

Global Solar Radiation on a Horizontal Surface
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Bluefield State College - July 1998

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	5	80	179	260	478	581	511	735	484	527	463	377	338	148	11	0	0	0	0	5177
2	0	0	0	0	0	30	127 ?	342 ?	520	577	704	861	888	495	766	647	333	187	133	11	0	0	0	0	6621
3	0	0	0	0	0	13	121	284 ?	547	754	809	977	1007	955	821	691	548	345	144	9	0	0	0	0	8027
4	0	0	0	0	0	31	155	323	392	428	313	367	393	498	288	174	310	182	63	29	0	0	0	0	3944
5	0	0	0	0	0	7	48	166	245	647	757	785	608	638	643	772	394	321	138	15	0	0	0	0	6185
6	0	0	0	0	0	24	155	387	574	610	813	981	796	660	552	387	193	210	117	11	0	0	0	0	6472
7	0	0	0	0	0	26	136	311	413	377	724	814	521	738	632	396	217	139	56	11	0	0	0	0	5511
8	0	0	0	0	0	11	32	50	99	89	105	133	191	113	210	467	295	282	96	17	0	0	0	0	2191
9	0	0	0	0	0	9	55	148	407	473	724	825	707	324	474	588	56	179	137	13	0	0	0	0	5119
10	0	0	0	0	0	13	88	227	322	366	583	675	691	841	718	593	538	314	133	8	0	0	0	0	6111
11	0	0	0	0	0	23	102	254	478	616	718	927	679	873	705	767	546	341	139	7	0	0	0	0	7173
12	0	0	0	0	0	17	139	314	537	717	859	948	796	608	565	650	356	137	104	11	0	0	0	0	6756
13	0	0	0	0	0	18	135	305	344	451	649	917	665	792	634	463	333	212	106	7	0	0	0	0	6030
14	0	0	0	0	0	12	88	212	293	435	708	631	479	377	547	310	106	75	30	6	0	0	0	0	4310
15	0	0	0	0	0	13	125	255	532	572	789	617	661	659	830	590	268	226	108	12	0	0	0	0	6260
16	0	0	0	0	0	8	62	169	263	630	844	858	886	742	534	399	221	107	38	5	0	0	0	0	5767
17	0	0	0	0	0	3	19	57	206	426	659	680	766	704	711	482	334	242	127	12	0	0	0	0	5427
18	0	0	0	0	0	20	149 ?	320 ?	534	671	778	885	951	870	758	728	543	325	120	10	0	0	0	0	7661
19	0	0	0	0	0	8	74	330 ?	459	388	633	524	747	977	736	688	425	138	65	10	0	0	0	0	6202
20	0	0	0	0	0	14	135	304	496	553	384	546	581	993	874	714	533	337	124	8	0	0	0	0	6597
21	0	0	0	0	0	23	102	?	546	717	860	949	978	948	840	684	516	327	119	7	0	0	0	0	7616
22	0	0	0	0	0	15	116	252	181	419	778	845	291	67	494	574	543	215	57	3	0	0	0	0	4849
23	0	0	0	0	0	5	34	194	543	541	614	437	461	96	211	661	370	133	39	6	0	0	0	0	4346
24	0	0	0	0	0	2	32	62	150	103	222	420	714	782	565	528	491	263	55	9	0	0	0	0	4399
25	0	0	0	0	0	8	73	121	130	131	112	85	193	381	458	497	496	299	91	4	0	0	0	0	3078
26	0	0	0	0	0	4	70	251	328	597	698	633	681	563	520	404	386	165	58	4	0	0	0	0	5363
27	0	0	0	0	0	4	43	97	161	320	592	466	237	412	279	559	444	299	93	6	0	0	0	0	4013
28	0	0	0	0	0	4	64	178	393	611	495	627	920	815	756	667	494	286	105	8	0	0	0	0	6422
29	0	0	0	0	0	9	107	184	465	566	761	837	877	927	872	698	495	261	91	7	0	0	0	0	7156
30	0	0	0	0	0	7	94	216 ?	495	713	754	706	610	348	203	230	64	49	57	7	0	0	0	0	4553
31	0	0	0	0	0	1	20	41	171	168	250	207	365	189	212	285	222	249	97	4	0	0	0	0	2481
Avg	0	0	0	0	0	12	90	218	371	489	622	667	648	609	579	541	369	232	96	9	0	0	0	0	5543
S D	0	0	0	0	0	8	41	95	148	181	214	246	227	271	206	158	145	84	35	5	0	0	0	0	1451
S/A	0	0	0	0	0	0.66	0.46	0.43	0.4	0.37	0.34	0.37	0.35	0.45	0.36	0.29	0.39	0.36	0.36	0.53	0	0	0	0	0.26
Min	0	0	0	0	0	1	19	41	99	89	105	85	191	67	203	174	56	49	30	3	0	0	0	0	2191
Max	0	0	0	0	0	31	155	387	574	754	860	981	1007	993	874	772	548	345	148	29	0	0	0	0	8027

Daylight Data Recovery: 0% missing; 1% exceed the 15% QC threshold -- 5379 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: 8.99 uV/Wm-2
Serial Number: 25765F3
Calibration Date: 9/13/96

**Direct Normal Solar Radiation
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Bluefield State College - July 1998**

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	14	17	24	124	122	104	337	150	221	211	308	563	363	0	0	0	0	0	2559
2	0	0	0	0	0	47	229 ?	636 ?	643	429	433	531	603	148	454	429	117	87	305	0	0	0	0	0	5090
3	0	0	0	0	0	1	52	390 ?	701	769	637	820	770	779	699	659	736	636	388	0	0	0	0	0	8037
4	0	0	0	0	0	93	351	469	141	64	5	6	32	88	11	11	82	69	19	0	0	0	0	0	1442
5	0	0	0	0	0	0	0	27	80	471	473	450	310	332	369	612	238	290	191	0	0	0	0	0	3842
6	0	0	0	0	0	46	264	535	375	260	431	642	390	255	184	114	20	100	86	0	0	0	0	0	3702
7	0	0	0	0	0	8	76	229	157	77	370	381	171	384	143	62	4	0	3	0	0	0	0	0	2065
8	0	0	0	0	0	0	0	0	1	1	1	1	1	0	1	136	139	253	45	0	0	0	0	0	579
9	0	0	0	0	0	0	1	5	151	233	415	510	288	78	156	382	0	126	263	0	0	0	0	0	2610
10	0	0	0	0	0	0	3	73	53	81	257	371	360	567	521	434	589	501	318	0	0	0	0	0	4128
11	0	0	0	0	0	43	84	168	457	470	450	627	351	562	496	768	658	611	381	0	0	0	0	0	6127
12	0	0	0	0	0	18	245	393	535	604	675	703	383	266	247	365	198	4	62	0	0	0	0	0	4698
13	0	0	0	0	0	27	194	243	73	57	210	522	249	383	302	157	160	78	45	0	0	0	0	0	2701
14	0	0	0	0	0	1	1	26	26	49	201	93	32	10	72	5	0	0	0	0	0	0	0	0	516
15	0	0	0	0	0	7	251	197	411	277	377	104	93	136	452	282	13	70	114	0	0	0	0	0	2782
16	0	0	0	0	0	0	0	2	13	479	696	367	494	197	48	19	2	12	0	0	0	0	0	0	2329
17	0	0	0	0	0	0	0	0	7	109	191	221	290	267	271	265	152	235	254	0	0	0	0	0	2262
18	0	0	0	0	0	59	462 ?	645 ?	753	694	624	478	450	509	466	613	681	513	233	0	0	0	0	0	7180
19	0	0	0	0	0	0	38	406 ?	337	50	175	138	281	648	478	599	429	21	0	0	0	0	0	0	3598
20	0	0	0	0	0	14	222	364	423	295	7	47	164	893	896	827	739	643	332	0	0	0	0	0	5868
21	0	0	0	0	0	37	245	? 737	786	822	840	847	842	815	782	717	593	304	0	0	0	0	0	0	8368
22	0	0	0	0	0	19	172	219	6	101	449	408	95	0	143	297	629	226	7	0	0	0	0	0	2771
23	0	0	0	0	0	0	0	190	674	334	297	89	45	1	59	411	65	1	0	0	0	0	0	0	2167
24	0	0	0	0	0	0	0	0	1	1	1	14	270	455	302	329	482	253	22	0	0	0	0	0	2129
25	0	0	0	0	0	0	1	1	0	1	1	0	2	24	75	201	534	343	128	0	0	0	0	0	1311
26	0	0	0	0	0	19	170	131	373	403	318	224	107	78	72	147	56	0	0	0	0	0	0	0	2098
27	0	0	0	0	0	0	0	0	1	5	36	28	1	5	2	230	266	261	65	0	0	0	0	0	901
28	0	0	0	0	0	0	16	23	273	466	102	213	522	428	495	509	434	303	125	0	0	0	0	0	3909
29	0	0	0	0	0	4	81	94	341	388	588	593	618	696	819	673	509	228	77	0	0	0	0	0	5707
30	0	0	0	0	0	1	77	353 ?	597	671	504	381	196	6	2	18	0	1	0	0	0	0	0	0	2806
31	0	0	0	0	0	0	0	0	1	2	3	2	3	1	2	48	58	277	145	0	0	0	0	0	543
Avg	0	0	0	0	0	14	100	196	262	281	321	323	286	297	299	339	294	237	138	0	0	0	0	0	3381
S D	0	0	0	0	0	22	124	201	259	246	238	256	223	273	260	250	260	213	133	0	0	0	0	0	2094
S/A	0	0	0	0	0	1.63	1.24	1.03	0.99	0.87	0.74	0.79	0.78	0.92	0.87	0.74	0.88	0.9	0.97	4.29	0	0	0	0	0.62
Min	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	5	0	0	0	0	0	0	0	0	516
Max	0	0	0	0	0	93	462	645	753	786	822	840	847	893	896	827	739	643	388	0	0	0	0	0	8368

Daylight Data Recovery: 0% missing; 1% exceed the 15% QC threshold -- 5379 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: 8.52 uV/Wm-2
Serial Number: 19791E6
Calibration Date: 9/13/96

Diffuse Solar Radiation on a Horizontal Surface
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Bluefield State College - July 1998

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	4	71	162	227	385	470	401	403	329	326	295	192	121	69	10	0	0	0	0	3466
2	0	0	0	0	0	24	75 ?	109 ?	156	259	325	354	300	341	380	327	256	147	71	10	0	0	0	0	3134
3	0	0	0	0	0	13	95	139 ?	156	178	254	203	268	220	213	204	125	97	58	8	0	0	0	0	2230
4	0	0	0	0	0	22	90	154	309	374	278	330	329	403	258	157	258	147	53	25	0	0	0	0	3187
5	0	0	0	0	0	7	42	149	190	291	343	365	296	322	322	319	252	207	101	13	0	0	0	0	3219
6	0	0	0	0	0	22	100	180	364	412	439	382	428	418	392	302	163	174	99	10	0	0	0	0	3883
7	0	0	0	0	0	23	118	224	325	315	400	454	346	376	504	337	190	121	49	9	0	0	0	0	3791
8	0	0	0	0	0	10	28	43	87	78	92	117	169	99	185	355	215	181	80	14	0	0	0	0	1754
9	0	0	0	0	0	8	48	133	313	301	362	340	426	236	326	298	50	133	82	11	0	0	0	0	3069
10	0	0	0	0	0	11	77	191	294	290	365	328	346	308	271	272	201	126	65	6	0	0	0	0	3151
11	0	0	0	0	0	21	87	186	202	262	326	345	337	345	265	205	169	105	56	6	0	0	0	0	2918
12	0	0	0	0	0	15	92	158	224	268	280	295	429	357	348	386	236	120	91	10	0	0	0	0	3309
13	0	0	0	0	0	17	102	220	291	403	460	435	416	432	371	343	236	183	95	6	0	0	0	0	4012
14	0	0	0	0	0	11	76	194	263	377	533	538	426	335	454	271	92	65	26	5	0	0	0	0	3667
15	0	0	0	0	0	12	84	180	273	349	434	501	543	482	414	360	242	195	76	11	0	0	0	0	4154
16	0	0	0	0	0	7	54	146	229	248	241	484	407	543	472	349	195	92	33	4	0	0	0	0	3504
17	0	0	0	0	0	3	17	49	179	337	499	473	494	463	484	290	245	159	75	11	0	0	0	0	3778
18	0	0	0	0	0	16	66 ?	93 ?	104	162	250	420	498	390	358	284	157	130	71	8	0	0	0	0	3007
19	0	0	0	0	0	7	64	177 ?	276	338	485	391	482	376	329	249	165	123	56	9	0	0	0	0	3528
20	0	0	0	0	0	13	100	160	258	333	348	476	396	156	104	105	107	84	52	7	0	0	0	0	2699
21	0	0	0	0	0	19	68	? 115	142	155	163	164	163	154	139	114	90	51	6	0	0	0	0	0	1544
22	0	0	0	0	0	14	83	179	161	334	401	470	202	58	338	319	183	111	51	2	0	0	0	0	2904
23	0	0	0	0	0	4	30	108	160	302	357	348	387	84	144	336	324	115	34	5	0	0	0	0	2739
24	0	0	0	0	0	2	28	54	130	90	192	374	428	353	303	277	215	159	47	8	0	0	0	0	2661
25	0	0	0	0	0	7	63	105	112	114	97	75	168	337	379	351	185	157	59	3	0	0	0	0	2213
26	0	0	0	0	0	3	62	213	261	333	357	332	464	463	439	324	299	128	50	4	0	0	0	0	3733
27	0	0	0	0	0	4	37	85	141	283	552	419	208	358	286	288	197	75	6	0	0	0	0	0	3286
28	0	0	0	0	0	3	57	159	238	282	392	432	420	420	340	295	242	157	74	7	0	0	0	0	3518
29	0	0	0	0	0	8	83	154	291	288	259	281	285	281	174	197	183	161	73	6	0	0	0	0	2724
30	0	0	0	0	0	7	70	126 ?	173	218	318	341	410	306	181	200	56	43	50	6	0	0	0	0	2505
31	0	0	0	0	0	1	17	35	148	145	214	179	317	163	184	232	175	131	60	4	0	0	0	0	2005
Avg	0	0	0	0	0	11	67	142	215	274	338	356	361	320	311	283	194	134	64	8	0	0	0	0	3074
S D	0	0	0	0	0	7	26	51	74	91	117	112	102	119	106	71	66	38	19	4	0	0	0	0	647
S/A	0	0	0	0	0	0.62	0.39	0.36	0.34	0.33	0.35	0.31	0.28	0.37	0.34	0.25	0.34	0.29	0.29	0.52	0	0	0	0	0.21
Min	0	0	0	0	0	1	17	35	87	78	92	75	164	58	104	105	50	43	26	2	0	0	0	0	1544
Max	0	0	0	0	0	24	118	224	364	412	552	538	543	543	504	386	324	207	101	25	0	0	0	0	4154

Daylight Data Recovery: 0% missing; 1% exceed the 15% QC threshold -- 5379 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:	8.27 uV/Wm-2
Serial Number:	17880F3
Calibration Date:	9/13/96