

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

August 2003

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	3	40	63 ?	143	272	308	330	648	694	781	618	312	231	111	18	0	0	0	0	4571
2	0	0	0	0	0	13	95	300 ?	457	655	769	830	852	851	778	672	495	290	101	5	0	0	0	0	7162
3	0	0	0	0	0	9	112	299	434	560	771	722	313	226 ?	241	226	203	109	54	9	0	0	0	0	4287
4	0	0	0	0	0	7	42	41	116	155	357	793	949	930	809	462	365	327	88	12	0	0	0	0	5454
5	0	0	0	0	0	8	66	252	247	331	422	442	859	404	543	615	311	288	92	10	0	0	0	0	4891
6	0	0	0	0	0	10	77	227	398	549	572	710	882	745	582	666	173	99	54	7	0	0	0	0	5751
7	0	0	0	0	0	2	17	41	80	108	421	555	435	277	764	220	297	231	51	4	0	0	0	0	3504
8	0	0	0	0	0	7	21	32 ?	93 ?	185	426	441	112	318	221	318	244	94	40	10	0	0	0	0	2562
9	0	0	0	0	0	8	34	109	271	365 ?	587	386	262	517	402	538	368	292	74	7	0	0	0	0	4220
10	0	0	0	0	0	8	42	115	257	307	613	626	682	392	171	?	57	38	11	3	0	0	0	0	3322
11	0	0	0	0	0	9	44	133	373	241	505	764	728	951	615	308	259	276	44	2	0	0	0	0	5253
12	0	0	0	0	0	6	73	244	476	463	801	862	864	455	103	245	371	207	50	6	0	0	0	0	5227
13	0	0	0	0	0	3	24	103	237	268	425	852	542	352	105	384	456	228	65	15	0	0	0	0	4058
14	0	0	0	0	0	10	54	163	392	525	711	786	604	264	507	201	377	163	70	7	0	0	0	0	4836
15	0	0	0	0	0	6	40	107	187	466	771	764	875	654	737	325	344	179	27	1	0	0	0	0	5482
16	0	0	0	0	0	0	2 ?	?	60 ?	194	253	579	852	440	260	304	245	153	25	6	0	0	0	0	3373 ?
17	0	0	0	0	0	5	78	216	215	224	396	727	502	863	638	236	113	114	52	16	0	0	0	0	4396
18	0	0	0	0	0	4	49	258	415	643	867	837	859	796	780	650	481	257	54	1	0	0	0	0	6951
19	0	0	0	0	0	5	69	214	334	570	793	839	813	894	779	538	362	179	48	3	0	0	0	0	6441
20	0	0	0	0	0	6	67	212	432	614	672	683	817	833	536	569	399	209	48	0	0	0	0	0	6098
21	0	0	0	0	0	8	44	205	389	463	645	697	687	627	651	519	370	190	43	3	0	0	0	0	5540
22	0	0	0	0	0	5	42	100	258	394	474	559	620	331	300	332	370	125	25	0	0	0	0	0	3934
23	0	0	0	0	0	5	63	199	266	538	688	702	470	579	621	446	354	201	40	0	0	0	0	0	5172
24	0	0	0	0	0	3	42	148	153	509	790	816	959	500	766	493	315	204	40	0	0	0	0	0	5739
25	0	0	0	0	0	6	59	181	396	597	757	847	873	837	737	587	394	199	37	0	0	0	0	0	6508
26	0	0	0	0	0	5	56	?	394	592	735	818	847	801	702	548	365	179	33	0	0	0	0	0	6074
27	0	0	0	0	0	3	45	179	344	302	428	649	738	625	663	550	395	140	9	0	0	0	0	0	5071
28	0	0	0	0	0	10	67	171	364	562	648	776	477	825	501	307	166	190	7	0	0	0	0	0	5070
29	0	0	0	0	0	3	48	178	351	491	629	443	649	585	690	487	327	57 ?	47	0	0	0	0	0	4985
30	0	0	0	0	0	2	66	150	375	473	445	527	170	246	595	251	212	101	26	0	0	0	0	0	3637
31	0	0	0	0	0	3	25	136	326	536	665	773	441	151	198	108 ?	55	45	10	0	0	0	0	0	3472
Avg	0	0	0	0	0	6	52	165	298	424	592	682	657	579	541	424	308	180	48	5	0	0	0	0	4937
S D	0	0	0	0	0	3	23	74	120	160	169	154	234	242	229	163	112	76	26	5	0	0	0	0	1135
S/A	0	0	0	0	0	0.51	0.45	0.45	0.4	0.38	0.29	0.23	0.36	0.42	0.42	0.38	0.36	0.42	0.55	1.13	0	0	0	0	0.23
Min	0	0	0	0	0	0	2	32	60	108	253	330	112	151	103	108	55	38	7	0	0	0	0	0	2562
Max	0	0	0	0	0	13	112	300	476	655	867	862	959	951	809	672	495	327	111	18	0	0	0	0	7162
n	0	0	0	0	0	121	368	329	359	369	370	370	370	369	372	354	365	367	364	77	0	0	0	0	4926

Daylight Data Recovery: 0.0% missing; 2.0% exceed the 15% QC threshold -- 5028 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 2003

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	1	4	5	6	187	362	619	519	125	177	134	0	0	0	0	0	2139
2	0	0	0	0	0	5	200	391 ?	449	439	450	474	542	513	639	726	594	470	179	0	0	0	0	0	6071
3	0	0	0	0	0	0	234	393	327	248	291	152	22	16	2	5	3	1	0	0	0	0	0	0	1694
4	0	0	0	0	0	1	1	1	1	1	41	472	706	697	718	295	320	350	119	0	0	0	0	0	3724
5	0	0	0	0	0	1	59	280	62	59	145	95	439	115	297	496	231	546	230	0	0	0	0	0	3054
6	0	0	0	0	0	0	2	87	279	242	212	278	417	370	267	629	29	5	0	0	0	0	0	0	2818
7	0	0	0	0	0	0	0	0	0	0	6	45	33	6	487	10	56	296	13	0	0	0	0	0	955
8	0	0	0	0	0	0	0	0	1	1	12	43	0	8	2	17	84	1	0	0	0	0	0	0	170
9	0	0	0	0	0	0	0	1	24	102	138	43	5	132	72	232	218	169	7	0	0	0	0	0	1143
10	0	0	0	0	0	0	0	1	5	5	114	140	212	74	3	0	0	0	0	0	0	0	0	0	554
11	0	0	0	0	0	0	0	1	56	3	40	251	339	660	318	33	56	218	2	0	0	0	0	0	1976
12	0	0	0	0	0	5	95	300	492	253	617	571	529	213	0	4	207	129	0	0	0	0	0	0	3416
13	0	0	0	0	0	0	0	1	5	4	6	348	181	89	0	133	353	229	86	0	0	0	0	0	1435
14	0	0	0	0	0	0	0	13	384	372	444	584	306	71	189	9	251	154	103	0	0	0	0	0	2880
15	0	0	0	0	0	0	0	1	2	106	582	439	562	374	449	115	235	84	0	0	0	0	0	0	2949
16	0	0	0	0	0	0	0	0	0	2	5	153	493	89	12	67	102	23	0	0	0	0	0	0	946
17	0	0	0	0	0	2	161	323	13	5	61	365	240	554	319	84	1	39	5	0	0	0	0	0	2170
18	0	0	0	0	0	0	1	274	711 ?	720	794	587	622	628	683	654	593	446	112	0	0	0	0	0	6825
19	0	0	0	0	0	0	129	237	152	338	577	526	504	730	716	512	352	237	66	0	0	0	0	0	5077
20	0	0	0	0	0	2	105	207	481	562	446	423	614	633	338	538	492	368	90	0	0	0	0	0	5300
21	0	0	0	0	0	0	13	193	272	192	273	292	314	227	299	324	298	182	28	0	0	0	0	0	2906
22	0	0	0	0	0	0	7	5	78	129	175	220	177	10	4	94	402	96	0	0	0	0	0	0	1395
23	0	0	0	0	0	0	149	329	136	371	428	340	128	271	385	269	227	129	18	0	0	0	0	0	3181
24	0	0	0	0	0	0	13	85	59	523	815	551	810	276	725	483	323	336	86	0	0	0	0	0	5085
25	0	0	0	0	0	0	100	429 ?	588	692	795	825	821	828	795	738	632	483	101	0	0	0	0	0	7830
26	0	0	0	0	0	0	161	?	581	658	703	732	737	707	668	602	507	361	63	0	0	0	0	0	6480
27	0	0	0	0	0	0	26	234	239	34	93	342	407	343	489	467	385	74	0	0	0	0	0	0	3134
28	0	0	0	0	0	0	16	62	222	366	383	437	156	462	205	148	8	102	0	0	0	0	0	0	2567
29	0	0	0	0	0	0	59	234	473	373	366	77	353	222	490	335	271	37	14	0	0	0	0	0	3304
30	0	0	0	0	0	0	166	172	400	245	178	250	0	37	268	34	34	11	12	0	0	0	0	0	1807
31	0	0	0	0	0	0	0	71	213	225	257	386	109	0	3	0	0	1	1	0	0	0	0	0	1266
Avg	0	0	0	0	0	1	55	144	216	235	305	337	354	313	337	277	238	186	47	0	0	0	0	0	3040
S D	0	0	0	0	0	1	73	147	217	227	262	213	249	262	268	252	194	165	61	0	0	0	0	0	1949
S/A	0	0	0	0	0	2.07	1.33	1.02	1	0.97	0.86	0.63	0.7	0.83	0.79	0.91	0.81	0.89	1.3	3.67	0	0	0	0	0.64
Min	0	0	0	0	0	0	0	0	0	0	5	6	0	0	0	0	0	0	0	0	0	0	0	0	170
Max	0	0	0	0	0	5	234	429	711	720	815	825	821	828	795	738	632	546	230	0	0	0	0	0	7830
n	0	0	0	0	0	121	372	348	369	371	370	370	372	372	372	372	372	372	366	77	0	0	0	0	4996

Daylight Data Recovery: 0.0% missing; 0.6% exceed the 15% QC threshold -- 5028 total daylight measurements.

Instrument: Eppley NIP Serial Number: 17664E6 Calibration Factor: 8.480 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 2003

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	3	42	52	153	287	322	342	461	344	264	263	242	177	92	19	0	0	0	0	3063
2	0	0	0	0	0	17	64	119 ?	166	249	300	313	297	349	238	174	185	132	74	5	0	0	0	0	2681
3	0	0	0	0	0	8	63	117	203	328	474	567	304	173	255	236	214	113	55	9	0	0	0	0	3119
4	0	0	0	0	0	9	44	44	124	165	317	250	188	257	213	256	193	221	71	13	0	0	0	0	2363
5	0	0	0	0	0	8	51	128	212	283	270	310	377	296	288	279	192	110	53	9	0	0	0	0	2867
6	0	0	0	0	0	12	80	193	232	324	326	390	432	382	376	248	164	102	58	7	0	0	0	0	3328
7	0	0	0	0	0	2	17	40	83	116	443	521	402	287	308	222	282	136	48	2	0	0	0	0	2910
8	0	0	0	0	0	7	22	31	82	199	435	397	121	330	237	319	205	99	42	10	0	0	0	0	2536
9	0	0	0	0	0	8	36	117	265	327	413	345	270	376	344	368	263	239	77	6	0	0	0	0	3455
10	0	0	0	0	0	10	45	123	271	324	468	436	423	311	179	38 ?	59	40	11	2	0	0	0	0	2740
11	0	0	0	0	0	12	47	142	322	252	467	506	428	392	366	303	212	204	47	2	0	0	0	0	3702
12	0	0	0	0	0	6	66	153	251	290	313	365	392	275	108	256	270	171	51	5	0	0	0	0	2971
13	0	0	0	0	0	2	25	109	250	283	444	528	378	287	111	295	226	165	54	16	0	0	0	0	3174
14	0	0	0	0	0	12 ?	58	167	222	281	343	279	337	207	366	204	271	121	54	7	0	0	0	0	2929
15	0	0	0	0	0	7 ?	42	115	200	393	321	382	382	342	390	247	243	157	25	1	0	0	0	0	3248
16	0	0	0	0	0	0	1 ?	?	40 ?	209	265	457	410	368	259	259	202	149	24	6	0	0	0	0	2648 ?
17	0	0	0	0	0	6 ?	56	141	220	233	359	409	290	385	397	183	123	103	55	17	0	0	0	0	2977
18	0	0	0	0	0	5 ?	51	191	122 ?	169	254	331	306	264	252	234	208	132	39	1	0	0	0	0	2560
19	0	0	0	0	0	6	52	149	266	342	347	390	378	280	235	213	196	120	42	3	0	0	0	0	3019
20	0	0	0	0	0	7	56	156	202	259	334	336	293	311	284	238	176	111	38	0	0	0	0	0	2798
21	0	0	0	0	0	11 ?	46	167	267	350	440	469	429	450	437	329	242	148	41	3	0	0	0	0	3830
22	0	0	0	0	0	7 ?	45	106	237	320	346	382	473	342	319	291	185	95	26	0	0	0	0	0	3172
23	0	0	0	0	0	7 ?	49	126	227	300	362	421	376	362	348	283	258	173	39	0	0	0	0	0	3332
24	0	0	0	0	0	3	41	130	134	158	172	360	275	266	237	206	161	124	30	0	0	0	0	0	2296
25	0	0	0	0	0	6	44	101 ?	139	158	156	162	171	152	146	134	112	76	25	0	0	0	0	0	1583
26	0	0	0	0	0	7 ?	42	?	142	181	212	218	226	225	213	187	144	92	27	0	0	0	0	0	1916
27	0	0	0	0	0	5 ?	45	135	242	293	373	377	407	353	313	277	235	126	9	0	0	0	0	0	3189
28	0	0	0	0	0	?	68	163	265	342	369	431	356	465	363	222	171	173	7	0	0	0	0	0	3396
29	0	0	0	0	0	4 ?	45	132	176	267	362	393	354	415	342	289	167	45	49	0	0	0	0	0	3040
30	0	0	0	0	0	2 ?	44	95	195	318	319	323	187	224	387	244	197	100	23	0	0	0	0	0	2658
31	0	0	0	0	0	3	27	123	252	385	482	445	359	159	212	90 ?	55	43	11	0	0	0	0	0	2644
Avg	0	0	0	0	0	7	46	123	199	271	349	382	338	311	283	238	195	129	42	5	0	0	0	0	2908
S/D	0	0	0	0	0	4	16	41	66	72	85	90	90	80	85	68	56	48	21	6	0	0	0	0	475
S/A	0	0	0	0	0	0.57	0.35	0.33	0.33	0.26	0.24	0.23	0.27	0.26	0.3	0.28	0.29	0.37	0.5	1.21	0	0	0	0	0.16
Min	0	0	0	0	0	0	1	31	40	116	156	162	121	152	108	38	55	40	7	0	0	0	0	0	1583
Max	0	0	0	0	0	17	80	193	322	393	482	567	473	465	437	368	282	239	92	19	0	0	0	0	3830
n	0	0	0	0	0	103	368	334	365	371	370	370	370	372	372	364	370	370	366	77	0	0	0	0	4942

Daylight Data Recovery: 0.0% missing; 1.7% exceed the 15% QC threshold -- 5028 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.