

**Global Solar Radiation on a Horizontal Surface**  
**Hourly Integrated and Daily Totals**  
**Watt-Hours per Square Meter**  
**Bluefield State College - January 2001**

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	1	26	94	179	208	247	183	115	100	38	2	0	0	0	0	0	0	1193
2	0	0	0	0	0	0	0	2	28	73	139	198	262	237	147	132	44	2	0	0	0	0	0	0	1262
3	0	0	0	0	0	0	0	2	53	238	406	499	531	495	403	256	95	3	0	0	0	0	0	0	2981
4	0	0	0	0	0	0	0	1	17	48	73	93	105	112	94	86	31	2	0	0	0	0	0	0	661
5	0	0	0	0	0	0	0	1	20	149	263	251	262	233	105	164	81	3	0	0	0	0	0	0	1532
6	0	0	0	0	0	0	0	1	28	71	102	387	527	486	397	254	99	3	0	0	0	0	0	0	2356
7	0	0	0	0	0	0	0	2	61	203	408	440	270	241	178	146	51	2	0	0	0	0	0	0	2002
8	0	0	0	0	0	0	0	0	10	21	33	31	22	16	14	15	6	1	0	0	0	0	0	0	170
9	0	0	0	0	0	0	0	2	63	275	285	408	538	399	391	244	104	4	0	0	0	0	0	0	2715
10	0	0	0	0	0	0	0	3	103	274	419	509	542	509	416	271	108	4	0	0	0	0	0	0	3157
11	0	0	0	0	0	0	0	3	121	275	397	454	412	348	254	117	38	1	0	0	0	0	0	0	2420
12	0	0	0	0	0	0	0	1	33	101	232	235	174	192	204	191	94	4	0	0	0	0	0	0	1459
13	0	0	0	0	0	0	0	3	117 ?	313	405	499	530	490	405	268	109	5	0	0	0	0	0	0	3144
14	0	0	0	0	0	0	0	2	101	176	291	375	352	127	101	72	39	2	0	0	0	0	0	0	1639
15	0	0	0	0	0	0	0	2	63	106	82	166	300	385	335	261	99	9	0	0	0	0	0	0	1809
16	0	0	0	0	0	0	0	1	43	83	123	153	204	203	133	108	64	6	0	0	0	0	0	0	1121
17	0	0	0	0	0	0	0	3	65	105	180	121	349	455	375	197	91	6	0	0	0	0	0	0	1947
18	0	0	0	0	0	0	0	0	10	33	90	79	57	61	53	70	45	7	0	0	0	0	0	0	505
19	0	0	0	0	0	0	0	1	20	80	97	160	99	73	101	49	20	1	0	0	0	0	0	0	700
20	0	0	0	0	0	0	0	2	15	22	67	106	104	67	34	67	37	1	0	0	0	0	0	0	524
21	0	0	0	0	0	0	0	5	63	128 ?	?	?	?	?	?	?	103 ?	14	0	0	0	0	0	0	313 ?
22	0	0	0	0	0	0	0	7	69	152 ?	?	?	?	?	?	322	124	7	0	0	0	0	0	0	681 ?
23	0	0	0	0	0	0	0	3	29 ?	376 ?	446	546	585	558	462	267	162	10	0	0	0	0	0	0	3443
24	0	0	0	0	0	0	0	3	72	116	214	443	470	208	205	241	127	18	0	0	0	0	0	0	2118
25	0	0	0	0	0	0	0	3	41	108	137	254	252	342	285	264	169	21	0	0	0	0	0	0	1875
26	0	0	0	0	0	0	0	5	71 ?	?	532 ?	548	587	495	227	107	24	3	0	0	0	0	0	0	2598
27	0	0	0	0	0	0	0	0	12	80	135	164	260	283 ?	254	223	122 ?	14	0	0	0	0	0	0	1547
28	0	0	0	0	0	0	0	6	117 ?	?	?	?	?	?	?	193 ?	64 ?	7	0	0	0	0	0	0	387 ?
29	0	0	0	0	0	0	0	7	75	146	248	310	322 ?	360 ?	324	192	77	6	0	0	0	0	0	0	2066
30	0	0	0	0	0	0	0	1	67	232	471	585	593 ?	501 ?	?	?	109 ?	27	0	0	0	0	0	0	2586 ?
Avg	0	0	0	0	0	0	0	3	54	146	239	304	332	298	231	174	79	7	0	0	0	0	0	0	1697
S D	0	0	0	0	0	0	0	2	33	92	145	167	175	162	134	83	41	6	0	0	0	0	0	0	927
S/A	0	0	0	0	0	0	0	0.7	0.62	0.63	0.61	0.55	0.53	0.54	0.58	0.48	0.52	0.95	0	0	0	0	0	0	0.55
Min	0	0	0	0	0	0	0	0	10	21	33	31	22	16	14	15	6	1	0	0	0	0	0	0	170
Max	0	0	0	0	0	0	0	7	121	376	532	585	593	558	462	322	169	27	0	0	0	0	0	0	3443

Daylight Data Recovery: 0% missing; 10% exceed the 15% QC threshold -- 3561 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 - January 2001**

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	1	3	4	12	1	0	0	0	0	0	0	0	0	0	0	20
2	0	0	0	0	0	0	0	0	0	0	1	1	3	62	15	6	3	0	0	0	0	0	0	0	91
3	0	0	0	0	0	0	0	0	0	512	948	1012	1014	1000	951	852	610	62	0	0	0	0	0	0	6961
4	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
5	0	0	0	0	0	0	0	0	0	113	253	5	25	43	0	97	307	30	0	0	0	0	0	0	873
6	0	0	0	0	0	0	0	0	0	0	0	223	845	962	922	828	606	77	0	0	0	0	0	0	4464
7	0	0	0	0	0	0	0	0	111	541	807	526	38	8	5	45	10	0	0	0	0	0	0	0	2091
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	1
9	0	0	0	0	0	0	0	0	205	731	341	521	858	586	768	518	508	60	0	0	0	0	0	0	5096
10	0	0	0	0	0	0	0	0	549	861	956	996	1006	995	950	859	648	106	0	0	0	0	0	0	7926
11	0	0	0	0	0	0	0	0	518	781	889	736	365	206	75	2	0	0	0	0	0	0	0	0	3573
12	0	0	0	0	0	0	0	0	1	1	7	4	1	1	2	378	505	57	0	0	0	0	0	0	957
13	0	0	0	0	0	0	0	0	422 ?	820	883	956	950	926	911	824	615	108	0	0	0	0	0	0	7416
14	0	0	0	0	0	0	0	0	291	235	334	305	200	8	1	0	0	0	0	0	0	0	0	0	1374
15	0	0	0	0	0	0	0	0	17	25	0	10	192	328	464	571	308	39	0	0	0	0	0	0	1953
16	0	0	0	0	0	0	0	0	0	0	0	1	3	12	1	1	1	0	0	0	0	0	0	0	19
17	0	0	0	0	0	0	0	0	1	10	34	3	365	505	589	138	30	0	0	0	0	0	0	0	1674
18	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
19	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	3
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
21	0	0	0	0	0	0	0	0	0 ?	?	?	?	?	?	?	?	1 ?	0	0	0	0	0	0	0	2 ?
22	0	0	0	0	0	0	0	0	1	3 ?	?	?	?	?	?	874	475	6	0	0	0	0	0	0	1359 ?
23	0	0	0	0	0	0	0	0	639	921 ?	983	1020	1035	1018	956	433	494	21	0	0	0	0	0	0	7521
24	0	0	0	0	0	0	0	0	5	11	52	371	349	8	26	351	375	115	0	0	0	0	0	0	1663
25	0	0	0	0	0	0	0	0	0	1	1	68	44	265	174	432	537	240	0	0	0	0	0	0	1763
26	0	0	0	0	0	0	0	0	664	897	982 ?	1004	940	385	14	1	0	0	0	0	0	0	0	0	4887
27	0	0	0	0	0	0	0	0	0	2	6	3	26	2 ?	2	2	0 ?	0	0	0	0	0	0	0	43
28	0	0	0	0	0	0	0	0	1 ?	?	?	?	?	?	?	0 ?	0 ?	0	0	0	0	0	0	0	2 ?
29	0	0	0	0	0	0	0	0	0	0	0	0	0 ?	175 ?	176	24	1	0	0	0	0	0	0	0	376
30	0	0	0	0	0	0	0	0	34	439	932	947	877 ?	594 ?	?	?	2 ?	1	0	0	0	0	0	0	3827 ?
Avg	0	0	0	0	0	0	0	0	115	238	312	323	339	300	269	259	202	31	0	0	0	0	0	0	2198
S D	0	0	0	0	0	0	0	0	0	211	342	409	405	408	372	379	327	253	53	0	0	0	0	0	2566
S/A	0	0	0	0	0	0	0	2.51	1.83	1.43	1.31	1.26	1.2	1.24	1.41	1.26	1.26	1.73	0	0	0	0	0	0	1.17
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	0	664	921	983	1020	1035	1018	956	874	648	240	0	0	0	0	0	0	7926

Daylight Data Recovery: 0% missing; 9% exceed the 15% QC threshold -- 3561 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 - January 2001**

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	1	24	90	171	201	235	175	111	95	35	1	0	0	0	0	0	0	1139
2	0	0	0	0	0	0	0	2	26	69	132	190	249	201	137	126	41	2	0	0	0	0	0	0	1175
3	0	0	0	0	0	0	0	3	50	86	53	52	59	55	52	42	24	2	0	0	0	0	0	0	478
4	0	0	0	0	0	0	0	1	16	45	71	89	101	109	91	83	30	1	0	0	0	0	0	0	637
5	0	0	0	0	0	0	0	1	19	109	162	241	246	210	101	143	47	2	0	0	0	0	0	0	1280
6	0	0	0	0	0	0	0	1	26	68	98	273	118	52	46	38	24	2	0	0	0	0	0	0	747
7	0	0	0	0	0	0	0	1	39	55	93	188	246	228	167	132	47	2	0	0	0	0	0	0	1198
8	0	0	0	0	0	0	0	0	10	20	32	29	21	15	13	14	5	1	0	0	0	0	0	0	159
9	0	0	0	0	0	0	0	2	27	79	153	160	124	122	95	94	36	3	0	0	0	0	0	0	895
10	0	0	0	0	0	0	0	3	27	43	52	55	58	53	47	38	22	2	0	0	0	0	0	0	399
11	0	0	0	0	0	0	0	3	32	47	53	100	214	237	220	112	37	1	0	0	0	0	0	0	1056
12	0	0	0	0	0	0	0	1	32	96	219	226	170	186	194	89	23	2	0	0	0	0	0	0	1237
13	0	0	0	0	0	0	0	3	27 ?	44	54	54	61	54	41	36	22	2	0	0	0	0	0	0	399
14	0	0	0	0	0	0	0	1	53	93	141	203	239	121	99	69	37	2	0	0	0	0	0	0	1059
15	0	0	0	0	0	0	0	2	58	97	79	158	191	211	136	90	45	7	0	0	0	0	0	0	1074
16	0	0	0	0	0	0	0	1	41	80	119	147	192	190	127	103	61	6	0	0	0	0	0	0	1067
17	0	0	0	0	0	0	0	3	63	97	158	113	139	198	113	143	84	6	0	0	0	0	0	0	1116
18	0	0	0	0	0	0	0	0	9	32	87	76	55	59	51	67	43	6	0	0	0	0	0	0	486
19	0	0	0	0	0	0	0	1	19	78	95	155	96	71	98	47	19	1	0	0	0	0	0	0	680
20	0	0	0	0	0	0	0	2	14	20	63	100	98	63	32	63	35	1	0	0	0	0	0	0	492
21	0	0	0	0	0	0	0	5	59	109 ?	?	?	?	?	?	?	26 ?	7	0	0	0	0	0	0	206 ?
22	0	0	0	0	0	0	0	6	58	122 ?	?	?	?	?	?	48	31	6	0	0	0	0	?	0	271 ?
23	0	0	0	0	0	0	0	3	34	50 ?	47	47	48	50	49	115	78	8	0	0	0	0	0	0	529
24	0	0	0	0	0	0	0	3	69	108	184	244	275	198	190	121	58	12	0	0	0	0	0	0	1462
25	0	0	0	0	0	0	0	3	38	102	131	210	224	193	205	129	74	8	0	0	0	0	0	0	1315
26	0	0	0	0	0	0	0	4	38	53	51 ?	45	78	273	211	101	23	3	0	0	0	0	0	0	880
27	0	0	0	0	0	0	0	0	11	75	128	154	229	259 ?	230	191	111 ?	13	0	0	0	0	0	0	1402
28	0	0	0	0	0	0	0	5	40 ?	?	?	?	?	?	?	177 ?	60 ?	7	0	0	0	0	0	0	290 ?
29	0	0	0	0	0	0	0	6	69	133	227	280	286 ?	233 ?	232	184	72	5	0	0	0	0	0	0	1728
30	0	0	0	0	0	0	0	1	59	75	60	86	76 ?	120 ?	?	?	31 ?	12	0	0	0	0	0	0	518 ?
Avg	0	0	0	0	0	0	0	2	36	75	108	144	153	146	119	96	43	4	0	0	0	0	0	0	846
S D	0	0	0	0	0	0	0	2	18	29	54	74	81	77	67	46	23	3	0	0	0	0	0	0	417
S/A	0	0	0	0	0	0	0	0.71	0.49	0.39	0.5	0.52	0.53	0.53	0.56	0.48	0.54	0.76	0	0	0	0	0	0	0.49
Min	0	0	0	0	0	0	0	0	9	20	32	29	21	15	13	14	5	1	0	0	0	0	0	0	159
Max	0	0	0	0	0	0	0	6	69	133	227	280	286	273	232	191	111	13	0	0	0	0	0	0	1728

Daylight Data Recovery: 0% missing; 10% exceed the 15% QC threshold -- 3561 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