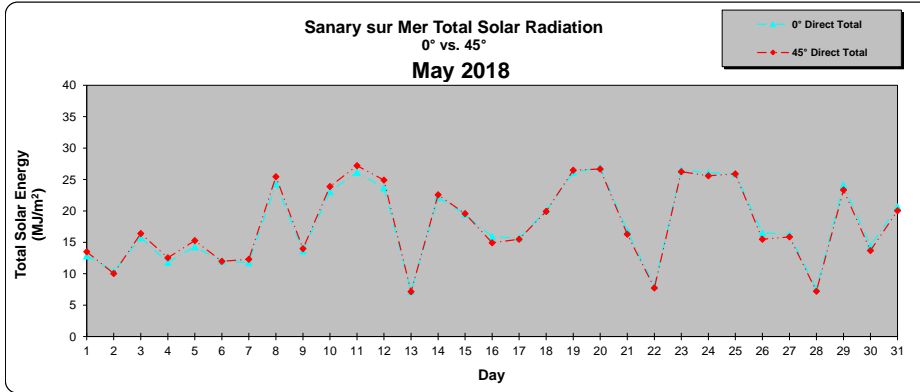
Sanary sur Mer, France

Latitude 43° 08' North, Longitude 05° 49' East, Elevation 110 (m)

Month	Solar Radiation Summary					
	Total Solar Radiation (MJ/m <sup>2</sup> )		Ultraviolet Solar Radiation (MJ/m <sup>2</sup> )			
	Direct		295-385 nm		300-400 nm	
Day	0°	45°	0°	45°	0°	45°
1	12.9	13.5	0.61	0.59	0.80	0.77
2	10.4	10.0	0.51	0.46	0.66	0.60
3	15.7	16.4	0.68	0.67	0.89	0.87
4	11.8	12.5	0.56	0.55	0.74	0.73
5	14.3	15.3	0.67	0.66	0.88	0.87
6	12.0	12.0	0.59	0.54	0.77	0.71
7	11.8	12.3	0.56	0.53	0.73	0.70
8	24.3	25.4	1.03	1.02	1.34	1.34
9	13.6	14.0	0.60	0.59	0.79	0.77
10	23.1	23.9	0.99	0.97	1.29	1.27
11	26.2	27.2	1.09	1.08	1.42	1.42
12	23.7	24.9	1.01	0.99	1.32	1.29
13	7.2	7.1	0.36	0.33	0.47	0.43
14	22.1	22.6	0.95	0.92	1.24	1.20
15	19.5	19.6	0.87	0.84	1.15	1.10
16	15.9	14.9	0.72	0.64	0.94	0.84
17	15.7	15.5	0.71	0.67	0.94	0.88
18	20.0	19.9	0.91	0.87	1.19	1.14
19	26.1	26.5	1.11	1.09	1.46	1.43
20	26.9	26.7	1.13	1.09	1.48	1.43
21	16.9	16.3	0.77	0.70	1.01	0.92
22	8.1	7.7	0.44	0.39	0.57	0.51
23	26.5	26.3	1.14	1.10	1.49	1.43
24	26.1	25.6	1.11	1.07	1.46	1.40
25	25.9	25.9	1.09	1.06	1.43	1.38
26	16.5	15.5	0.73	0.67	0.96	0.87
27	16.3	15.9	0.72	0.67	0.95	0.88
28	7.6	7.2	0.38	0.33	0.50	0.44
29	24.1	23.3	0.99	0.95	1.30	1.25
30	14.5	13.7	0.66	0.60	0.87	0.79
31	20.7	20.0	0.89	0.87	1.17	1.13
<b>Monthly Total</b>	<b>556.1</b>	<b>557.6</b>	<b>24.56</b>	<b>23.50</b>	<b>32.20</b>	<b>30.77</b>
<b>YTD<sup>1</sup> Total</b>	<b>1824.4</b>	<b>2415.0</b>	<b>74.81</b>	<b>81.81</b>	<b>98.00</b>	<b>107.10</b>

<sup>1</sup> Year To Date Total Solar Radiation - (290-3000 nm) Ultraviolet Solar Radiation - (295-385 nm) or (300-400 nm).

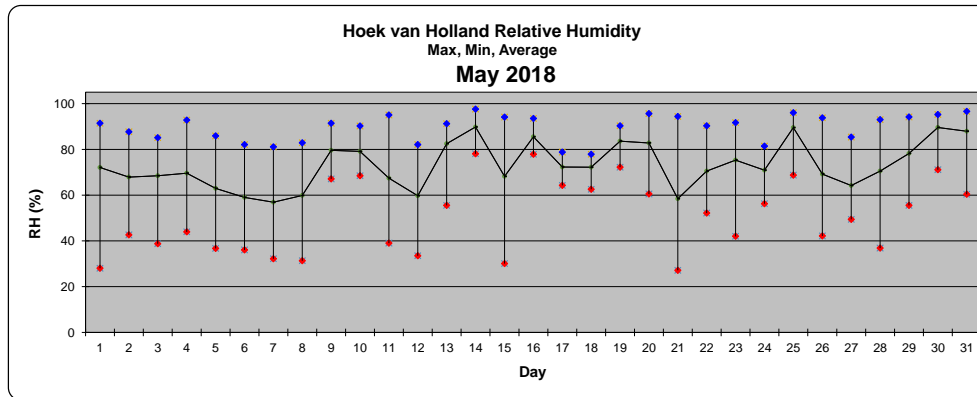
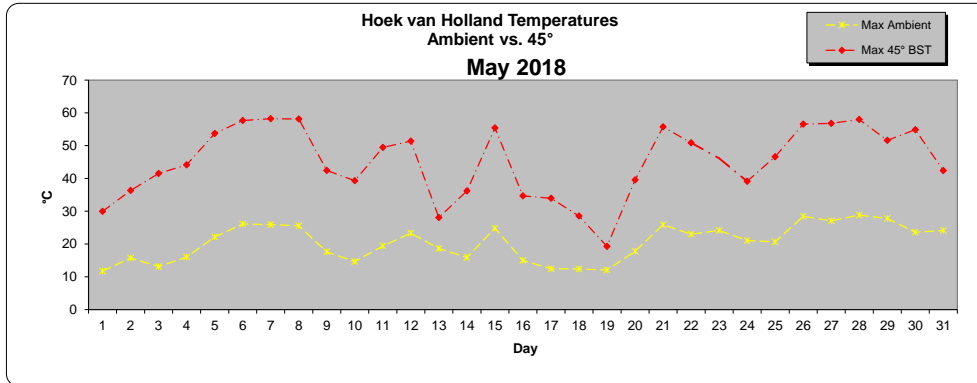
Note: \* No data available





Month	Temperature Summary						Climate Summary						
	Ambient Temperature			Black Metal Panel Temperature (ASTM G179) (°C)			Relative Humidity			Wind Speed		Wind Direction	Rainfall
May	°C			45 °			%			(m/s)		360°/0° = N	(mm)
Day	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Avg	Avg	Total
1	12	6	9	30	5	13	91	28	72	19.5	7.6	247°	14.2
2	16	8	11	36	6	15	88	43	68	14.3	5.8	184°	0.6
3	13	7	11	42	2	18	85	39	68	6.3	2.7	311°	0.0
4	16	4	11	44	1	17	93	44	70	7.5	1.9	358°	0.0
5	22	7	15	54	3	22	86	37	63	7.0	1.9	52°	0.0
6	26	9	18	58	5	26	82	36	59	5.8	1.0	71°	0.0
7	26	12	19	58	8	27	81	32	57	4.8	0.8	87°	0.0
8	26	12	19	58	8	26	83	31	60	4.8	1.3	60°	0.0
9	18	12	15	42	9	21	91	67	80	7.8	2.4	314°	0.0
10	15	9	12	39	5	16	90	69	79	11.3	4.0	287°	0.0
11	19	6	13	49	3	21	95	39	67	4.5	1.0	97°	0.0
12	23	12	18	51	9	23	82	34	60	4.5	0.8	99°	0.0
13	19	12	13	28	11	16	91	56	83	9.8	3.8	296°	0.0
14	16	10	12	36	10	17	98	78	90	10.8	5.0	347°	0.0
15	25	12	17	55	10	24	94	30	68	8.8	3.3	8°	0.0
16	15	10	13	35	10	15	94	78	86	15.5	6.0	1°	0.0
17	12	9	10	34	7	15	79	64	72	11.5	5.6	358°	0.0
18	12	8	10	29	7	12	78	63	72	7.8	3.7	349°	0.0
19	12	9	10	19	8	12	90	72	84	6.0	2.4	342°	0.0
20	18	9	13	40	5	20	96	61	83	8.8	2.7	9°	0.0
21	26	11	19	56	7	23	94	27	58	7.3	1.3	57°	0.0
22	23	15	18	51	13	24	90	52	71	8.5	2.3	19°	3.4
23	24	15	18	46	12	22	92	42	75	7.5	2.3	19°	2.0
24	21	15	18	39	13	20	81	56	71	7.0	2.0	53°	0.8
25	21	13	16	47	12	23	96	69	90	7.0	2.0	331°	2.6
26	28	13	22	57	12	29	94	42	69	6.5	1.3	57°	0.0
27	27	18	22	57	15	26	85	49	64	7.5	1.2	69°	0.0
28	29	17	22	58	15	29	93	37	71	7.8	1.7	50°	0.0
29	28	17	21	52	16	26	94	56	78	7.5	2.7	2°	22.8
30	24	16	18	55	14	24	95	71	90	6.3	2.2	236°	0.2
31	24	15	18	42	14	22	97	60	88	12.0	2.0	340°	20.4
<b>Monthly Avg.</b>	<b>20</b>	<b>11</b>	<b>16</b>	<b>45</b>	<b>9</b>	<b>21</b>	<b>90</b>	<b>51</b>	<b>73</b>	<b>8.4</b>	<b>2.7</b>	<b>165°</b>	
<b>Monthly Total</b>													<b>67.0</b>
<b>YTD<sup>†</sup> Ava.</b>	<b>11</b>	<b>5</b>	<b>8</b>	<b>29</b>	<b>3</b>	<b>10</b>	<b>91</b>	<b>62</b>	<b>79</b>	<b>10.2</b>	<b>3.7</b>	<b>167°</b>	
<b>YTD<sup>†</sup> Total</b>													<b>311.8</b>

<sup>†</sup> Year To Date For Pollution (SO2, NOx, O3) visit [www.lml.rivm.nl](http://www.lml.rivm.nl)  
Note: \* = Data Unavailable





# ATLAS

**WEATHERING SERVICES GROUP**



North Sea Corrosion Test Centre

## Solar Radiation Summary

May 2018

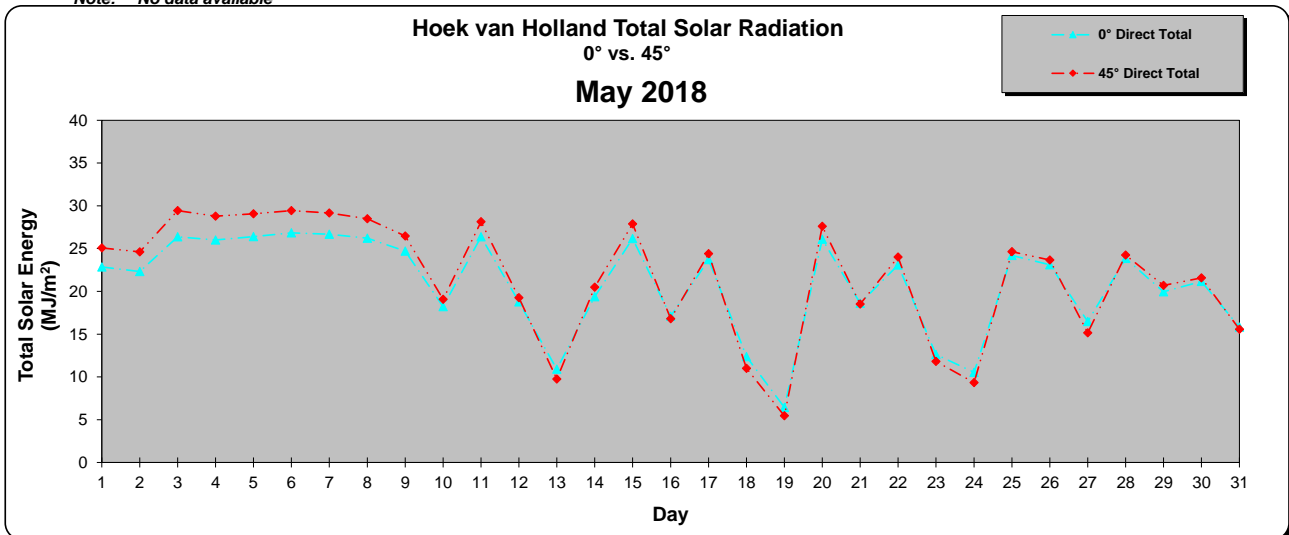
Hoek van Holland, The Netherlands

Latitude 51° 57' North, Longitude 04° 10' East Elevation 6 (m)

AWSG Solar Radiation Summary		
Month	Total Solar Radiation (MJ/m <sup>2</sup> )	
May	Direct	
Day	0°	45°
1	22.9	25.1
2	22.3	24.6
3	26.4	29.4
4	26.0	28.8
5	26.4	29.1
6	26.8	29.4
7	26.7	29.2
8	26.2	28.5
9	24.7	26.5
10	18.2	19.1
11	26.4	28.1
12	18.8	19.3
13	10.9	9.8
14	19.4	20.5
15	26.2	27.9
16	17.1	16.8
17	23.7	24.4
18	12.4	11.0
19	6.4	5.4
20	26.1	27.6
21	18.6	18.5
22	23.1	24.0
23	12.6	11.8
24	10.5	9.3
25	24.2	24.6
26	23.1	23.7
27	16.5	15.2
28	23.8	24.3
29	20.0	20.7
30	21.2	21.6
31	15.8	15.6
<b>Monthly Total</b>	<b>643.4</b>	<b>669.6</b>
<b>YTD<sup>†</sup> Total</b>	<b>1677.9</b>	<b>2007.7</b>

<sup>†</sup> Year To Date Total Solar Radiation - (390-3000nm)

Note: \* No data available





# ATLAS

WEATHERING SERVICES GROUP



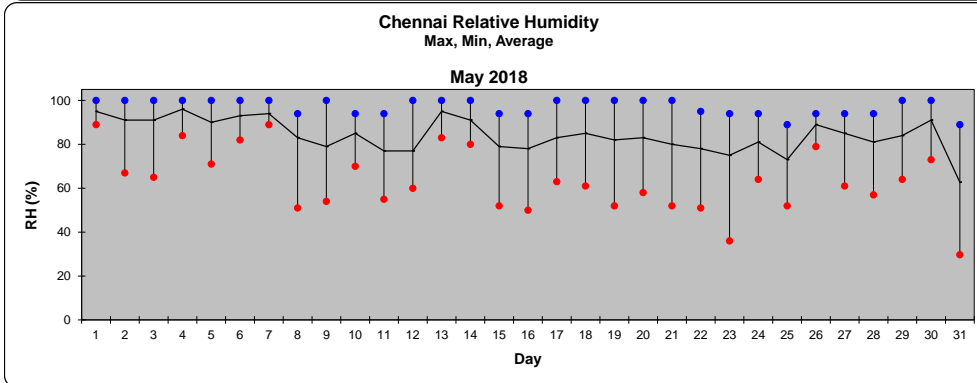
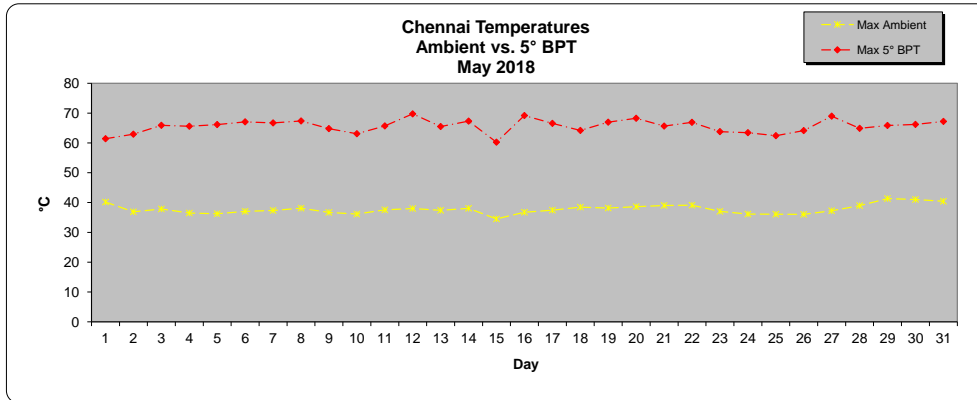
## Weather Summary May 2018 Chennai, India

Latitude 12° 35' North, Longitude 79° 48' East Elevation 45 (m)

Month	Temperature Summary						Climate Summary						
	Ambient Temperature			Black Metal Panel Temperature (ASTM G179) (°C)			Relative Humidity			Wind Speed		Wind Direction	Rainfall
May	°C			5 °			%			(m/s)		360°/70° = N	(mm)
Day	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Avg	Avg	Total
1	40	28	32	61	26	38	100	89	95	4.8	1.1	147°	0.0
2	37	22	30	63	21	35	100	67	91	7.2	1.1	117°	82.0
3	38	26	31	66	25	37	100	65	91	7.5	1.0	107°	0.0
4	36	25	29	66	23	34	100	84	96	5.4	0.8	126°	0.0
5	36	26	30	66	25	36	100	71	90	3.9	0.7	108°	0.0
6	37	26	31	67	24	36	100	82	93	8.0	0.8	144°	0.0
7	37	26	31	67	25	36	100	89	94	7.2	0.8	114°	0.0
8	38	27	31	67	25	37	94	51	83	5.2	0.8	135°	0.0
9	37	26	31	65	25	36	100	54	79	6.5	0.9	130°	0.0
10	36	26	30	63	24	35	94	70	85	5.1	0.8	121°	0.0
11	38	26	31	66	25	37	94	55	77	7.6	0.9	122°	0.0
12	38	27	31	70	25	37	100	60	77	4.7	0.9	121°	0.0
13	37	27	31	66	25	37	100	63	95	5.0	0.9	122°	0.0
14	38	26	31	67	25	37	100	80	91	4.0	0.9	109°	0.0
15	35	26	30	60	24	32	94	52	79	4.3	0.6	98°	0.0
16	37	25	30	69	24	36	94	50	78	4.1	0.8	119°	0.0
17	37	26	31	67	25	36	100	63	83	7.5	0.8	112°	0.0
18	38	25	31	64	24	37	100	61	85	4.7	0.8	111°	0.0
19	38	27	31	67	25	36	100	52	82	4.4	0.8	117°	0.0
20	39	27	31	68	25	37	100	58	83	6.7	0.9	115°	0.0
21	39	27	32	66	25	37	100	52	80	4.8	0.9	103°	0.0
22	39	26	31	67	25	37	95	51	78	6.6	0.9	81°	0.0
23	37	26	31	64	25	36	94	36	75	6.6	0.8	111°	0.0
24	36	26	31	63	25	35	94	64	81	4.1	0.8	63°	0.0
25	36	27	30	62	25	35	89	52	73	6.5	0.8	97°	0.0
26	36	26	30	64	24	35	94	79	89	5.8	0.9	93°	0.0
27	37	26	31	69	25	36	94	61	85	4.4	0.9	121°	0.0
28	39	27	32	65	26	37	94	57	81	5.4	1.0	128°	0.0
29	41	27	34	66	25	39	100	64	84	4.4	0.9	153°	0.0
30	41	28	33	66	26	38	100	73	91	4.5	1.0	100°	0.0
31	40	28	32	67	26	37	89	30	63	6.8	0.9	266°	0.0
Monthly Avg.	38	26	31	66	25	36	97	63	84	4.9	0.9	120°	
Monthly Total													82.0
YTD <sup>†</sup> Avg.	34	22	27	60	20	32	97	63	84	4.6	0.8	106°	
YTD <sup>†</sup> Total													121.6

<sup>†</sup> Year To Date

Note: \* Data Unavailable





# ATLAS

## WEATHERING SERVICES GROUP

**AMETEK**  
MEASUREMENT, COMMUNICATIONS  
& TESTING

### Solar Radiation Summary May 2018

Chennai, India

Latitude 12° 35' North, Longitude 79° 48' East Elevation 45 (m)

AWSG Solar Radiation Summary			
Month	Total Solar Radiation (MJ/m <sup>2</sup> )	Ultraviolet Solar Radiation (MJ/m <sup>2</sup> )	
May	Direct	295-385 nm	300-400 nm
Day	5°	5°	
1	22.9	1.09	1.43
2	21.4	1.07	1.40
3	23.3	1.16	1.52
4	19.0	1.02	1.33
5	25.3	1.29	1.68
6	23.2	1.22	1.60
7	19.5	1.04	1.36
8	23.1	1.21	1.59
9	24.7	1.30	1.70
10	21.9	1.23	1.61
11	24.7	1.28	1.68
12	23.9	1.22	1.60
13	23.9	1.22	1.60
14	25.0	1.28	1.68
15	12.8	0.74	0.97
16	24.2	1.29	1.69
17	20.4	1.09	1.43
18	20.8	1.05	1.38
19	21.1	1.03	1.34
20	22.9	1.10	1.44
21	22.8	1.11	1.45
22	23.0	1.16	1.51
23	21.2	1.06	1.38
24	18.2	0.98	1.28
25	18.1	1.05	1.38
26	21.2	1.19	1.55
27	21.9	1.17	1.53
28	23.3	1.25	1.64
29	24.5	1.28	1.68
30	22.4	1.16	1.52
31	19.0	0.96	1.25
<b>Monthly Total</b>	<b>679.7</b>	<b>35.25</b>	<b>46.18</b>
<b>YTD<sup>1</sup> Total</b>	<b>3160.5</b>	<b>167.14</b>	<b>219.02</b>

<sup>1</sup> Year To Date Total Solar Radiation - (290-3000nm)

Note:

