

**Global Solar Radiation on a Horizontal Surface**  
**Hourly Integrated and Daily Totals**  
**Watt-Hours per Square Meter**  
**Bluefield State College - March 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	0	0	13	124	296 ?	600	735	796	744	504	328	126	43	1	0	0	0	0	0	4311
2	0	0	0	0	0	0	0	7	24	44	126	239	313	254	475	227	244	60	1	0	0	0	0	0	2014
3	0	0	0	0	0	0	0	17	119	137	325	242	464	315	240	193	38	45	2	0	0	0	0	0	2138
4	0	0	0	0	0	0	0	26	78	104	166	251	87	203	148	152	242	96	2	0	0	0	0	0	1555
5	0	0	0	0	0	0	0	13	44	173	214	238	313	403	303	347	213	79	2	0	0	0	0	0	2342
6	0	0	0	0	0	0	1	47	129	183	320	268	339	240	197	130	83	27	2	0	0	0	0	0	1967
7	0	0	0	0	0	0	1	54	112	223	256	450	428	369	319	297	170	33	2	0	0	0	0	0	2715
8	0	0	0	0	0	0	0	17	51	146	258	213	247	317	297	174	156	44	2	0	0	0	0	0	1920
9	0	0	0	0	0	0	1	15	25	64	149	103	379	418	345	215	91	19	1	0	0	0	0	0	1827
10	0	0	0	0	0	0	1	30	98	159	233	424	514	469	425	280	166	33	5	0	0	0	0	0	2837
11	0	0	0	0	0	0	2	40	144	184	411	350	565	491	392	244	122	41	4	0	0	0	0	0	2989
12	0	0	0	0	0	0	3	71	216	532	722	827	879	843	737	572	367	146	6	0	0	0	0	0	5919
13	0	0	0	0	0	0	6	130 ?	411 ?	572 ?	716	807	844	724	490	236	186	34	3	0	0	0	0	0	5159
14	0	0	0	0	0	0	4	91	172	163	229	452	679	689	710	529	339	135	6	0	0	0	0	0	4199
15	0	0	0	0	0	0	5	123	337	527	696	806	847	812	711	549	347	132	7	0	0	0	0	0	5896
16	0	0	0	0	0	0	2	34	67	120	149	211	350	312	309	198	135	52	4	0	0	0	0	0	1945
17	0	0	0	0	0	0	1	32	87	323	539	361	291	199	59	24	39	20	1	0	0	0	0	0	1975
18	0	0	0	0	0	0	5	71	300	482	592	180	448	247	53	38	12	3	1	0	0	0	0	0	2431
19	0	0	0	0	0	0	2	24	103	190	439	747	728	665	656	431	322	147	6	0	0	0	0	0	4460
20	0	0	0	0	0	0	8	2 ?	2	95	192	256	19	48	249	158	61	12	2	0	0	0	0	0	1104
21	0	0	0	0	0	0	5	29	50	60	88	201	240	291	227	132	57	9	1	0	0	0	0	0	1391
22	0	0	0	0	0	0	1	9	25	44	72	80	104	184	231	131	85	38	9	0	0	0	0	0	1014
23	0	0	0	0	0	0	14	100	340	297	592	399	383	403	404	471	189	89	8	0	0	0	0	0	3690
24	0	0	0	0	0	0	4	16	60	256	246	278	423	339	446	458	427	189	12	0	0	0	0	0	3153
25	0	0	0	0	0	0	8	88	152	279	166	102	161	317	190	164	74	49	8	0	0	0	0	0	1760
26	0	0	0	0	0	0	11	136	384	580	756	808	858	843	733	570	375	168	14	0	0	0	0	0	6237
27	0	0	0	0	0	0	37	125	340	587	739	844	879	842	735	583	326	159	14	0	0	0	0	0	6210
28	0	0	0	0	0	0	22	197	399	597	755	855	897	861	748	586	375	173	17	0	0	0	0	0	6481
29	0	0	0	0	0	0	19	159	323	352	453	436	801	810	662	543	309	157	17	0	0	0	0	0	5042
30	0	0	0	0	0	0	28	182	372	570	715	809	774	842	705	547	317	155	22	0	0	0	0	0	6039
31	0	0	0	0	0	0	19	177	391	604	754	803	822	650	755	541	204	99	25	0	0	0	0	0	5844
Avg	0	0	0	0	0	0	7	67	177	289	409	444	512	489	434	324	200	80	7	0	0	0	0	0	3438
S D	0	0	0	0	0	0	9	58	135	191	237	265	270	248	222	180	120	58	6	0	0	0	0	0	1777
S/A	0	0	0	0	0	0	1.34	0.87	0.77	0.66	0.58	0.6	0.53	0.51	0.51	0.56	0.6	0.72	0.97	0	0	0	0	0	0.52
Min	0	0	0	0	0	0	0	2	2	44	72	80	19	48	53	24	12	3	1	0	0	0	0	0	1014
Max	0	0	0	0	0	0	37	197	411	604	756	855	897	861	755	586	427	189	25	0	0	0	0	0	6481

Daylight Data Recovery: 0% missing; 7% exceed the 15% QC threshold -- 11751 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 - March 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	0	0	120	379 ?	907	948	987	884	519	286	22	53	9	0	0	0	0	0	5115
2	0	0	0	0	0	0	0	0	0	0	0	0	23	1	374	73	255	101	0	0	0	0	0	0	827
3	0	0	0	0	0	0	0	0	6	0	17	17	159	223	98	91	0	0	0	0	0	0	0	0	612
4	0	0	0	0	0	0	0	0	0	0	0	7	0	1	2	0	314	323	6	0	0	0	0	0	652
5	0	0	0	0	0	0	0	0	0	5	1	3	23	163	52	186	254	130	4	0	0	0	0	0	822
6	0	0	0	0	0	0	0	0	35	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	63
7	0	0	0	0	0	0	0	0	0	0	2	58	24	10	7	30	8	0	0	0	0	0	0	0	139
8	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	4	0	0	0	0	0	0	0	7
9	0	0	0	0	0	0	0	0	0	0	0	0	86	88	69	46	36	0	0	0	0	0	0	0	325
10	0	0	0	0	0	0	0	0	0	1	1	85	173	139	162	170	67	0	0	0	0	0	0	0	800
11	0	0	0	0	0	0	0	0	1	0	88	64	259	249	67	27	1	0	0	0	0	0	0	0	755
12	0	0	0	0	0	0	0	24	145	605	845 ?	888 ?	992 ?	?	?	999 ?	922 ?	694	42	0	0	0	0	0	6156 ?
13	0	0	0	0	0	0	11	517	848 ?	965	971	962	918	563	102	1	12	0	0	0	0	0	0	0	5870
14	0	0	0	0	0	0	0	238	46	0	2	153	576	672	915	838	744	544	28	0	0	0	0	0	4757
15	0	0	0	0	0	0	21	485	748	860	933	982	993	986	963	902	791	490	31	0	0	0	0	0	9185
16	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	6
17	0	0	0	0	0	0	0	0	0	60	118	17	1	0	0	0	0	0	0	0	0	0	0	0	196
18	0	0	0	0	0	0	0	1	342	297	246	1	70	14	0	0	0	0	0	0	0	0	0	0	970
19	0	0	0	0	0	0	0	0	0	1	99	534	528	536	640	427	479	506	39	0	0	0	0	0	3791
20	0	0	0	0	0	0	0	0	0	1	1	23	0	0	70	21	3	0	0	0	0	0	0	0	118
21	0	0	0	0	0	0	0	0	0	0	1	1	1	1	4	0	0	0	0	0	0	0	0	0	7
22	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	1	1	0	0	0	0	0	0	0	8
23	0	0	0	0	0	0	12	45	302	66	293	57	80	133	192	447	61	20	0	0	0	0	0	0	1708
24	0	0	0	0	0	0	0	0	0	31	24	11	128	96	271	445	646	573	46	0	0	0	0	0	2271
25	0	0	0	0	0	0	0	1	18	75	0	0	0	3	0	0	0	1	0	0	0	0	0	0	99
26	0	0	0	0	0	0	16	363	774	865	895	763	866	945	911	856	771	596	66	0	0	0	0	0	8689
27	0	0	0	0	0	0	129	218	593	867	902	938	951	946	902	819	607	568	80	0	0	0	0	0	8521
28	0	0	0	0	0	0	89	588	795	866	903	915	917	919	898	841	689	526	61	0	0	0	0	0	9009
29	0	0	0	0	0	0	9	285	358	134	230	180	635	677	543	602	450	396	39	0	0	0	0	0	4539
30	0	0	0	0	0	0	121	496	548	729	710	721	563	766	671	610	295	189	27	0	0	0	0	0	6447
31	0	0	0	0	0	0	4	376	618	830	863	826	753	445	682	504	112	40	23	0	0	0	0	0	6077
Avg	0	0	0	0	0	0	13	117	203	246	293	295	345	315	304	298	243	186	16	0	0	0	0	0	2856
S D	0	0	0	0	0	0	34	191	292	354	385	391	387	360	348	341	302	242	23	0	0	0	0	0	3152
S/A	0	0	0	0	0	0	2.52	1.63	1.44	1.44	1.32	1.32	1.12	1.14	1.15	1.15	1.24	1.31	1.42	0	0	0	0	0	1.1
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	6
Max	0	0	0	0	0	0	129	588	848	965	971	982	993	986	963	999	922	694	80	0	0	0	0	0	9185

Daylight Data Recovery: 0% missing; 7% exceed the 15% QC threshold -- 11751 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 - March 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	0	0	12	76	142 ?	94	89	107	139	174	193	113	37	1	0	0	0	0	0	1178
2	0	0	0	0	0	0	0	6	21	41	115	221	282	236	246	177	168	42	1	0	0	0	0	0	1555
3	0	0	0	0	0	0	0	15	109	130	290	216	329	154	168	143	34	41	2	0	0	0	0	0	1630
4	0	0	0	0	0	0	0	23	71	96	154	233	80	186	138	139	147	52	2	0	0	0	0	0	1321
5	0	0	0	0	0	0	0	12	43	158	197	223	280	272	256	243	117	55	2	0	0	0	0	0	1856
6	0	0	0	0	0	0	1	42	114	167	283	247	314	224	185	122	78	24	2	0	0	0	0	0	1802
7	0	0	0	0	0	0	1	49	103	204	237	401	380	338	293	279	155	30	2	0	0	0	0	0	2472
8	0	0	0	0	0	0	0	16	48	135	238	197	229	291	271	160	140	41	2	0	0	0	0	0	1767
9	0	0	0	0	0	0	1	14	24	59	136	96	297	354	289	184	73	17	1	0	0	0	0	0	1545
10	0	0	0	0	0	0	1	27	90	147	215	349	378	360	309	184	137	30	4	0	0	0	0	0	2232
11	0	0	0	0	0	0	2	37	132	171	349	292	360	298	333	215	111	38	3	0	0	0	0	0	2340
12	0	0	0	0	0	0	2	63	170	227	128	94	85	75	69	61	49	32	4	0	0	0	0	0	1060
13	0	0	0	0	0	0	4	44	75	77	92	112	149	272	401	213	171	30	3	0	0	0	0	0	1644
14	0	0	0	0	0	0	4	57	149	148	208	334	235	183	116	92	74	40	4	0	0	0	0	0	1645
15	0	0	0	0	0	0	4	43	76	86	92	91	92	88	83	77	64	44	5	0	0	0	0	0	846
16	0	0	0	0	0	0	1	24	48	87	107	158	314	287	282	180	123	46	4	0	0	0	0	0	1662
17	0	0	0	0	0	0	1	28	77	294	469	334	274	187	54	22	34	17	1	0	0	0	0	0	1792
18	0	0	0	0	0	0	4	64	156	313	419	161	379	221	48	35	11	2	1	0	0	0	0	0	1816
19	0	0	0	0	0	0	2	22	94	171	357	330	307	255	222	187	139	54	4	0	0	0	0	0	2144
20	0	0	0	0	0	0	7	2 ?	2	86	176	226	17	44	197	133	54	11	1	0	0	0	0	0	956
21	0	0	0	0	0	0	4	26	45	54	79	183	214	264	210	120	51	8	1	0	0	0	0	0	1259
22	0	0	0	0	0	0	1	8	22	40	66	73	94	167	209	119	76	34	8	0	0	0	0	0	917
23	0	0	0	0	0	0	12	86	195	248	387	347	299	287	247	215	153	78	7	0	0	0	0	0	2562
24	0	0	0	0	0	0	3	14	55	226	219	252	308	256	260	212	188	78	8	0	0	0	0	0	2081
25	0	0	0	0	0	0	7	80	134	226	152	94	147	289	173	148	67	44	7	0	0	0	0	0	1569
26	0	0	0	0	0	0	11	48	75	89	130	189	146	103	98	88	71	45	9	0	0	0	0	0	1101
27	0	0	0	0	0	0	32	82	92	89	101	102	100	96	101	119	79	43	8	0	0	0	0	0	1044
28	0	0	0	0	0	0	14	70	73	95	112	126	139	131	113	104	93	61	12	0	0	0	0	0	1141
29	0	0	0	0	0	0	17	90	171	270	278	273	271	268	261	194	127	72	13	0	0	0	0	0	2303
30	0	0	0	0	0	0	19	70	138	133	191	216	289	222	215	190	186	114	18	0	0	0	0	0	2002
31	0	0	0	0	0	0	16	83	123	109	125	131	182	286	255	239	150	89	21	0	0	0	0	0	1810
Avg	0	0	0	0	0	0	6	41	90	146	200	206	228	220	202	154	104	44	5	0	0	0	0	0	1647
S/D	0	0	0	0	0	0	7	27	48	74	107	92	103	84	87	61	48	24	5	0	0	0	0	0	472
S/A	0	0	0	0	0	0	1.3	0.66	0.53	0.5	0.53	0.45	0.45	0.38	0.43	0.4	0.46	0.54	0.98	0	0	0	0	0	0.29
Min	0	0	0	0	0	0	0	2	2	40	66	73	17	44	48	22	11	2	1	0	0	0	0	0	846
Max	0	0	0	0	0	0	32	90	195	313	469	401	380	360	401	279	188	114	21	0	0	0	0	0	2562

Daylight Data Recovery: 0% missing; 6% exceed the 15% QC threshold -- 11751 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