

Global Solar Radiation on a Horizontal Surface
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Bluefield State College - April 1999

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	7	61	279	451	458	499	210	132	64	87	46	37	8	0	0	0	0	0	2339
2	0	0	0	0	0	0	22	92	256	456	415	551	696	631	498	394	195	97	19	0	0	0	0	0	4322
3	0	0	0	0	0	0	58	190	355	554	756	721	840	518	668	303	65	30	10	0	0	0	0	0	5067
4	0	0	0	0	0	0	16	51	223	424	349	381	433	240	264	357	268	96	18	0	0	0	0	0	3121
5	0	0	0	0	0	0	18	196	352	628	797	887	914	868	764	595	380	160	25	0	0	0	0	0	6583
6	0	0	0	0	0	0	59	143	397	612	412	433	177	587	618	531	416	155	30	0	0	0	0	0	4571
7	0	0	0	0	0	0	40	245	463	663	823	903	829	824	762	558	427	229	34	0	0	0	0	0	6799
8	0	0	0	0	0	0	53	234	448	639	762	817	877	681	407	194	25	8	8	0	0	0	0	0	5153
9	0	0	0	0	0	0	19	17	286	587	750	782	867	862	690	437	124	62	17	0	0	0	0	0	5501
10	0	0	0	0	0	0	11	41	114	213	585	919	945	895	789	625	422	217	31	0	0	0	0	0	5806
11	0	0	0	0	0	0	4	6	46	100	263	127	636	709	820	653	453	229	32	0	0	0	0	0	4078
12	0	0	0	0	0	0	5	23	105	108	108	122	44	86	114	103	69	34	6	0	0	0	0	0	929
13	0	0	0	0	0	0	63	294	507	710	836	950	974	914	816	657	453	228	34	0	0	0	0	0	7436
14	0	0	0	0	0	0	81	298	510	711	813	873	922	898	831	546	272	104	26	0	0	0	0	0	6886
15	0	0	0	0	0	0	3	34	187	698	539	291	215	467	138	211	275	84	8	0	0	0	0	0	3150
16	0	0	0	0	0	1	47	222	501	663	882	968	1024	916	791	629	425	207	43	0	0	0	0	0	7319
17	0	0	0	0	0	1	97	308	470	479	549	770	723	380	554	414	254	104	17	0	0	0	0	0	5121
18	0	0	0	0	0	1	15	61	87	128	196	357	447	237	136	164	105	51	10	0	0	0	0	0	1994
19	0	0	0	0	0	0	66	333	519	691	222	566	472	600	488	451	277	111	17	0	0	0	0	0	4813
20	0	0	0	0	0	2	77	138	182	297	513	845	941	807	817	608	431	233	38	0	0	0	0	0	5928
21	0	0	0	0	0	2	60	261	144	184	440	556	589	846	596	499	285	207	44	0	0	0	0	0	4713
22	0	0	0	0	0	2	96	302	518	699	862	931	895	845	722	342	314	116	37	0	0	0	0	0	6683
23	0	0	0	0	0	3	63	132	287	428	363	512	559	420	136	179	316	240	50	0	0	0	0	0	3687
24	0	0	0	0	0	0	26	27	67	106	138	211	433	253	383	379	244	194	34	0	0	0	0	0	2495
25	0	0	0	0	0	7	86	390	557	746	895	981	992	950	799	671	475	250	24	0	0	0	0	0	7824
26	0	0	0	0	0	3	25	93	148	132	139	127	197	244	111	97	73	47	7	0	0	0	0	0	1442
27	0	0	0	0	0	1	12	80	117	124	169	715	792	555	302	81	11	13	6	0	0	0	0	0	2978
28	0	0	0	0	0	0	7	19	32	71	59	137	357	279	175	59	49	26	7	0	0	0	0	0	1278
29	0	0	0	0	0	2	20	41	53	69	103	147	154	189	270	284	290	166	48	2	0	0	0	0	1838
30	0	0	0	0	0	3	45	156	529	751	909	948	952	864	880	714	493	280	61	1	0	0	0	0	7584
Avg	0	0	0	0	0	1	40	150	291	437	504	601	637	590	513	394	264	134	25	0	0	0	0	0	4581
S D	0	0	0	0	0	1	29	113	175	246	281	299	300	277	274	206	152	83	15	0	0	0	0	0	2037
S/A	0	0	0	0	0	1.56	0.73	0.75	0.6	0.56	0.56	0.5	0.47	0.47	0.53	0.52	0.58	0.62	0.6	3.17	0	0	0	0	0.44
Min	0	0	0	0	0	0	3	6	32	69	59	122	44	86	64	59	11	8	6	0	0	0	0	0	929
Max	0	0	0	0	0	7	97	390	557	751	909	981	1024	950	880	714	493	280	61	2	0	0	0	0	7824

Daylight Data Recovery: 0% missing; 0% exceed the 15% QC threshold -- 4729 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
Note: Instrument was changed during month.

**Direct Normal Solar Radiation
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Bluefield State College - April 1999**

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	9	209	182	151	134	6	0	0	1	0	0	0	0	0	0	0	0	692
2	0	0	0	0	0	0	0	1	9	228	56	142	293	278	227	124	7	4	0	0	0	0	0	0	1368
3	0	0	0	0	0	0	132	206	400	496	705	523	587	201	509	122	0	0	3	0	0	0	0	0	3884
4	0	0	0	0	0	0	7	0	45	119	30	51	121	11	41	90	82	2	0	0	0	0	0	0	599
5	0	0	0	0	0	0	3	389	515	833	907	925	949	943	905	810	617	260	18	0	0	0	0	0	8074
6	0	0	0	0	0	0	91	44	414	450	31	43	1	247	451	550	683	238	58	0	0	0	0	0	3301
7	0	0	0	0	0	0	153	653	827	915	952	901	581	715	713	611	606	584	77	0	0	0	0	0	8288
8	0	0	0	0	0	0	226	570	738	807	748	659	697	334	75	67	0	0	0	0	0	0	0	0	4920
9	0	0	0	0	0	0	0	0	189	503	642	652	772	718	640	342	67	16	3	0	0	0	0	0	4542
10	0	0	0	0	0	0	0	0	1	25	203	860	925	908	904	863	754	545	81	0	0	0	0	0	6069
11	0	0	0	0	0	0	0	0	0	2	13	6	327	547	961	925	851	680	96	0	0	0	0	0	4408
12	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
13	0	0	0	0	0	0	200	524	807	797	889	976	979	962	957	903	835	677	124	0	0	0	0	0	9631
14	0	0	0	0	0	0	385	794	890	939	780	716	811	888	967	483	181	1	1	0	0	0	0	0	7837
15	0	0	0	0	0	0	0	0	13	524	269	27	2	32	1	72	296	54	1	0	0	0	0	0	1292
16	0	0	0	0	0	0	23	326	786	750	915	881	972	896	786	704	659	477	126	0	0	0	0	0	8301
17	0	0	0	0	0	2	463	763	645	359	274	392	355	106	352	349	190	112	0	0	0	0	0	0	4361
18	0	0	0	0	0	0	0	0	0	1	2	72	214	8	1	1	0	0	0	0	0	0	0	0	298
19	0	0	0	0	0	0	246	695	? 768	612	10	381	130	268	168	203	81	15	0	0	0	0	0	0	3576
20	0	0	0	0	0	1	170	70	10	28	244	617	748	647	812	644	605	565	103	0	0	0	0	0	5264
21	0	0	0	0	0	0	22	236	3	5	84	220	186	508	303	252	73	235	50	0	0	0	0	0	2176
22	0	0	0	0	0	1	336	655	796	827	857	792	677	623	573	93	115	15	9	0	0	0	0	0	6369
23	0	0	0	0	0	0	44	28	127	154	65	172	206	120	3	12	220	427	82	0	0	0	0	0	1660
24	0	0	0	0	0	0	0	0	0	1	1	2	6	2	33	48	24	175	0	0	0	0	0	0	292
25	0	0	0	0	0	42	473	? 849	? 908	957	987	996	982	968	838	851	820	615	21	0	0	0	0	0	10307
26	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	6
27	0	0	0	0	0	0	0	1	1	1	2	232	269	111	7	0	0	0	0	0	0	0	0	0	623
28	0	0	0	0	0	0	0	0	0	0	0	1	3	2	1	0	0	0	0	0	0	0	0	0	7
29	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	4	90	17	0	0	0	0	0	0	114
30	0	0	0	0	0	0	0	6	589	857	861	813	746	684	912	933	815	678	159	0	0	0	0	0	8053
Avg	0	0	0	0	0	2	99	227	323	379	356	406	418	391	405	335	289	213	34	0	0	0	0	0	3877
S D	0	0	0	0	0	8	146	299	350	360	382	364	361	358	380	342	321	258	48	0	0	0	0	0	3249
S/A	0	0	0	0	0	4.83	1.47	1.32	1.08	0.95	1.07	0.9	0.86	0.92	0.94	1.02	1.11	1.21	1.41	0	0	0	0	0	0.84
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	42	473	849	908	957	987	996	982	968	967	933	851	680	159	0	0	0	0	0	10307

Daylight Data Recovery: 0% missing; 0% exceed the 15% QC threshold -- 4729 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
Note: Instrument was changed during month.

Diffuse Solar Radiation on a Horizontal Surface (Shadow Band PSP)
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Bluefield State College - April 1999

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	6	55	181	325	322	364	187	119	57	78	41	32	7	0	0	0	0	0	1774
2	0	0	0	0	0	0	19	81	229	334	360	417	436	392	316	314	169	84	16	0	0	0	0	0	3167
3	0	0	0	0	0	0	54	134	164	243	223	274	340	354	293	211	58	26	9	0	0	0	0	0	2384
4	0	0	0	0	0	0	15	46	193	321	307	332	320	224	214	295	227	86	16	0	0	0	0	0	2595
5	0	0	0	0	0	0	16	85	99	110	117	122	108	98	100	109	109	90	23	0	0	0	0	0	1186
6	0	0	0	0	0	0	53 ?	128	194	328	382	376	159	370	272	202	116	94	23	0	0	0	0	0	2698
7	0	0	0	0	0	0	23	65	78	88	102	147	311	231	209	181	159	84	24	0	0	0	0	0	1701
8	0	0	0	0	0	0	30	72	97	121	180	245	264	391	341	142	22	7	7	0	0	0	0	0	1920
9	0	0	0	0	0	0	17	15	183	256	247	223	188	261	208	224	86	54	15	0	0	0	0	0	1976
10	0	0	0	0	0	0	10	35	100	178	407	183	132	134	109	95	86	78	20	0	0	0	0	0	1568
11	0	0	0	0	0	0	4	5	40	88	231	111	330	253	95	82	71	55	19	0	0	0	0	0	1382
12	0	0	0	0	0	0	4	20	92	95	95	107	38	75	101	91	61	29	5	0	0	0	0	0	814
13	0	0	0	0	0	0	41	108	104	181	132	109	113	106	95	98	77	55	18	0	0	0	0	0	1238
14	0	0	0	0	0	0	33	60	75	100	194	246	197	141	100	224	180	90	22	0	0	0	0	0	1662
15	0	0	0	0	0	0	2	29	167	347	322	251	187	405	120	160	148	66	7	0	0	0	0	0	2211
16	0	0	0	0	0	1	41	104	102	162	160	207	160	148	176	184	113	79	25	0	0	0	0	0	1660
17	0	0	0	0	0	1	41	68	141	234	321	418	388	278	271	176	154	73	15	0	0	0	0	0	2579
18	0	0	0	0	0	1	14	53	75	111	172	265	241	213	119	143	92	44	8	0	0	0	0	0	1551
19	0	0	0	0	0	0	35	83 ?	116	284	200	211	336	363	343	317	226	95	14	0	0	0	0	0	2622
20	0	0	0	0	0	2	58	111	158	271	305	289	271	241	186	195	140	78	23	0	0	0	0	0	2328
21	0	0	0	0	0	2	54	181	126	162	359	350	413	406	349	326	250	148	36	0	0	0	0	0	3162
22	0	0	0	0	0	1	47	81	100	124	164	223	264	287	257	266	250	102	34	0	0	0	0	0	2202
23	0	0	0	0	0	2	54	114	205	316	305	349	371	306	119	158	233	120	36	0	0	0	0	0	2688
24	0	0	0	0	0	0	22	23	59	93	121	184	380	221	322	326	207	132	29	0	0	0	0	0	2119
25	0	0	0	0	0	5	40 ?	61 ?	73	82	91	94	100	104	134	124	86	73	20	0	0	0	0	0	1087
26	0	0	0	0	0	2	22	81	130	115	123	114	174	214	97	84	63	40	6	0	0	0	0	0	1266
27	0	0	0	0	0	0	11	69	102	108	147	479	550	436	273	71	9	11	5	0	0	0	0	0	2272
28	0	0	0	0	0	0	6	18	27	61	51	120	315	249	156	52	43	22	6	0	0	0	0	0	1128
29	0	0	0	0	0	2	18	37	46	59	89	126	133	163	233	248	236	145	42	0	0	0	0	0	1576
30	0	0	0	0	0	2	38	136	193	140	185	200	243	233	147	98	92	75	35	1	0	0	0	0	1820
Avg	0	0	0	0	0	1	28	72	122	181	214	238	255	247	194	176	127	72	19	0	0	0	0	0	1945
S D	0	0	0	0	0	1	17	41	53	95	100	106	117	105	89	83	71	36	10	0	0	0	0	0	612
S/A	0	0	0	0	0	1.48	0.63	0.57	0.44	0.52	0.47	0.45	0.46	0.42	0.46	0.47	0.56	0.5	0.55	4.23	0	0	0	0	0.31
Min	0	0	0	0	0	0	2	5	27	59	51	94	38	75	57	52	9	7	5	0	0	0	0	0	814
Max	0	0	0	0	0	5	58	181	229	347	407	479	550	436	349	326	250	148	42	1	0	0	0	0	3167

Daylight Data Recovery: 0% missing; 0% exceed the 15% QC threshold -- 4729 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
Note: Instrument was changed during month.