

June 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	5	28	36	119	413	710	875	997	859	602	720	525	310	102	22	0	0	0	0	6322
2	0	0	0	0	0	31	125 ?	369 ?	528	742	883	966	984	935	821	493	433	240	71	13	0	0	0	0	7631
3	0	0	0	0	0	2	29	60	85	133	162	406	244	392	292	125	204	263	64	21	0	0	0	0	2480
4	0	0	0	0	0	31	97	103	197	243	138	325	499	708	468	297	169	54 ?	21 ?	2	0	0	0	0	3352
5	0	0	0	0	0	10	72	344	396	670	740	796	919	907	719	638	448	197	114	12	0	0	0	0	6983
6	0	0	0	0	0	37	123 ?	439 ?	606	753	884	961	976	936	840	708	480	234	77	17	0	0	0	0	8070
7	0	0	0	0	0	3	?	43 ?	85 ?	107	237	233	202	149	97 ?	146	191	132	35	7	0	0	0	0	1666 ?
8	0	0	0	0	0	20	147	414 ?	548	552	948	962	1046	1012	800	645	443	290	59	9	0	0	0	0	7894
9	0	0	0	0	0	32	153 ?	358 ?	605	739	812	887	831	764	792	550	533	337	124	9	0	0	0	0	7525
10	0	0	0	0	0	28	110 ?	403 ?	454	649	869	953	958	749	729	713	519	271	80	19	0	0	0	0	7504
11	0	0	0	0	0	39	143	226	296	521	761	899	593	833	630	252	377	203	27 ?	0	0	0	0	0	5799
12	0	0	0	0	0	18	92	217	337	294	190	649	695	535	339	275	263	232	142	23	0	0	0	0	4301
13	0	0	0	0	0	21	99	157	277	195	109	334	531	591	343	378	320	150	87	23	0	0	0	0	3612
14	0	0	0	0	0	46	156	350 ?	411	307	565	570	450	484	676	642	241	101	89	12	0	0	0	0	5100
15	0	0	0	0	0	12	76	181	86 ?	126	182	147	189	306	479	181	109	51	41	26	0	0	0	0	2193
16	0	0	0	0	0	21	143	340	434	634	581	609	433	394	81	66 ?	39 ?	46	40	5	0	0	0	0	3867
17	0	0	0	0	0	3	22 ?	65	45 ?	66 ?	79 ?	103	86	98 ?	193	102	134	130	88	14	0	0	0	0	1227 ?
18	0	0	0	0	0	13	124	163	251 ?	311	328	439	315 ?	395	212	199	110	65	32	6	0	0	0	0	2964
19	0	0	0	0	0	10	29	66	121	276	391	486	412	475	515	648	516	304	98	6	0	0	0	0	4352
20	0	0	0	0	0	1	48	159	240	256	626	566	1005	1002	873	501	332	339	153	17	0	0	0	0	6118
21	0	0	0	0	0	23	125	319 ?	538	458	446	496	598	247	496	535	175	82	33	20	0	0	0	0	4591
22	0	0	0	0	0	44	175 ?	377	569	746	873	1002	1007	934	859	680	534	278	112	14	0	0	0	0	8203
23	0	0	0	0	0	37	184 ?	391 ?	568	748	889	975	976	943	846	713	532	335	130	15	0	0	0	0	8282
24	0	0	0	0	0	32	106 ?	365 ?	507	711	840	911	946	907	820	683	499	302	108	13	0	0	0	0	7750
25	0	0	0	0	0	33	144	335	526	709	746	916	998	860	789	646	453	307	121	16	0	0	0	0	7599
26	0	0	0	0	0	31	123	338 ?	520	682	747	835	798	637	834	578	481	277	118	6	0	0	0	0	7004
27	0	0	0	0	0	25	48	66	189	119	192	210	298	379	688	240	286	136	63	11	0	0	0	0	2949
28	0	0	0	0	0	10	50	118	261	351	330	373	638	734	776	705	336	141	12 ?	0	0	0	0	0	4836
29	0	0	0	0	0	30	142	328	551	659	780	691	692	847	862	661	488	231	91	11	0	0	0	0	7064
30	0	0	0	0	0	25	141	299	374	645	694	562	519	493	265	157	149	79	38	9	0	0	0	0	4449
Avg	0	0	0	0	0	22	105	248	357	461	558	638	661	650	591	463	344	204	79	13	0	0	0	0	5390
S D	0	0	0	0	0	13	47	133	184	240	292	285	301	270	256	231	159	98	39	7	0	0	0	0	2192
S/A	0	0	0	0	0	0.58	0.45	0.54	0.51	0.52	0.52	0.45	0.45	0.42	0.43	0.5	0.46	0.48	0.49	0.55	0	0	0	0	0.41
Min	0	0	0	0	0	1	22	36	45	66	79	103	86	98	81	66	39	46	12	0	0	0	0	0	1227
Max	0	0	0	0	0	46	184	439	606	753	948	1002	1046	1012	873	720	534	339	153	26	0	0	0	0	8282
n	0	0	0	0	0	330	301	293	335	352	353	357	355	356	353	355	350	354	342	252	0	0	0	0	5039

Daylight Data Recovery: 0.0% missing; 4.2% exceed the 15% QC threshold -- 5262 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.

June 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	0	129	387	497	690	480	298	794	721	562	132	0	0	0	0	0	4690
2	0	0	0	0	0	44	238 ?	565	664	729	784	808	810	788	687	192	374	247	13	0	0	0	0	0	6941
3	0	0	0	0	0	0	1	0	0	1	0	3	2	3	4	1	10	60	2	0	0	0	0	0	86
4	0	0	0	0	0	13	25	2	15	3	1	31	195	339	145	57	1	0	0	0	0	0	0	0	826
5	0	0	0	0	0	0	10	345	254	502	485	472	622	647	555	539	458	196	209	0	0	0	0	0	5293
6	0	0	0	0	0	130	396 ?	748 ?	812	861	888	893	871	856	827	770	371	120	1	0	0	0	0	0	8543
7	0	0	0	0	0	0	0	0	0	0	1	2	2	0	0	1	5	10	0	0	0	0	0	0	21
8	0	0	0	0	0	2	260	700 ?	635	376	856	813	905	873	671	635	505	480	96	0	0	0	0	0	7805
9	0	0	0	0	0	108	444 ?	774	859	800	669	664	627	564	731	474	733	629	391	0	0	0	0	0	8466
10	0	0	0	0	0	27	245 ?	692 ?	350	489	745	765	662	439	500	731	724	330	60	0	0	0	0	0	6760
11	0	0	0	0	0	17	82	69	26	154	418	505	168	421	245	27	117	50	0	0	0	0	0	0	2300
12	0	0	0	0	0	0	8	107	115	16	2	242	234	174	23	4	32	168	128	0	0	0	0	0	1252
13	0	0	0	0	0	1	4	9	46	43	0	4	74	78	38	100	112	7	3	0	0	0	0	0	517
14	0	0	0	0	0	77	250	413	213	42	203	198	114	98	296	338	29	23	23	0	0	0	0	0	2316
15	0	0	0	0	0	0	1	15	0	1	1	1	1	4	71	2	0	0	0	0	0	0	0	0	96
16	0	0	0	0	0	1	172	385	240	395	249	222	92	55	0	0	0	0	0	0	0	0	0	0	1811
17	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	5
18	0	0	0	0	0	1	37	16	9	5	13	93	12	18	1	0	0	0	0	0	0	0	0	0	205
19	0	0	0	0	0	0	0	0	1	7	19	35	23	89	176	479	531	454	139	0	0	0	0	0	1952
20	0	0	0	0	0	0	1	23	49	54	246	278	772	848	807	351	285	472	304	0	0	0	0	0	4491
21	0	0	0	0	0	2	211	392 ?	513	184	151	165	267	31	230	432	1	0	3	0	0	0	0	0	2582
22	0	0	0	0	0	219	556 ?	706	794	820	853	904	881	798	831	736	745	481	260	0	0	0	0	0	9583
23	0	0	0	0	0	147	520 ?	705 ?	811	840	891	914	841	827	812	813	776	682	375	0	0	0	0	0	9954
24	0	0	0	0	0	126	360 ?	621 ?	687	745	767	751	760	744	746	718	639	519	254	0	0	0	0	0	8438
25	0	0	0	0	0	46	338	541	649	725	609	633	704	592	553	537	425	473	257	0	0	0	0	0	7081
26	0	0	0	0	0	37	246 ?	483 ?	581	571	478	514	446	305	628	394	385	220	162	0	0	0	0	0	5450
27	0	0	0	0	0	2	0	0	4	0	1	1	4	9	184	1	15	6	0	0	0	0	0	0	228
28	0	0	0	0	0	3	0	6	37	49	42	15	95	188	493	502	182	24	0	0	0	0	0	0	1635
29	0	0	0	0	0	61	287	474	616	570	548	349	343	593	745	572	470	175	56	0	0	0	0	0	5861
30	0	0	0	0	0	24	207	294	137	354	237	68	32	31	2	0	0	0	0	0	0	0	0	0	1386
Avg	0	0	0	0	0	36	163	303	304	315	351	361	375	363	377	340	288	213	96	0	0	0	0	0	3886
S/D	0	0	0	0	0	56	176	295	320	323	335	333	343	327	315	302	286	230	124	0	0	0	0	0	3346
S/A	0	0	0	0	0	1.55	1.08	0.97	1.05	1.03	0.95	0.92	0.91	0.9	0.84	0.89	0.99	1.08	1.3	4.28	0	0	0	0	0.86
Min	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5
Max	0	0	0	0	0	219	556	774	859	861	891	914	905	873	831	813	776	682	391	0	0	0	0	0	9954
n	0	0	0	0	0	330	310	317	356	360	360	360	360	360	360	360	360	360	360	252	0	0	0	0	5165

Daylight Data Recovery: 0.0% missing; 1.8% exceed the 15% QC threshold -- 5262 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

June 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	4	29	36	125	320	381	408	333	417	373	172	145	118	78	23	0	0	0	0	2961	
2	0	0	0	0	0	27	77 ?	144	175	206	216	221	222	219	253	359	245	149	71	14	0	0	0	0	2599	
3	0	0	0	0	0	2	27	62	91	143	173	431	263	418	312	134	213	236	67	20	0	0	0	0	2593	
4	0	0	0	0	0	34	98	108	198	256	129	311	322	395	357	268	175	46	18	1	0	0	0	0	2716	
5	0	0	0	0	0	10	72	204	241	293	320	352	321	306	251	260	208	131	78	13	0	0	0	0	3058	
6	0	0	0	0	0	32	72 ?	88 ?	95	105	110	120	137	146	146	163	273	194	81	18	0	0	0	0	1779	
7	0	0	0	0	0	3	14	39	68	114	252	248	214	158	79	154	197	133	36	7	0	0	0	0	1717	
8	0	0	0	0	0	21	91	107 ?	178	267	202	190	179	207	241	192	171	120	39	10	0	0	0	0	2214	
9	0	0	0	0	0	27	73 ?	82	92	136	227	257	226	238	170	203	130	109	50	9	0	0	0	0	2031	
10	0	0	0	0	0	28	83 ?	98 ?	264	265	218	233	325	344	301	189	117	156	68	20	0	0	0	0	2711	
11	0	0	0	0	0	38	125	215	291	407	387	427	442	450	434	225	326	188	29 ?	0	0	0	0	0	3985	
12	0	0	0	0	0	19	97	181	271	294	201	411	469	380	335	291	259	173	120	25	0	0	0	0	3526	
13	0	0	0	0	0	22	103	161	256	170	116	352	469	531	324	316	257	156	91	24	0	0	0	0	3347	
14	0	0	0	0	0	44	101	177	299	289	394	392	350	409	431	400	233	99	85	11	0	0	0	0	3713	
15	0	0	0	0	0	12	80	183	77	134	194	146	200	321	431	194	115	53	44	27	0	0	0	0	2210	
16	0	0	0	0	0	22	94	181	292	338	362	396	358	354	77	60	33	49	41	5	0	0	0	0	2663	
17	0	0	0	0	0	3	20	62	35 ?	51 ?	71	103	86	96	204	108	142	138	93	14	0	0	0	0	1225	
18	0	0	0	0	0	15	120	164	201	326	336	365	245	396	224	210	116	68	31	5	0	0	0	0	2821	
19	0	0	0	0	0	10	30	70	128	286	394	471	410	413	380	317	230	134	69	4	0	0	0	0	3347	
20	0	0	0	0	0	1	50	154	218	222	422	319	270	222	194	251	190	169	95	18	0	0	0	0	2794	
21	0	0	0	0	0	24	92	178 ?	253	326	327	353	351	231	317	222	187	87	34	21	0	0	0	0	3002	
22	0	0	0	0	0	32	71 ?	94	109	141	146	165	170	199	160	155	124	90	59	14	0	0	0	0	1732	
23	0	0	0	0	0	28	71 ?	90 ?	102	132	131	131	183	188	169	134	103	83	59	16	0	0	0	0	1619	
24	0	0	0	0	0	29	63 ?	129 ?	144	171	199	230	237	235	204	178	152	115	65	14	0	0	0	0	2165	
25	0	0	0	0	0	30	87	133	161	186	235	344	344	327	343	277	228	138	75	17	0	0	0	0	2923	
26	0	0	0	0	0	29	85 ?	166 ?	199	275	354	375	393	374	324	304	284	205	93	7	0	0	0	0	3464	
27	0	0	0	0	0	28	51	70	197	127	201	223	311	396	528	255	288	139	66	11	0	0	0	0	2891	
28	0	0	0	0	0	11	54	122	257	334	315	383	569	569	373	353	239	136	14	0	0	0	0	0	3729	
29	0	0	0	0	0	30	99	158	199	252	322	378	372	314	239	253	232	167	80	11	0	0	0	0	3108	
30	0	0	0	0	0	26	113	214	296	398	503	519	515	488	279	168	158	84	40	9	0	0	0	0	3810	
Avg	0	0	0	0	0	21	75	129	184	232	261	308	310	325	282	225	192	129	62	13	0	0	0	0	2748	
S D	0	0	0	0	0	12	29	52	78	93	110	112	116	118	109	80	67	47	26	7	0	0	0	0	717	
S/A	0	0	0	0	0	0.55	0.39	0.41	0.43	0.4	0.42	0.36	0.37	0.36	0.39	0.35	0.35	0.37	0.41	0.57	0	0	0	0	0.26	
Min	0	0	0	0	0	1	14	36	35	51	71	103	86	96	77	60	33	46	14	0	0	0	0	0	1225	
Max	0	0	0	0	0	44	125	215	299	407	503	519	569	569	528	400	326	236	120	27	0	0	0	0	3985	
n	0	0	0	0	0	319	309	321	351	357	358	359	360	358	360	360	360	360	356	354	252	0	0	0	0	5134

Daylight Data Recovery: 0.0% missing; 2.4% exceed the 15% QC threshold -- 5262 total daylight measurements.

Instrument: Eppley PSP Serial Number: 17860F3 Calibration Factor: 7.010 $\mu\text{V}/\text{W}/\text{m}^2$ 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.