

Global Solar Radiation on a Horizontal Surface
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Bluefield State College - June 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	11	49	79	162	285	733	965	999	883	810	652	492	305	105	7	0	0	0	0	6537	
2	0	0	0	0	0	32	133	276	561	?	598	722	758	743	692	579	507	395	192	99	7	0	0	0	6294	
3	0	0	0	0	0	5	25	41	77	171	238	311	398	512	547	554	464	244	81	6	0	0	0	0	3674	
4	0	0	0	0	0	24	144	371	547	316	243	441	356	157	131	180	353	213	50	6	0	0	0	0	3532	
5	0	0	0	0	0	18	113	182	315	317	210	99	279	333	465	256	259	255	105	2	0	0	0	0	3209	
6	0	0	0	0	0	9	54	47	116	92	53	59	204	89	87	76	41	18	10	3	0	0	0	0	957	
7	0	0	0	0	0	35	131	?	332	?	593	?	780	906	987	1032	973	904	747	554	337	119	6	0	0	8436
8	0	0	0	0	0	34	180	377	593	772	908	991	1014	974	882	725	523	322	124	10	0	0	0	0	8429	
9	0	0	0	0	0	36	182	378	585	760	877	961	1002	950	856	707	520	314	122	10	0	0	0	0	8260	
10	0	0	0	0	0	36	92	?	?	581	742	828	827	536	863	830	710	517	298	53	24	0	0	0	6937	
11	0	0	0	0	0	33	119	?	392	?	582	?	716	818	878	900	941	685	616	502	246	132	16	0	0	7575
12	0	0	0	0	0	31	158	335	536	723	874	962	905	805	838	672	493	282	40	0	0	0	0	0	7655	
13	0	0	0	0	0	30	159	328	530	684	878	718	709	675	731	569	461	161	127	12	0	0	0	0	6773	
14	0	0	0	0	0	14	111	235	429	341	366	599	886	978	674	781	544	172	80	6	0	0	0	0	6215	
15	0	0	0	0	0	23	142	203	200	706	395	477	870	933	503	609	518	134	97	15	0	0	0	0	5826	
16	0	0	0	0	0	17	193	190	266	626	421	732	570	364	333	624	372	175	134	16	0	0	0	0	5034	
17	0	0	0	0	0	4	47	94	256	174	243	538	713	901	677	414	406	338	120	7	0	0	0	0	4932	
18	0	0	0	0	0	11	52	171	267	443	463	635	802	684	340	282	294	91	66	19	0	0	0	0	4621	
19	0	0	0	0	0	22	66	72	161	162	217	274	282	567	199	196	115	54	29	9	0	0	0	0	2425	
20	0	0	0	0	0	29	109	?	240	?	576	627	650	606	518	606	404	155	69	13	6	0	0	0	5108	
21	0	0	0	0	0	30	165	310	303	533	875	739	606	904	666	634	428	263	87	9	0	0	0	0	6551	
22	0	0	0	0	0	16	110	166	232	322	426	898	858	716	594	471	492	363	166	10	0	0	0	0	5841	
23	0	0	0	0	0	34	121	292	549	686	676	879	735	695	523	584	413	221	100	11	0	0	0	0	6519	
24	0	0	0	0	0	33	111	?	343	534	731	616	1052	922	977	880	742	548	337	147	15	0	0	0	7987	
25	0	0	0	0	0	29	159	353	324	526	896	840	999	928	517	503	282	119	46	1	0	0	0	0	6523	
26	0	0	0	0	0	30	136	352	574	631	789	691	643	804	840	537	245	101	61	15	0	0	0	0	6449	
27	0	0	0	0	0	14	136	226	383	310	302	495	252	42	324	352	120	186	4	7	0	0	0	0	3152	
28	0	0	0	0	0	5	63	110	138	216	84	36	99	125	323	245	100	96	37	4	0	0	0	0	1681	
29	0	0	0	0	0	2	21	84	223	618	702	778	788	832	810	595	532	329	139	11	0	0	0	0	6464	
30	0	0	0	0	0	31	164	?	425	?	556	?	697	657	860	671	588	479	675	510	327	114	8	0	0	6761
Avg	0	0	0	0	0	23	115	242	392	510	569	670	676	680	588	521	388	219	87	9	0	0	0	0	5679	
S D	0	0	0	0	0	11	48	116	176	219	275	283	269	231	189	153	98	43	5	0	0	0	0	0	1965	
S/A	0	0	0	0	0	0.48	0.41	0.48	0.45	0.43	0.48	0.42	0.4	0.42	0.39	0.36	0.39	0.45	0.5	0.58	0	0	0	0	0.35	
Min	0	0	0	0	0	2	21	41	77	92	53	36	99	42	87	76	41	18	4	0	0	0	0	0	957	
Max	0	0	0	0	0	36	193	425	593	780	908	1052	1032	978	904	781	554	363	166	24	0	0	0	0	8436	

Daylight Data Recovery: 0% missing; 2% exceed the 15% QC threshold -- 5285 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 - June 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	0	1	3	464	678	750	673	662	647	628	563	258	0	0	0	0	0	5328	
2	0	0	0	0	0	101	272	112	641	?	327	318	355	376	350	252	250	264	99	161	0	0	0	0	3876	
3	0	0	0	0	0	0	0	0	0	1	3	3	4	10	115	224	266	96	1	0	0	0	0	0	724	
4	0	0	0	0	0	0	115	281	261	6	3	57	11	4	1	6	86	77	0	0	0	0	0	0	910	
5	0	0	0	0	0	0	12	7	20	6	1	1	4	5	34	3	8	132	54	0	0	0	0	0	287	
6	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	
7	0	0	0	0	0	103	279	?	672	?	833	?	810	791	844	927	912	928	900	852	720	345	0	0	0	9915
8	0	0	0	0	0	185	541	644	796	861	897	897	892	884	891	825	655	542	297	0	0	0	0	0	9807	
9	0	0	0	0	0	134	478	657	758	805	768	799	847	844	828	794	710	575	271	0	0	0	0	0	9268	
10	0	0	0	0	0	107	319	?	?	761	785	704	557	225	624	699	669	592	507	41	0	0	0	0	6591	
11	0	0	0	0	0	73	257	?	527	?	580	?	666	618	548	493	611	401	419	502	298	203	0	0	0	6194
12	0	0	0	0	0	67	271	452	532	634	661	658	584	502	631	577	509	340	8	0	0	0	0	0	6427	
13	0	0	0	0	0	54	256	407	515	535	646	393	346	352	421	266	373	31	130	0	0	0	0	0	4727	
14	0	0	0	0	0	0	43	139	179	17	4	44	432	712	479	781	755	185	97	0	0	0	0	0	3865	
15	0	0	0	0	0	17	174	104	4	589	68	70	479	649	266	488	454	31	86	0	0	0	0	0	3480	
16	0	0	0	0	0	7	285	35	2	231	19	184	108	42	58	344	132	34	135	0	0	0	0	0	1617	
17	0	0	0	0	0	0	0	1	7	2	3	185	323	495	341	160	284	428	127	0	0	0	0	0	2355	
18	0	0	0	0	0	5	1	3	5	31	8	97	337	321	88	37	44	11	12	0	0	0	0	0	1000	
19	0	0	0	0	0	0	2	0	1	1	2	3	2	51	4	0	0	0	0	0	0	0	0	0	67	
20	0	0	0	0	0	14	121	?	335	?	639	379	245	160	92	177	199	86	1	0	0	0	0	0	2449	
21	0	0	0	0	0	86	370	239	19	155	416	289	157	501	338	453	351	247	45	0	0	0	0	0	3667	
22	0	0	0	0	0	0	2	3	5	13	34	409	436	278	227	128	412	465	459	0	0	0	0	0	2870	
23	0	0	0	0	0	123	217	248	590	511	451	599	460	444	297	512	400	245	103	0	0	0	0	0	5200	
24	0	0	0	0	0	71	283	?	589	711	654	317	683	587	734	822	790	735	603	323	0	0	0	0	7900	
25	0	0	0	0	0	81	349	523	100	297	717	517	752	611	138	166	90	28	1	0	0	0	0	0	4370	
26	0	0	0	0	0	50	78	474	584	388	510	385	334	494	575	351	128	21	26	0	0	0	0	0	4397	
27	0	0	0	0	0	1	97	35	156	8	55	66	18	0	8	16	0	49	0	0	0	0	0	0	509	
28	0	0	0	0	0	0	1	2	3	2	0	0	1	1	13	3	1	1	0	0	0	0	0	0	28	
29	0	0	0	0	0	0	0	1	6	284	443	479	538	603	592	496	663	554	365	0	0	0	0	0	5023	
30	0	0	0	0	0	56	427	?	797	?	768	661	410	537	332	247	117	580	667	505	182	0	0	0	0	6285
Avg	0	0	0	0	0	45	175	251	316	322	319	350	362	404	347	366	352	246	124	0	0	0	0	0	3971	
S D	0	0	0	0	0	51	162	259	322	306	300	282	283	292	293	289	275	233	131	0	0	0	0	0	2912	
S/A	0	0	0	0	0	1.14	0.92	1.03	1.02	0.95	0.94	0.81	0.78	0.72	0.84	0.79	0.78	0.95	1.06	3.14	0	0	0	0	0.73	
Min	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	
Max	0	0	0	0	0	185	541	797	833	861	897	897	927	912	928	900	852	720	459	0	0	0	0	0	9915	

Daylight Data Recovery: 0% missing; 2% exceed the 15% QC threshold -- 5285 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 - June 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	10	43	69	142	251	326	335	292	270	257	190	151	105	56	6	0	0	0	0	2502
2	0	0	0	0	0	25	98	199	184 ?	359	450	428	391	375	374	341	252	162	70	6	0	0	0	0	3715
3	0	0	0	0	0	5	22	36	68	152	209	274	359	454	432	387	314	211	71	6	0	0	0	0	2999
4	0	0	0	0	0	21	110	260	395	276	214	370	324	142	116	159	307	177	43	5	0	0	0	0	2919
5	0	0	0	0	0	16	103	165	283	279	188	87	247	302	433	224	231	208	88	2	0	0	0	0	2856
6	0	0	0	0	0	9	46	40	101	80	46	52	179	78	76	67	35	15	9	2	0	0	0	0	837
7	0	0	0	0	0	29	91 ?	106 ?	100 ?	154	200	178	132	119	118	99	82	69	49	5	0	0	0	0	1532
8	0	0	0	0	0	24	66	103	114	118	123	141	151	148	125	129	153	121	63	9	0	0	0	0	1588
9	0	0	0	0	0	27	81	109	132	153	203	207	185	167	153	135	127	103	68	9	0	0	0	0	1860
10	0	0	0	0	0	30	61 ?	102 ?	123	153	218	297	303	277	238	236	196	108	44	21	0	0	0	0	2407
11	0	0	0	0	0	27	85 ?	159 ?	225 ?	220	285	361	416	379	350	319	234	131	92	13	0	0	0	0	3296
12	0	0	0	0	0	28	104	163	227	256	309	350	346	338	308	261	217	159	35	0	0	0	0	0	3100
13	0	0	0	0	0	26	104	173	233	295	327	353	387	343	386	381	263	144	105	10	0	0	0	0	3529
14	0	0	0	0	0	12	94	172	314	300	322	530	460	311	262	213	118	87	58	5	0	0	0	0	3258
15	0	0	0	0	0	24	100	156	177	237	312	374	385	320	260	254	251	113	77	14	0	0	0	0	3053
16	0	0	0	0	0	15	137	171	237	422	378	524	462	301	257	351	291	154	105	14	0	0	0	0	3818
17	0	0	0	0	0	3	41	83	227	151	213	339	386	423	383	289	247	176	95	6	0	0	0	0	3064
18	0	0	0	0	0	10	46	151	237	395	410	543	468	376	251	238	247	82	59	17	0	0	0	0	3528
19	0	0	0	0	0	19	58	63	141	142	191	240	248	503	182	174	102	48	25	9	0	0	0	0	2144
20	0	0	0	0	0	31	91 ?	139 ?	198	342	429	448	397	343	436	333	135	60	12	5	0	0	0	0	3396
21	0	0	0	0	0	26	84	215	270	411	508	465	458	437	375	303	229	171	72	8	0	0	0	0	4033
22	0	0	0	0	0	14	97	147	201	294	367	494	439	451	396	378	259	195	72	9	0	0	0	0	3812
23	0	0	0	0	0	25	80	192	208	291	283	316	283	278	263	220	178	125	76	9	0	0	0	0	2828
24	0	0	0	0	0	28	76 ?	122	128	243	344	410	357	283	178	165	129	106	81	13	0	0	0	0	2664
25	0	0	0	0	0	24	87	142	250	289	272	338	274	352	370	372	223	103	41	1	0	0	0	0	3138
26	0	0	0	0	0	27	120	160	237	342	351	329	319	340	352	282	162	84	54	13	0	0	0	0	3173
27	0	0	0	0	0	13	111	199	282	273	235	423	224	37	289	318	104	161	4 ?	6	0	0	0	0	2681
28	0	0	0	0	0	4	55	97	121	191	73	33	89	111	291	214	88	85	32	4	0	0	0	0	1489
29	0	0	0	0	0	2	18	74	200	411	320	332	268	263	299	242	162	120	65	11	0	0	0	0	2786
30	0	0	0	0	0	26	69 ?	88	104	198	295	350	339	335	362	251	127	126	73	7	0	0	0	0	2751
Avg	0	0	0	0	0	19	79	135	195	256	280	331	319	295	286	251	187	124	60	8	0	0	0	0	2825
S D	0	0	0	0	0	9	28	53	74	92	104	132	102	116	101	86	72	47	26	5	0	0	0	0	754
S/A	0	0	0	0	0	0.46	0.36	0.39	0.38	0.36	0.37	0.4	0.32	0.39	0.36	0.34	0.39	0.38	0.44	0.58	0	0	0	0	0.27
Min	0	0	0	0	0	2	18	36	68	80	46	33	89	37	76	67	35	15	4	0	0	0	0	0	837
Max	0	0	0	0	0	31	137	260	395	422	508	543	468	503	436	387	314	211	105	21	0	0	0	0	4033

Daylight Data Recovery: 0% missing; 2% exceed the 15% QC threshold -- 5285 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