

December 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	0	20	141	298	425	496	509	460	358	209	57	2	0	0	0	0	0	0	2975
2	0	0	0	0	0	0	0	20	149	307	433	505	517	463	359	211	51	0	0	0	0	0	0	0	3014
3	0	0	0	0	0	0	0	8	35	58	90	123	81	57	52	45	21	2	0	0	0	0	0	0	572
4	0	0	0	0	0	0	0	2	12 ?	52	90	109	103	63	45 ?	?	4	0	0	0	0	0	0	0	481 ?
5	0	0	0	0	0	0	0	8	30	50	65	174	233	129	42	29	3	0	0	0	0	0	0	0	764
6	0	0	0	0	0	0	0	1	4 ?	?	59	110	59 ?	51 ?	36 ?	25 ?	5	0	0	0	0	0	0	0	350 ?
7	0	0	0	0	0	0	0	2	35	121	171	294	321	309	248	?	27	0	0	0	0	0	0	0	1527 ?
8	0	0	0	0	0	0	0	17	?	328 ?	437 ?	444	307	311	339	205	59	0	0	0	0	0	0	0	2448 ?
9	0	0	0	0	0	0	0	17	65	195	383	437	418	272	229	123	42	0	0	0	0	0	0	0	2182
10	0	0	0	0	0	0	0	5	17	49	41	53 ?	93	138	51 ?	24 ?	5	0	0	0	0	0	0	0	476 ?
11	0	0	0	0	0	0	0	10	51	74	38	65	75	88	74	41	10	1	0	0	0	0	0	0	528
12	0	0	0	0	0	0	0	8	40	122	280	453	483	416	341	196	52	1	0	0	0	0	0	0	2391
13	0	0	0	0	0	0	0	13	93	106	185	227	191	146	101	65	18	1	0	0	0	0	0	0	1148
14	0	0	0	0	0	0	0	3	15	24 ?	39	66	101	131	42	23	7	1	0	0	0	0	0	0	451
15	0	0	0	0	0	0	0	3	17	58	206	365	485	447	344	206	60	0	0	0	0	0	0	0	2191
16	0	0	0	0	0	0	0	6	88	276	267	317	486	388	334	189	48	2	0	0	0	0	0	0	2401
17	0	0	0	0	0	0	0	2	10	39	67	60	72	59	43	26 ?	5	1	0	0	0	0	0	0	383
18	0	0	0	0	0	0	0	4	31	143	175	84	97	98	40	23	11	3	0	0	0	0	0	0	709
19	0	0	0	0	0	0	0	6	20	71	128	73	152	107	89	55	21	3	0	0	0	0	0	0	725
20	0	0	0	0	0	0	0	12	35	84	120	170	190	221	149	119	31	4	0	0	0	0	0	0	1135
21	0	0	0	0	0	0	0	9	49 ?	421 ?	472 ?	476	494	450	354	214	63	1	0	0	0	0	0	0	3003 ?
22	0	0	0	0	0	0	0	19	61	201	207	460	479	434	323	139	37	4	0	0	0	0	0	0	2364
23	0	0	0	0	0	0	0	6	101	239	345	465	486	426	321	153	40	4	0	0	0	0	0	0	2583
24	0	0	0	0	0	0	0	2	18	42	60	78	131	118	114	47	15	2	0	0	0	0	0	0	625
25	0	0	0	0	0	0	0	7	54	211	302	251	185	169	113	118	55	6	0	0	0	0	0	0	1472
26	0	0	0	0	0	0	0	7	95	258	394	462	489	450	358	218	68	1	0	0	0	0	0	0	2799
27	0	0	0	0	0	0	0	7	23 ?	?	449 ?	458	488	447	352	213	64	0	0	0	0	0	0	0	2501 ?
28	0	0	0	0	0	0	0	4	90	245	374	455	481	434	353	196	52	3	0	0	0	0	0	0	2689
29	0	0	0	0	0	0	0	10	90	249	357	397	279	266	332	100	58	2	0	0	0	0	0	0	2140
30	0	0	0	0	0	0	0	3	47	211	382	471	502	462	371	229	76	3	0	0	0	0	0	0	2754
31	0	0	0	0	0	0	0	6	116	247	380	462	500	460	371	230	79	5	0	0	0	0	0	0	2856
Avg	0	0	0	0	0	0	0	8	54	165	239	292	306	273	215	126	37	2	0	0	0	0	0	0	1698
S D	0	0	0	0	0	0	0	6	40	108	150	172	179	160	138	80	24	2	0	0	0	0	0	0	986
S/A	0	0	0	0	0	0	0	0.71	0.73	0.66	0.63	0.59	0.58	0.59	0.64	0.63	0.66	0.96	0	0	0	0	0	0	0.58
Min	0	0	0	0	0	0	0	1	4	24	38	53	59	51	36	23	3	0	0	0	0	0	0	0	350
Max	0	0	0	0	0	0	0	20	149	421	472	505	517	463	371	230	79	6	0	0	0	0	0	0	3014
n	0	0	0	0	0	0	0	185	328	323	356	364	369	366	359	327	367	41	0	0	0	0	0	0	3386

Daylight Data Recovery: 0.0% missing; 5.3% exceed the 15% QC threshold -- 3574 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.

December 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	90	618	828	923	961	965	951	907	803	482	95	0	0	0	0	0	0	7621
2	0	0	0	0	0	0	0	107	724	896	967	997	996	973	923	806	427	51	0	0	0	0	0	0	7869
3	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
4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	4
6	0	0	0	0	0	0	0	0	0	0	0	8	2	4	0	0	0	0	0	0	0	0	0	0	15
7	0	0	0	0	0	0	0	0	2	27	50	240	333	399	484	?	443	61	0	0	0	0	0	0	2039 ?
8	0	0	0	0	0	0	0	21	628	747	674 ?	586	113	254	750	667	305	8	0	0	0	0	0	0	4752
9	0	0	0	0	0	0	0	1	19	418	823	687	418	74	84	27	37	0	0	0	0	0	0	0	2589
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	0
11	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
12	0	0	0	0	0	0	0	0	0	4	229	837	926	788	857	745	433	59	0	0	0	0	0	0	4878
13	0	0	0	0	0	0	0	0	56	1	10	5	5	0	0	0	0	0	0	0	0	0	0	0	77
14	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
15	0	0	0	0	0	0	0	0	0	0	64	468	932	929	888	791	506	135	0	0	0	0	0	0	4713
16	0	0	0	0	0	0	0	0	235	761	176	144	617	425	521	378	169	153	0	0	0	0	0	0	3580
17	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
18	0	0	0	0	0	0	0	0	0	1	15	0	0	0	0	0	0	0	0	0	0	0	0	0	16
19	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
20	0	0	0	0	0	0	0	0	0	0	0	0	0	59	2	33	3	0	0	0	0	0	0	0	98
21	0	0	0	0	0	0	0	0	587	824	908 ?	960	976	961	917	820	552	239	0	0	0	0	0	0	7744
22	0	0	0	0	0	0	0	0	212	466	303	882	832	702	508	113	11	0	0	0	0	0	0	0	4030
23	0	0	0	0	0	0	0	0	582	700	623	892	883	852	709	271	6	0	0	0	0	0	0	0	5520
24	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	2
25	0	0	0	0	0	0	0	0	8	338	530	130	6	2	3	36	162	96	0	0	0	0	0	0	1311
26	0	0	0	0	0	0	0	0	483	780	885	938	962	946	905	817	562	176	0	0	0	0	0	0	7452
27	0	0	0	0	0	0	0	0	562	863	927	972	990	976	920	822	567	196	0	0	0	0	0	0	7796
28	0	0	0	0	0	0	0	0	545	846	934	974	980	907	911	662	176	1	0	0	0	0	0	0	6935
29	0	0	0	0	0	0	0	0	410	778	774	730	223	174	563	32	145	0	0	0	0	0	0	0	3830
30	0	0	0	0	0	0	0	0	0	347	776	947	997	984	948	852	611	280	0	0	0	0	0	0	6742
31	0	0	0	0	0	0	0	0	548	851	941	981	988	971	928	834	592	209	0	0	0	0	0	0	7842
Avg	0	0	0	0	0	0	0	7	201	338	372	430	424	398	411	317	200	57	0	0	0	0	0	0	3144
S D	0	0	0	0	0	0	0	25	268	378	404	435	450	432	417	372	237	85	0	0	0	0	0	0	3164
S/A	0	0	0	0	0	0	0	3.5	1.34	1.12	1.09	1.01	1.06	1.09	1.02	1.17	1.19	1.5	0	0	0	0	0	0	1.01
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	0
Max	0	0	0	0	0	0	0	107	724	896	967	997	997	984	948	852	611	280	0	0	0	0	0	0	7869
n	0	0	0	0	0	0	0	185	371	369	364	372	372	372	369	360	371	41	0	0	0	0	0	0	3547

Daylight Data Recovery: 0.0% missing; 0.8% exceed the 15% QC threshold -- 3574 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

December 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	0	12	34	45	50	52	55	50	43	32	16	1	0	0	0	0	0	0	392
2	0	0	0	0	0	0	0	12	29	38	44	49	52	46	40	34	13	0	0	0	0	0	0	0	358
3	0	0	0	0	0	0	0	8	37	60	96	130	85	60	55	47	22	2	0	0	0	0	0	0	601
4	0	0	0	0	0	0	0	2	13	52	96	112	108	65	38	10 ?	4	0	0	0	0	0	0	0	501
5	0	0	0	0	0	0	0	8	31	52	68	185	244	135	44	28	4	0	0	0	0	0	0	0	800
6	0	0	0	0	0	0	0	1	3 ?	16 ?	58	99	49	36	32	15	5	0	0	0	0	0	0	0	314 ?
7	0	0	0	0	0	0	0	2	34	111	139	155	163	130	63	36	12	0	0	0	0	0	0	0	845
8	0	0	0	0	0	0	0	8	35	72	124 ?	170	253	195	79	55	31	0	0	0	0	0	0	0	1022
9	0	0	0	0	0	0	0	21 ?	60	67	61	125	216	239	197	117	36	0	0	0	0	0	0	0	1140
10	0	0	0	0	0	0	0	5	17	52	41	40 ?	99	147	46	22	5	0	0	0	0	0	0	0	473
11	0	0	0	0	0	0	0	10	52	78	40	68	79	92	77	43	10	1	0	0	0	0	0	0	551
12	0	0	0	0	0	0	0	8	41	124	173	76	64	76	51	35	15	0	0	0	0	0	0	0	663
13	0	0	0	0	0	0	0	12	75	109	185	233	197	154	106	68	18	1	0	0	0	0	0	0	1156
14	0	0	0	0	0	0	0	3	15	19	40	70	107	134	43	23	6	1	0	0	0	0	0	0	461
15	0	0	0	0	0	0	0	2	17	58	180	173	71	61	47	37	20	0	0	0	0	0	0	0	667
16	0	0	0	0	0	0	0	6	44	71	194	241	199	202	150	103	34	2	0	0	0	0	0	0	1245
17	0	0	0	0	0	0	0	1	10	39	71	63	76	61	45	21	5	0	0	0	0	0	0	0	393
18	0	0	0	0	0	0	0	4	32	148	170	89	102	103	42	24	11	2	0	0	0	0	0	0	727
19	0	0	0	0	0	0	0	4	15	55	104	61	134	102	83	51	18	2	0	0	0	0	0	0	631
20	0	0	0	0	0	0	0	12	33	81	120	170	193	194	151	111	30	3	0	0	0	0	0	0	1098
21	0	0	0	0	0	0	0	6	32	49	60 ?	60	62	53	45	34	16	1	0	0	0	0	0	0	418
22	0	0	0	0	0	0	0	23 ?	34	73	78	80	100	129	139	107	36	3	0	0	0	0	0	0	802
23	0	0	0	0	0	0	0	6	23	58	99	81	89	68	69	81	40	4	0	0	0	0	0	0	618
24	0	0	0	0	0	0	0	0	17	43	62	81	137	123	119	48	15	1	0	0	0	0	0	0	646
25	0	0	0	0	0	0	0	8	53	108	106	196	190	175	117	110	42	6	0	0	0	0	0	0	1109
26	0	0	0	0	0	0	0	8	28	57	69	59	60	54	46	32	16	1	0	0	0	0	0	0	429
27	0	0	0	0	0	0	0	7	30	45	46	39	42	36	32	24	11	0	0	0	0	0	0	0	314
28	0	0	0	0	0	0	0	5	18	30	32	37	43	51	35	38	32	2	0	0	0	0	0	0	323
29	0	0	0	0	0	0	0	9	31	49	64	73	165	188	126	93	39	2	0	0	0	0	0	0	837
30	0	0	0	0	0	0	0	3	47	109	86	60	53	45	37	29	15	2	0	0	0	0	0	0	484
31	0	0	0	0	0	0	0	5	22	29	34	39	51	45	41	32	19	4	0	0	0	0	0	0	322
Avg	0	0	0	0	0	0	0	7	31	64	90	102	114	105	72	50	19	1	0	0	0	0	0	0	656
S D	0	0	0	0	0	0	0	5	16	31	49	59	64	59	44	32	12	1	0	0	0	0	0	0	284
S/A	0	0	0	0	0	0	0	0.75	0.5	0.49	0.54	0.58	0.56	0.56	0.61	0.64	0.62	1.11	0	0	0	0	0	0	0.43
Min	0	0	0	0	0	0	0	0	3	16	32	37	42	36	32	10	4	0	0	0	0	0	0	0	314
Max	0	0	0	0	0	0	0	23	75	148	194	241	253	239	197	117	42	6	0	0	0	0	0	0	1245
n	0	0	0	0	0	0	0	172	364	362	364	369	372	372	371	361	372	41	0	0	0	0	0	0	3520

Daylight Data Recovery: 0.0% missing; 1.5% exceed the 15% QC threshold -- 3574 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.