

Global Solar Radiation on a Horizontal Surface
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Bluefield State College - December 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	0	0	3	42	273	429	530	448	385	409	162	54	0	0	0	0	0	0	0	2737	
2	0	0	0	0	0	0	0	13	108	246	383	460	429	396	307	228	40	0	0	0	0	0	0	0	2611	
3	0	0	0	0	0	0	0	8	90	293	266	258	158	91	70	67	6	0	0	0	0	0	0	0	1306	
4	0	0	0	0	0	0	0	1	10	67	105	184	64	48	23	31	25	0	0	0	0	0	0	0	558	
5	0	0	0	0	0	0	0	3	25	55	146	249	149	168	102	64	16	0	0	0	0	0	0	0	977	
6	0	0	0	0	0	0	0	4	50	103	207	207	274	239	132	85	24	1	0	0	0	0	0	0	1328	
7	0	0	0	0	0	0	0	2	19	45	100	125	144	132	82	55	23	0	0	0	0	0	0	0	729	
8	0	0	0	0	0	0	0	6	58	213	327	457	291	167	102	56	16	0	0	0	0	0	0	0	1692	
9	0	0	0	0	0	0	0	4	21	46	91	102	73	49	59	33	18	0	0	0	0	0	0	0	497	
10	0	0	0	0	0	0	0	2	33	84	103	142	430	449	370	197	29	0	0	0	0	0	0	0	1838	
11	0	0	0	0	0	0	0	1	11	29	59	52	66	62	46	29	9	0	0	0	0	0	0	0	362	
12	0	0	0	0	0	0	0	3	17	32	49	71	105	75	39	43	5	0	0	0	0	0	0	0	439	
13	0	0	0	0	0	0	0	5	65	192	258	318	336	318	209	138	48	0	0	0	0	0	0	0	1886	
14	0	0	0	0	0	0	0	6	69	196	236	241	235	211	183	118	44	0	0	0	0	0	0	0	1539	
15	0	0	0	0	0	0	0	4	59 ?	351 ?	409 ?	513	500	460	359	212	59	0	0	0	0	0	0	0	2924	
16	0	0	0	0	0	0	0	4	112	268	407	485	509	464	365	216	61	0	0	0	0	0	0	0	2893	
17	0	0	0	0	0	0	0	6	90	263	400	462	283	377	292	187	57	0	0	0	0	0	0	0	2417	
18	0	0	0	0	0	0	0	4	119 ?	367 ?	401	467	481	430	178	103	43	0	0	0	0	0	0	0	2593	
19	0	0	0	0	0	0	0	4	118	259	390	470	481	449	344	204	56	1	0	0	0	0	0	0	2774	
20	0	0	0	0	0	0	0	3	48	76	59	79	153	103	76	41	11	0	0	0	0	0	0	0	649	
21	0	0	0	0	0	0	0	5	57	105	92	159	252	287	189	91	21	0	0	0	0	0	0	0	1258	
22	0	0	0	0	0	0	0	1	11	25	29	32	48	71	52	91	32	1	0	0	0	0	0	0	394	
23	0	0	0	0	0	0	0	1	23	60	91	87	82	101	96	65	18	0	0	0	0	0	0	0	626	
24	0	0	0	0	0	0	0	1	10	38	69	55	83	85	40	27	17	1	0	0	0	0	0	0	426	
25	0	0	0	0	0	0	0	3	98	110	221	192	151	106	116	131	24	1	0	0	0	0	0	0	1152	
26	0	0	0	0	0	0	0	1	18	107	311	429	342	402	304	189	72	1	0	0	0	0	0	0	2177	
27	0	0	0	0	0	0	0	0	3	6	8	12	14	18	16	9	2	0	0	0	0	0	0	0	89	
28	0	0	0	0	0	0	0	1	12 ?	?	?	?	?	?	403 ?	?	44 ?	2	0	0	0	0	0	0	0	463 ?
29	0	0	0	0	0	0	0	1	25	51	39	43	32	24	25	20	7	0	0	0	0	0	0	0	267	
30	0	0	0	0	0	0	0	0	13	20	47	104 ?	66	41	103	65 ?	21	1	0	0	0	0	0	0	482	
31	0	0	0	0	0	0	0	2	16	59	73	116	200 ?	181	167	84	29	1	0	0	0	0	0	0	928	
Avg	0	0	0	0	0	0	0	3	47	135	194	237	229	213	170	101	30	0	0	0	0	0	0	0	1323	
S/D	0	0	0	0	0	0	0	3	37	108	142	171	158	155	127	67	19	1	0	0	0	0	0	0	906	
S/A	0	0	0	0	0	0	0	0.81	0.78	0.8	0.73	0.72	0.69	0.73	0.75	0.66	0.62	1.23	0	0	0	0	0	0	0.68	
Min	0	0	0	0	0	0	0	0	3	6	8	12	14	18	16	9	2	0	0	0	0	0	0	0	89	
Max	0	0	0	0	0	0	0	13	119	367	429	530	509	464	409	228	72	2	0	0	0	0	0	0	2924	

Daylight Data Recovery: 2% missing; 3% exceed the 15% QC threshold -- 26394 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 - December 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	0	2	351	553	533	546	546	820	357	103	0	0	0	0	0	0	0	3812
2	0	0	0	0	0	0	0	6	112	289	562	560	506	580	485	709	242	0	0	0	0	0	0	0	4050
3	0	0	0	0	0	0	0	0	21	332	62	37	18	7	9	20	0	0	0	0	0	0	0	0	506
4	0	0	0	0	0	0	0	0	0	2	1	5	0	0	0	0	0	0	0	0	0	0	0	0	8
5	0	0	0	0	0	0	0	0	0	0	0	54	1	0	0	2	0	0	0	0	0	0	0	0	58
6	0	0	0	0	0	0	0	0	0	0	11	1	4	5	0	0	0	0	0	0	0	0	0	0	20
7	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
8	0	0	0	0	0	0	0	0	1	176	209	348	71	1	0	0	0	0	0	0	0	0	0	0	805
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10	0	0	0	0	0	0	0	0	0	1	1	6	468	767	786	496	27	1	0	0	0	0	0	0	2554
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	22	163	177	242	187	161	40	76	36	0	0	0	0	0	0	0	1104
14	0	0	0	0	0	0	0	0	23	202	297	29	11	4	10	17	83	5	0	0	0	0	0	0	681
15	0	0	0	0	0	0	0	0	646	875	919 ?	972	978	962	914	817	523	10	0	0	0	0	0	0	7615
16	0	0	0	0	0	0	0	0	607	841	936	979	995	976	927	813	508	10	0	0	0	0	0	0	7592
17	0	0	0	0	0	0	0	0	422	817	895	690	233	487	444	299	263	7	0	0	0	0	0	0	4557
18	0	0	0	0	0	0	0	0	450 ?	839 ?	899 ?	927	864	640	81	6	12	1	0	0	0	0	0	0	4718
19	0	0	0	0	0	0	0	0	509	778	837	884	859	895	795	656	339	10	0	0	0	0	0	0	6562
20	0	0	0	0	0	0	0	0	23	0	0	0	12	1	0	0	0	0	0	0	0	0	0	0	36
21	0	0	0	0	0	0	0	0	14	70	12	9	40	96	15	1	0	0	0	0	0	0	0	0	258
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	441	125	68	15	0	0	1	71	0	0	0	0	0	0	0	0	720
26	0	0	0	0	0	0	0	0	0	9	290	534	286	600	603	436	234	0	0	0	0	0	0	0	2992
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	0
28	0	0	0	0	0	0	0	0	166 ?	?	?	?	?	?	?	924 ?	837	441	0	0	0	0	0	0	2368 ?
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0 ?	0	0	0	0 ?	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0 ?	1	5	0	0	0	0	0	0	0	0	0	5
Avg	0	0	0	0	0	0	0	0	112	196	224	228	203	224	221	181	91	1	0	0	0	0	0	0	1646
S D	0	0	0	0	0	0	0	1	203	302	337	343	324	338	348	290	159	3	0	0	0	0	0	0	2362
S/A	0	0	0	0	0	0	0	5.11	1.82	1.54	1.5	1.51	1.6	1.51	1.57	1.6	1.76	2.22	0	0	0	0	0	0	1.43
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	0
Max	0	0	0	0	0	0	0	6	646	875	936	979	995	976	927	837	523	10	0	0	0	0	0	0	7615

Daylight Data Recovery: 2% missing; 3% exceed the 15% QC threshold -- 26394 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 - December 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	0	0	3	40	145	194	256	157	123	112	66	42	0	0	0	0	0	0	0	1136
2	0	0	0	0	0	0	0	11	82	127	132	175	160	115	112	65	11	0	0	0	0	0	0	0	991
3	0	0	0	0	0	0	0	7	84	190	237	233	141	82	64	59	6	0	0	0	0	0	0	0	1104
4	0	0	0	0	0	0	0	1	9	65	101	176	61	46	21	29	25	0	0	0	0	0	0	0	534
5	0	0	0	0	0	0	0	2	23	53	139	213	142	162	98	61	15	0	0	0	0	0	0	0	910
6	0	0	0	0	0	0	0	4	48	99	198	198	261	227	127	82	23	0	0	0	0	0	0	0	1266
7	0	0	0	0	0	0	0	2	18	43	97	121	140	128	79	53	22	0	0	0	0	0	0	0	703
8	0	0	0	0	0	0	0	5	55	143	224	275	250	161	98	54	16	0	0	0	0	0	0	0	1281
9	0	0	0	0	0	0	0	4	20	44	87	97	70	47	57	31	17	0	0	0	0	0	0	0	475
10	0	0	0	0	0	0	0	2	31	79	98	136	202	101	83	72	25	0	0	0	0	0	0	0	829
11	0	0	0	0	0	0	0	0	10	27	56	50	63	59	44	27	8	0	0	0	0	0	0	0	345
12	0	0	0	0	0	0	0	2	17	30	47	68	101	72	37	42	5	0	0	0	0	0	0	0	421
13	0	0	0	0	0	0	0	5	61	136	171	188	235	236	189	119	43	0	0	0	0	0	0	0	1382
14	0	0	0	0	0	0	0	6	64	131	110	226	221	202	173	112	35	0	0	0	0	0	0	0	1280
15	0	0	0	0	0	0	0	3	35	51	55 ?	47	39	36	32	26	12	0	0	0	0	0	0	0	335
16	0	0	0	0	0	0	0	4	25	35	39	39	40	36	34	29	14	0	0	0	0	0	0	0	297
17	0	0	0	0	0	0	0	5	26	38	47	140	164	152	122	107	28	0	0	0	0	0	0	0	830
18	0	0	0	0	0	0	0	4	32 ?	49 ?	49	56	79	143	141	100	41	0	0	0	0	0	0	0	692
19	0	0	0	0	0	0	0	4	32	46	64	72	79	64	60	51	20	0	0	0	0	0	0	0	493
20	0	0	0	0	0	0	0	3	44	74	58	78	145	99	75	40	11	0	0	0	0	0	0	0	625
21	0	0	0	0	0	0	0	5	51	86	84	149	226	240	181	88	21	0	0	0	0	0	0	0	1131
22	0	0	0	0	0	0	0	1	10	24	28	31	46	68	50	90	31	1	0	0	0	0	0	0	380
23	0	0	0	0	0	0	0	1	23	59	90	85	79	99	94	64	17	0	0	0	0	0	0	0	611
24	0	0	0	0	0	0	0	1	9	37	67	54	79	82	39	26	16	1	0	0	0	0	0	0	412
25	0	0	0	0	0	0	0	3	32	81	190	181	146	103	112	109	24	1	0	0	0	0	0	0	980
26	0	0	0	0	0	0	0	1	17	102	190	182	198	124	71	77	47	1	0	0	0	0	0	0	1010
27	0	0	0	0	0	0	0	0	2	5	8	11	14	18	15	9	2	0	0	0	0	0	0	0	84
28	0	0	0	0	0	0	0	0	13	29	46	54	52	48	45	35	14	0	0	0	0	0	0	0	337
29	0	0	0	0	0	0	0	0	13	29	23	27	20	16	18	15	5	0	0	0	0	0	0	0	164
30	0	0	0	0	0	0	0	0	8	13	24	49 ?	30	18	51	30 ?	10	0	0	0	0	0	0	0	233
31	0	0	0	0	0	0	0	1	11	40	54	86	148 ?	141	126	69	23	1	0	0	0	0	0	0	699
Avg	0	0	0	0	0	0	0	3	30	68	97	121	122	105	83	59	20	0	0	0	0	0	0	0	709
S/D	0	0	0	0	0	0	0	2	21	45	64	75	72	63	47	30	12	0	0	0	0	0	0	0	367
S/A	0	0	0	0	0	0	0	0.85	0.7	0.66	0.66	0.62	0.59	0.6	0.57	0.51	0.58	1.25	0	0	0	0	0	0	0.52
Min	0	0	0	0	0	0	0	0	2	5	8	11	14	16	15	9	2	0	0	0	0	0	0	0	84
Max	0	0	0	0	0	0	0	11	84	190	237	275	261	240	189	119	47	1	0	0	0	0	0	0	1382

Daylight Data Recovery: 2% missing; 2% exceed the 15% QC threshold -- 26394 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