

**Global Solar Radiation on a Horizontal Surface  
Hourly Integrated and Daily Totals  
Watt-Hours per Square Meter  
Bluefield State College - October 2000**

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	13	93	210	546	699	771	566	707	620	370	207	53	0	0	0	0	0	0	4854
2	0	0	0	0	0	0	15	111	301	516	629	647	616	474	519	407	222	51	0	0	0	0	0	0	4508
3	0	0	0	0	0	0	17	141	378 ?	536 ?	649	751	759	699	574	368	207	48	0	0	0	0	0	0	5127
4	0	0	0	0	0	0	17	133	303	491	639	718	715	691	581	357	182	43	0	0	0	0	0	0	4871
5	0	0	0	0	0	0	9	126	280	496	640	717	724	675	555	402	205	44	0	0	0	0	0	0	4872
6	0	0	0	0	0	0	5	44	95	100	97	97	121	147	71	39	36	18	0	0	0	0	0	0	871
7	0	0	0	0	0	0	4	58	124	331	393	528	695	501	276	86	67	14	0	0	0	0	0	0	3077
8	0	0	0	0	0	0	12	?	381 ?	419	430	536	790	490	365	345	108	24	0	0	0	0	0	0	3898
9	0	0	0	0	0	0	6	89	169	325	287	249	354	233	297	311	109	21	0	0	0	0	0	0	2449
10	0	0	0	0	0	0	11	149	348	525	662	750	763	705	586	418	217	40	0	0	0	0	0	0	5173
11	0	0	0	0	0	0	12	177	351	532	670	748	759	700	579	411	209	34	0	0	0	0	0	0	5181
12	0	0	0	0	0	0	17	195 ?	343	520	658	734	740	681	564	395	202	33	0 ?	0	0	0	0	0	5082
13	0	0	0	0	0	0	12	162	339 ?	536 ?	655	737	752	691	564	399	193	29	0 ?	0	0	0	0	0	5068
14	0	0	0	0	0	0	9	158	362	514	634	721	699	662	552	376	171	14	0	0	0	0	0	0	4870
15	0	0	0	0	0	0	8	92	276	447	594	678	691	581	499	292	184	22	0	0	0	0	0	0	4365
16	0	0	0	0	0	0	10	135	268	457	591	573	564	545	411	255	115	14	0	0	0	0	0	0	3938
17	0	0	0	0	0	0	4	56	204	472	383	487	640	482	441	253	82	7	0	0	0	0	0	0	3510
18	0	0	0	0	0	0	1	20	40	33	77	125	378	435	378	288	147	21	0	0	0	0	0	0	1941
19	0	0	0	0	0	0	4	82	317	417 ?	593	683	695	631	512	353	165	17	0 ?	0	0	0	0	0	4469
20	0	0	0	0	0	0	4	106	280	446	576	645	669	535	426	345	145	15	0	0	0	0	0	0	4193
21	0	0	0	0	0	0	6	73	95	152	280	263	326	301	302	171	111	9	0	0	0	0	0	0	2088
22	0	0	0	0	0	0	2	37	152	169	519	614	321	432	281	103	26	5	0	0	0	0	0	0	2661
23	0	0	0	0	0	0	3	46	235	403	535	597	613	367	492	189	108	10	0	0	0	0	0	0	3599
24	0	0	0	0	0	0	2	76	183	286	376	368	162	271	223	149	46	7	0	0	0	0	0	0	2149
25	0	0	0	0	0	0	1	18	80	171	212	302	682	605	342	315	97	4	0	0	0	0	0	0	2828
26	0	0	0	0	0	0	3	70	127	314	514	471	459	542	357	272	100	5	0	0	0	0	0	0	3233
27	0	0	0	0	0	0	1	71	216	383	517	486	411	315	122	179	78	5	0	0	0	0	0	0	2786
28	0	0	0	0	0	0	1	45	221	387	387	348	363	212	123	79	16	5	0	0	0	0	0	0	2188
29	0	0	0	0	0	0	1	53	203	?	610 ?	655	671	609	486	321	127	4	0	0	0	0	0	0	3741
30	0	0	0	0	0	0	1	105 ?	307	445	578	646	654	601	474	293	126	6	0	0	0	0	0	0	4236
31	0	0	0	0	0	0	1	88	264	441	564	633	648	589	466	301	105	3	0	0	0	0	0	0	4101
Avg	0	0	0	0	0	0	7	94	240	394	505	557	581	520	421	285	133	20	0	0	0	0	0	0	3740
S/D	0	0	0	0	0	0	5	46	95	140	168	190	182	162	148	108	60	16	0	0	0	0	0	0	1155
S/A	0	0	0	0	0	0	0.78	0.49	0.39	0.36	0.33	0.34	0.31	0.31	0.35	0.38	0.45	0.77	5.28	0	0	0	0	0	0.31
Min	0	0	0	0	0	0	1	18	40	33	77	97	121	147	71	39	16	3	0	0	0	0	0	0	871
Max	0	0	0	0	0	0	17	195	381	546	699	771	790	707	620	418	222	53	0	0	0	0	0	0	5181

Daylight Data Recovery: 2% missing; 2% exceed the 15% QC threshold -- 13741 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: 5/21/1998

**Direct Normal Solar Radiation  
Hourly Integrated and Daily Totals  
Watt-Hours per Square Meter  
Bluefield State College - October 2000**

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	1	13	821	903	905	486	842	895	626	557	243	0	0	0	0	0	0	6291
2	0	0	0	0	0	0	31	126	554	696	630	487	451	404	616	674	548	213	0	0	0	0	0	0	5430
3	0	0	0	0	0	0	38	260	650	757	806	837	826	767	794	590	511	220	0	0	0	0	0	0	7057
4	0	0	0	0	0	0	24	350	651	737	774	786	719	809	781	534	353	192	0	0	0	0	0	0	6711
5	0	0	0	0	0	0	1	285	614	748	764	824	731	773	744	695	496	168	0	0	0	0	0	0	6844
6	0	0	0	0	0	0	0	32	13	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	48
7	0	0	0	0	0	0	0	0	6	201	225	425	609	221	49	0	0	0	0	0	0	0	0	0	1735
8	0	0	0	0	0	0	29	582	829	438	294	383	878	452	394	532	70	33	0	0	0	0	0	0	4913
9	0	0	0	0	0	0	0	17	34	222	78	6	80	17	107	324	61	0	0	0	0	0	0	0	946
10	0	0	0	0	0	0	61	599	811	900	952	995	1006	991	955	889	745	298	0	0	0	0	0	0	9203
11	0	0	0	0	0	0	57	627	845	937	985	1005	1007	990	959	894	744	270	0	0	0	0	0	0	9319
12	0	0	0	0	0	0	55	633	859	943	985	1008	1006	992	960	876	751	273	0	0	0	0	0	0	9341
13	0	0	0	0	0	0	52	673	886	979	1002	1019	1029	1015	975	910	717	220	0	0	0	0	0	0	9477
14	0	0	0	0	0	0	30	556	844	926	900	965	734	888	898	771	506	28	0	0	0	0	0	0	8045
15	0	0	0	0	0	0	7	242	509	700	836	901	917	768	727	373	596	161	0	0	0	0	0	0	6738
16	0	0	0	0	0	0	21	377	536	783	818	656	420	548	296	128	41	0	0	0	0	0	0	0	4624
17	0	0	0	0	0	0	0	4	160	430	132	143	626	449	481	230	38	0	0	0	0	0	0	0	2694
18	0	0	0	0	0	0	0	0	0	0	0	1	215	361	383	463	432	99	0	0	0	0	0	0	1956
19	0	0	0	0	0	0	0	18	660	872	933	976	987	956	921	857	711	187	0	0	0	0	0	0	8077
20	0	0	0	0	0	0	9	420	665	760	798	819	794	590	588	699	486	93	0	0	0	0	0	0	6720
21	0	0	0	0	0	0	1	13	3	2	32	18	28	60	98	54	14	0	0	0	0	0	0	0	322
22	0	0	0	0	0	0	0	1	12	7	491	498	93	303	204	52	0	0	0	0	0	0	0	0	1661
23	0	0	0	0	0	0	0	27	378	559	662	653	591	225	502	142	98	14	0	0	0	0	0	0	3851
24	0	0	0	0	0	0	0	129	79	170	104	75	1	12	3	9	0	0	0	0	0	0	0	0	583
25	0	0	0	0	0	0	0	0	1	2	2	21	530	561	304	331	89	0	0	0	0	0	0	0	1842
26	0	0	0	0	0	0	0	129	3	194	577	250	205	526	313	443	240	8	0	0	0	0	0	0	2889
27	0	0	0	0	0	0	0	228	531	612	663	385	240	181	31	136	25	0	0	0	0	0	0	0	3031
28	0	0	0	0	0	0	0	22	383	556	303	239	292	60	1	3	0	2	0	0	0	0	0	0	1862
29	0	0	0	0	0	0	0	0	104	?	1018	?	1020	1024	1002	964	887	680	49	0	0	0	0	0	6749
30	0	0	0	0	0	0	0	393	?	742	933	991	1009	1001	973	911	785	641	99	0	0	0	0	0	8479
31	0	0	0	0	0	0	0	460	784	948	984	996	1009	995	931	827	486	26	0	0	0	0	0	0	8445
Avg	0	0	0	0	0	0	13	232	425	561	601	590	598	572	541	475	343	93	0	0	0	0	0	0	5028
S D	0	0	0	0	0	0	20	234	333	343	362	379	351	350	354	322	285	103	0	0	0	0	0	0	3046
S/A	0	0	0	0	0	0	1.49	1.01	0.79	0.61	0.6	0.64	0.59	0.61	0.65	0.68	0.83	1.1	0	0	0	0	0	0	0.61
Min	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	48
Max	0	0	0	0	0	0	61	673	886	979	1018	1020	1029	1015	975	910	751	298	0	0	0	0	0	0	9477

Daylight Data Recovery: 2% missing; 1% exceed the 15% QC threshold -- 13741 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: 5/21/1998

**Diffuse Solar Radiation on a Horizontal Surface (Shadow Band PSP)**  
**Hourly Integrated and Daily Totals**  
**Watt-Hours per Square Meter**  
**Bluefield State College - October 2000**

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	11	82	185	106	96	117	199	127	91	80	53	20	0	0	0	0	0	0	1167
2	0	0	0	0	0	0	11	81	106	140	205	287	282	189	152	101	64	23	0	0	0	0	0	0	1640
3	0	0	0	0	0	0	12	79	89 ?	112 ?	118	147	154	174	103	93	63	21	0	0	0	0	0	0	1166
4	0	0	0	0	0	0	11	57	88	105	134	154	188	141	126	109	94	20	0	0	0	0	0	0	1227
5	0	0	0	0	0	0	8	60	93	106	145	131	193	155	126	98	72	25	0	0	0	0	0	0	1212
6	0	0	0	0	0	0	5	34	86	92	89	89	110	133	64	36	32	16	0	0	0	0	0	0	787
7	0	0	0	0	0	0	4	52	114	222	241	211	258	322	232	80	61	12	0	0	0	0	0	0	1809
8	0	0	0	0	0	0	7	43	60 ?	171	227	258	173	178	137	106	86	18	0	0	0	0	0	0	1464
9	0	0	0	0	0	0	5	80	149	201	224	225	281	206	226	172	81	19	0	0	0	0	0	0	1869
10	0	0	0	0	0	0	6	37	56	68	74	73	72	69	64	54	39	12	0	0	0	0	0	0	625
11	0	0	0	0	0	0	6	37	49	61	66	70	70	68	59	47	33	10	0	0	0	0	0	0	575
12	0	0	0	0	0	0	6	38	43	51	57	58	57	53	48	43	29	7	0 ?	0	0	0	0	0	490
13	0	0	0	0	0	0	5	30	38	43	54	58	60	56	48	40	30	9	0 ?	0	0	0	0	0	471
14	0	0	0	0	0	0	5	31	47	62	88	83	195	105	77	69	52	8	0	0	0	0	0	0	822
15	0	0	0	0	0	0	7	44	103	97	95	87	84	100	120	126	54	9	0	0	0	0	0	0	926
16	0	0	0	0	0	0	9	72	82	80	106	138	256	179	244	201	104	13	0	0	0	0	0	0	1483
17	0	0	0	0	0	0	4	51	148	257	291	373	211	190	172	153	67	7	0	0	0	0	0	0	1924
18	0	0	0	0	0	0	0	18	36	30	71	116	238	204	181	112	56	13	0	0	0	0	0	0	1076
19	0	0	0	0	0	0	4	69	69	60	56	57	55	56	50	40	26	5	0	0	0	0	0	0	547
20	0	0	0	0	0	0	4	40	68	92	116	118	147	161	122	91	51	9	0	0	0	0	0	0	1019
21	0	0	0	0	0	0	6	67	88	142	254	242	299	259	251	145	105	8	0	0	0	0	0	0	1867
22	0	0	0	0	0	0	1	34	140	155	250	292	248	243	189	80	24	5	0	0	0	0	0	0	1661
23	0	0	0	0	0	0	3	42	114	146	159	183	232	239	243	135	89	9	0	0	0	0	0	0	1593
24	0	0	0	0	0	0	2	55	158	189	300	298	150	246	205	136	42	6	0	0	0	0	0	0	1787
25	0	0	0	0	0	0	1	17	75	159	200	272	337	279	193	197	74	4	0	0	0	0	0	0	1806
26	0	0	0	0	0	0	3	51	118	209	187	305	316	239	205	122	58	4	0	0	0	0	0	0	1815
27	0	0	0	0	0	0	1	39	80	116	149	246	259	208	104	136	73	5	0	0	0	0	0	0	1415
28	0	0	0	0	0	0	1	39	102	135	219	194	179	177	114	74	14	5	0	0	0	0	0	0	1253
29	0	0	0	0	0	0	1	51	157	44	44	47	53	52	44	34	20	1	0	0	0	0	0	0	547
30	0	0	0	0	0	0	1	24 ?	40	46	49	49	53	61	55	42	26	3	0	0	0	0	0	0	449
31	0	0	0	0	0	0	1	26	44	43	47	52	53	51	51	44	26	2	0	0	0	0	0	0	441
Avg	0	0	0	0	0	0	5	48	91	114	142	162	176	159	132	97	55	11	0	0	0	0	0	0	1191
S/D	0	0	0	0	0	0	3	18	40	59	78	93	88	76	68	47	25	7	0	0	0	0	0	0	503
S/A	0	0	0	0	0	0	0.7	0.39	0.44	0.52	0.55	0.58	0.5	0.48	0.51	0.48	0.46	0.62	5.48	0	0	0	0	0	0.42
Min	0	0	0	0	0	0	0	17	36	30	44	47	53	51	44	34	14	1	0	0	0	0	0	0	441
Max	0	0	0	0	0	0	12	82	185	257	300	373	337	322	251	201	105	25	0	0	0	0	0	0	1924

Daylight Data Recovery: 0% missing; 1% exceed the 15% QC threshold -- 4195 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: 5/21/1998