

**Global Solar Radiation on a Horizontal Surface  
Hourly Integrated and Daily Totals  
Watt-Hours per Square Meter  
Bluefield State College - May 1997**

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	2	12	71	122	568	892	843	784	592	824	702	495	284	50	1	0	0	0	0	6242
2	0	0	0	0	0	16	145	352	572	737	686	897	731	854	557	447	497	239	52	1	0	0	0	0	6782
3	0	0	0	0	0	2	22	89	117	457	660	716	618	968	668	212	401	168	30	0	0	0	0	0	5128
4	0	0	0	0	0	1	18	72	195	366	602	429	668	709	617	543	388	176	48	2	0	0	0	0	4835
5	0	0	0	0	0	12	144	364	557	752	927	997	1033	948	845	616	446	131	34	3	0	0	0	0	7809
6	0	0	0	0	0	14	75	281	561	701	781	980	1051	1006	907	627	468	206	70	1	0	0	0	0	7729
7	0	0	0	0	0	14	146	359	562	740	920	1012	1040	994	886	719	502	229	58	1	0	0	0	0	8182
8	0	0	0	0	0	18	142	360	557	761	618	111	51	82	271	173	209	76	45	0	0	0	0	0	3474
9	0	0	0	0	0	11	66	237	193	308	257	59	92	381	394	592	178	241	46	1	0	0	0	0	3058
10	0	0	0	0	0	3	21	46	73	250	249	187	174	257	737	508	451	236	80	2	0	0	0	0	3275
11	0	0	0	0	0	21	173	389	608	803	946	1030	1051	1003	893	725	518	300	78	2	0	0	0	0	8541
12	0	0	0	0	0	12	111	226	467	663	916	1010	1031	974	816	681	268	70	21	5	0	0	0	0	7270
13	0	0	0	0	0	2	17	86	167	192	659	814	901	509	387	79	65	147	13	2	0	0	0	0	4040
14	0	0	0	0	0	20	107	? 426 ?	495	53	100	143	131	155	129	155	20	22	58	3	0	0	0	0	2017
15	0	0	0	0	0	12	144	153	461	754	938	981	1025	990	911	734	478	262	25	1	0	0	0	0	7869
16	0	0	0	0	0	24	105	141	294	465	624	674	676	867	714	725	536	318	80	3	0	0	0	0	6246
17	0	0	0	0	0	19	104	368	534	563	571	196	358	284	610	370	244	174	57	4	0	0	0	0	4456
18	0	0	0	0	0	20	154	313	294	739	903	851	989	564	645	544	505	302	84	4	0	0	0	0	6913
19	0	0	0	0	0	21	170	365	570	681	773	686	779	532	521	262	364	138	56	4	0	0	0	0	5922
20	0	0	0	0	0	8	45	63	69	85	122	266	248	518	774	740	534	318	86	? 6	0	0	0	0	3882
21	0	0	0	0	0	37	132 ?	? ?	? ?	? ?	? ?	1066	1029	923	733	526	298	88 ?	4	0	0	0	0	0	4837 ?
22	0	0	0	0	0	34	101 ?	? ?	? ?	818	956	1046	1062	1015	907	740	531	329	95	4	0	0	0	0	7636 ?
23	0	0	0	0	0	40	175	367	587	734	924	1046	1055	1018	885	700	387	234	104	5	0	0	0	0	8262
24	0	0	0	0	0	22	143	355	484	585	412	745	860	905	867	618	383	132	53	5	0	0	0	0	6570
25	0	0	0	0	0	10	46	317	483	412	293	278	239	258	326	364	230	142	50	6	0	0	0	0	3455
26	0	0	0	0	0	9	31	82	100	285	306	314	222	209	249	73	137	67	25	3	0	0	0	0	2113
27	0	0	0	0	0	6	26	79	61	56	55	78	100	157	87	181	106	97	33	5	0	0	0	0	1126
28	0	0	0	0	0	13	86	324	608	786	932	1016	1034	952	807	720	437	264	74	7	0	0	0	0	8059
29	0	0	0	0	0	4	26	67	76	257	181	190	140	118	122	86	61	46	18	3	0	0	0	0	1396
30	0	0	0	0	0	8	62	131	134	211	428	611	300	250	415	517	486	116	68	4	0	0	0	0	3741
31	0	0	0	0	0	6	29	64	87	181	282	468	681	699	625	487	313	260	111	9	0	0	0	0	4301
Avg	0	0	0	0	0	14	90	226	348	499	597	623	651	639	623	496	360	194	58	3	0	0	0	0	5328
S D	0	0	0	0	0	10	54	132	209	251	299	351	371	334	261	229	160	89	26	2	0	0	0	0	2196
S/A	0	0	0	0	0	0.71	0.61	0.58	0.6	0.5	0.5	0.56	0.57	0.52	0.42	0.46	0.44	0.46	0.44	0.64	0	0	0	0	0.41
Min	0	0	0	0	0	1	12	46	61	53	55	59	51	82	87	73	20	22	13	0	0	0	0	0	1126
Max	0	0	0	0	0	40	175	426	608	818	956	1046	1066	1029	923	740	536	329	111	9	0	0	0	0	8541

Daylight Data Recovery: 1% missing; 1% 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 1997**

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	1	448	869	588	502	321	846	893	784	735	101	0	0	0	0	0	6089
2	0	0	0	0	0	70	413	752	886	723	270	578	267	514	168	273	817	489	21	0	0	0	0	0	6240
3	0	0	0	0	0	0	0	0	0	214	308	307	314	827	556	76	413	153	0	0	0	0	0	0	3171
4	0	0	0	0	0	0	0	1	5	81	263	150	349	458	425	392	459	167	31	0	0	0	0	0	2782
5	0	0	0	0	0	70	514	766	751	837	948	910	914	809	790	612	519	6	0	0	0	0	0	0	8447
6	0	0	0	0	0	35	15	390	785	700	673	871	968	946	895	678	614	373	182	0	0	0	0	0	8123
7	0	0	0	0	0	91	509	722	752	755	946	969	985	982	952	922	824	312	106	0	0	0	0	0	9825
8	0	0	0	0	0	64	393	735	823	861	254	0	0	0	14	0	15	0	11	0	0	0	0	0	3170
9	0	0	0	0	0	4	186	4	10	17	0	0	27	30	354	65	361	14	0	0	0	0	0	0	1072
10	0	0	0	0	0	0	0	0	3	2	1	1	6	449	337	454	406	183	0	0	0	0	0	0	1841
11	0	0	0	0	0	148	613	815	908	962	978	984	980	973	956	916	848	723	239	0	0	0	0	0	11042
12	0	0	0	0	0	41	140	89	366	545	829	894	884	820	713	638	106	0	0	0	0	0	0	0	6068
13	0	0	0	0	0	0	0	1	13	2	340	477	591	252	163	0	0	153	0	0	0	0	0	0	1992
14	0	0	0	0	0	40	273	? 768	? 500	0	0	0	0	1	0	2	0	3	18	0	0	0	0	0	1605
15	0	0	0	0	0	14	241	38	460	767	837	829	798	888	956	866	639	385	0	0	0	0	0	0	7718
16	0	0	0	0	0	87	175	2	48	178	288	331	330	583	534	854	862	746	242	0	0	0	0	0	5261
17	0	0	0	0	0	19	96	347	426	276	148	1	8	7	243	100	48	119	11	0	0	0	0	0	1849
18	0	0	0	0	0	45	331	293	34	655	792	508	751	162	287	332	697	599	205	0	0	0	0	0	5690
19	0	0	0	0	0	94	392	596	715	620	496	325	400	120	244	52	252	10	0	0	0	0	0	0	4315
20	0	0	0	0	0	0	0	0	0	0	0	2	6	142	545	880	826	705	176	? 0	0	0	0	0	3284
21	0	0	0	0	0	0	0	? ?	? ?	? ?	? ?	987	986	949	857	765	663	257	? 0	0	0	0	0	0	5464 ?
22	0	0	0	0	0	0	0	? ?	? ?	969	993	1002	992	984	968	911	828	721	266	0	0	0	0	0	8635 ?
23	0	0	0	0	0	158	420	568	795	762	872	1003	974	954	835	719	226	141	160	0	0	0	0	0	8585
24	0	0	0	0	0	43	175	385	277	278	142	376	477	630	694	429	252	3	0	0	0	0	0	0	4159
25	0	0	0	0	0	0	0	157	277	46	3	1	1	1	24	105	37	4	1	0	0	0	0	0	657
26	0	0	0	0	0	0	0	0	0	15	6	5	9	17	1	0	0	0	0	0	0	0	0	0	53
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
28	0	0	0	0	0	0	1	382	804	870	912	923	929	811	716	673	423	189	69	0	0	0	0	0	7700
29	0	0	0	0	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	4
30	0	0	0	0	0	0	0	0	0	2	17	141	11	2	50	339	482	10	20	0	0	0	0	0	1073
31	0	0	0	0	0	0	0	0	0	1	8	53	202	238	216	202	159	227	183	0	0	0	0	0	1490
Avg	0	0	0	0	0	33	152	276	332	386	407	408	440	434	459	433	400	271	81	0	0	0	0	0	4433
S D	0	0	0	0	0	44	194	303	350	360	382	388	397	392	358	344	320	271	95	0	0	0	0	0	3160
S/A	0	0	0	0	0	1.35	1.28	1.1	1.05	0.93	0.94	0.95	0.9	0.9	0.78	0.79	0.8	1	1.18	5.48	0	0	0	0	0.71
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	2
Max	0	0	0	0	0	158	613	815	908	969	993	1003	992	986	968	922	862	746	266	0	0	0	0	0	11042

Daylight Data Recovery: 1% missing; 2% 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 1997**

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	1	11	61	108	218	163	298	306	293	142	105	115	66	32	1	0	0	0	0	1920
2	0	0	0	0	0	13	67	81	87	218	450	350	470	369	416	262	92	79	45	0	0	0	0	0	3001
3	0	0	0	0	0	1	19	78	104	292	389	428	317	225	206	150	200	121	26	0	0	0	0	0	2558
4	0	0	0	0	0	0	15	63	174	287	376	274	324	287	267	272	164	118	40	1	0	0	0	0	2660
5	0	0	0	0	0	11	62	83	138	142	125	155	172	210	201	195	182	115	30	2	0	0	0	0	1821
6	0	0	0	0	0	13	67	112	124	191	208	176	143	154	183	163	152	94	42	1	0	0	0	0	1823
7	0	0	0	0	0	13	64	93	146	174	119	119	114	110	113	98	90	121	38	1	0	0	0	0	1413
8	0	0	0	0	0	16	70	82	99	135	386	98	46	72	242	153	185	67	39	0	0	0	0	0	1689
9	0	0	0	0	0	10	57	186	170	276	229	51	80	336	340	344	139	120	39	1	0	0	0	0	2377
10	0	0	0	0	0	3	18	40	63	215	215	165	153	228	366	262	221	119	47	2	0	0	0	0	2118
11	0	0	0	0	0	17	60	75	86	94	105	112	117	110	103	94	83	72	36	2	0	0	0	0	1167
12	0	0	0	0	0	12	90	189	243	242	193	167	180	215	221	239	198	62	18	4	0	0	0	0	2274
13	0	0	0	0	0	2	15	77	144	166	354	355	326	265	235	68	56	83	11	2	0	0	0	0	2159
14	0	0	0	0	0	17	66 ?	95 ?	211	46	87	124	113	135	113	136	18	19	52	3	0	0	0	0	1235
15	0	0	0	0	0	11	95	128	180	176	202	186	252	170	119	130	138	127	22	1	0	0	0	0	1937
16	0	0	0	0	0	20	78	125	258	325	365	352	358	316	254	130	88	74	38	2	0	0	0	0	2783
17	0	0	0	0	0	17	86	224	287	339	424	171	320	249	393	281	209	137	52	3	0	0	0	0	3193
18	0	0	0	0	0	18	85	200	255	240	208	360	257	376	388	319	132	103	46	4	0	0	0	0	2992
19	0	0	0	0	0	17	96	127	148	221	336	380	397	412	307	213	226	123	49	3	0	0	0	0	3058
20	0	0	0	0	0	7	39	54	60	74	106	232	217	374	324	128	101	83	50 ?	5	0	0	0	0	1855
21	0	0	0	0	0	23	54 ?	?	?	?	?	?	118	117	131	128	119	76	37 ?	4	0	0	0	0	808 ?
22	0	0	0	0	0	24	52 ?	?	?	89	94	99	104	103	97	98	91	76	43	4	0	0	0	0	974 ?
23	0	0	0	0	0	30	77	115	116	159	155	98	111	129	171	181	259	191	75	4	0	0	0	0	1871
24	0	0	0	0	0	20	110	213	326	387	280	387	401	323	283	315	239	118	47	4	0	0	0	0	3453
25	0	0	0	0	0	9	41	247	323	356	260	245	211	227	288	269	196	123	45	6	0	0	0	0	2844
26	0	0	0	0	0	8	27	71	87	245	270	276	193	172	219	64	120	58	22	2	0	0	0	0	1834
27	0	0	0	0	0	5	23	69	53	49	48	69	88	140	76	159	95	87	29	4	0	0	0	0	996
28	0	0	0	0	0	13	73	150	126	121	123	129	124	169	176	215	175	194	55	6	0	0	0	0	1849
29	0	0	0	0	0	3	23	59	67	226	160	164	122	103	106	76	53	40	16	2	0	0	0	0	1221
30	0	0	0	0	0	7	54	115	118	185	381	444	269	222	343	275	210	102	60	4	0	0	0	0	2787
31	0	0	0	0	0	5	25	57	78	161	245	407	467	475	439	330	224	190	74	8	0	0	0	0	3186
Avg	0	0	0	0	0	12	55	113	151	202	235	229	222	229	234	189	147	102	41	3	0	0	0	0	2124
S D	0	0	0	0	0	7	27	56	78	87	113	118	118	104	104	84	61	40	15	2	0	0	0	0	729
S/A	0	0	0	0	0	0.62	0.49	0.5	0.52	0.43	0.48	0.52	0.53	0.45	0.44	0.44	0.42	0.4	0.36	0.65	0	0	0	0	0.34
Min	0	0	0	0	0	0	11	40	53	46	48	51	46	72	76	64	18	19	11	0	0	0	0	0	808
Max	0	0	0	0	0	30	110	247	326	387	450	444	470	475	439	344	259	194	75	8	0	0	0	0	3453

Daylight Data Recovery: 1% missing; 1% 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