

Global Solar Radiation on a Horizontal Surface
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Bluefield State College - November 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	1	37	33	235	269	55	186	356	285	147	46	0	0	0	0	0	0	0	1650
2	0	0	0	0	0	0	1	12	49	230	495	585	314	135	299	129	83	5	0	0	0	0	0	0	2333
3	0	0	0	0	0	0	1	63	93	243	175	391	375	549	250	108	36	3	0	0	0	0	0	0	2287
4	0	0	0	0	0	0	0	3	15	29	46	48	65	80	79	70	31	3	0	0	0	0	0	0	469
5	0	0	0	0	0	0	1	77	?	270	?	376	366	350	615	558	439	275	101	3	0	0	0	0	3431
6	0	0	0	0	0	0	0	71	248	399	458	486	379	363	59	41	29	5	0	0	0	0	0	0	2537
7	0	0	0	0	0	0	0	17	51	103	123	148	123	70	52	29	11	0	0	0	0	0	0	0	727
8	0	0	0	0	0	0	0	3	12	39	53	74	51	36	26	20	7	0	0	0	0	0	0	0	320
9	0	0	0	0	0	0	0	8	24	36	51	64	75	84	43	20	7	0	0	0	0	0	0	0	412
10	0	0	0	0	0	0	0	18	72	100	104	188	327	355	155	57	18	0	0	0	0	0	0	0	1394
11	0	0	0	0	0	0	0	9	26	52	145	85	59	58	66	27	10	1	0	0	0	0	0	0	538
12	0	0	0	0	0	0	0	10	31	52	46	63	63	87	36	46	20	1	0	0	0	0	0	0	455
13	0	0	0	0	0	0	0	7	23	64	215	135	75	70	33	27	6	0	0	0	0	0	0	0	656
14	0	0	0	0	0	0	0	12	49	91	69	114	102	32	31	18	6	0	0	0	0	0	0	0	525
15	0	0	0	0	0	0	0	8	36	52	63	98	111	67	51	22	9	1	0	0	0	0	0	0	518
16	0	0	0	0	0	0	0	4	41	136	156	178	184	226	194	81	56	1	0	0	0	0	0	0	1258
17	0	0	0	0	0	0	0	21	117	308	507	579	590	530	415	249	77	1	0	0	0	0	0	0	3392
18	0	0	0	0	0	0	0	14	?	427	532	?	605	584	521	406	223	78	1	0	0	0	0	0	3390
19	0	0	0	0	0	0	0	31	179	337	349	535	541	501	388	228	66	0	0	0	0	0	0	0	3156
20	0	0	0	0	0	0	0	12	72	319	527	525	544	483	371	165	37	0	0	0	0	0	0	0	3055
21	0	0	0	0	0	0	0	8	29	33	43	47	32	18	39	47	29	0	0	0	0	0	0	0	324
22	0	0	0	0	0	0	0	8	40	78	101	186	238	261	164	102	22	0	0	0	0	0	0	0	1200
23	0	0	0	0	0	0	0	5	34	101	405	396	484	409	185	48	15	0	0	0	0	0	0	0	2082
24	0	0	0	0	0	0	0	11	64	160	251	288	454	475	394	221	63	0	0	0	0	0	0	0	2382
25	0	0	0	0	0	0	0	7	?	398	?	496	?	530	542	487	377	222	64	0	0	0	0	0	3121
26	0	0	0	0	0	0	0	11	44	68	191	244	36	27	26	24	7	0	0	0	0	0	0	0	677
27	0	0	0	0	0	0	0	17	158	327	460	530	531	480	352	124	36	0	0	0	0	0	0	0	3015
28	0	0	0	0	0	0	0	12	77	165	167	304	242	163	102	108	35	0	0	0	0	0	0	0	1376
29	0	0	0	0	0	0	0	9	41	122	156	239	207	269	147	59	16	0	0	0	0	0	0	0	1265
30	0	0	0	0	0	0	0	1	15	57	150	136	146	229	149	52	6	0	0	0	0	0	0	0	941
Avg	0	0	0	0	0	0	0	18	69	171	239	274	276	266	187	100	34	1	0	0	0	0	0	0	1630
S D	0	0	0	0	0	0	0	19	66	129	169	191	199	192	145	79	27	1	0	0	0	0	0	0	1087
S/A	0	0	0	0	0	0	1.95	1.1	0.95	0.76	0.71	0.7	0.72	0.72	0.77	0.79	0.79	1.46	0	0	0	0	0	0	0.67
Min	0	0	0	0	0	0	0	1	12	29	43	47	32	18	26	18	6	0	0	0	0	0	0	0	320
Max	0	0	0	0	0	0	1	77	270	427	532	605	615	558	439	275	101	5	0	0	0	0	0	0	3431

Daylight Data Recovery: 3% missing; 3% exceed the 15% QC threshold -- 22798 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 - November 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	0	109	135	0	10	174	160	39	2	0	0	0	0	0	0	0	630
2	0	0	0	0	0	0	0	0	0	286	576	712	140	2	248	85	72	0	0	0	0	0	0	0	2120
3	0	0	0	0	0	0	0	167	51	69	30	251	227	701	174	3	0	0	0	0	0	0	0	0	1673
4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
5	0	0	0	0	0	0	0	169	435	?	359	152	79	904	938	903	802	579	65	0	0	0	0	0	5386
6	0	0	0	0	0	0	0	245	581	?	491	378	483	187	146	0	0	3	0	0	0	0	0	0	2516
7	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8	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
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	0
10	0	0	0	0	0	0	0	1	2	2	1	2	82	121	0	0	0	0	0	0	0	0	0	0	212
11	0	0	0	0	0	0	0	2	2	2	2	2	2	2	3	3	3	3	1	0	0	0	0	0	23
12	0	0	0	0	0	0	0	2	2	2	2	2	3	3	2	2	2	2	1	0	0	0	0	0	23
13	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	7	4	108	88	34	27	0	0	0	0	0	0	0	267
17	0	0	0	0	0	0	0	0	56	422	973	1003	1003	999	954	854	579	26	0	0	0	0	0	0	6869
18	0	0	0	0	0	0	0	190	738	912	938	?	989	993	972	895	660	510	13	0	0	0	0	0	7811
19	0	0	0	0	0	0	0	155	655	687	317	872	878	915	855	739	434	6	0	0	0	0	0	0	6512
20	0	0	0	0	0	0	0	0	0	425	806	837	826	818	508	108	5	0	0	0	0	0	0	0	4333
21	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
22	0	0	0	0	0	0	0	0	0	0	0	3	13	19	24	1	0	0	0	0	0	0	0	0	60
23	0	0	0	0	0	0	0	0	0	6	349	367	558	432	43	0	0	0	0	0	0	0	0	0	1755
24	0	0	0	0	0	0	0	3	0	36	99	100	455	739	861	710	412	5	0	0	0	0	0	0	3419
25	0	0	0	0	0	0	0	138	738	879	?	923	?	942	939	928	872	768	477	8	0	0	0	0	7611
26	0	0	0	0	0	0	0	0	0	6	78	79	0	0	0	0	0	0	0	0	0	0	0	0	164
27	0	0	0	0	0	0	0	76	619	836	937	968	915	840	470	5	28	0	0	0	0	0	0	0	5695
28	0	0	0	0	0	0	0	0	2	10	1	50	19	3	0	6	0	0	0	0	0	0	0	0	91
29	0	0	0	0	0	0	0	0	0	2	2	15	4	51	2	0	0	0	0	0	0	0	0	0	74
30	0	0	0	0	0	0	0	0	0	0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	6
Avg	0	0	0	0	0	0	0	38	129	185	223	259	272	297	235	161	104	4	0	0	0	0	0	0	1908
S D	0	0	0	0	0	0	0	72	254	293	340	375	383	390	351	300	200	12	0	0	0	0	0	0	2636
S/A	0	0	0	0	0	0	4.56	1.89	1.96	1.59	1.52	1.45	1.41	1.31	1.49	1.87	1.91	2.92	0	0	0	0	0	0	1.38
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	245	738	912	973	1003	1003	999	954	854	579	65	0	0	0	0	0	0	7811

Daylight Data Recovery: 3% missing; 2% exceed the 15% QC threshold -- 22798 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 - November 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	1	35	31	181	198	51	172	238	201	128	43	0	0	0	0	0	0	0	1279
2	0	0	0	0	0	0	1	11	46	100	194	152	217	126	181	93	66	4	0	0	0	0	0	0	1191
3	0	0	0	0	0	0	1	44	81	214	152	234	236	160	152	100	33	3	0	0	0	0	0	0	1411
4	0	0	0	0	0	0	0	2	14	27	45	47	61	78	74	65	29	3	0	0	0	0	0	0	446
5	0	0	0	0	0	0	0	35	104 ?	187	280	296	89	60	49	39	22	2	0	0	0	0	0	0	1162
6	0	0	0	0	0	0	0	38	99	192	250	177	253	268	56	39	27	4	0	0	0	0	0	0	1403
7	0	0	0	0	0	0	0	16	48	98	118	141	117	66	49	27	10	0	0	0	0	0	0	0	688
8	0	0	0	0	0	0	0	2	11	37	50	70	49	34	24	18	7	0	0	0	0	0	0	0	301
9	0	0	0	0	0	0	0	7	22	34	48	61	72	81	40	18	6	0	0	0	0	0	0	0	390
10	0	0	0	0	0	0	0	17	68	95	98	178	271	281	146	55	17	0	0	0	0	0	0	0	1224
11	0	0	0	0	0	0	0	8	24	50	138	80	56	55	63	26	10	0	0	0	0	0	0	0	509
12	0	0	0	0	0	0	0	9	29	50	43	61	59	83	34	43	19	1	0	0	0	0	0	0	432
13	0	0	0	0	0	0	0	6	22	60	205	131	72	68	31	25	5	0	0	0	0	0	0	0	625
14	0	0	0	0	0	0	0	11	47	87	66	109	97	30	29	17	5	0	0	0	0	0	0	0	498
15	0	0	0	0	0	0	0	8	34	49	59	93	106	64	48	21	8	0	0	0	0	0	0	0	491
16	0	0	0	0	0	0	0	4	39	130	148	168	175	163	146	69	52	1	0	0	0	0	0	0	1094
17	0	0	0	0	0	0	0	19	93	130	58	60	57	52	42	32	18	0	0	0	0	0	0	0	562
18	0	0	0	0	0	0	0	17	51	65	70 ?	61	56	55	50	23	1	0	0	0	0	0	0	0	504
19	0	0	0	0	0	0	0	16	42	91	186	81	72	63	53	41	20	0	0	0	0	0	0	0	666
20	0	0	0	0	0	0	0	11	68	152	157	93	105	88	154	128	35	0	0	0	0	0	0	0	992
21	0	0	0	0	0	0	0	7	28	31	41	44	30	17	38	45	27	0	0	0	0	0	0	0	309
22	0	0	0	0	0	0	0	7	38	75	97	177	225	248	149	96	22	0	0	0	0	0	0	0	1135
23	0	0	0	0	0	0	0	5	32	95	238	194	187	198	163	46	14	0	0	0	0	0	0	0	1173
24	0	0	0	0	0	0	0	11	61	139	197	230	209	126	70	48	21	0	0	0	0	0	0	0	1112
25	0	0	0	0	0	0	0	11	41	52 ?	57 ?	62	64	58	51	37	18	0	0	0	0	0	0	0	453
26	0	0	0	0	0	0	0	11	41	63	147	201	34	26	25	23	7	0	0	0	0	0	0	0	578
27	0	0	0	0	0	0	0	10	42	53	54	56	69	89	162	115	33	0	0	0	0	0	0	0	683
28	0	0	0	0	0	0	0	11	73	156	161	271	228	155	98	104	33	0	0	0	0	0	0	0	1291
29	0	0	0	0	0	0	0	9	39	116	150	230	196	241	140	57	15	0	0	0	0	0	0	0	1193
30	0	0	0	0	0	0	0	1	14	55	143	131	140	217	144	50	5	0	0	0	0	0	0	0	901
Avg	0	0	0	0	0	0	0	13	46	95	128	131	126	116	89	55	22	1	0	0	0	0	0	0	823
S D	0	0	0	0	0	0	0	11	24	52	68	72	74	79	56	33	14	1	0	0	0	0	0	0	359
S/A	0	0	0	0	0	0	2.15	0.8	0.53	0.55	0.53	0.55	0.59	0.68	0.62	0.6	0.66	1.59	0	0	0	0	0	0	0.44
Min	0	0	0	0	0	0	0	1	11	27	41	44	30	17	24	17	5	0	0	0	0	0	0	0	301
Max	0	0	0	0	0	0	1	44	104	214	280	296	271	281	201	128	66	4	0	0	0	0	0	0	1411

Daylight Data Recovery: 3% missing; 2% exceed the 15% QC threshold -- 22798 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