

**Global Solar Radiation on a Horizontal Surface  
Hourly Integrated and Daily Totals  
Watt-Hours per Square Meter  
Bluefield State College - May 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	1	10	34	99	159	241	324	288	120	259	8	55	63	9	0	0	0	0	0	1668
2	0	0	0	0	0	3	42	32	94	419	224	407	578	391	323	195	65	56	21	0	0	0	0	0	2852
3	0	0	0	0	0	10	142	311	549	573	277	93	288	409	385	401	391	102	13	0	0	0	0	0	3945
4	0	0	0	0	0	6	51	102	345	571	605	191	103	166	530	167	40	62	20	0	0	0	0	0	2959
5	0	0	0	0	0	4	76	119	260	391	285	241	512	262	641	190	376	247	62	1	0	0	0	0	3665
6	0	0	0	0	0	13	100	403	551	763	956	830	892	939	784	638	349	187	76	1	0	0	0	0	7482
7	0	0	0	0	0	9	44	97	194	245	108	123	332	578	281	69	265	143	16	0	0	0	0	0	2503
8	0	0	0	0	0	8	117	167	116	112	482	446	395	288	265	337	202	88	11	0	0	0	0	0	3033
9	0	0	0	0	0	1	30	95	142	252	127	101	123	88	177	197	141	148	26	0	0	0	0	0	1649
10	0	0	0	0	0	13	53	203	318	455	225	228	279	400	342	136	66	42	8	0	0	0	0	0	2766
11	0	0	0	0	0	8	39	48	79	153	159	226	178	64	163	149	101	62	16	2	0	0	0	0	1446
12	0	0	0	0	0	13	83	130	294	438	719	855	695	320	323	313	341	282	50	2	0	0	0	0	4856
13	0	0	0	0	0	15	84	230	573	736	873	968	971	938	855	679	467	261	56	0	0	0	0	0	7706
14	0	0	0	0	0	29	72	263	564	732	840	755	792	461	664	476	343	275	90	4	0	0	0	0	6362
15	0	0	0	0	0	20	163	335	522	743	895	950	1010	950	793	653	471	260	69	2	0	0	0	0	7836
16	0	0	0	0	0	25	143	240	390	540	665	580	730	691	471	331	119	52	42	3	0	0	0	0	5023
17	0	0	0	0	0	17	153	352	562	773	915	997	1014	972	866	704	500	283	71	2	0	0	0	0	8181
18	0	0	0	0	0	31	202	379	579	772	914	1002	1019	973	867	713	519	302	79	1	0	0	0	0	8352
19	0	0	0	0	0	24	163	360	570	758	897	982	1007	955	854	683	490	278	80	5	0	0	0	0	8106
20	0	0	0	0	0	0	19	93	273	639	584	581	954	931	852	687	487	239	81	3	0	0	0	0	6423
21	0	0	0	0	0	10	70	65	128	105	245	550	808	858	680	797	401	235	93	5	0	0	0	0	5051
22	0	0	0	0	0	17	159	335	566	680	848	739	523	582	252	351	303	117	38	2	0	0	0	0	5513
23	0	0	0	0	0	0	2	6	134	645	379	597	558	476	799	465	476	271	95	4	0	0	0	0	4908
24	0	0	0	0	0	4	76	51	155	252	746	544	583	646	448	596	396	255	64	2	0	0	0	0	4817
25	0	0	0	0	0	18	79	309	472	792	875	913	771	368	288	626	289	156	85	4	0	0	0	0	6046
26	0	0	0	0	0	6	43	76	272	264	395	345	352	581	389	390	289	106	93	4	0	0	0	0	3607
27	0	0	0	0	0	6	27	58	180	233	157	469	353	308	246	362	303	56	55	5	0	0	0	0	2817
28	0	0	0	0	0	19	85	271	550	660	638	767	1020	920	866	690	544	329	110	5	0	0	0	0	7475
29	0	0	0	0	0	41	153	330	529	679	848	771	948	898	761	725	464	243	74	8	0	0	0	0	7471
30	0	0	0	0	0	39	145	333	563	745	792	1032	970	593	497	661	218	32	56	22	0	0	0	0	6696
31	0	0	0	0	0	25	166	240	516	714	692	862	716	827	721	659	465	204	50	2	0	0	0	0	6861
Avg	0	0	0	0	0	14	90	196	359	516	568	596	637	579	537	453	321	175	55	3	0	0	0	0	5099
S/D	0	0	0	0	0	11	54	124	186	231	289	302	299	297	245	230	155	94	30	4	0	0	0	0	2159
S/A	0	0	0	0	0	0.77	0.6	0.63	0.52	0.45	0.51	0.51	0.47	0.51	0.46	0.51	0.48	0.54	0.54	1.38	0	0	0	0	0.42
Min	0	0	0	0	0	0	2	6	79	105	108	93	103	64	163	8	40	32	8	0	0	0	0	0	1446
Max	0	0	0	0	0	41	202	403	579	792	956	1032	1020	973	867	797	544	329	110	22	0	0	0	0	8352

Daylight Data Recovery: 0% missing; 4% exceed the 15% QC threshold -- 21744 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 - May 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	1	1	2	2	13	0	12	0	0	0	0	0	0	0	0	0	0	32
2	0	0	0	0	0	0	0	0	0	140	2	29	133	48	15	0	0	0	0	0	0	0	0	0	0	368
3	0	0	0	0	0	26	234	429	607	391	36	0	33	26	53	98	397	99	0	0	0	0	0	0	0	2430
4	0	0	0	0	0	10	0	1	86	246	333	4	0	11	156	5	0	1	0	0	0	0	0	0	0	853
5	0	0	0	0	0	0	0	8	40	70	2	5	166	7	245	0	370	385	121	0	0	0	0	0	0	1420
6	0	0	0	0	0	22	212	752 ?	803	832	764	556	585	629	568	472	154	59	58	0	0	0	0	0	0	6467
7	0	0	0	0	0	0	0	1	2	1	0	0	21	154	17	0	132	105	0	0	0	0	0	0	0	434
8	0	0	0	0	0	0	250	125	0	1	104	26	20	1	24	47	15	0	0	0	0	0	0	0	0	614
9	0	0	0	0	0	0	0	1	1	20	1	0	0	1	1	0	1	62	0	0	0	0	0	0	0	88
10	0	0	0	0	0	7	7	47	21	21	0	0	1	7	4	0	0	0	0	0	0	0	0	0	0	116
11	0	0	0	0	0	0	0	0	0	1	1	1	2	0	1	0	0	0	0	0	0	0	0	0	0	7
12	0	0	0	0	0	4	62	7	48	148	392	521	349	32	91	25	281	457	27	0	0	0	0	0	0	2445
13	0	0	0	0	0	0	1	24	573 ?	784	815	821	816	833	818	768	648	486	69	0	0	0	0	0	0	7456
14	0	0	0	0	0	35	48	141	465	549	572	402	463	164	426	349	339	373	133	0	0	0	0	0	0	4461
15	0	0	0	0	0	40	389	591	728	815	845	821	856	827	663	698	647	484	118	0	0	0	0	0	0	8523
16	0	0	0	0	0	20	115	137	185	204	243	106	216	204	64	35	0	2	2	0	0	0	0	0	0	1532
17	0	0	0	0	0	16	245	555	735	876	910	933	936	933	912	883	786	643	209	0	0	0	0	0	0	9570
18	0	0	0	0	0	141	556	743	835	894	926	952	949	941	922	905	856	738	275	0	0	0	0	0	0	10633
19	0	0	0	0	0	93	443	659	782	851	881	898	914	898	884	806	705	529	173	0	0	0	0	0	0	9515
20	0	0	0	0	0	0	0	0	94	373	174	225	686	793	811	766	666	358	101	0	0	0	0	0	0	5046
21	0	0	0	0	0	1	3	1	1	0	6	146	437	578	372	745	400	269	97	0	0	0	0	0	0	3055
22	0	0	0	0	0	2	229	293	473	306	615	282	46	197	2	47	94	1	0	0	0	0	0	0	0	2586
23	0	0	0	0	0	0	0	0	1	257	13	96	89	77	630	348	556	421	137	0	0	0	0	0	0	2625
24	0	0	0	0	0	0	3	1	13	16	310	66	53	126	47	413	225	214	49	0	0	0	0	0	0	1536
25	0	0	0	0	0	0	11	225	336	694	717	651	311	6	3	383	115	14	35	0	0	0	0	0	0	3500
26	0	0	0	0	0	0	0	1	29	24	55	13	23	81	16	45	41	2	10	0	0	0	0	0	0	338
27	0	0	0	0	0	0	0	1	2	3	0	15	3	1	1	41	113	0	0	0	0	0	0	0	0	181
28	0	0	0	0	0	0	0	39	521	505	305	477	754	690	756	684	733	662	308	0	0	0	0	0	0	6436
29	0	0	0	0	0	29	204	503	550	502	608	362	585	675	658	747	499	248	21	0	0	0	0	0	0	6191
30	0	0	0	0	0	56	243	526	695	736	663	788	636	284	218	495	105	0	0	0	0	0	0	0	0	5446
31	0	0	0	0	0	15	158	166	487	505	274	467	340	457	414	511	367	127	0	0	0	0	0	0	0	4288
Avg	0	0	0	0	0	17	110	193	294	347	341	312	337	312	316	333	298	217	63	0	0	0	0	0	0	3490
S D	0	0	0	0	0	31	150	254	308	322	335	334	335	344	336	330	278	235	84	0	0	0	0	0	0	3194
S/A	0	0	0	0	0	1.82	1.36	1.32	1.05	0.93	0.98	1.07	0.99	1.1	1.06	0.99	0.93	1.08	1.34	5.48	0	0	0	0	0	0.92
Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	7
Max	0	0	0	0	0	141	556	752	835	894	926	952	949	941	922	905	856	738	308	0	0	0	0	0	0	10633

Daylight Data Recovery: 0% missing; 4% exceed the 15% QC threshold -- 21744 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 - May 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	9	30	86	139	210	281	262	104	237	7	48	56	8	0	0	0	0	0	1478
2	0	0	0	0	0	3	37	27	83	303	196	358	430	333	294	171	58	49	19	0	0	0	0	0	2361
3	0	0	0	0	0	9	104	154	220	288	233	81	240	359	330	188	64	11	0	0	0	0	0	0	2611
4	0	0	0	0	0	6	44	90	301	370	321	170	91	143	391	147	35	55	17	0	0	0	0	0	2182
5	0	0	0	0	0	3	66	102	217	321	249	214	334	229	428	166	194	143	45	1	0	0	0	0	2713
6	0	0	0	0	0	11	63	102 ?	107	169	312	328	347	369	318	317	262	160	57	1	0	0	0	0	2922
7	0	0	0	0	0	8	38	86	172	222	97	108	285	428	247	61	189	94	14	0	0	0	0	0	2048
8	0	0	0	0	0	7	69	131	102	99	379	393	355	252	230	289	177	77	10	0	0	0	0	0	2569
9	0	0	0	0	0	1	26	83	124	224	111	89	109	75	154	173	123	119	23	0	0	0	0	0	1435
10	0	0	0	0	0	11	46	176	286	396	199	203	244	357	303	118	58	36	7	0	0	0	0	0	2440
11	0	0	0	0	0	7	34	42	69	135	139	197	158	55	142	129	88	54	14	2	0	0	0	0	1264
12	0	0	0	0	0	12	73	116	248	324	378	364	359	264	233	278	201	133	43	2	0	0	0	0	3027
13	0	0	0	0	0	15	73	207	216 ?	159	167	193	189	175	182	150	134	103	45	0	0	0	0	0	2008
14	0	0	0	0	0	28	63	205	305	331	349	382	357	306	315	245	171	165	68	4	0	0	0	0	3293
15	0	0	0	0	0	18	82	120	127	139	166	186	201	196	247	180	140	104	49	2	0	0	0	0	1958
16	0	0	0	0	0	22	130	196	298	409	479	493	552	533	412	299	104	45	36	3	0	0	0	0	4012
17	0	0	0	0	0	16	99	127	133	118	124	120	117	114	107	94	89	74	35	2	0	0	0	0	1370
18	0	0	0	0	0	22	66	80	94	105	111	110	111	109	101	88	73	60	31	1	0	0	0	0	1164
19	0	0	0	0	0	20	75	102	113	122	131	135	131	128	117	121	121	101	49	4	0	0	0	0	1474
20	0	0	0	0	0	0	17	81	191	353	433	356	306	204	181	156	141	115	65	3	0	0	0	0	2603
21	0	0	0	0	0	9	63	76 ?	110	92	218	405	381	317	363	278	175	137	71	5	0	0	0	0	2699
22	0	0	0	0	0	15	103	210	271	428	304	452	439	372	222	293	236	102	33	1	0	0	0	0	3480
23	0	0	0	0	0	0	2	6	117	435	331	499	452	388	270	198	176	122	69	4	0	0	0	0	3069
24	0	0	0	0	0	3	67	45	139	214	468	477	543	532	390	308	263	183	53	1	0	0	0	0	3686
25	0	0	0	0	0	16	70	217	264	265	238	290	451	324	255	348	199	135	72	3	0	0	0	0	3146
26	0	0	0	0	0	6	37	66	238	238	332	305	299	480	348	344	261	93	85	3	0	0	0	0	3136
27	0	0	0	0	0	6	23	50	155	203	137	413	306	271	216	312	230	48	48	4	0	0	0	0	2423
28	0	0	0	0	0	18	74	246	244	298	377	310	280	270	222	193	142	92	46	5	0	0	0	0	2819
29	0	0	0	0	0	39	113	137	198	281	312	420	379	265	200	190	179	146	65	7	0	0	0	0	2930
30	0	0	0	0	0	35	91	130	156	187	210	287	359	321	313	314	144	28	49	22 ?	0	0	0	0	2645
31	0	0	0	0	0	25	127	197	234	315	447	401	380	394	365	298	263	146	44	2	0	0	0	0	3636
Avg	0	0	0	0	0	13	64	117	181	248	263	291	305	280	262	213	157	98	41	3	0	0	0	0	2536
S D	0	0	0	0	0	10	32	63	73	103	113	127	123	127	90	92	66	41	22	4	0	0	0	0	746
S/A	0	0	0	0	0	0.79	0.51	0.54	0.4	0.42	0.43	0.44	0.4	0.45	0.34	0.43	0.42	0.42	0.52	1.47	0	0	0	0	0.29
Min	0	0	0	0	0	0	2	6	69	92	97	81	91	55	101	7	35	28	7	0	0	0	0	0	1164
Max	0	0	0	0	0	39	130	246	305	435	479	499	552	533	428	348	263	183	85	22	0	0	0	0	4012

Daylight Data Recovery: 0% missing; 4% exceed the 15% QC threshold -- 21744 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