

Global Solar Radiation on a Horizontal Surface
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Bluefield State College - October 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	21	173	273	270	378	460	371	313	342	253	189	45	0	0	0	0	0	0	3087
2	0	0	0	0	0	0	11	117	263 ?	622	683 ?	744	726	731	634	463	259	58	0	0	0	0	0	0	5312
3	0	0	0	0	0	0	9	118	504 ?	687 ?	711	776	767	713	596	433	219	53	0	0	0	0	0	0	5586
4	0	0	0	0	0	0	17	166	354	517	663	745	755	700	583	420	206	48	0	0	0	0	0	0	5174
5	0	0	0	0	0	0	16	119 ?	?	532 ?	656	740	753	701	578	408	205	46	0	0	0	0	0	0	4753
6	0	0	0	0	0	0	13	95 ?	?	508	658	743	764	710	578	398	203	43	0	0	0	0	0	0	4713
7	0	0	0	0	0	0	14	124	412 ?	508	630	726	728	679	564	390	192	37	0	0	0	0	0	0	5004
8	0	0	0	0	0	0	11	138	319	486	645	719	732	681	546	373	126	22	0	0	0	0	0	0	4797
9	0	0	0	0	0	0	10	133	318	495	639	612	292	349	460	394	113	38	0	0	0	0	0	0	3852
10	0	0	0	0	0	0	13	70	86	60	151	189	346	346	241	219	86	27	0	0	0	0	0	0	1834
11	0	0	0	0	0	0	4	36	126 ?	239 ?	573	641	728	669	553	383	184	35	0	0	0	0	0	0	4172
12	0	0	0	0	0	0	8	129	307	444	563	704	721	515	463	327	160	28	0	0	0	0	0	0	4369
13	0	0	0	0	0	0	6	126	312	485	617	694	670	428	376	361	183	27	0	0	0	0	0	0	4285
14	0	0	0	0	0	0	4	31	30	26	62	59	89	74	44	39	28	7	0	0	0	0	0	0	493
15	0	0	0	0	0	0	3	70	214 ?	?	652 ?	737	746	688	556	387	183	24	0	0	0	0	0	0	4260
16	0	0	0	0	0	0	3	54	165	299 ?	630	718	728	672	549	377	177	22	0	0	0	0	0	0	4393
17	0	0	0	0	0	0	3	47	104	162	117	234	184	148	135	182	43	5	0	0	0	0	0	0	1364
18	0	0	0	0	0	0	1	17	45	80	179	207	197	196	95	60	30	2	0	0	0	0	0	0	1109
19	0	0	0	0	0	0	1	31	120	187	450	352	250	251	151	201	58	8	0	0	0	0	0	0	2059
20	0	0	0	0	0	0	4	107	293	310	232	384	431	441	338	178	92	13	0	0	0	0	0	0	2821
21	0	0	0	0	0	0	3	56	107	177	217	203	126	140	64	27	20	6	0	0	0	0	0	0	1145
22	0	0	0	0	0	0	2	75	327	487	624	704	705	649	501	364	163	16	0	0	0	0	0	0	4617
23	0	0	0	0	0	0	2	101 ?	?	514	606	685	688	624	507	254	127	7	0	0	0	0	0	0	4115
24	0	0	0	0	0	0	1	32	95	81	60	57	97	137	150	76	45	8	0	0	0	0	0	0	840
25	0	0	0	0	0	0	2	18	70	106	306	328	214	301	202	100	46	1	0	0	0	0	0	0	1694
26	0	0	0	0	0	0	0	4	18	68	92	82	76	72	28	24	26	2	0	0	0	0	0	0	493
27	0	0	0	0	0	0	0	38	65	69	62	52	48	99	131	67	27	1	0	0	0	0	0	0	658
28	0	0	0	0	0	0	1	45	173	459	601	670	674	605	447	237	137	6	0	0	0	0	0	0	4054
29	0	0	0	0	0	0	1	51	290	447	584	654	658	596	473	311	126	7	0	0	0	0	0	0	4198
30	0	0	0	0	0	0	1	104	301	443	563	637	648	587	467	304	118	5	0	0	0	0	0	0	4177
31	0	0	0	0	0	0	2	43	192	435	546	623	629	572	448	292	87	5	0	0	0	0	0	0	3873
Avg	0	0	0	0	0	0	6	80	210	340	456	512	501	464	381	268	124	21	0	0	0	0	0	0	3332
S D	0	0	0	0	0	0	6	46	125	193	226	251	261	228	193	136	69	17	0	0	0	0	0	0	1613
S/A	0	0	0	0	0	0	0.94	0.58	0.6	0.57	0.5	0.49	0.52	0.49	0.51	0.51	0.55	0.83	5.48	0	0	0	0	0	0.48
Min	0	0	0	0	0	0	0	4	18	26	60	52	48	72	28	24	20	1	0	0	0	0	0	0	493
Max	0	0	0	0	0	0	21	173	504	687	711	776	767	731	634	463	259	58	0	0	0	0	0	0	5586

Daylight Data Recovery: 3% missing; 3% exceed the 15% QC threshold -- 19120 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 - October 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	77	582	249	134	232	116	63	27	131	117	177	84	0	0	0	0	0	0	1988
2	0	0	0	0	0	0	0	3	265 ?	962	829 ?	722	587	848	965	880	724	275	0	0	0	0	0	0	7060
3	0	0	0	0	0	0	9	238	881 ?	897	957	955	908	871	835	706	520	205	0	0	0	0	0	0	7982
4	0	0	0	0	0	0	76	536	734	816	865	889	886	873	818	696	508	196	0	0	0	0	0	0	7893
5	0	0	0	0	0	0	33	439 ?	?	812 ?	848	877	884	876	801	656	460	179	0	0	0	0	0	0	6865
6	0	0	0	0	0	0	24	277 ?	?	810	869	900	908	903	832	666	463	174	0	0	0	0	0	0	6828
7	0	0	0	0	0	0	20	357	734 ?	769	826	842	834	826	778	634	427	130	0	0	0	0	0	0	7178
8	0	0	0	0	0	0	38	423	637	733	838	839	816	800	704	578	226	11	0	0	0	0	0	0	6643
9	0	0	0	0	0	0	39	452	682	769	809	583	85	119	337	441	75	10	0	0	0	0	0	0	4401
10	0	0	0	0	0	0	7	12	0	0	1	2	27	27	24	66	27	28	0	0	0	0	0	0	221
11	0	0	0	0	0	0	0	0	40 ?	213 ?	530	596	766	783	771	668	444	136	0	0	0	0	0	0	4947
12	0	0	0	0	0	0	28	452	597	464	549	775	749	503	543	460	291	63	0	0	0	0	0	0	5473
13	0	0	0	0	0	0	16	431	665	767	822	843	700	353	292	434	431	115	0	0	0	0	0	0	5869
14	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
15	0	0	0	0	0	0	0	1	351 ?	?	1001 ?	1015	1023	1010	943	857	655	192	0	0	0	0	0	0	7048
16	0	0	0	0	0	0	1	68	279	578 ?	951	969	983	972	933	835	629	149	0	0	0	0	0	0	7347
17	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	26	0	0	0	0	0	0	0	0	29
18	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	3
19	0	0	0	0	0	0	0	0	1	3	209	101	11	80	25	149	0	0	0	0	0	0	0	0	579
20	0	0	0	0	0	0	6	428	710	179	3	112	113	219	169	66	108	15	0	0	0	0	0	0	2129
21	0	0	0	0	0	0	0	0	0	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	6
22	0	0	0	0	0	0	0	202	598	875	986	1011	1004	985	627	726	419	140	0	0	0	0	0	0	7574
23	0	0	0	0	0	0	0	590	837	934	966	984	987	948	873	277	256	3	0	0	0	0	0	0	7656
24	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	5
25	0	0	0	0	0	0	0	0	1	1	62	153	10	99	72	2	0	0	0	0	0	0	0	0	400
26	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
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	82	587	956	990	985	912	682	253	286	9	0	0	0	0	0	0	5742
29	0	0	0	0	0	0	0	52	653	887	973	984	984	966	914	823	607	96	0	0	0	0	0	0	7940
30	0	0	0	0	0	0	0	447	800	912	965	975	981	960	915	827	602	87	0	0	0	0	0	0	8471
31	0	0	0	0	0	0	0	24	348	796	829	933	937	923	840	712	192	9	0	0	0	0	0	0	6543
Avg	0	0	0	0	0	0	12	194	350	463	545	554	524	512	478	405	275	74	0	0	0	0	0	0	4349
S/D	0	0	0	0	0	0	21	217	325	386	414	421	435	419	383	328	241	81	0	0	0	0	0	0	3245
S/A	0	0	0	0	0	0	1.72	1.12	0.93	0.83	0.76	0.76	0.83	0.82	0.8	0.81	0.88	1.09	0	0	0	0	0	0	0.75
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	77	590	881	962	1001	1015	1023	1010	965	880	724	275	0	0	0	0	0	0	8471

Daylight Data Recovery: 3% missing; 3% exceed the 15% QC threshold -- 19120 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 - October 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	14	52	168	192	222	366	313	278	251	185	131	31	0	0	0	0	0	0	2202
2	0	0	0	0	0	0	10	107	113 ?	61	126 ?	187	265	122	54	47	37	15	0	0	0	0	0	0	1143
3	0	0	0	0	0	0	7	55	60	65	84	73	91	100	80	71	51	19	0	0	0	0	0	0	757
4	0	0	0	0	0	0	10	47	67	87	96	100	103	98	83	69	49	17	0	0	0	0	0	0	826
5	0	0	0	0	0	0	9	41 ?	72	92 ?	104	108	105	99	94	84	61	19	0	0	0	0	0	0	888
6	0	0	0	0	0	0	9	43 ?	76	89	95	100	103	95	83	79	59	18	0	0	0	0	0	0	849
7	0	0	0	0	0	0	9	54	87 ?	100	115	128	128	120	106	90	64	19	0	0	0	0	0	0	1022
8	0	0	0	0	0	0	7	53	81	103	110	127	146	139	128	96	53	21	0	0	0	0	0	0	1062
9	0	0	0	0	0	0	7	49	73	94	124	202	216	259	250	181	92	35	0	0	0	0	0	0	1582
10	0	0	0	0	0	0	12	65	79	55	138	175	314	310	215	184	75	23	0	0	0	0	0	0	1645
11	0	0	0	0	0	0	3	33	108 ?	140 ?	235	214	184	149	116	88	62	19	0	0	0	0	0	0	1352
12	0	0	0	0	0	0	6	47	95	191	216	168	194	176	150	124	82	20	0	0	0	0	0	0	1470
13	0	0	0	0	0	0	5	48	77	96	107	118	178	188	208	176	77	15	0	0	0	0	0	0	1293
14	0	0	0	0	0	0	4	29	27	24	58	55	83	69	41	35	25	7	0	0	0	0	0	0	457
15	0	0	0	0	0	0	3	65	71	55	56	60	56	51	53	43	29	6	0	0	0	0	0	0	549
16	0	0	0	0	0	0	3	34	89	74	70	75	66	63	55	47	32	8	0	0	0	0	0	0	615
17	0	0	0	0	0	0	3	44	96	152	109	219	173	140	126	160	40	5	0	0	0	0	0	0	1266
18	0	0	0	0	0	0	1	16	42	74	165	194	185	184	89	57	28	2	0	0	0	0	0	0	1035
19	0	0	0	0	0	0	1	28	112	174	319	274	228	196	131	144	53	7	0	0	0	0	0	0	1668
20	0	0	0	0	0	0	3	41	69	231	215	286	347	303	248	152	72	11	0	0	0	0	0	0	1978
21	0	0	0	0	0	0	3	51	99	165	200	191	119	131	60	25	18	5	0	0	0	0	0	0	1066
22	0	0	0	0	0	0	2	40	125	73	56	59	63	63	143	86	75	7	0	0	0	0	0	0	793
23	0	0	0	0	0	0	2	36	54	53	55	60	58	61	70	139	67	7	0	0	0	0	0	0	662
24	0	0	0	0	0	0	1	30	89	76	56	53	90	127	138	70	41	8	0	0	0	0	0	0	779
25	0	0	0	0	0	0	2	16	65	99	264	222	198	228	165	92	43	0	0	0	0	0	0	0	1395
26	0	0	0	0	0	0	0	4	17	62	85	75	70	67	26	22	24	2	0	0	0	0	0	0	455
27	0	0	0	0	0	0	0	35	60	65	57	48	44	93	123	61	24	1	0	0	0	0	0	0	612
28	0	0	0	0	0	0	1	41	138	184	77	65	69	79	104	136	79	6	0	0	0	0	0	0	979
29	0	0	0	0	0	0	1	31	60	57	56	58	56	52	47	41	28	3	0	0	0	0	0	0	491
30	0	0	0	0	0	0	1	25	38	44	47	52	53	51	45	38	24	2	0	0	0	0	0	0	419
31	0	0	0	0	0	0	2	39	80	92	102	65	64	61	61	63	48	5	0	0	0	0	0	0	682
Avg	0	0	0	0	0	0	5	42	80	101	123	135	141	134	114	93	53	12	0	0	0	0	0	0	1032
S D	0	0	0	0	0	0	4	18	31	51	70	82	85	75	64	50	25	9	0	0	0	0	0	0	454
S/A	0	0	0	0	0	0	0.84	0.43	0.39	0.51	0.57	0.61	0.6	0.56	0.56	0.54	0.47	0.75	0	0	0	0	0	0	0.44
Min	0	0	0	0	0	0	0	4	17	24	47	48	44	51	26	22	18	0	0	0	0	0	0	0	419
Max	0	0	0	0	0	0	14	107	168	231	319	366	347	310	251	185	131	35	0	0	0	0	0	0	2202

Daylight Data Recovery: 3% missing; 2% exceed the 15% QC threshold -- 19120 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