

Global Solar Radiation on a Horizontal Surface
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Bluefield State College - November 1999

Field: GHI

Hour 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	1	58	227	427	435	621	661	683	384	170	36	1	0	0	0	0	0	0	3703
2	0	0	0	0	0	0	0	12	66	59	64	327	81	103	39	34	12	2	0	0	0	0	0	0	799
3	0	0	0	0	0	0	0	15	49	174	172	297	341	430	419	145	116	5	0	0	0	0	0	0	2164
4	0	0	0	0	0	0	1	75	259	432	563	637	643	580	460	296	111	3	0	0	0	0	0	0	4059
5	0	0	0	0	0	0	1	71	246	419	547	616	624	563	444	284	106	3	0	0	0	0	0	0	3925
6	0	0	0	0	0	0	0	25	57	81	158	413	529	465	298	150	83	3	0	0	0	0	0	0	2262
7	0	0	0	0	0	0	0	64	236	405	531	600	609	548	429	270	97	1	0	0	0	0	0	0	3791
8	0	0	0	0	0	0	0	58	217	380	508	566	575	414	249	227	78	2	0	0	0	0	0	0	3273
9	0	0	0	0	0	0	0	52	209	375	417	524	608	318	287	252	83	2	0	0	0	0	0	0	3126
10	0	0	0	0	0	0	0	51	214	330	364	476	463	337	353	171	99	2	0	0	0	0	0	0	2860
11	0	0	0	0	0	0	0	34	111	84	124	57	206	493	342	160	50	1	0	0	0	0	0	0	1661
12	0	0	0	0	0	0	0	57	113	216	396	528	539	502	384	218	69	1	0	0	0	0	0	0	3025
13	0	0	0	0	0	0	0	30	165	335	470	546	554	494	371	234	73	1	0	0	0	0	0	0	3273
14	0	0	0	0	0	0	0	41	192	352	471	539	544	484	309	180	47	0	0	0	0	0	0	0	3160
15	0	0	0	0	0	0	0	44	204	370	502	575	572	522	374	204	59	1	0	0	0	0	0	0	3427
16	0	0	0	0	0	0	0	15	49	156	307	545	565	479	230	239	51	1	0	0	0	0	0	0	2635
17	0	0	0	0	0	0	0	55	158	312	503	418	463	399	377	192	46	0	0	0	0	0	0	0	2923
18	0	0	0	0	0	0	0	52	248	382	485	555	563	504	386	227	64	0	0	0	0	0	0	0	3465
19	0	0	0	0	0	0	0	34	190	351	473	539	554	497	380	223	65	0	0	0	0	0	0	0	3306
20	0	0	0	0	0	0	0	48	189	320	437	526	524	429	224	151	58	0	0	0	0	0	0	0	2907
21	0	0	0	0	0	0	0	15	89	241	392	516	531	482	267	152	33	0	0	0	0	0	0	0	2717
22	0	0	0	0	0	0	0	33	107	185	323	467	519	478	372	212	58	0	0	0	0	0	0	0	2754
23	0	0	0	0	0	0	0	7	81	303	313	578	390	154	98	40	14	0	0	0	0	0	0	0	1979
24	0	0	0	0	0	0	0	26	171	283	254	491	170	200	130	47	7	0	0	0	0	0	0	0	1779
25	0	0	0	0	0	0	0	21	104	130	134	77	32	29	42	40	27	0	0	0	0	0	0	0	637
26	0	0	0	0	0	0	0	11	131	215	434	322	30	34	39	48	23	1	0	0	0	0	0	0	1287
27	0	0	0	0	0	0	0	22	156	339	448	525	536	479	369	213	60	0	0	0	0	0	0	0	3148
28	0	0	0	0	0	0	0	21	183	316	429	555	443	411	360	213	46	0	0	0	0	0	0	0	2978
29	0	0	0	0	0	0	0	33	221	362	457	526	539	453	358	217	58	0	0	0	0	0	0	0	3225
30	0	0	0	0	0	0	0	7	60	185	266	326	407	271	228	100	17	0	0	0	0	0	0	0	1867
Avg	0	0	0	0	0	0	0	36	157	284	379	476	461	408	300	177	58	1	0	0	0	0	0	0	2737
S D	0	0	0	0	0	0	0	20	66	108	136	141	177	158	121	74	29	1	0	0	0	0	0	0	862
S/A	0	0	0	0	0	0	1.96	0.54	0.42	0.38	0.36	0.3	0.38	0.39	0.4	0.42	0.5	1.13	0	0	0	0	0	0	0.31
Min	0	0	0	0	0	0	0	7	49	59	64	57	30	29	39	34	7	0	0	0	0	0	0	0	637
Max	0	0	0	0	0	0	1	75	259	432	563	637	661	683	460	296	116	5	0	0	0	0	0	0	4059

Daylight Data Recovery: 0% missing; 1% exceed the 15% QC threshold -- 3678 total daylight 5-minute measurements.

Note: Fractional values that do not appear in the hour columns are included in the calculation for daily values.

Data and Flag	Hour Column	Day Column
<value>*	20% < Missing < 100%	10% < Missing < 100%
<value>?	20% < Fail QC < 100%	10% < Fail QC < 100%
<blank>*	100% Missing	100% Missing
<blank>?	100% Fail QC	100% Fail QC

Station: BS
Latitude: 37.27° N
Longitude: 81.24° W
Elevation: 803 Meters AMSL
Time Zone: -5

Instrument: PSP
Calibration Constant: 9.02 uV/Wm-2
Serial Number: 25821F3
Calibration Date: 5/21/98

**Direct Normal Solar Radiation
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Bluefield State College - November 1999**

Field: DNI

Hour 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	74	548	661	431	947	929	844	347	78	0	0	0	0	0	0	0	0	4859
2	0	0	0	0	0	0	0	0	0	0	0	68	0	3	0	0	0	0	0	0	0	0	0	0	71
3	0	0	0	0	0	0	0	0	0	32	3	21	124	307	556	251	583	72	0	0	0	0	0	0	1950
4	0	0	0	0	0	0	0	396	799	916	974	1004	1005	985	941	846	602	60	0	0	0	0	0	0	8528
5	0	0	0	0	0	0	0	358	773	885	938	957	964	949	901	812	580	59	0	0	0	0	0	0	8177
6	0	0	0	0	0	0	0	1	0	0	1	223	448	528	248	183	233	12	0	0	0	0	0	0	1876
7	0	0	0	0	0	0	0	295	735	884	945	966	967	949	904	816	575	42	0	0	0	0	0	0	8078
8	0	0	0	0	0	0	0	228	610	765	845	815	825	541	339	519	318	9	0	0	0	0	0	0	5816
9	0	0	0	0	0	0	0	123	520	679	583	520	684	341	413	551	323	12	0	0	0	0	0	0	4749
10	0	0	0	0	0	0	0	189	575	453	178	356	384	116	416	120	399	18	0	0	0	0	0	0	3203
11	0	0	0	0	0	0	0	4	40	1	1	0	79	699	420	112	100	6	0	0	0	0	0	0	1461
12	0	0	0	0	0	0	0	20	4	50	519	649	740	797	727	520	264	2	0	0	0	0	0	0	4292
13	0	0	0	0	0	0	0	34	398	627	762	835	835	762	265	593	340	12	0	0	0	0	0	0	5464
14	0	0	0	0	0	0	0	147	529	685	755	803	782	728	433	339	62	0	0	0	0	0	0	0	5265
15	0	0	0	0	0	0	0	218	617	778	930	979	930	936	722	474	235	4	0	0	0	0	0	0	6821
16	0	0	0	0	0	0	0	0	0	31	208	730	822	734	234	616	186	6	0	0	0	0	0	0	3567
17	0	0	0	0	0	0	0	68	121	?	250	797	364	361	558	801	542	20	0	0	0	0	0	0	3884
18	0	0	0	0	0	0	0	211	748	893	935	950	964	940	858	730	424	11	0	0	0	0	0	0	7664
19	0	0	0	0	0	0	0	178	712	856	917	930	941	921	853	731	434	8	0	0	0	0	0	0	7480
20	0	0	0	0	0	0	0	121	500	590	651	773	647	585	173	186	135	0	0	0	0	0	0	0	4362
21	0	0	0	0	0	0	0	0	10	180	382	518	774	620	351	223	2	1	0	0	0	0	0	0	3062
22	0	0	0	0	0	0	0	67	82	76	377	748	831	866	811	716	416	1	0	0	0	0	0	0	4990
23	0	0	0	0	0	0	0	0	0	349	251	644	335	9	1	0	0	0	0	0	0	0	0	0	1590
24	0	0	0	0	0	0	0	63	566	303	148	368	6	58	0	0	0	0	0	0	0	0	0	0	1513
25	0	0	0	0	0	0	0	6	22	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	33
26	0	0	0	0	0	0	0	10	219	246	486	64	0	0	0	1	1	0	0	0	0	0	0	0	1028
27	0	0	0	0	0	0	0	114	694	864	939	967	968	944	884	754	444	6	0	0	0	0	0	0	7580
28	0	0	0	0	0	0	0	81	595	765	843	824	575	750	828	690	175	0	0	0	0	0	0	0	6126
29	0	0	0	0	0	0	0	43	550	?	776	?	883	946	958	743	808	741	398	4	0	0	0	0	6849
30	0	0	0	0	0	0	0	0	0	101	195	231	426	220	189	2	2	0	0	0	0	0	0	0	1366
Avg	0	0	0	0	0	0	0	102	366	457	529	607	610	581	481	405	242	12	0	0	0	0	0	0	4390
S D	0	0	0	0	0	0	0	111	300	342	352	343	347	335	324	301	206	19	0	0	0	0	0	0	2545
S/A	0	0	0	0	0	0	3.11	1.09	0.82	0.75	0.66	0.56	0.57	0.58	0.67	0.74	0.85	1.67	0	0	0	0	0	0	0.58
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	33
Max	0	0	0	0	0	0	0	396	799	916	974	1004	1005	985	941	846	602	72	0	0	0	0	0	0	8528

Daylight Data Recovery: 0% missing; 0% exceed the 15% QC threshold -- 3678 total daylight 5-minute measurements.

Note: Fractional values that do not appear in the hour columns are included in the calculation for daily values.

Data and Flag	Hour Column	Day Column
<value>*	20% < Missing < 100%	10% < Missing < 100%
<value>?	20% < Fail QC < 100%	10% < Fail QC < 100%
<blank>*	100% Missing	100% Missing
<blank>?	100% Fail QC	100% Fail QC

Station: BS
Latitude: 37.27° N
Longitude: 81.24° W
Elevation: 803 Meters AMSL
Time Zone: -5

Instrument: NIP
Calibration Constant: 8.48 uV/Wm-2
Serial Number: 17664E6
Calibration Date: 5/21/98

Diffuse Solar Radiation on a Horizontal Surface (Shadow Band PSP)
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Bluefield State College - November 1999

Field: DHI

Hour 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	1	46	57	132	182	58	110	223	207	131	33	1	0	0	0	0	0	0	1179
2	0	0	0	0	0	0	0	11	63	57	60	261	77	96	36	32	12	1	0	0	0	0	0	0	705
3	0	0	0	0	0	0	0	14	46	153	159	275	255	249	167	66	32	3	0	0	0	0	0	0	1419
4	0	0	0	0	0	0	1	23	42	52	57	57	58	54	49	41	25	2	0	0	0	0	0	0	460
5	0	0	0	0	0	0	1	24	42	55	61	65	64	58	53	43	25	2	0	0	0	0	0	0	493
6	0	0	0	0	0	0	0	23	54	77	150	276	258	177	183	93	48	3	0	0	0	0	0	0	1342
7	0	0	0	0	0	0	0	24	44	47	50	53	55	51	44	34	20	1	0	0	0	0	0	0	423
8	0	0	0	0	0	0	0	28	58	71	78	100	99	117	96	71	34	1	0	0	0	0	0	0	753
9	0	0	0	0	0	0	0	32	67	101	117	225	223	122	110	96	38	2	0	0	0	0	0	0	1133
10	0	0	0	0	0	0	0	26	69	142	261	255	221	261	167	130	47	2	0	0	0	0	0	0	1580
11	0	0	0	0	0	0	0	32	96	79	118	54	147	133	159	121	40	1	0	0	0	0	0	0	978
12	0	0	0	0	0	0	0	49	106	189	167	181	121	96	85	74	35	1	0	0	0	0	0	0	1102
13	0	0	0	0	0	0	0	23	79	98	96	92	94	108	245	73	30	1	0	0	0	0	0	0	940
14	0	0	0	0	0	0	0	24	63	86	103	104	116	117	129	88	39	0	0	0	0	0	0	0	869
15	0	0	0	0	0	0	0	18	59	71	60	57	74	65	88	84	32	1	0	0	0	0	0	0	607
16	0	0	0	0	0	0	0	13	46	140	203	152	123	115	137	76	33	1	0	0	0	0	0	0	1039
17	0	0	0	0	0	0	0	38	102	176	123	214	254	123	58	44	43	0	0	0	0	0	0	0	1175
18	0	0	0	0	0	0	0	17	40	43	52	59	53	52	50	43	18	0	0	0	0	0	0	0	427
19	0	0	0	0	0	0	0	15	37	46	52	57	61	59	52	42	20	0	0	0	0	0	0	0	439
20	0	0	0	0	0	0	0	37	78	105	128	122	170	135	146	93	41	0	0	0	0	0	0	0	1053
21	0	0	0	0	0	0	0	14	84	173	197	231	123	170	117	95	31	0	0	0	0	0	0	0	1236
22	0	0	0	0	0	0	0	23	89	149	139	74	84	70	60	36	16	0	0	0	0	0	0	0	739
23	0	0	0	0	0	0	0	7	75	178	185	244	204	145	93	38	14	0	0	0	0	0	0	0	1181
24	0	0	0	0	0	0	0	18	53	182	170	291	161	163	125	46	7	0	0	0	0	0	0	0	1215
25	0	0	0	0	0	0	0	20	93	123	129	74	31	27	40	38	26	0	0	0	0	0	0	0	601
26	0	0	0	0	0	0	0	9	90	150	227	281	29	32	37	45	22	1	0	0	0	0	0	0	923
27	0	0	0	0	0	0	0	10	34	42	46	51	52	48	42	34	17	0	0	0	0	0	0	0	376
28	0	0	0	0	0	0	0	10	40	54	64	152	147	68	55	45	22	0	0	0	0	0	0	0	655
29	0	0	0	0	0	0	0	12	52	72	78	62	66	104	61	42	19	0	0	0	0	0	0	0	568
30	0	0	0	0	0	0	0	7	56	148	172	205	186	162	150	96	15	0	0	0	0	0	0	0	1198
Avg	0	0	0	0	0	0	0	21	64	106	123	146	124	113	101	66	28	1	0	0	0	0	0	0	894
S/D	0	0	0	0	0	0	0	11	21	48	59	87	69	60	56	30	11	1	0	0	0	0	0	0	333
S/A	0	0	0	0	0	0	2.05	0.5	0.32	0.45	0.48	0.6	0.56	0.53	0.55	0.45	0.39	1.01	0	0	0	0	0	0	0.37
Min	0	0	0	0	0	0	0	7	34	42	46	51	29	27	36	32	7	0	0	0	0	0	0	0	376
Max	0	0	0	0	0	0	1	49	106	189	261	291	258	261	245	131	48	3	0	0	0	0	0	0	1580

Daylight Data Recovery: 0% missing; 1% exceed the 15% QC threshold -- 3678 total daylight 5-minute measurements.

Note: Fractional values that do not appear in the hour columns are included in the calculation for daily values.

Data and Flag	Hour Column	Day Column
<value>*	20% < Missing < 100%	10% < Missing < 100%
<value>?	20% < Fail QC < 100%	10% < Fail QC < 100%
<blank>*	100% Missing	100% Missing
<blank>?	100% Fail QC	100% Fail QC

Station: BS
Latitude: 37.27° N
Longitude: 81.24° W
Elevation: 803 Meters AMSL
Time Zone: -5

Instrument: PSP
Calibration Constant: 7.01 uV/Wm-2
Serial Number: 17860F3
Calibration Date: 5/21/98