

April 2004

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	0	5	17 ?	47	60	152	160	180	203	164	78	42	40	5	0	0	0	0	0	1153
2	0	0	0	0	0	0	6	25 ?	43	48 ?	96	109	157	139	92	115	83	27	5	0	0	0	0	0	944
3	0	0	0	0	0	0	5	?	?	57 ?	56 ?	92	166	239	179	252	307	133	41	0	0	0	0	0	1528 ?
4	0	0	0	0	0	0	7	37	95	87	121	240	306	292	434	180	134	130	31	0	0	0	0	0	2095
5	0	0	0	0	0	0	38	225	459	655	811	905	932	895	787	625	426	208	30	0	0	0	0	0	6995
6	0	0	0	0	0	0	52	243	456	616	739	875	909	833	711	585	381	204	29	0	0	0	0	0	6633
7	0	0	0	0	0	0	25	99	122	385	305	452	549	596	628	517	321	186	20	0	0	0	0	0	4205
8	0	0	0	0	0	0	14	86	355	432	668	840	676	648	310	248	147	138	29	0	0	0	0	0	4591
9	0	0	0	0	0	1	25	139	250	357	546 ?	877	904	864	762	608	401	186	38	0	0	0	0	0	5958
10	0	0	0	0	0	1	61	207	365	541	459	389	590	636	441	219	134	85	18	0	0	0	0	0	4148
11	0	0	0	0	0	0	17	50	204	146	136	183	140	98	75 ?	116	58	34	8	0	0	0	0	0	1267
12	0	0	0	0	0	0	1	?	86 ?	73	149	104 ?	357	640	348	195	56 ?	?	4	0	0	0	0	0	2013 ?
13	0	0	0	0	0	1	24	56 ?	74 ?	153	111	114 ?	319	737 ?	752	363	?	64	12	0	0	0	0	0	2779 ?
14	0	0	0	0	0	0	2 ?	29 ?	38 ?	79	127	114	112	123	73 ?	375	229	182	32	0	0	0	0	0	1514 ?
15	0	0	0	0	0	6	80	276	482	673	816	903	925	879	776	617	420	213	35	0	0	0	0	0	7100
16	0	0	0	0	0	5	97	313	486	659	811	833	914	719	598	585	433	211	40	0	0	0	0	0	6705
17	0	0	0	0	0	5	79	262	460	621	811	874	890	861	778	621	420	217	39	0	0	0	0	0	6939
18	0	0	0	0	0	5	87	210	446	644	699	900	923	885	777	621	432	230	39	0	0	0	0	0	6897
19	0	0	0	0	0	4	78	204	485	674	827	902	921	905	646	422	295	127	33	0	0	0	0	0	6521
20	0	0	0	0	0	6	49	98	213	410 ?	?	463 ?	443	624 ?	227 ?	162	96	61	38	0	0	0	0	0	2891 ?
21	0	0	0	0	0	9	87 ?	136	224 ?	?	?	?	521	630	375	299	240	116	44	0	0	0	0	0	2682 ?
22	0	0	0	0	0	6	48	316	583	463	457	401	557	519	423	335	246	208	14	0	0	0	0	0	4577
23	0	0	0	0	0	11	74	220	335	425	475	379	170	168	348	322	283	119	12	0	0	0	0	0	3341
24	0	0	0	0	0	7	62	236	501	604	802	884	917	878	557	449	314	74	30	1	0	0	0	0	6315
25	0	0	0	0	0	7	97	276	515	640	635	470	472	370	222	163	82	61	19	1	0	0	0	0	4032
26	0	0	0	0	0	2	8 ?	?	53 ?	65	99	219	230	115	122	91	111	159	62	10	0	0	0	0	1346 ?
27	0	0	0	0	0	13	71	156 ?	?	287 ?	361 ?	431 ?	368 ?	282 ?	303	191 ?	146 ?	98 ?	36	5	0	0	0	0	2748 ?
28	0	0	0	0	0	17	125	329	536	726	868	949	966	920	809	650	457	247	53	1	0	0	0	0	7652
29	0	0	0	0	0	18	101	323	519	693	758	907	903	859	689	463	412	147	43	2	0	0	0	0	6835
30	0	0	0	0	0	19	115	159	303	589	521	545	262	307	326	194	199	95	27	2	0	0	0	0	3663
Avg	0	0	0	0	0	5	51	175	312	409	479	535	556	562	458	355	252	138	29	1	0	0	0	0	4202
S D	0	0	0	0	0	6	38	102	185	247	293	325	313	295	252	193	140	65	15	2	0	0	0	0	2234
S/A	0	0	0	0	0	1.2	0.74	0.58	0.59	0.6	0.61	0.56	0.52	0.55	0.54	0.56	0.47	0.51	2.75	0	0	0	0	0	0.53
Min	0	0	0	0	0	0	1	17	38	48	56	92	112	98	73	78	42	27	4	0	0	0	0	0	944
Max	0	0	0	0	0	19	125	329	583	726	868	949	966	920	809	650	457	247	62	10	0	0	0	0	7652
n	0	0	0	0	0	76	340	290	297	318	319	327	357	339	341	355	339	337	326	12	0	0	0	0	4374

Daylight Data Recovery: 0.0% missing; 7.6% exceed the 15% QC threshold -- 4732 total daylight measurements.

Instrument: Eppley PSP Serial Number: 25821F3 Calibration Factor: 9.020 μV/W/m<sup>2</sup> 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**

**April 2004**

**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	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	6	331	133	93	0	0	0	0	0	569
4	0	0	0	0	0	0	0	0	0	0	0	1	19	11	102	3	25	62	46	0	0	0	0	0	270
5	0	0	0	0	0	0	102	634	865	950	995	1014	1017	1018	995	951	872	701	122	0	0	0	0	0	10237
6	0	0	0	0	0	0	300	750	844	809	824	884	943	826	750	785	655	513	111	0	0	0	0	0	8994
7	0	0	0	0	0	0	1	7	1	63	4	49	93	174	372	503	386	396	38	0	0	0	0	0	2088
8	0	0	0	0	0	0	0	4	251	191	485	746	455	502	93	151	80	259	78	0	0	0	0	0	3295
9	0	0	0	0	0	0	0	1	3	3	246 ?	811	870	886	891	862	713	402	92	0	0	0	0	0	5780
10	0	0	0	0	0	0	111	253	391	327	48	23	113	214	48	0	0	0	0	0	0	0	0	0	1528
11	0	0	0	0	0	0	0	0	4	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	6
12	0	0	0	0	0	0	0	0	0	0	0	0	48	183	17	6	0	0	0	0	0	0	0	0	255
13	0	0	0	0	0	0	0	0	0	3	1	0	6	653 ?	800	294	0	1	0	0	0	0	0	0	1759
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	164	126	358	41	0	0	0	0	0	690
15	0	0	0	0	0	0	346	684	823	892	916	925	923	907	879	839	752	595	124	0	0	0	0	0	9606
16	0	0	0	0	0	1	343	684	804	850	892	704	793	314	270	558	769	562	143	0	0	0	0	0	7687
17	0	0	0	0	0	4	314	580	649	602	636	718	771	818	861	822	725	566	108	0	0	0	0	0	8176
18	0	0	0	0	0	9	261	144	444	596	587	900	935	936	902	855	786	630	124	0	0	0	0	0	8108
19	0	0	0	0	0	7	75	204	742	841	882	857	867	874	454	184	150	60	3	0	0	0	0	0	6201
20	0	0	0	0	0	0	1	1	3	8 ?	?	9 ?	4	9 ?	2	0	0	0	0	0	0	0	0	0	36 ?
21	0	0	0	0	0	0	6	6	6 ?	?	?	?	6	329	49	32	61	8	29	0	0	0	0	0	532 ?
22	0	0	0	0	0	0	3	344	654	288	85	30	89	112	139	81	131	277	2	0	0	0	0	0	2236
23	0	0	0	0	0	2	96	346	199	88	83	20	0	51	73	142	71	0	0	0	0	0	0	0	1171
24	0	0	0	0	0	0	21	168	574	639	800	839	875	879	249	291	174	12	0	0	0	0	0	0	5521
25	0	0	0	0	0	0	192	437	571	592	336	156	117	64	5	1	7	3	0	0	0	0	0	0	2480
26	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	2	12	8	0	0	0	0	0	26
27	0	0	0	0	0	2	39	156 ?	141 ?	21 ?	20 ?	17 ?	10 ?	6 ?	8	3 ?	6 ?	6 ?	7	0	0	0	0	0	443 ?
28	0	0	0	0	0	30	425	756	871	934	970	980	977	961	930	878	801	659	178	0	0	0	0	0	10351
29	0	0	0	0	0	65	255	675	723	681	629	701	615	559	490	312	444	47	1	0	0	0	0	0	6198
30	0	0	0	0	0	38	137	7	89	469	164	95	1	2	2	4	60	4	0	0	0	0	0	0	1071
Avg	0	0	0	0	0	5	101	228	322	340	343	361	352	375	312	289	273	211	45	0	0	0	0	0	3511
S D	0	0	0	0	0	14	135	282	347	364	383	416	416	391	373	351	320	253	56	0	0	0	0	0	3637
S/A	0	0	0	0	0	2.67	1.34	1.24	1.08	1.07	1.12	1.15	1.18	1.04	1.19	1.22	1.17	1.2	1.24	0	0	0	0	0	1.04
Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Max	0	0	0	0	0	65	425	756	871	950	995	1014	1017	1018	995	951	872	701	178	0	0	0	0	0	10351
n	0	0	0	0	0	76	352	355	340	334	327	335	357	347	357	357	356	354	329	12	0	0	0	0	4588

Daylight Data Recovery: 0.0% missing; 3.0% exceed the 15% QC threshold -- 4732 total daylight measurements.

Instrument: Eppley NIP    Serial Number: 17664E6    Calibration Factor: 8.480 μV/W/m<sup>2</sup>    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.

**April 2004**

**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	0	5	17	45	64	163	173	193	219	177	84	44	42	4	0	0	0	0	0	1230
2	0	0	0	0	0	0	6	24	45	47	98	117	168	131	99	124	88	27	5	0	0	0	0	0	981
3	0	0	0	0	0	0	5	15	21 ?	37	55	96	177	257	191	264	181	104	33	0	0	0	0	0	1436
4	0	0	0	0	0	0	7	39	102	95	132	258	306	300	360	189	128	119	26	0	0	0	0	0	2062
5	0	0	0	0	0	0	25	61	80	88	92	95	96	90	84	78	66	48	17	0	0	0	0	0	920
6	0	0	0	0	0	0	27	52	83	126	134	162	125	168	174	122	108	74	17	0	0	0	0	0	1371
7	0	0	0	0	0	0	29	104	133	359	331	432	483	461	356	221	155	97	16	0	0	0	0	0	3178
8	0	0	0	0	0	0	15	90	224	303	286	220	298	250	250	174	120	89	21	0	0	0	0	0	2342
9	0	0	0	0	0	?	26	140	238	326	334 ?	226	187	160	129	105	97	87	28	0	0	0	0	0	2083
10	0	0	0	0	0	0	48	143	177	327	424	382	473	439	414	236	145	91	19	0	0	0	0	0	3320
11	0	0	0	0	0	0	17	53	215	156	146	201	151	107	59	125	55	34	8	0	0	0	0	0	1327
12	0	0	0	0	0	0	1	16 ?	50 ?	74	159	97	320	441	351	200	51	16	3	0	0	0	0	0	1779 ?
13	0	0	0	0	0	1 ?	25	46	58	160	107	105	333	237 ?	148	124	31 ?	57	12	0	0	0	0	0	1445 ?
14	0	0	0	0	0	0	1 ?	21 ?	35	87	142	123	120	132	61	280	185	94	28	0	0	0	0	0	1309
15	0	0	0	0	0	7 ?	40	74	90	105	123	136	142	140	133	114	93	66	22	0	0	0	0	0	1283
16	0	0	0	0	0	6 ?	39	71	92	116	133	238	223	407	369	224	90	68	23	0	0	0	0	0	2100
17	0	0	0	0	0	7 ?	43	88	144	227	313	256	220	183	140	120	99	72	26	0	0	0	0	0	1940
18	0	0	0	0	0	7 ?	59	156	211	239	229	139	118	111	108	99	84	67	24	0	0	0	0	0	1653
19	0	0	0	0	0	5	71	133	114	122	142	173	165	172	294	310	234	118	34	0	0	0	0	0	2086
20	0	0	0	0	0	9 ?	51	103	212	326 ?	?	436 ?	421	513 ?	228	173	103	65	44	0	0	0	0	0	2683 ?
21	0	0	0	0	0	8	66	111	144 ?	?	?	?	476	328	354	293	227	116	41	0	0	0	0	0	2165 ?
22	0	0	0	0	0	7	49	200	253	280	389	389	478	427	324	297	196	127	14	0	0	0	0	0	3429
23	0	0	0	0	0	14 ?	62	101	247	368	419	382	183	182	310	287	220	97	13	0	0	0	0	0	2884
24	0	0	0	0	0	8	60	174	204	165	162	157	144	133	326	255	230	73	32	1	0	0	0	0	2125
25	0	0	0	0	0	7	72	135	232	249	376	346	386	332	233	175	83	65	20	1	0	0	0	0	2713
26	0	0	0	0	0	1	8 ?	?	49	69	106	234	245	123	129	98	113	151	60	10	0	0	0	0	1396 ?
27	0	0	0	0	0	11	54	91 ?	141 ?	226 ?	296 ?	369 ?	336 ?	269 ?	274	185 ?	124 ?	85 ?	37	6	0	0	0	0	2503 ?
28	0	0	0	0	0	13	52	75	85	92	96	100	103	103	100	96	83	64	29	1	0	0	0	0	1092
29	0	0	0	0	0	19	68	90	139	219	239	293	355	374	308	264	196	136	45	2	0	0	0	0	2748
30	0	0	0	0	0	21	97	168	257	257	411	475	283	331	351	209	181	100	28	2	0	0	0	0	3173
Avg	0	0	0	0	0	5	38	89	137	183	216	235	257	251	228	184	127	82	24	1	0	0	0	0	2025
S D	0	0	0	0	0	6	26	52	76	104	118	119	125	127	109	74	60	32	13	2	0	0	0	0	741
S/A	0	0	0	0	0	1.15	0.68	0.58	0.55	0.57	0.55	0.51	0.49	0.51	0.48	0.4	0.47	0.39	0.54	2.76	0	0	0	0	0.37
Min	0	0	0	0	0	0	1	15	21	37	55	95	96	90	59	78	31	16	3	0	0	0	0	0	920
Max	0	0	0	0	0	21	97	200	257	368	424	475	483	513	414	310	234	151	60	10	0	0	0	0	3429
n	0	0	0	0	0	64	341	325	331	334	327	335	357	345	357	356	347	353	325	12	0	0	0	0	4510

Daylight Data Recovery: 0.0% missing; 4.7% exceed the 15% QC threshold -- 4732 total daylight measurements.

Instrument: Eppley PSP Serial Number: 17860F3 Calibration Factor: 7.010 μV/W/m<sup>2</sup> 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.