

**April 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	0	12	44	117	215	312	541	830	829	735	582	391	183	28	0	0	0	0	0	4819
2	0	0	0	0	0	0	44	211	419	610	764	860	890	853	750	594	405	194	28	0	0	0	0	0	6621
3	0	0	0	0	0	0	33	210	427	621	771	865	896	862	755	586	411	190	21	0	0	0	0	0	6648
4	0	0	0	0	0	0	33	157	181	221	298	373	392	615	533	568	296	170	35	0	0	0	0	0	3874
5	0	0	0	0	0	0	7	31 ?	177	528	383	626	627	672	669	499	412	194	33	0	0	0	0	0	4858
6	0	0	0	0	0	0	22	141	427	498	584	818	918	879	550	205	68	26	3	0	0	0	0	0	5140
7	0	0	0	0	0	0	7	22	86	88	120	209	223	171	166	71	41 ?	25	5	0	0	0	0	0	1233
8	0	0	0	0	0	0	14	79	234	336	230	248 ?	?	62 ?	?	78 ?	55	31 ?	6	0	0	0	0	0	1373 ?
9	0	0	0	0	0	0	13	41	94	211	332	268	220	224	163	104	65	37	5	0	0	0	0	0	1779
10	0	0	0	0	0	1	3	46 ?	65	69	75 ?	70 ?	?	?	?	?	?	?	?	3	0	0	0	0	331 ?
11	0	0	0	0	0	1	15	37	62	75	264	200	337	198	94	66	?	?	5	0	0	0	0	0	1353 ?
12	0	0	0	0	0	4	67	198	412	663	790	894	923	882	778	616	413	203	34	0	0	0	0	0	6877
13	0	0	0	0	0	4	79	249	476	668	820	912	937	893	787	625	428	218	34	0	0	0	0	0	7132
14	0	0	0	0	0	4	76	268	476	660	805	885	913 ?	883	768	611	409	151	32	0	0	0	0	0	6942
15	0	0	0	0	0	4	70	249	452	638	767	629	548	893	788	618	408	185	39	0	0	0	0	0	6287
16	0	0	0	0	0	6	70	254	453	636	794	897	851	854	686	420	139	191	33	0	0	0	0	0	6286
17	0	0	0	0	0	4	67	290	429	587	577	547	499	686	159	54 ?	80	83	31	0	0	0	0	0	4093
18	0	0	0	0	0	1	9	39	109	126	142	208	276	128	102	94	42 ?	22 ?	15	0	0	0	0	0	1311
19	0	0	0	0	0	6	94	346	241	511	885	921	913	768	672	573	466	210	35	0	0	0	0	0	6641
20	0	0	0	0	0	4	31	133	384	591	729	893	642	421	434	524	431	221	51	0	0	0	0	0	5487
21	0	0	0	0	0	1	26	38 ?	95	188	215	542	522	606	726	668	401	135	30	0	0	0	0	0	4194
22	0	0	0	0	0	1	6 ?	21 ?	58 ?	151 ?	140	166	298	216	154	102	218	32 ?	3	0	0	0	0	0	1565 ?
23	0	0	0	0	0	5	49	144	437	722	863	953	973	927	820	660	461	245	48	1	0	0	0	0	7308
24	0	0	0	0	0	22	116	325	476	605	589	726	502	665	811	337	152	55	35	0	0	0	0	0	5415
25	0	0	0	0	0	4	26	52	87	110	325	299	347	223	340	83	84 ?	22 ?	10	0	0	0	0	0	2011
26	0	0	0	0	0	3	43	107	226	317	316	319	317	390	373	278	72	44 ?	4 ?	0	0	0	0	0	2810
27	0	0	0	0	0	8	72	214	468	722	864	950	976	931	823	660	470	250	51	1	0	0	0	0	7460
28	0	0	0	0	0	18	124	319	526	712	855	941	953	907	819	662	450	245	48	1	0	0	0	0	7581
29	0	0	0	0	0	10	38	114	282	293	212	450	529	628	613	600	444	233	48	3	0	0	0	0	4497
30	0	0	0	0	0	9	57	198	264	497	827	799	562	336	108	304	169	270	60	1	0	0	0	0	4462
Avg	0	0	0	0	0	4	44	153	288	429	522	600	636	607	542	408	281	145	27	0	0	0	0	0	4546
S D	0	0	0	0	0	5	33	104	164	232	284	298	269	296	272	237	168	87	17	1	0	0	0	0	2280
S/A	0	0	0	0	0	1.32	0.75	0.68	0.57	0.54	0.55	0.5	0.42	0.49	0.5	0.58	0.6	0.6	0.64	2.51	0	0	0	0	0.5
Min	0	0	0	0	0	0	3	21	58	69	75	70	220	62	94	54	41	22	3	0	0	0	0	0	331
Max	0	0	0	0	0	22	124	346	526	722	885	953	976	931	823	668	470	270	60	3	0	0	0	0	7581
n	0	0	0	0	0	70	345	329	354	356	352	353	332	338	336	332	319	299	323	11	0	0	0	0	4451

Daylight Data Recovery: 0.0% missing; 5.7% exceed the 15% QC threshold -- 4721 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.

**April 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	164	690	896	895	865	785	601	96	0	0	0	0	0	5002
2	0	0	0	0	0	0	250	651	816	900	950	977	988	980	956	917	848	682	120	0	0	0	0	0	10035
3	0	0	0	0	0	0	142	605	814	912	955	981	990	987	954	879	842	621	31	0	0	0	0	0	9715
4	0	0	0	0	0	0	18	45	14	1	3	50	56	251	242	610	332	272	35	0	0	0	0	0	1930
5	0	0	0	0	0	0	1	0	20	560	126	389	482	581	668	633	785	579	106	0	0	0	0	0	4927
6	0	0	0	0	0	0	0	76	488	178	284	660	974	965	249	1	0	0	0	0	0	0	0	0	3875
7	0	0	0	0	0	0	0	0	0	0	1	1	2	1	1	0	0	0	0	0	0	0	0	0	6
8	0	0	0	0	0	0	0	0	15	14	3	1	0	0	0	0	0	0	0	0	0	0	0	0	34
9	0	0	0	0	0	0	0	0	0	1	2	2	1	1	1	0	0	0	0	0	0	0	0	0	9
10	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
11	0	0	0	0	0	0	0	0	0	0	5	1	4	1	0	0	0	0	0	0	0	0	0	0	12
12	0	0	0	0	0	0	100	365	727	866	857	915	925	916	888	834	726	529	88	0	0	0	0	0	8737
13	0	0	0	0	0	1	287	660	821	899	946	971	975	967	938	893	818	662	130	0	0	0	0	0	9969
14	0	0	0	0	0	0	349	699	841	898	916	867	874 ?	906	841	799	609	231	75	0	0	0	0	0	8905
15	0	0	0	0	0	1	273	553	700	767	720	374	276	762	776	709	619	407	94	0	0	0	0	0	7030
16	0	0	0	0	0	1	227	528	642	688	766	847	733	744	453	219	1	137	2	0	0	0	0	0	5988
17	0	0	0	0	0	1	158	494	574	572	333	166	101	235	7	0	0	0	0	0	0	0	0	0	2641
18	0	0	0	0	0	0	0	0	0	0	1	1	3	0	1	1	0	0	0	0	0	0	0	0	7
19	0	0	0	0	0	0	114	591	241	428	823	906	759	600	556	518	482	251	73	0	0	0	0	0	6343
20	0	0	0	0	0	0	0	1	265	452	554	791	433	89	88	479	619	464	113	0	0	0	0	0	4348
21	0	0	0	0	0	0	1	0	1	2	7	80	93	288	679	857	499	164	42	0	0	0	0	0	2714
22	0	0	0	0	0	0	0	0	0	0	1	1	5	2	1	0	5	0	0	0	0	0	0	0	17
23	0	0	0	0	0	0	5	12	378	840	924	956	957	950	923	881	802	635	136	0	0	0	0	0	8399
24	0	0	0	0	0	61	368	667	489	430	174	275	72	209	485	13	3	5	44	0	0	0	0	0	3296
25	0	0	0	0	0	0	0	0	0	0	8	4	16	5	4	0	0	0	0	0	0	0	0	0	37
26	0	0	0	0	0	0	0	1	4	9	13	20	8	21	18	8	0	0	0	0	0	0	0	0	102
27	0	0	0	0	0	0	15	180	584	853	933	952	962	961	941	901	838	664	172	0	0	0	0	0	8955
28	0	0	0	0	0	94	449	717	832	876	913	933	928	914	927	876	743	596	126	0	0	0	0	0	9923
29	0	0	0	0	0	8	5	5	84	13	5	68	230	365	444	578	649	510	99	0	0	0	0	0	3064
30	0	0	0	0	0	1	4	83	64	319	751	544	300	62	0	55	17	136	9	0	0	0	0	0	2344
Avg	0	0	0	0	0	6	92	231	314	383	399	430	428	455	431	417	367	272	53	0	0	0	0	0	4279
S D	0	0	0	0	0	20	137	289	338	381	413	412	413	412	399	394	365	272	55	0	0	0	0	0	3726
S/A	0	0	0	0	0	3.59	1.49	1.25	1.08	1	1.03	0.96	0.96	0.91	0.92	0.94	0.99	1	1.03	5.48	0	0	0	0	0.87
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	94	449	717	841	912	955	981	990	987	956	917	848	682	172	0	0	0	0	0	10035
n	0	0	0	0	0	70	352	359	360	360	360	360	360	360	360	360	360	360	328	11	0	0	0	0	4716

Daylight Data Recovery: 0.0% missing; 0.1% exceed the 15% QC threshold -- 4721 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.

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

**April 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	0	13	48	129	230	337	414	253	132	112	90	74	52	18	0	0	0	0	0	1903
2	0	0	0	0	0	0	22	53	73	85	93	97	94	90	85	74	61	45	16	0	0	0	0	0	889
3	0	0	0	0	0	0	22	58	77	84	90	92	92	88	84	78	66	45	17	0	0	0	0	0	893
4	0	0	0	0	0	0	37	147	185	237	320	349	358	420	369	220	169	112	33	0	0	0	0	0	2954
5	0	0	0	0	0	0	8	22	176	179	294	315	220	205	178	125	84	61	21	0	0	0	0	0	1888
6	0	0	0	0	0	0	22	115	218	385	361	265	114	111	369	226	73	26	4	0	0	0	0	0	2290
7	0	0	0	0	0	0	8	23	90	93	127	226	239	182	180	73	39	26	5	0	0	0	0	0	1312
8	0	0	0	0	0	0	14	85	217	345	241	197	50	53 ?	?	80 ?	59	25	6	0	0	0	0	0	1372 ?
9	0	0	0	0	0	0	14	43	100	228	360	289	238	241	177	115	71	35	6	0	0	0	0	0	1916
10	0	0	0	0	0	0	3	28	70	74	60 ?	69	38 ?	52	40 ?	32 ?	?	12 ?	?	3	0	0	0	0	481 ?
11	0	0	0	0	0	0	15	39	66	81	275	216	354	212	101	67	21 ?	12 ?	5	0	0	0	0	0	1465
12	0	0	0	0	0	?	54	102	102	119	143	141	143	135	129	116	102	75	25	0	0	0	0	0	1385
13	0	0	0	0	0	4	38	74	89	103	111	113	113	106	100	88	74	55	19	0	0	0	0	0	1088
14	0	0	0	0	0	5 ?	38	68	82	95	115	159	163 ?	144	152	133	142	95	24	0	0	0	0	0	1415
15	0	0	0	0	0	6 ?	40	90	121	153	224	321	313	275	225	195	144	90	29	0	0	0	0	0	2226
16	0	0	0	0	0	8 ?	43	101	149	197	208	192	222	236	351	283	148	159	35	0	0	0	0	0	2332
17	0	0	0	0	0	5 ?	45	138	154	211	300	410	419	502	166	49	80	90	33	0	0	0	0	0	2603
18	0	0	0	0	0	0	8	40	114	132	148	217	285	134	108	88	38	20	15	0	0	0	0	0	1349
19	0	0	0	0	0	7 ?	70	168	118	223	250	152	250	258	255	231	236	157	26	0	0	0	0	0	2400
20	0	0	0	0	0	3	32	141	249	289	302	218	272	359	370	229	160	102	39	0	0	0	0	0	2765
21	0	0	0	0	0	1	28	34	103	199	226	491	454	378	213	140	167	110	26	0	0	0	0	0	2567
22	0	0	0	0	0	0	7	18 ?	48	121	149	175	307	226	163	107	204	20 ?	3	0	0	0	0	0	1549
23	0	0	0	0	0	5	49	145	224	150	128	124	126	120	115	105	91	72	30	1	0	0	0	0	1485
24	0	0	0	0	0	21 ?	61	105	225	304	456	482	452	482	407	341	159	57	29	0	0	0	0	0	3583
25	0	0	0	0	0	4	28	55	92	116	337	314	338	233	362	88	74	20 ?	10	0	0	0	0	0	2069
26	0	0	0	0	0	3	46	114	239	330	316	325	323	390	372	287	72	43	4	0	0	0	0	0	2864
27	0	0	0	0	0	8	75	156	171	135	110	111	112	105	96	88	77	64	28	1	0	0	0	0	1337
28	0	0	0	0	0	13	55	75	88	107	116	119	122	122	104	102	101	78	31	1	0	0	0	0	1235
29	0	0	0	0	0	12	40	107	251	300	220	404	331	316	269	240	146	88	34	3	0	0	0	0	2763
30	0	0	0	0	0	11	60	177	241	273	225	329	307	286	118	279	171	234 ?	61	1	0	0	0	0	2773
Avg	0	0	0	0	0	4	33	86	142	186	221	244	237	220	199	146	107	69	21	0	0	0	0	0	1905
S D	0	0	0	0	0	5	20	47	65	90	102	121	118	126	112	84	54	50	14	1	0	0	0	0	747
S/A	0	0	0	0	0	1.29	0.61	0.55	0.46	0.48	0.46	0.49	0.5	0.57	0.56	0.58	0.5	0.72	0.65	2.71	0	0	0	0	0.39
Min	0	0	0	0	0	0	3	18	48	74	60	69	38	52	40	32	21	12	3	0	0	0	0	0	481
Max	0	0	0	0	0	21	75	177	251	385	456	491	454	502	407	341	236	234	61	3	0	0	0	0	3583
n	0	0	0	0	0	61	345	352	358	360	356	360	348	354	344	344	340	330	325	11	0	0	0	0	4588

Daylight Data Recovery: 0.0% missing; 2.8% exceed the 15% QC threshold -- 4721 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.