

**August 2007**

**Global Solar Radiation on a Horizontal Surface**  
**Hourly Integrated and Daily Totals**  
**Instrument: Eppley PSP**  
**Watt-Hours per Square Meter**

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily
1	0	0	0	0	0	16	88	250	452	645	536	267	627	400	484	572	275	268	81	8	0	0	0	0	4969
2	0	0	0	0	0	12	102	274	465	636	531	531	566	351	524	417	438	171	34	10	0	0	0	0	5061
3	0	0	0	0	0	13	88	220	412	610	718	867	713	784	808	592	403	143	57	17	0	0	0	0	6444
4	0	0	0	0	0	12	83	233	479	610	740	868	835	898	792	635	458	249	66	4	0	0	0	0	6964
5	0	0	0	0	0	7	68	121	185	271	277	233	330	317	148 ?	184	205	113	42	4	0	0	0	0	2505
6	0	0	0	0	0	6	65	196	271	384	479	488	415	489	395	314	359	234	59	6	0	0	0	0	4161
7	0	0	0	0	0	10	79	222	402	491	540	769	852	816	657	553	368	192	52	13	0	0	0	0	6017
8	0	0	0	0	0	12	81	247	439	616	749	834	864	810	741	609	460	262	73	9	0	0	0	0	6804
9	0	0	0	0	0	11	91	254	442	616	748	840	770	643	632	598	413	185	71	15	0	0	0	0	6330
10	0	0	0	0	0	5	67	144	224	381	683	887	677	719	744	637	472	226	67	6	0	0	0	0	5940
11	0	0	0	0	0	7	52	204	358	381	524	578	637	831	559	332	309	223	66	4	0	0	0	0	5067
12	0	0	0	0	0	7	74	234	438	311	661	845	837	867	789	641	444	253	64	3	0	0	0	0	6470
13	0	0	0	0	0	10	76	169	416	616	569	756	722	733	645	503	374	200	56	3	0	0	0	0	5847
14	0	0	0	0	0	8	65	236 ?	494 ?	627	764	829	831	786	697	466	390	202	54	5	0	0	0	0	6454
15	0	0	0	0	0	7	83	253	436	613	743	729	786	777	694	550	372	179	51	1	0	0	0	0	6274
16	0	0	0	0	0	10	59	193	366	479	601	632	809	689	244	518	369	195	35	1	0	0	0	0	5200
17	0	0	0	0	0	5	64	213	396	582	740	836	851	790	709	579	410	213	52	4	0	0	0	0	6441
18	0	0	0	0	0	5	61	185	417	534	694	802	839	787	706	580	391	205	40	1	0	0	0	0	6247
19	0	0	0	0	0	5	65	217	402	560	708	763	769	758	669	520	383	182	40	0	0	0	0	0	6040
20	0	0	0	0	0	4	28	205	338	490	721	622	821	842	653	569	341	209	50	1	0	0	0	0	5893
21	0	0	0	0	0	8	70	237	433	535	577	539 ?	139	509 ?	299 ?	383 ?	172	134	49	3	0	0	0	0	4087 ?
22	0	0	0	0	0	3	60	217	342 ?	394	513	831	662	589	442	455	378	206	34	0	0	0	0	0	5124
23	0	0	0	0	0	4	64	231	419	590	542	673	856	749	725	642	413	121	50	3	0	0	0	0	6081
24	0	0	0	0	0	4	31	216	401	581	723	785	699	712	632	463	76	116	56	0	0	0	0	0	5494
25	0	0	0	0	0	5	56	215	400	576	712	800	679	749	691	495	80	117	29	0	0	0	0	0	5605
26	0	0	0	0	0	1	41	196	273	233	357	598	566	515	442	294	352	221	41	0	0	0	0	0	4131
27	0	0	0	0	0	4	43	216	407	563	710	813	921	824	430	421	242	179	36	0	0	0	0	0	5809
28	0	0	0	0	0	2	35	184	270	265	401	649	641	720	767	539	401	199	29	0	0	0	0	0	5101
29	0	0	0	0	0	3	54	187	347	572	692	795	559	736	720	454	376	74	10	0	0	0	0	0	5580
30	0	0	0	0	0	7 ?	69	123	144	225	164	133	171	402	634	434	260	53	9	0	0	0	0	0	2828
31	0	0	0	0	0	2	14	43	136	211	545	664	711	655	459	354	271	148	28	0	0	0	0	0	4241
Avg	0	0	0	0	0	7	64	204	368	490	602	686	682	685	598	494	344	183	48	4	0	0	0	0	5458
S D	0	0	0	0	0	4	20	47	95	141	151	194	195	160	170	116	102	53	17	5	0	0	0	0	1082
S/A	0	0	0	0	0	0.53	0.31	0.23	0.26	0.29	0.25	0.28	0.29	0.23	0.28	0.23	0.3	0.29	0.36	1.19	0	0	0	0	0.2
Min	0	0	0	0	0	1	14	43	136	211	164	133	139	317	148	184	76	53	9	0	0	0	0	0	2505
Max	0	0	0	0	0	16	102	274	494	645	764	887	921	898	808	642	472	268	81	17	0	0	0	0	6964
n	0	0	0	0	0	119	372	368	363	372	371	369	371	369	362	369	371	372	366	77	0	0	0	0	4991

Daylight Data Recovery: 0.0% missing; 0.0% untested; 0.7% exceed the 15% QC threshold -- 5027 total daylight measurements.

Instrument: Eppley PSP Serial Number: 25821F3 Calibration Factor: 9.020 μV/W/m² Calibration Date: 05/1998

Data & Flag	Hour Column	Day Column
<value> *	> 20% Missing	> 10% Missing
<value> ?	> 20% Fail QC	> 10% Fail QC
<blank> *	> 90% Missing	> 90% Missing
<blank> ?	> 90% Fail QC	> 90% Fail QC

Note: Daily values with a missing flag (\*) are not used in monthly statistics.

**August 2007**

**Direct Normal Solar Radiation**  
**Hourly Integrated and Daily Totals**  
**Instrument: Eppley NIP**  
**Watt-Hours per Square Meter**

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily	
1	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
2	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
3	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
4	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
5	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
6	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
7	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
8	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
9	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
10	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
11	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
12	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
13	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
14	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
15	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
16	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
17	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
18	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
19	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
20	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
21	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
22	0	0	0	0	0	?	?	?	?	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
23	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*
24	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
25	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
26	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
27	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
28	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
29	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
30	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
31	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
Avg	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	43	107	23	N/A	N/A	N/A	0	0	0	0	0	N/A	*
SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
StA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	43	107	23	N/A	N/A	N/A	0	0	0	0	0	0	N/A
Max	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	43	107	23	N/A	N/A	N/A	0	0	0	0	0	0	N/A
n	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	2	0	0	0	0	0	0	0	0	0	0

Daylight Data Recovery: 97.4% missing; 0.0% untested; 2.4% exceed the 15% QC threshold -- 5027 total daylight measurements.

Instrument: Eppley NIP    Serial Number: 17664E6    Calibration Factor: 8.480  $\mu\text{V}/\text{W}/\text{m}^2$     Calibration Date: 05/1998

Data & Flag	Hour Column	Day Column
<value> *	> 20% Missing	> 10% Missing
<value> ?	> 20% Fail QC	> 10% Fail QC
<blank> *	> 90% Missing	> 90% Missing
<blank> ?	> 90% Fail QC	> 90% Fail QC

Note: Daily values with a missing flag (\*) are not used in monthly statistics.

**Bluefield State College**  
**37.27 N Latitude 81.24 W Longitude 803 Meters AMSL Time Zone -5**

**August 2007**

**Diffuse Solar Radiation (Shadow Band) on a Horizontal Surface**  
**Hourly Integrated and Daily Totals**  
**Instrument: Eppley PSP**  
**Watt-Hours per Square Meter**

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily
1	0	0	0	0	0	15	71	150	197	217	281	227	299	261 ?	330 ?	416 ?	202 ?	269 ?	90	8	0	0	0	0	3032 ?
2	0	0	0	0	0	11	60	103	142	184	271	320	395	362	411 ?	401	376 ?	178	37	11	0	0	0	0	3264 ?
3	0	0	0	0	0	14	75	158	237	286	342	396	353	416 ?	?	534 ?	424 ?	159	61	17	0	0	0	0	3473 ?
4	0	0	0	0	0	13	79	168	224	279	324	335	345	450 ?	?	?	?	241 ?	72	4	0	0	0	0	2534 ?
5	0	0	0	0	0	9	71	129	198	289	297	252	352	340	149	197	218	121	45	4	0	0	0	0	2672
6	0	0	0	0	0	8	69	200	261	318	431	470	432	485	422	339	371 ?	265	65	6	0	0	0	0	4142
7	0	0	0	0	0	10	79	219	265	410	453	483	424	431	624 ?	386 ?	417	213	57	14	0	0	0	0	4486 ?
8	0	0	0	0	0	13	91	276	236	208	262	321	307	276	625 ?	456 ?	369 ?	251 ?	83	9	0	0	0	0	3782 ?
9	0	0	0	0	0	12	107	?	272	203	252	286	293	218	329 ?	?	405 ?	193	78	16	0	0	0	0	2666 ?
10	0	0	0	0	0	6	73	154	235	324	316	218	301	274	454 ?	?	?	165 ?	76	7	0	0	0	0	2603 ?
11	0	0	0	0	0	9	54	200	264 ?	325	286	271	258	290	324	254 ?	201 ?	225 ?	77	4	0	0	0	0	3041 ?
12	0	0	0	0	0	7	80	259	446 ?	294	329	291	270	190	292 ?	?	?	213 ?	76	4	0	0	0	0	2751 ?
13	0	0	0	0	0	11 ?	82	174	362 ?	340	372	347	322	249	320	335 ?	396 ?	232	65	3	0	0	0	0	3609 ?
14	0	0	0	0	0	9 ?	71	255 ?	375 ?	270 ?	202	301	?	?	541 ?	428 ?	411 ?	231	59	5	0	0	0	0	3159 ?
15	0	0	0	0	0	7	49	97	129	163	242	389	432	712 ?	?	?	420	200	57	1	0	0	0	0	2897 ?
16	0	0	0	0	0	13 ?	56	132	220	353	474	493	390	597	269	474 ?	415	220	39	1	0	0	0	0	4149
17	0	0	0	0	0	6 ?	49	122	178	210	209	216	284	548	702 ?	?	378 ?	245	58	4	0	0	0	0	3208 ?
18	0	0	0	0	0	6 ?	50	121	178	249	287	291	300	394	626 ?	?	385 ?	234	41	1	0	0	0	0	3163 ?
19	0	0	0	0	0	5	48	114	175	272	364	446	457	447	574	539 ?	390 ?	199	40	0	0	0	0	0	4070
20	0	0	0	0	0	4	28	151	215	263	296	351	371	295	376	500	292 ?	193	43	1	0	0	0	0	3380
21	0	0	0	0	0	11 ?	52	125	158	227	302	333	143	416	250	334	172	141	51	2	0	0	0	0	2716
22	0	0	0	0	0	4 ?	51	124	228 ?	303	343	332	324	338	286	246	218	118	27	0	0	0	0	0	2944
23	0	0	0	0	0	4	40	89	118	139	202	242	265	271	287	271	233	92	46	3	0	0	0	0	2303
24	0	0	0	0	0	4	26	102	144	176	191	217	233	271	303	227	82	109	52	0	0	0	0	0	2136
25	0	0	0	0	0	5	43	109	160	199	227	239	279	263	237	212	80	127	30	0	0	0	0	0	2209
26	0	0	0	0	0	1	35	123	250	253	356	529	401	329	266	210	200	154	37	0	0	0	0	0	3144
27	0	0	0	0	0	5 ?	38	129	191	230	322	335	364	369	307	223	155	102	31	0	0	0	0	0	2802
28	0	0	0	0	0	2	35	118	234	283	344	395	343	345	319	227	203	141	29	0	0	0	0	0	3017
29	0	0	0	0	0	4 ?	43	134	206	260	256	281	274	259	287	261	174	70	11	0	0	0	0	0	2521
30	0	0	0	0	0	?	72	127	155	242	176	144	186	396	447	274	209	56	10	0	0	0	0	0	2496
31	0	0	0	0	0	2	14	46	146	228	460	467	452	409	334	272	213	124	28	0	0	0	0	0	3194
Avg	0	0	0	0	0	8	58	147	219	258	306	330	328	363	382	334	286	177	51	4	0	0	0	0	3083 ?
S D	0	0	0	0	0	4	21	53	73	60	79	95	76	117	141	111	113	60	21	5	0	0	0	0	591
S/A	0	0	0	0	0	0.53	0.36	0.36	0.33	0.23	0.26	0.29	0.23	0.32	0.37	0.33	0.39	0.34	0.41	1.22	0	0	0	0	0.19
Min	0	0	0	0	0	1	14	46	118	139	176	144	143	190	149	197	80	56	10	0	0	0	0	0	2136
Max	0	0	0	0	0	15	107	276	446	410	474	529	457	712	702	539	424	269	90	17	0	0	0	0	4486
n	0	0	0	0	0	101	372	354	336	369	371	370	360	334	260	217	256	338	366	77	0	0	0	0	4484

Daylight Data Recovery: 0.0% missing; 0.0% untested; 10.8% exceed the 15% QC threshold -- 5027 total daylight measurements.

Instrument: Eppley PSP    Serial Number: 17860F3    Calibration Factor: 7.010 μV/W/m²    Calibration Date: 05/1998

Data & Flag	Hour Column	Day Column
<value> *	> 20% Missing	> 10% Missing
<value> ?	> 20% Fail QC	> 10% Fail QC
<blank> *	> 90% Missing	> 90% Missing
<blank> ?	> 90% Fail QC	> 90% Fail QC

Note: Daily values with a missing flag (\*) are not used in monthly statistics.