

Global Solar Radiation on a Horizontal Surface
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Bluefield State College - July 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	26	202	300	566	741	868	891	1049	905	769	626	568	358	145	8	0	0	0	0	8023
2	0	0	0	0	0	33	187	390	561	713	862	852	988	909	835	673	536	348	139	10	0	0	0	0	8035
3	0	0	0	0	0	29	153	344	542	730	858	947	997	937	616	623	418	203	113	14	0	0	0	0	7525
4	0	0	0	0	0	6	12	43	56	144	190	306	204	531	618	119	145	181	133	9	0	0	0	0	2697
5	0	0	0	0	0	9	45	27	54	101	182	219	186	317	416	159	88	58	34	4	0	0	0	0	1900
6	0	0	0	0	0	11	57	116	288	373	610	756	899	810	735	615	473	307	131	13	0	0	0	0	6195
7	0	0	0	0	0	17	75 ?	373 ?	544	711	889	561	792	772	779	715	570	364	133	8	0	0	0	0	7303
8	0	0	0	0	0	22	166	329	521	693	755	484	785	865	854	719	541	333	132	9	0	0	0	0	7209
9	0	0	0	0	0	25	142	267	374	442	643	817	845	908	729	682	446	249	118	22	0	0	0	0	6711
10	0	0	0	0	0	17	121	321	456	681	765	933	852	841	834	740	506	308	98	7	0	0	0	0	7481
11	0	0	0	0	0	17	94	95	124	117	134	202	330	706	787	585	268	133	61	10	0	0	0	0	3666
12	0	0	0	0	0	2	11	43	136	301	336	459	731	283	56	403	169	57	32	6	0	0	0	0	3025
13	0	0	0	0	0	13 ?	26	118	271	204	236	823	861	655	201	156	209	134	37	10	0	0	0	0	3955
14	0	0	0	0	0	9	63	40	62	311	616	868	862	758	872	726	559	235	61	3	0	0	0	0	6047
15	0	0	0	0	0	9	63	119	235	419	567	862	966	921	386	545	519	285	121	11	0	0	0	0	6030
16	0	0	0	0	0	12	160	280 ?	471	563	449	683	753	1003	873	604	358	354	120	1	0	0	0	0	6683
17	0	0	0	0	0	11	95	187	256	596	673	840	931	865	761	473	421	289	85	9	0	0	0	0	6494
18	0	0	0	0	0	20	87 ?	298 ?	566 ?	620	786	751	668	523	535	621	527	305	129	9	0	0	0	0	6446
19	0	0	0	0	0	18	91	286	473	512	239	233	237	378	142	174	178	40	26	5	0	0	0	0	3032
20	0	0	0	0	0	2	20	42	69	146	538	745	469	445	308	359	226	158	91	10	0	0	0	0	3628
21	0	0	0	0	0	19	51 ?	?	546 ?	646	850	925	976	835	728	577	512	125	69	2	0	0	0	0	6861
22	0	0	0	0	0	4	35	119	151	258	727	641	705	799	604	519	423	201	70	9	0	0	0	0	5266
23	0	0	0	0	0	10	65	79	66	43	132	189	403	408	374	332	154	83	35	5	0	0	0	0	2376
24	0	0	0	0	0	0	6	21	34	116	143	154	208	165	248	104	59	40	14	4	0	0	0	0	1318
25	0	0	0	0	0	2	23	35	103	319	469	491	413	392	271	222	177	82	56	4	0	0	0	0	3059
26	0	0	0	0	0	6	58	154	269	388	471	907	844	813	745	321	434	201	64	7	0	0	0	0	5681
27	0	0	0	0	0	9	92	261	487	611	750	788	886	813	856	698	501	294	96	3	0	0	0	0	7145
28	0	0	0	0	0	9	98	235 ?	478	638	718	687	788	917	192	102	184	50	4	9	0	0	0	0	5110
29	0	0	0	0	0	13	123	244	369	628	181	284	945	697	434	263	89	160	88	4	0	0	0	0	4523
30	0	0	0	0	0	10	80	237	336	517	753	612	492	365	174	165	224	133	35	6	0	0	0	0	4139
31	0	0	0	0	0	4	40	112	299	201	264	603	812	720	255	435	133	204	78	8	0	0	0	0	4167
Avg	0	0	0	0	0	13	82	184	315	435	537	630	706	686	548	453	342	202	82	8	0	0	0	0	5217
S D	0	0	0	0	0	8	53	117	186	222	258	254	264	230	261	217	172	105	41	4	0	0	0	0	1928
S/A	0	0	0	0	0	0.65	0.64	0.63	0.59	0.51	0.48	0.4	0.37	0.34	0.48	0.48	0.5	0.52	0.5	0.53	0	0	0	0	0.37
Min	0	0	0	0	0	0	6	21	34	43	132	154	186	165	56	102	59	40	4	1	0	0	0	0	1318
Max	0	0	0	0	0	33	202	390	566	741	889	947	1049	1003	873	740	570	364	145	22	0	0	0	0	8035

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:	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 - July 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	95	496	260	771	813	824	772	913	730	653	634	787	706	454	0	0	0	0	0	8906
2	0	0	0	0	0	135	462	705	798	720	769	727	850	702	759	706	731	654	377	0	0	0	0	0	9094
3	0	0	0	0	0	106	329	544	664	747	758	787	805	697	311	439	312	65	43	0	0	0	0	0	6608
4	0	0	0	0	0	0	0	0	1	2	4	4	2	50	184	8	1	15	126	0	0	0	0	0	397
5	0	0	0	0	0	0	0	0	0	1	1	2	2	9	1	0	0	0	0	0	0	0	0	0	19
6	0	0	0	0	0	0	1	1	8	26	175	382	605	496	463	458	396	424	266	0	0	0	0	0	3698
7	0	0	0	0	0	0	49 ?	612 ?	719	700	805	298	541	564	599	705	695	578	318	0	0	0	0	0	7182
8	0	0	0	0	0	57	334	410	393	394	317	110	416	593	725	665	626	562	335	0	0	0	0	0	5937
9	0	0	0	0	0	73	187	200	129	116	305	495	496	553	438	510	330	194	72	0	0	0	0	0	4095
10	0	0	0	0	0	7	78	210	284	484	461	615	435	482	600	678	505	320	56	0	0	0	0	0	5215
11	0	0	0	0	0	0	24	0	1	0	1	3	11	241	554	340	117	1	0	0	0	0	0	0	1294
12	0	0	0	0	0	0	0	0	2	15	7	83	206	2	0	75	6	0	0	0	0	0	0	0	397
13	0	0	0	0	0	0	0	1	17	2	30	332	330	175	16	3	16	21	1	0	0	0	0	0	945
14	0	0	0	0	0	0	0	0	0	17	159	459	451	449	719	640	695	222	1	0	0	0	0	0	3812
15	0	0	0	0	0	0	0	9	20	132	264	630	745	758	177	355	584	494	242	0	0	0	0	0	4410
16	0	0	0	0	0	3	349	336 ?	563	355	206	450	450	846	721	389	206	357	206	0	0	0	0	0	5437
17	0	0	0	0	0	0	18	71	26	354	395	540	662	588	512	257	366	328	99	0	0	0	0	0	4215
18	0	0	0	0	0	33	146 ?	412 ?	516 ?	392	495	379	137	227	123	397	696	513	275	0	0	0	0	0	4741
19	0	0	0	0	0	0	34	306	404	169	1	1	18	29	1	1	4	0	0	0	0	0	0	0	968
20	0	0	0	0	0	0	0	0	1	1	144	352	116	74	7	33	3	1	140	0	0	0	0	0	874
21	0	0	0	0	0	57	19 ?	? 657 ?	560	793	692	621	497	448	448	564	45	39	0	0	0	0	0	0	5439
22	0	0	0	0	0	2	0	1	1	7	371	317	345	470	330	335	283	121	31	0	0	0	0	0	2615
23	0	0	0	0	0	0	7	0	0	0	1	1	4	5	10	14	1	0	0	0	0	0	0	0	43
24	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	5
25	0	0	0	0	0	0	0	0	0	6	31	11	4	25	2	2	1	0	0	0	0	0	0	0	82
26	0	0	0	0	0	0	1	6	64	20	48	534	518	530	523	137	416	176	42	0	0	0	0	0	3015
27	0	0	0	0	0	10	119	340	540	503	517	523	622	548	720	691	613	465	178	0	0	0	0	0	6389
28	0	0	0	0	0	4	160	358 ?	481	522	440	355	391	497	20	0	2	0	0	0	0	0	0	0	3231
29	0	0	0	0	0	4	95	56	205	428	16	48	529	310	156	81	1	49	56	0	0	0	0	0	2033
30	0	0	0	0	0	2	22	167	124	247	502	324	167	92	10	2	11	16	0	0	0	0	0	0	1687
31	0	0	0	0	0	5	1	1	45	2	3	77	335	403	59	241	8	85	1	0	0	0	0	0	1264
Avg	0	0	0	0	0	19	95	167	240	249	285	332	378	375	318	298	290	207	108	0	0	0	0	0	3356
S D	0	0	0	0	0	36	144	209	280	269	281	257	275	263	280	261	284	230	132	0	0	0	0	0	2631
S/A	0	0	0	0	0	1.88	1.52	1.25	1.17	1.08	0.99	0.77	0.73	0.7	0.88	0.87	0.98	1.11	1.22	3.13	0	0	0	0	0.78
Min	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	5
Max	0	0	0	0	0	135	496	705	798	813	824	787	913	846	759	706	787	706	454	0	0	0	0	0	9094

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: 8.48 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 - July 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	19	90	187	110	134	154	174	172	215	198	172	129	84	50	7	0	0	0	0	1895
2	0	0	0	0	0	23	70	88	100	168	192	163	169	251	182	166	128	94	61	9	0	0	0	0	1863
3	0	0	0	0	0	20	83	120	158	178	202	218	228	286	355	307	240	176	105	13	0	0	0	0	2689
4	0	0	0	0	0	5	11	38	49	127	172	273	181	461	449	103	128	161	107	8	0	0	0	0	2272
5	0	0	0	0	0	8	39	24	48	90	161	193	165	279	373	139	78	51	30	4	0	0	0	0	1680
6	0	0	0	0	0	10	50	102	265	332	456	396	312	332	327	274	246	139	75	12	0	0	0	0	3329
7	0	0	0	0	0	15	62 ?	123 ?	124	181	196	282	273	245	269	197	181	141	71	7	0	0	0	0	2367
8	0	0	0	0	0	19	106	179	296	400	480	371	387	310	233	234	189	120	64	8	0	0	0	0	3397
9	0	0	0	0	0	22	112	211	289	366	390	364	388	404	361	322	266	181	106	19	0	0	0	0	3801
10	0	0	0	0	0	15	111	248	298	327	377	372	446	403	327	250	218	187	79	6	0	0	0	0	3663
11	0	0	0	0	0	15	86	84	109	103	118	176	293	474	297	323	190	116	53	9	0	0	0	0	2446
12	0	0	0	0	0	2	10	38	119	271	296	358	537	252	50	328	154	50	28	5	0	0	0	0	2496
13	0	0	0	0	0	12 ?	23	104	243	179	191	496	535	474	169	139	190	113	33	8	0	0	0	0	2909
14	0	0	0	0	0	8	55	35	55	276	487	443	443	347	263	262	172	137	53	2	0	0	0	0	3041
15	0	0	0	0	0	8	56	108	207	318	334	260	244	216	222	283	180	108	67	10	0	0	0	0	2620
16	0	0	0	0	0	11	75	188 ?	175	290	251	251	314	221	262	319	228	227	76	1	0	0	0	0	2890
17	0	0	0	0	0	9	80	161	227	300	322	318	287	319	319	292	215	165	63	8	0	0	0	0	3088
18	0	0	0	0	0	19	65 ?	164 ?	256 ?	316	362	390	518	288	416	342	138	119	74	8	0	0	0	0	3475
19	0	0	0	0	0	17	78	171	254	386	213	208	201	326	126	154	158	35	23	4	0	0	0	0	2353
20	0	0	0	0	0	2	17	36	60	127	386	424	341	344	278	313	196	139	62	8	0	0	0	0	2733
21	0	0	0	0	0	18	47 ?	105 ?	152	235	183	292	387	384	354	264	208	100	60	2	0	0	0	0	2791
22	0	0	0	0	0	3	30	104	132	231	407	350	366	362	323	287	272	144	59	8	0	0	0	0	3079
23	0	0	0	0	0	9	57	69	59	38	117	167	351	354	328	298	134	72	31	4	0	0	0	0	2088
24	0	0	0	0	0	0	6	19	30	103	128	135	184	145	218	92	52	36	13	4	0	0	0	0	1163
25	0	0	0	0	0	2	20	31	92	281	413	434	358	343	240	191	155	71	48	4	0	0	0	0	2683
26	0	0	0	0	0	6	52	139	221	348	397	409	350	314	293	215	194	132	53	6	0	0	0	0	3127
27	0	0	0	0	0	9	73	156	194	254	324	310	304	312	257	211	167	124	62	3	0	0	0	0	2760
28	0	0	0	0	0	9	78	148 ?	209	277	358	367	424	473	159	91	163	44	4	7	0	0	0	0	2811
29	0	0	0	0	0	11	113	212	252	323	161	218	458	415	292	201	78	134	71	4	0	0	0	0	2944
30	0	0	0	0	0	9	71	179	254	325	339	311	330	267	152	144	198	121	32	6	0	0	0	0	2739
31	0	0	0	0	0	3	35	100	260	179	231	509	492	353	197	260	115	167	68	7	0	0	0	0	2976
Avg	0	0	0	0	0	11	60	118	171	241	284	311	337	328	267	231	173	119	57	7	0	0	0	0	2715
S D	0	0	0	0	0	6	31	62	84	96	113	102	110	81	87	75	52	47	25	4	0	0	0	0	571
S/A	0	0	0	0	0	0.59	0.51	0.52	0.49	0.4	0.4	0.33	0.33	0.25	0.33	0.33	0.3	0.39	0.43	0.52	0	0	0	0	0.21
Min	0	0	0	0	0	0	6	19	30	38	117	135	165	145	50	91	52	35	4	1	0	0	0	0	1163
Max	0	0	0	0	0	23	113	248	298	400	487	509	537	474	449	342	272	227	107	19	0	0	0	0	3801

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:	7.01 uV/Wm-2
Serial Number:	17860F3
Calibration Date:	5/21/1998