

Global Solar Radiation on a Horizontal Surface
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Elizabeth City State Universit - February 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	45	149 ?	?	?	?	?	?	242 ?	?	102 ?	12 ?	0 ?	0	0	0	0	0	549 ?
2	0	0	0	0	0	0	0	75	203 ?	?	?	?	?	?	?	?	111 ?	12	0	0	0	0	0	0	400 ?
3	0	0	0	0	0	0	0	62	94 ?	?	?	?	?	?	?	?	121 ?	9	0	0	0	0	0	0	286 ?
4	0	0	0	0	0	0	0	55	145	172	198	160	250	268	130	86	31	5	0	0	0	0	0	0	1499
5	0	0	0	0	0	0	0	42	211 ?	217 ?	329 ?	314	181	73	96	93	77	11	0	0	0	0	0	0	1645
6	0	0	0	0	0	0	0	65	?	?	?	?	?	?	?	?	105 ?	11	0	0	0	0	0	0	181 ?
7	0	0	0	0	0	0	0	51	138	?	281 ?	218	293	163	196	138	54	3	0	0	0	0	0	0	1535
8	0	0	0	0	0	0	0	3	33	26	52	67	72	95	53	43	25	3	0	0	0	0	0	0	472
9	0	0	0	0	0	0	0	16	41	76	82	112	228	161	105	66	37	5	0	0	0	0	0	0	930
10	0	0	0	0	0	0	0	72 ?	126	272 ?	311	351	277 ?	180	75	48	9	1	0	0	0	0	0	0	1723
11	0	0	0	0	0	0	0	61	?	?	?	?	?	?	?	?	75 ?	18	0	0	0	0	0	0	155 ?
12	0	0	0	0	0	0	0	37	138	268 ?	?	443 ?	411 ?	?	?	173 ?	125 ?	21	0	0	0	0	0	0	1617 ?
13	0	0	0	0	0	0	0	30	149	277 ?	?	459 ?	417	404	283 ?	92	23	4	0	0	0	0	0	0	2138 ?
14	0	0	0	0	0	0	0	10	19	71	331 ?	401 ?	356	241	207	65	30	5	0	0	0	0	0	0	1737
15	0	0	0	0	0	0	0	15	45	66	98	92	290	120	144	302 ?	133 ?	21	0	0	0	0	0	0	1327
16	0	0	0	0	0	0	1	80	368 ?	590	741 ?	884 ?	?	?	?	?	140 ?	33	0	0	0	0	0	0	2837 ?
17	0	0	0	0	0	0	2	86 ?	370 ?	577 ?	?	?	?	?	?	?	137 ?	35	0	0	0	0	0	0	1205 ?
18	0	0	0	0	0	0	3	133	324 ?	549 ?	?	?	?	?	?	595 ?	242	36	0	0	0	0	0	0	1882 ?
19	0	0	0	0	0	0	2	88 ?	?	?	?	?	?	306 ?	?	?	117 ?	35	0	0	0	0	0	0	548 ?
20	0	0	0	0	0	0	3	93 ?	?	?	802 ?	?	?	?	?	?	109 ?	27	0	0	0	0	0	0	1034 ?
21	0	0	0	0	0	0	3	80 ?	223 ?	234 ?	?	414 ?	389	397 ?	291	153	59	9	0	0	0	0	0	0	2252 ?
22	0	0	0	0	0	0	3	43	122	236	330 ?	296	394	278	284 ?	167	102	5	0	0	0	0	0	0	2260
23	0	0	0	0	0	0	2	50 ?	?	?	?	?	?	?	711 ?	?	183 ?	44	0	0	0	0	0	0	990 ?
24	0	0	0	0	0	0	5	92 ?	?	?	?	?	?	?	?	?	145 ?	49	0	0	0	0	0	0	291 ?
25	0	0	0	0	0	0	2	71	205 ?	247 ?	?	?	?	491 ?	?	?	?	52	0	0	0	0	0	0	1069 ?
26	0	0	0	0	0	0	10	131 ?	?	?	?	381 ?	154	190	89	69	18	4	0	0	0	0	0	0	1047 ?
27	0	0	0	0	0	0	3	47	161 ?	357 ?	299 ?	307 ?	?	?	?	?	180 ?	50	0	0	0	0	0	0	1404 ?
28	0	0	0	0	0	0	2	52	186	234	268	161	208	206	176	103	59	12	0	0	0	0	0	0	1666
Avg	0	0	0	0	0	0	2	60	164	263	317	316	280	238	205	146	94	19	0	0	0	0	0	0	1239
S D	0	0	0	0	0	0	2	31	97	167	216	193	101	117	156	136	57	16	0	0	0	0	0	0	697
S/A	0	0	0	0	0	0	1.45	0.52	0.59	0.64	0.68	0.61	0.36	0.49	0.76	0.93	0.6	0.85	0	0	0	0	0	0	0.56
Min	0	0	0	0	0	0	0	3	19	26	52	67	72	73	53	43	9	1	0	0	0	0	0	0	155
Max	0	0	0	0	0	0	10	133	370	590	802	884	417	491	711	595	242	52	0	0	0	0	0	0	2837

Daylight Data Recovery: 0% missing; 51% exceed the 15% QC threshold -- 7362 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: EC
Latitude: 36.30° N
Longitude: 76.25° W
Elevation: 4 Meters AMSL
Time Zone: -5

Instrument: PSP
Calibration Constant: 7.12 uV/Wm-2
Serial Number: 17897F3
Calibration Date: 9/13/96

Direct Normal Solar Radiation
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Elizabeth City State Universit - February 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	1	3 ?	6 ?	?	6	7 ?	7 ?	0 ?	9 ?	1 ?	0	0	0	0	0	0	0	39 ?
2	0	0	0	0	0	0	0	2	3 ?	?	8 ?	8 ?	8 ?	7 ?	7 ?	4 ?	0 ?	0	0	0	0	0	0	0	47 ?
3	0	0	0	0	0	0	0	2	1 ?	?	?	?	?	?	?	?	0 ?	0	0	0	0	0	0	0	3 ?
4	0	0	0	0	0	0	0	0	1	1	1	0	2	1	1	0	0	0	0	0	0	0	0	0	8
5	0	0	0	0	0	0	0	0	0 ?	1 ?	2 ?	1	0	0	0	0	0	0	0	0	0	0	0	0	6
6	0	0	0	0	0	0	0	2	?	?	6 ?	8 ?	6 ?	6 ?	0 ?	9 ?	0 ?	0	0	0	0	0	0	0	37 ?
7	0	0	0	0	0	0	0	1	2	?	0 ?	2	2	0	0	0	0	0	0	0	0	0	0	0	7
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	2
9	0	0	0	0	0	0	0	0	0	1	0	0	2	1	0	0	0	0	0	0	0	0	0	0	5
10	0	0	0	0	0	0	0	1	3	6 ?	2	2	1 ?	0	0	0	0	0	0	0	0	0	0	0	15
11	0	0	0	0	0	0	0	1	?	?	5 ?	9 ?	7 ?	7 ?	7 ?	4 ?	0 ?	0	0	0	0	0	0	0	40 ?
12	0	0	0	0	0	0	0	2	1	1 ?	0 ?	0 ?	0 ?	2 ?	?	1 ?	2 ?	0	0	0	0	0	0	0	10 ?
13	0	0	0	0	0	0	0	0	0	0 ?	?	0 ?	0 ?	0	0	0 ?	0	0	0	0	0	0	0	0	1 ?
14	0	0	0	0	0	0	0	1	0	0	0 ?	0 ?	0	0	0	0	0	0	0	0	0	0	0	0	1
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1 ?	8 ?	2	0	0	0	0	0	0	12
16	0	0	0	0	0	0	0	0	?	?	?	?	1 ?	6	8 ?	?	7 ?	2	0	0	0	0	0	0	25 ?
17	0	0	0	0	0	0	0	0 ?	?	?	?	?	0 ?	5	6 ?	?	7 ?	2	0	0	0	0	0	0	20 ?
18	0	0	0	0	0	0	0	1 ?	?	?	11 ?	2 ?	143	428 ?	?	989 ?	647	96	0	0	0	0	0	0	2316 ?
19	0	0	0	0	0	0	0	1 ?	?	?	1 ?	1 ?	?	0 ?	?	0 ?	0 ?	0	0	0	0	0	0	0	4 ?
20	0	0	0	0	0	0	0	2 ?	?	0 ?	1 ?	4 ?	0 ?	?	0 ?	?	0 ?	0	0	0	0	0	0	0	8 ?
21	0	0	0	0	0	0	0	0 ?	0 ?	0 ?	2 ?	0 ?	0	0 ?	0	0	0	0	0	0	0	0	0	0	2 ?
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	1
23	0	0	0	0	0	0	0	2 ?	?	?	2 ?	2 ?	0	0 ?	0 ?	?	0 ?	0	0	0	0	0	0	0	7 ?
24	0	0	0	0	0	0	0	2 ?	2 ?	3 ?	2 ?	?	0 ?	0 ?	?	?	0 ?	0	0	0	0	0	0	0	8 ?
25	0	0	0	0	0	0	0	0	0 ?	0 ?	1 ?	1 ?	0 ?	1 ?	0 ?	?	?	0	0	0	0	0	0	0	3 ?
26	0	0	0	0	0	0	1	4 ?	?	?	3 ?	3 ?	0 ?	0	0	0	0	0	0	0	0	0	0	0	11 ?
27	0	0	0	0	0	0	0	0	0 ?	0 ?	0 ?	0 ?	0 ?	?	?	?	0 ?	0	0	0	0	0	0	0	1 ?
28	0	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3
Avg	0	0	0	0	0	0	0	1	1	1	2	2	7	19	1	51	25	4	0	0	0	0	0	0	94
S D	0	0	0	0	0	0	0	1	1	2	3	3	27	84	3	215	122	18	0	0	0	0	0	0	428
S/A	0	0	0	0	0	0	2.01	0.97	1.08	1.49	1.27	1.39	3.95	4.4	1.98	4.22	4.9	4.8	0	0	0	0	0	0	4.53
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	1
Max	0	0	0	0	0	0	1	4	3	6	11	9	143	428	8	989	647	96	0	0	0	0	0	0	2316

Daylight Data Recovery: 0% missing; 44% exceed the 15% QC threshold -- 7362 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: EC
Latitude: 36.30° N
Longitude: 76.25° W
Elevation: 4 Meters AMSL
Time Zone: -5

Instrument: NIP
Calibration Constant: 6.83 uV/Wm-2
Serial Number: 17828E6
Calibration Date: 9/13/96

Diffuse Solar Radiation on a Horizontal Surface
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Elizabeth City State Universit - February 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	31	96 ?	177 ?	?	103	133 ?	116 ?	167 ?	61 ?	20 ?	3	0	0	0	0	0	0	908 ?
2	0	0	0	0	0	0	0	24	67 ?	?	123 ?	160 ?	183 ?	237 ?	154 ?	140 ?	59 ?	8	0	0	0	0	0	0	1154 ?
3	0	0	0	0	0	0	0	42	76 ?	?	?	?	?	?	?	?	70 ?	7	0	0	0	0	0	0	195 ?
4	0	0	0	0	0	0	0	48	118	140	162	130	201	212	106	70	25	5	0	0	0	0	0	0	1217
5	0	0	0	0	0	0	0	33	164 ?	169 ?	259 ?	253	150	60	79	77	64	8	0	0	0	0	0	0	1317
6	0	0	0	0	0	0	0	36	?	?	145 ?	182 ?	205 ?	140 ?	141 ?	147 ?	47 ?	9	0	0	0	0	0	0	1052 ?
7	0	0	0	0	0	0	0	39	112	?	229 ?	179	242	135	161	114	45	3	0	0	0	0	0	0	1258
8	0	0	0	0	0	0	0	2	27	22	43	55	60	78	44	36	21	2	0	0	0	0	0	0	388
9	0	0	0	0	0	0	0	13	34	63	67	92	188	132	86	54	30	4	0	0	0	0	0	0	763
10	0	0	0	0	0	0	0	43	100	216 ?	254	287	225 ?	148	61	40	7	1	0	0	0	0	0	0	1383
11	0	0	0	0	0	0	0	43	?	?	190 ?	292 ?	283 ?	187 ?	159 ?	162 ?	55 ?	14	0	0	0	0	0	0	1385 ?
12	0	0	0	0	0	0	0	30	113	217 ?	290 ?	362 ?	304 ?	321 ?	?	129 ?	85 ?	16	0	0	0	0	0	0	1868 ?
13	0	0	0	0	0	0	0	25	120	219 ?	?	361 ?	333	322	227 ?	76	19	3	0	0	0	0	0	0	1706 ?
14	0	0	0	0	0	0	0	8	16	58	273 ?	318 ?	261	200	172	54	25	4	0	0	0	0	0	0	1390
15	0	0	0	0	0	0	0	13	37	55	81	77	238	100	120	231 ?	65 ?	13	0	0	0	0	0	0	1030
16	0	0	0	0	0	0	1	35	95 ?	118	118	115	101	82	80 ?	?	41 ?	14	0	0	0	0	0	0	799 ?
17	0	0	0	0	0	0	1	33 ?	73 ?	79 ?	88	90	92	86	77 ?	?	35 ?	13	0	0	0	0	0	0	667 ?
18	0	0	0	0	0	0	1	40	54 ?	61 ?	65	79	77	82 ?	?	63 ?	53	21	0	0	0	0	0	0	595 ?
19	0	0	0	0	0	0	0 ?	45 ?	?	?	161 ?	194 ?	?	196 ?	?	201 ?	70 ?	25	0	0	0	0	0	0	893 ?
20	0	0	0	0	0	0	2	35 ?	?	80 ?	109 ?	169 ?	317 ?	?	269 ?	?	85 ?	22	0	0	0	0	0	0	1086 ?
21	0	0	0	0	0	0	2	61 ?	171 ?	174 ?	263 ?	324 ?	312	317 ?	235	126	49	8	0	0	0	0	0	0	2042 ?
22	0	0	0	0	0	0	2	30	101	193	266 ?	242	313	228	231 ?	137	81	4	0	0	0	0	0	0	1828
23	0	0	0	0	0	0	2	29 ?	?	?	121 ?	106 ?	95	80	69 ?	?	69 ?	24	0	0	0	0	0	0	595 ?
24	0	0	0	0	0	0	3	34 ?	73 ?	116 ?	129 ?	?	136 ?	132 ?	?	?	72 ?	28	0	0	0	0	0	0	723 ?
25	0	0	0	0	0	0	2	58	160 ?	174 ?	234 ?	247 ?	286 ?	315 ?	109 ?	?	?	20	0	0	0	0	0	0	1604 ?
26	0	0	0	0	0	0	3	31 ?	?	160 ?	271 ?	308 ?	128	156	74	58	15	3	0	0	0	0	0	0	1208 ?
27	0	0	0	0	0	0	3	38	131 ?	282 ?	238 ?	250 ?	232 ?	?	?	?	137 ?	31	0	0	0	0	0	0	1342 ?
28	0	0	0	0	0	0	2	42	153	191	223	135	174	171	145	85	49	10	0	0	0	0	0	0	1378
Avg	0	0	0	0	0	0	1	34	95	141	176	197	203	169	135	103	52	11	0	0	0	0	0	0	1135
S D	0	0	0	0	0	0	1	13	44	68	77	94	82	81	62	53	28	9	0	0	0	0	0	0	445
S/A	0	0	0	0	0	0	1.26	0.39	0.47	0.48	0.44	0.48	0.41	0.48	0.46	0.52	0.54	0.75	0	0	0	0	0	0	0.39
Min	0	0	0	0	0	0	0	2	16	22	43	55	60	60	44	36	7	1	0	0	0	0	0	0	195
Max	0	0	0	0	0	0	3	61	171	282	290	362	333	322	269	231	137	31	0	0	0	0	0	0	2042

Daylight Data Recovery: 0% missing; 42% exceed the 15% QC threshold -- 7362 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:	EC
Latitude:	36.30° N
Longitude:	76.25° W
Elevation:	4 Meters AMSL
Time Zone:	-5

Instrument:	PSP
Calibration Constant:	9.38 uV/Wm-2
Serial Number:	25782F3
Calibration Date:	9/13/96