

**DIRECCION
METEOROLOGICA
DE CHILE**

**INFORME
SOLARIMETRICO
SEMESTRAL**

II SEMESTRE 2002



SUBDIRECCION CLIMATOLOGIA Y MET. APLICADA

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: JULIO

Years: 2002

Country: CHILE

Daily Totals				
Latitude	18°21' S	22°29' S	23°26' S	27°09' S
Longitude	70°19' W	68°54' W	70°26' W	109°25' W
Elevation	58 m	2270 m	135 m	51 m
Station	ARICA	CALAMA	ANTOFAGASTA	ISLA DE PASCUA
Date				
1	.	.	8.10	.
2	.	.	5.25	.
3	.	.	1.21	.
4	.	.	4.31	.
5	.	.	11.28	.
6	.	.	12.07	.
7	.	.	11.74	.
8	.	.	11.41	.
9	.	.	9.47	.
10	.	.	6.48	.
11	.	.	11.81	.
12	.	.	9.15	.
13	.	.	6.95	.
14	.	.	8.57	.
15	.	.	8.79	.
16	.	.	7.80	.
17	.	.	9.54	.
18	.	.	8.85	.
19	.	.	5.87	.
20	.	.	7.21	.
21	.	.	12.18	.
22	.	.	10.39	.
23	.	.	5.42	.
24	.	.	11.88	.
25	.	.	10.30	.
26	.	.	10.93	.
27	.	.	12.58	.
28	.	.	11.24	.
29	.	.	10.73	.
30	.	.	12.84	.
31	.	.	11.56	.
TT Monthly Totals	.	.	285.91	.
 Daily Means	.	.	9.22	.
SS Monthly Totals				
 Daily Means				
Types of Instruments	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: JULIO

Years: 2002

Country: CHILE

Daily Totals				
Latitude	27°18' S	28°35' S	33°23' S	34°06' S
Longitude	70°25' W	70°46' W	70°47' W	71°45' W
Elevation	291 m	469 m	475 m	296 m
Station	COPIAPO	VALLENAR	PUDAHUEL	HIDANGO
Date				
1	8.19	3.10	8.54	.
2	10.71	6.93	8.21	11.25
3	12.40	9.44	9.30	10.46
4	.	6.16	9.98	9.52
5	.	3.65	7.41	8.23
6	.	9.33	9.45	9.71
7	.	9.68	9.88	11.19
8	.	9.63	6.04	9.96
9	.	9.05	6.16	9.52
10	.	9.41	9.70	10.54
11	.	8.49	8.13	8.97
12	.	9.62	10.24	11.01
13	.	9.70	10.08	10.97
14	.	9.46	10.84	11.15
15	.	7.28	10.26	11.00
16	.	8.77	7.23	8.26
17	.	6.86	7.26	7.79
18	.	9.92	7.57	3.64
19	.	5.02	1.69	1.73
20	.	5.22	1.61	1.60
21	.	9.38	9.66	6.98
22	.	2.55	1.99	2.68
23	.	3.02	1.61	3.89
24	.	10.09	11.92	12.47
25	.	10.92	12.14	12.40
26	.	10.91	11.75	6.72
27	.	11.47	11.80	12.52
28	.	10.77	11.91	11.35
29	.	9.12	3.84	2.37
30	.	7.70	4.28	9.94
31	.	11.28	11.77	11.53
TT Monthly Totals	.	253.93	252.23	.
 Daily Means	.	8.19	8.14	8.64
SS Monthly Totals				
 Daily Means				
Types of Instruments	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: JULIO

Years: 2002

Country: CHILE

Daily Totals				
Latitude	34°58' S	35°58' S	36°46' S	37°24' S
Longitude	71°14' W	72°20' W	73°03' W	72°26' W
Elevation	228 m	142 m	12 m	109 m
Station	CURICO	CAUQUENES	CONCEPCION	LOS ANGELES
Date				
1	8.11	.	.	.
2	3.75	.	.	.
3	8.41	.	.	.
4	5.19	.	.	.
5	8.81	.	.	.
6	8.87	.	.	.
7	2.56	.	.	.
8	1.69	.	.	.
9	2.53	.	.	.
10	2.10	.	.	.
11	5.95	.	.	.
12	5.29	.	.	.
13	5.46	.	.	.
14	6.59	.	.	.
15	7.99	.	.	.
16	4.58	.	.	.
17	6.33	.	.	.
18	7.11	.	.	.
19	1.02	.	.	.
20	1.39	.	.	.
21	4.00	.	.	.
22	1.38	.	.	.
23	2.28	.	.	.
24	10.27	.	.	.
25	11.15	.	.	.
26	3.10	.	.	.
27	10.00	.	.	.
28	10.35	.	.	.
29	1.21	.	.	.
30	7.54	.	.	.
31	6.24	.	.	.
TT Monthly Totals	171.26	.	.	.
 Daily Means	5.52	.	.	.
SS Monthly Totals				
 Daily Means				
Types of	PIRANOMETRO	PIRANOMETRO	PIRANOMETRO	PIRANOMETRO
Instruments	PSP EPPLEY	PSP EPPLEY	PSP EPPLEY	PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: JULIO

Years: 2002

Country: CHILE

Daily Totals				
Latitude	38°45' S	41°25' S	42°55' S	45°35' S
Longitude	72°38' W	73°05' W	72°43' W	72°07' W
Elevation	114 m	85 m	7 m	310 m
Station	TEMUCO	PUERTO MONTT	CHAITEN	COYHAIQUE
Date				
1	.	7.57	.	5.40
2	.	3.76	.	4.33
3	.	4.46	.	3.27
4	.	3.86	.	4.03
5	.	2.90	.	5.31
6	.	4.26	.	3.82
7	.	3.08	.	5.62
8	.	3.12	.	5.95
9	.	6.26	.	5.61
10	.	2.80	.	1.25
11	.	2.04	.	3.43
12	.	4.43	.	4.02
13	.	2.20	.	4.58
14	.	1.42	.	2.95
15	.	5.25	.	5.35
16	.	5.29	.	2.61
17	.	4.17	.	2.78
18	.	1.27	.	2.01
19	.	1.87	.	3.33
20	.	2.43	.	2.20
21	.	5.90	.	5.08
22	.	3.61	.	2.65
23	.	1.85	.	3.84
24	.	2.43	.	3.52
25	.	2.40	.	4.13
26	.	4.58	.	4.56
27	.	0.81	.	1.47
28	.	4.58	.	6.23
29	.	3.72	.	3.37
30	.	6.41	.	5.91
31	.	7.58	.	3.98
TT Monthly Totals	.	116.30	.	122.58
 Daily Means	.	3.75	.	3.95
SS Monthly Totals				
 Daily Means				
Types of Instruments	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **JULIO**

Years: **2002**

Country: **CHILE**

Daily Totals				
Latitude	53°00' S			
Longitude	70°51' W			
Elevation	37 m			
Station	PUNTA ARENAS			
Date				
1	3.78			
2	0.92			
3	2.54			
4	2.96			
5	2.79			
6	2.79			
7	2.95			
8	2.00			
9	3.17			
10	2.18			
11	1.82			
12	1.95			
13	3.29			
14	2.58			
15	3.13			
16	3.49			
17	3.08			
18	2.02			
19	0.93			
20	2.67			
21	2.41			
22	1.48			
23	3.95			
24	4.98			
25	1.02			
26	3.54			
27	5.00			
28	2.68			
29	2.33			
30	1.52			
31	3.86			
TT Monthly Totals	83.81			
Daily Means	2.70			
SS Monthly Totals				
Daily Means				
Types of	PIRANOMETRO			
Instruments	PSP EPPLEY			

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: AGOSTO

Years: 2002

Country: CHILE

Daily Totals				
Latitude	18°20' S	22°29' S	23°26' S	27°09' S
Longitude	70°20' W	68°54' W	70°26' W	109°25' W
Elevation	58 m	2270 m	135 m	51 m
Station	ARICA	CALAMA	ANTOFAGASTA	ISLA DE PASCUA
Date				
1	.	.	13.23	.
2	.	.	12.26	.
3	.	.	8.90	.
4	.	.	9.57	.
5	.	.	13.16	.
6	.	.	7.15	.
7	.	.	13.21	.
8	.	.	11.83	.
9	.	.	13.38	.
10	.	.	9.09	.
11	.	.	11.05	.
12	.	.	12.27	.
13	.	.	13.21	.
14	.	.	13.32	.
15	.	.	13.02	.
16	.	.	10.87	.
17	.	.	8.92	.
18	.	.	3.34	.
19	.	.	3.05	.
20	.	.	3.68	.
21	.	.	6.18	.
22	.	.	11.93	.
23	.	.	6.03	.
24	.	.	10.24	.
25	.	.	7.87	.
26	.	.	14.91	.
27	.	.	7.11	.
28	.	.	9.32	.
29	.	.	14.37	.
30	.	.	11.95	.
31	.	.	14.08	.
TT Monthly Totals	.	.	318.52	.
 Daily Means	.	.	10.27	.
SS Monthly Totals				
 Daily Means				
Types of Instruments	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: AGOSTO

Years: 2002

Country: CHILE

Daily Totals				
Latitude	27°18' S	28°35' S	33°23' S	34°06' S
Longitude	70°25' W	70°46' W	70°47' W	71°45' W
Elevation	291 m	469 m	475 m	296 m
Station	COPIAPO	VALLENAR	PUDAHUEL	HIDANGO
Date				
1	.	11.55	10.47	9.97
2	.	11.53	8.45	6.97
3	.	6.77	4.03	5.66
4	.	10.02	7.16	9.12
5	.	7.96	1.62	.
6	.	11.71	2.04	.
7	.	9.82	2.25	.
8	.	11.96	13.09	13.35
9	.	12.02	13.06	14.00
10	.	12.16	12.26	13.43
11	.	11.54	13.07	14.45
12	.	11.61	12.17	13.96
13	.	7.50	13.50	14.32
14	.	.	12.64	14.89
15	.	12.77	9.15	13.96
16	.	13.03	5.86	7.07
17	.	5.68	4.23	3.93
18	.	10.84	4.93	4.26
19	.	13.64	12.28	11.61
20	.	10.26	15.09	.
21	.	13.12	14.38	14.78
22	.	9.51	7.41	9.58
23	.	9.55	1.28	2.99
24	.	13.88	1.64	2.55
25	.	15.15	9.14	2.83
26	.	8.33	10.84	5.48
27	.	1.88	2.01	4.83
28	.	15.82	8.63	4.60
29	.	16.13	7.53	13.99
30	.	16.01	15.92	17.36
31	.	16.37	15.62	16.85
TT Monthly Totals	.	.	271.77	.
 Daily Means	.	11.27	8.77	9.88
SS Monthly Totals				
 Daily Means				
Types of Instruments	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: AGOSTO

Years: 2002

Country: CHILE

Daily Totals				
Latitude	34°58' S	35°58' S	36°46' S	37°24' S
Longitude	71°14' W	72°20' W	73°03' W	72°26' W
Elevation	228 m	142 m	12 m	109 m
Station	CURICO	CAUQUENES	CONCEPCION	LOS ANGELES
Date				
1	10.87	.	.	.
2	4.25	.	.	.
3	4.33	.	.	.
4	5.05	.	.	.
5	0.86	.	.	.
6	0.84	.	.	.
7	1.96	.	.	.
8	10.39	.	.	.
9	12.27	.	.	.
10	11.70	.	.	.
11	3.77	.	.	.
12	10.75	.	.	.
13	13.09	.	.	.
14	9.92	.	.	.
15	11.27	.	.	.
16	5.76	.	.	.
17	4.15	.	.	.
18	2.49	.	.	.
19	7.16	.	.	.
20	12.05	.	.	.
21	9.10	.	.	.
22	5.43	.	.	.
23	1.06	.	.	.
24	1.53	.	.	.
25	2.11	.	.	.
26	4.82	.	.	.
27	1.70	.	.	.
28	3.90	.	.	.
29	11.80	.	.	.
30	13.31	.	.	.
31	14.39	.	.	.
TT Monthly Totals	212.10	.	.	.
 Daily Means	6.84	.	.	.
SS Monthly Totals				
 Daily Means				
Types of	PIRANOMETRO	PIRANOMETRO	PIRANOMETRO	PIRANOMETRO
Instruments	PSP EPPLEY	PSP EPPLEY	PSP EPPLEY	PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: AGOSTO

Years: 2002

Country: CHILE

Daily Totals				
Latitude	38°45' S	41°25' S	42°55' S	45°35' S
Longitude	72°38' W	73°05' W	72°43' W	72°07' W
Elevation	114 m	85 m	7 m	310 m
Station	TEMUCO	PUERTO MONTT	CHAITEN	COYHAIQUE
Date				
1	.	3.72	.	4.26
2	.	2.60	.	4.25
3	.	8.17	.	7.05
4	.	8.59	.	9.21
5	.	2.16	.	6.45
6	.	5.45	.	1.16
7	.	4.91	.	3.90
8	.	6.42	.	6.58
9	.	1.48	.	1.05
10	.	4.89	.	7.13
11	.	6.03	.	3.43
12	.	2.86	.	7.84
13	.	9.74	.	9.32
14	.	6.44	.	9.40
15	.	4.78	.	6.74
16	.	4.61	.	3.82
17	.	5.20	.	2.85
18	.	8.04	.	5.34
19	.	8.20	.	8.43
20	.	5.25	.	9.09
21	.	3.25	.	4.58
22	.	2.74	.	3.66
23	.	2.44	.	5.34
24	.	3.59	.	4.35
25	.	6.17	.	10.97
26	.	1.91	.	3.66
27	.	2.55	.	3.75
28	.	6.10	.	4.95
29	.	10.40	.	9.14
30	.	9.08	.	10.38
31	.	12.68	.	0.00
TT Monthly Totals	.	170.46	.	178.10
 Daily Means	.	5.50	.	5.75
SS Monthly Totals				
 Daily Means				
Types of Instruments	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: AGOSTO

Years: 2002

Country: CHILE

Daily Totals				
Latitude	53°00' S			
Longitude	70°51' W			
Elevation	37 m			
Station	PUNTA ARENAS			
Date				
1	1.36			
2	4.62			
3	4.97			
4	5.18			
5	1.69			
6	4.57			
7	0.58			
8	3.20			
9	5.75			
10	6.19			
11	1.60			
12	4.38			
13	6.46			
14	6.82			
15	6.80			
16	1.64			
17	1.23			
18	2.05			
19	7.37			
20	3.69			
21	3.99			
22	1.47			
23	2.32			
24	2.51			
25	4.27			
26	4.40			
27	3.77			
28	4.34			
29	5.10			
30	7.63			
31	1.09			
TT Monthly Totals	121.06			
Daily Means	3.91			
SS Monthly Totals				
Daily Means				
Types of Instruments	PIRANOMETRO PSP EPPLEY			

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: SEPTIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	18°20' S	22°29' S	23°26' S	27°09' S
Longitude	70°20' W	68°54' W	70°26' W	109°25' W
Elevation	58 m	2270 m	135 m	51 m
Station	ARICA	CALAMA	ANTOFAGASTA	ISLA DE PASCUA
Date				
1	.	.	14.32	.
2	.	.	15.29	.
3	.	.	14.16	.
4	.	.	13.23	.
5	.	.	13.59	.
6	.	.	15.26	.
7	.	.	15.44	.
8	.	.	15.59	.
9	.	.	11.07	.
10	.	.	14.95	.
11	.	.	14.69	.
12	.	.	13.38	.
13	.	.	16.32	.
14	.	.	14.49	.
15	.	.	16.87	.
16	.	.	15.23	.
17	.	.	16.39	.
18	.	.	11.14	.
19	.	.	13.25	.
20	.	.	17.34	.
21	.	.	16.08	.
22	.	.	17.19	.
23	.	.	15.45	.
24	.	.	14.77	.
25	.	.	17.83	.
26	.	.	18.17	.
27	.	.	17.54	.
28	.	.	17.54	.
29	.	.	16.29	.
30	.	.	18.32	.
31	.	.		.
TT Monthly Totals	.	.	461.18	.
 Daily Means	.	.	15.37	.
SS Monthly Totals				
 Daily Means				
Types of Instruments	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: SEPTIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	27°18' S	28°35' S	33°23' S	34°06' S
Longitude	70°25' W	70°46' W	70°47' W	71°45' W
Elevation	291 m	469 m	475 m	296 m
Station	COPIAPO	VALLENAR	PUDAHUEL	HIDANGO
Date				
1	.	15.87	16.76	17.48
2	.	13.63	14.43	16.16
3	.	12.33	6.09	10.79
4	.	10.48	3.82	5.93
5	.	3.89	7.35	.
6	.	16.88	17.66	9.38
7	.	14.41	5.17	8.76
8	.	16.03	5.42	12.92
9	.	5.62	12.07	14.78
10	.	17.30	9.40	8.06
11	.	15.38	18.38	19.96
12	.	15.98	9.49	9.71
13	.	11.31	17.03	18.47
14	.	13.86	3.01	7.20
15	.	10.12	18.10	10.18
16	.	16.21	18.65	2.62
17	.	18.25	9.62	11.49
18	21.18	17.51	10.07	15.06
19	23.70	18.44	18.01	21.46
20	24.36	18.75	18.49	19.48
21	23.41	17.94	20.60	21.62
22	22.06	10.18	17.28	20.77
23	23.82	18.57	20.41	21.46
24	33.82	19.02	20.68	21.64
25	24.39	14.50	20.44	20.21
26	30.60	18.30	20.04	19.35
27	27.24	19.11	13.37	.
28	33.69	19.55	15.83	.
29	26.40	16.53	20.52	.
30	33.55	20.10	21.90	23.23
31				
TT Monthly Totals	.	456.08	430.06	.
 Daily Means	.	15.20	14.34	14.93
SS Monthly Totals				
 Daily Means				
Types of	PIRANOMETRO	PIRANOMETRO	PIRANOMETRO	PIRANOMETRO
Instruments	PSP EPPLEY	PSP EPPLEY	PSP EPPLEY	PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: SEPTIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	34°58' S	35°58' S	36°46' S	37°24' S
Longitude	71°14' W	72°20' W	73°03' W	72°26' W
Elevation	228 m	142 m	12 m	109 m
Station	CURICO	CAUQUENES	CONCEPCION	LOS ANGELES
Date				
1	16.42	.	.	.
2	11.22	.	.	.
3	4.94	.	.	.
4	1.80	.	.	.
5	14.02	.	.	.
6	17.63	.	.	.
7	3.77	.	.	.
8	10.39	.	.	.
9	7.99	.	.	.
10	8.99	.	.	.
11	18.39	.	.	.
12	6.58	.	.	.
13	17.57	.	.	.
14	4.41	.	.	.
15	16.36	.	.	.
16	1.83	.	.	.
17	8.36	.	.	.
18	15.43	.	.	.
19	19.69	.	.	.
20	17.64	.	.	.
21	18.36	.	.	.
22	15.36	.	.	.
23	19.93	.	.	.
24	19.67	.	.	.
25	15.62	.	.	.
26	15.89	.	.	.
27	6.19	.	.	.
28	16.45	.	.	.
29	20.57	.	.	.
30	20.31	.	.	.
31				
TT Monthly Totals	391.78	.	.	.
 Daily Means	13.06	.	.	.
SS Monthly Totals				
 Daily Means				
Types of Instruments	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: SEPTIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	38°45' S	41°25' S	42°55' S	45°35' S
Longitude	72°38' W	73°05' W	72°43' W	72°07' W
Elevation	114 m	85 m	7 m	310 m
Station	TEMUCO	PUERTO MONTT	CHAITEN	COYHAIQUE
Date				
1	.	2.70	.	9.79
2	.	9.11	.	13.93
3	.	2.20	.	2.79
4	.	9.76	.	9.35
5	.	5.92	.	6.98
6	.	6.09	.	8.76
7	.	13.46	.	10.42
8	.	6.62	.	8.76
9	.	3.84	.	11.05
10	.	5.37	.	1.74
11	.	6.85	.	7.37
12	.	3.90	.	3.25
13	.	8.40	.	9.50
14	.	4.83	.	5.82
15	.	8.19	.	10.77
16	.	4.74	.	4.03
17	.	4.56	.	8.87
18	.	9.06	.	12.81
19	.	5.58	.	9.28
20	.	5.32	.	12.08
21	.	7.64	.	10.07
22	.	11.78	.	13.41
23	.	3.85	.	9.07
24	.	13.10	.	6.14
25	.	11.56	.	11.75
26	.	13.44	.	16.96
27	.	9.00	.	10.08
28	.	4.01	.	14.98
29	.	3.29	.	6.86
30	.	3.10	.	7.24
31				
TT Monthly Totals	.	207.28	.	273.91
 Daily Means	.	6.91	.	9.13
SS Monthly Totals				
 Daily Means				
Types of	PIRANOMETRO	PIRANOMETRO	PIRANOMETRO	PIRANOMETRO
Instruments	PSP EPPLEY	PSP EPPLEY	PSP EPPLEY	PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: SEPTIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	53°00' S			
Longitude	70°51' W			
Elevation	37 m			
Station	PUNTA ARENAS			
Date				
1	6.75			
2	9.12			
3	10.33			
4	11.36			
5	8.89			
6	4.33			
7	6.23			
8	4.40			
9	2.82			
10	3.89			
11	4.37			
12	2.19			
13	6.65			
14	3.82			
15	1.92			
16	7.08			
17	2.90			
18	11.95			
19	7.74			
20	12.55			
21	9.25			
22	6.67			
23	5.19			
24	10.57			
25	14.73			
26	13.48			
27	8.76			
28	8.59			
29	5.87			
30	14.08			
31				
TT Monthly Totals	226.47			
 Daily Means	7.55			
SS Monthly Totals				
 Daily Means				
Types of Instruments	PIRANOMETRO PSP EPPLEY			

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **OCTUBRE**

Years: **2002**

Country: **CHILE**

Daily Totals				
Latitude	18°20' S	22°29' S	23°26' S	27°09' S
Longitude	70°20' W	68°54' W	70°26' W	109°25' W
Elevation	58 m	2270 m	135 m	51 m
Station	ARICA	CALAMA	ANTOFAGASTA	ISLA DE PASCUA
Date				
1	.	.	17.19	.
2	.	.	18.99	.
3	.	.	17.48	.
4	.	.	19.43	.
5	.	.	17.86	.
6	.	.	19.45	.
7	.	.	17.81	.
8	.	.	18.74	.
9	.	.	14.30	.
10	.	.	16.68	.
11	.	.	17.29	.
12	.	.	16.35	.
13	.	.	9.50	.
14	.	.	18.06	.
15	.	.	8.44	.
16	.	.	18.70	.
17	.	.	19.02	.
18	.	.	15.81	.
19	.	.	17.36	.
20	.	.	20.94	.
21	.	.	16.62	.
22	.	.	20.67	.
23	.	.	11.98	.
24	.	.	16.39	.
25	.	.	18.26	.
26	.	.	19.76	.
27	.	.	21.16	.
28	.	.	19.51	.
29	.	.	20.14	.
30	.	.	19.52	.
31	.	.	20.40	.
TT Monthly Totals	.	.	543.82	.
 Daily Means	.	.	17.54	.
SS Monthly Totals				
 Daily Means				
Types of Instruments	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **OCTUBRE**Years: **2002**Country: **CHILE**

Daily Totals				
Latitude	27°18' S	28°35' S	33°23' S	34°06' S
Longitude	70°25' W	70°46' W	70°47' W	71°45' W
Elevation	291 m	469 m	475 m	296 m
Station	COPIAPO	VALLENAR	PUDAHUEL	HIDANGO
Date				
1	27.35	19.74	20.95	21.70
2	30.26	19.61	20.66	20.23
3	30.42	20.10	15.22	9.67
4	33.83	20.45	21.93	19.92
5	32.74	20.49	20.88	21.62
6	29.74	20.72	19.51	20.52
7	32.93	21.34	17.33	17.74
8	31.37	20.83	19.80	24.27
9	30.78	21.05	23.04	24.57
10	30.63	20.97	22.79	24.50
11	27.95	19.29	7.96	9.30
12	30.74	21.21	22.42	21.84
13	22.80	17.51	17.90	10.91
14	30.15	19.59	6.52	5.56
15	27.11	20.46	16.99	20.72
16	29.89	20.01	24.81	26.44
17	26.98	21.21	24.22	25.58
18	25.75	20.93	11.68	20.94
19	28.73	20.89	12.51	9.70
20	29.14	21.98	24.77	23.89
21	29.34	20.07	20.06	24.76
22	21.71	13.75	22.69	26.44
23	22.56	19.72	10.98	8.40
24	29.02	21.84	22.36	17.33
25	24.57	22.22	11.71	15.09
26	29.22	22.24	6.65	14.23
27	23.35	20.67	21.27	23.52
28	21.71	17.68	12.56	27.82
29	26.94	21.59	25.79	27.67
30	26.51	22.15	25.34	26.40
31	26.19	20.00	23.22	20.66
TT Monthly Totals	870.39	630.32	574.50	611.96
 Daily Means	28.08	20.33	18.53	19.74
SS Monthly Totals				
 Daily Means				
Types of	PIRANOMETRO	PIRANOMETRO	PIRANOMETRO	PIRANOMETRO
Instruments	PSP EPPLEY	PSP EPPLEY	PSP EPPLEY	PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **OCTUBRE**

Years: **2002**

Country: **CHILE**

Daily Totals				
Latitude	34°58' S	35°58' S	36°46' S	37°24' S
Longitude	71°14' W	72°20' W	73°03' W	72°26' W
Elevation	228 m	142 m	12 m	109 m
Station	CURICO	CAUQUENES	CONCEPCION	LOS ANGELES
Date				
1	15.98	.	.	.
2	17.42	.	.	.
3	12.07	.	.	.
4	17.13	.	.	.
5	20.29	.	.	.
6	16.09	.	.	.
7	21.58	.	.	.
8	22.75	.	.	.
9	23.32	.	.	.
10	22.39	.	.	.
11	3.82	.	.	.
12	16.97	.	.	.
13	2.95	.	.	.
14	2.99	.	.	.
15	15.52	.	.	.
16	23.68	.	.	.
17	22.20	.	.	.
18	8.82	.	.	.
19	4.12	.	.	.
20	22.60	.	.	.
21	22.40	.	.	.
22	20.17	.	.	.
23	6.94	.	.	.
24	19.62	.	.	.
25	7.40	.	.	.
26	7.09	.	.	.
27	16.35	.	.	.
28	23.95	.	.	.
29	24.72	.	.	.
30	24.91	.	.	.
31	15.22	.	.	.
TT Monthly Totals	501.47	.	.	.
 Daily Means	16.18	.	.	.
SS Monthly Totals				
 Daily Means				
Types of	PIRANOMETRO	PIRANOMETRO	PIRANOMETRO	PIRANOMETRO
Instruments	PSP EPPLEY	PSP EPPLEY	PSP EPPLEY	PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **OCTUBRE**

Years: **2002**

Country: **CHILE**

Daily Totals				
Latitude	38°45' S	41°25' S	42°55' S	45°35' S
Longitude	72°38' W	73°05' W	72°43' W	72°07' W
Elevation	114 m	85 m	7 m	310 m
Station	TEMUCO	PUERTO MONTT	CHAITEN	COYHAIQUE
Date				
1	.	2.52	.	12.56
2	.	10.04	.	9.59
3	.	6.71	.	7.43
4	.	10.52	.	9.97
5	.	6.56	.	7.92
6	.	15.00	.	9.95
7	.	16.47	.	10.58
8	.	5.11	.	8.67
9	.	13.63	.	4.19
10	.	8.79	.	13.46
11	.	3.18	.	14.26
12	.	2.51	.	7.34
13	.	12.90	.	13.28
14	.	16.38	.	16.34
15	.	16.08	.	12.73
16	.	10.75	.	14.67
17	.	9.67	.	10.32
18	.	16.91	.	13.62
19	.	24.39	.	22.82
20	.	12.42	.	23.89
21	.	14.66	.	19.45
22	.	23.55	.	18.43
23	.	13.19	.	8.74
24	.	5.55	.	18.68
25	.	15.68	.	13.29
26	.	12.79	.	22.39
27	.	13.49	.	24.19
28	.	20.30	.	10.42
29	.	16.72	.	11.34
30	.	11.90	.	11.31
31	.	5.16	.	15.91
TT Monthly Totals	.	373.55	.	417.72
 Daily Means	.	12.05	.	13.47
SS Monthly Totals				
 Daily Means				
Types of Instruments	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **OCTUBRE**

Years: **2002**

Country: **CHILE**

Daily Totals				
Latitude	53°00' S			
Longitude	70°51' W			
Elevation	37 m			
Station	PUNTA ARENAS			
Date				
1	2.72			
2	14.20			
3	12.76			
4	2.73			
5	16.59			
6	17.97			
7	15.95			
8	11.90			
9	15.10			
10	15.40			
11	15.78			
12	9.30			
13	12.95			
14	11.90			
15	9.86			
16	16.77			
17	15.66			
18	20.92			
19	13.32			
20	17.53			
21	21.27			
22	14.74			
23	11.62			
24	14.64			
25	22.24			
26	11.22			
27	19.72			
28	7.05			
29	15.55			
30	15.53			
31	20.14			
TT Monthly Totals	443.05			
 Daily Means	14.29			
SS Monthly Totals				
 Daily Means				
Types of Instruments	PIRANOMETRO PSP EPPLEY			

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **NOVIEMBRE**

Years: **2002**

Country: **CHILE**

Daily Totals				
Latitude	18°20' S	22°29' S	23°26' S	27°09' S
Longitude	70°20' W	68°54' W	70°26' W	109°25' W
Elevation	58 m	2270 m	135 m	51 m
Station	ARICA	CALAMA	ANTOFAGASTA	ISLA DE PASCUA
Date				
1	.	.	19.51	.
2	.	.	19.67	.
3	.	.	19.68	.
4	.	.	18.89	.
5	.	.	4.51	.
6	.	.	21.25	.
7	.	.	26.35	.
8	.	.	19.77	.
9	.	.	17.42	.
10	.	.	18.45	.
11	.	.	21.47	.
12	.	.	18.94	.
13	.	.	21.28	.
14	.	.	20.23	.
15	.	.	19.39	.
16	.	.	19.77	.
17	.	.	20.50	.
18	.	.	21.19	.
19	.	.	20.83	.
20	.	.	21.75	.
21	.	.	19.45	.
22	.	.	17.35	.
23	.	.	18.21	.
24	.	.	20.53	.
25	.	.	20.05	.
26	.	.	22.17	.
27	.	.	21.19	.
28	.	.	20.57	.
29	.	.	18.84	.
30	.	.	21.09	.
31				
TT Monthly Totals	.	.	590.30	.
 Daily Means	.	.	19.68	.
SS Monthly Totals				
 Daily Means				
Types of Instruments	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **NOVIEMBRE**

Years: **2002**

Country: **CHILE**

Daily Totals				
Latitude	27°18' S	28°35' S	33°23' S	34°06' S
Longitude	70°25' W	70°46' W	70°47' W	71°45' W
Elevation	291 m	469 m	475 m	296 m
Station	COPIAPO	VALLENAR	PUDAHUEL	HIDANGO
Date				
1	28.06	21.78	19.82	14.00
2	26.22	22.36	15.28	21.98
3	29.51	22.60	27.38	28.34
4	28.08	22.65	26.74	27.94
5	27.77	22.90	25.24	21.82
6	24.21	17.89	18.09	17.88
7	28.88	22.16	26.09	26.17
8	30.24	23.13	22.42	.
9	30.08	23.03	27.31	.
10	30.32	23.14	28.15	.
11	28.67	22.97	28.33	29.03
12	26.66	21.85	27.63	29.25
13	24.99	21.06	27.73	29.21
14	27.90	22.81	28.32	28.77
15	26.20	20.15	28.44	28.91
16	13.54	9.03	26.70	25.38
17	30.66	23.03	24.26	19.52
18	27.74	23.41	28.42	28.73
19	29.31	17.73	19.74	26.23
20	32.08	23.27	28.91	29.82
21	31.59	21.87	29.41	30.35
22	27.00	22.77	28.64	29.36
23	26.70	21.94	28.35	28.96
24	26.37	21.18	27.56	10.28
25	36.06	23.73	28.22	27.98
26	34.03	19.60	19.54	27.53
27	36.15	21.97	28.59	30.31
28	31.41	22.95	28.70	28.00
29	35.33	17.05	26.72	27.98
30	40.58	19.68	18.47	9.63
31				
TT Monthly Totals	876.34	639.69	769.22	.
 Daily Means	29.21	21.32	25.64	25.31
SS Monthly Totals				
 Daily Means				
Types of	PIRANOMETRO	PIRANOMETRO	PIRANOMETRO	PIRANOMETRO
Instruments	PSP EPPLEY	PSP EPPLEY	PSP EPPLEY	PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **NOVIEMBRE**

Years: **2002**

Country: **CHILE**

Daily Totals				
Latitude	34°58' S	35°58' S	36°46' S	37°24' S
Longitude	71°14' W	72°20' W	73°03' W	72°26' W
Elevation	228 m	142 m	12 m	109 m
Station	CURICO	CAUQUENES	CONCEPCION	LOS ANGELES
Date				
1	5.09	.	.	.
2	11.90	.	.	.
3	24.51	.	.	.
4	25.37	.	.	.
5	23.26	.	.	.
6	10.77	.	.	.
7	22.38	.	.	.
8	15.31	.	.	.
9	25.81	.	.	.
10	24.35	.	.	.
11	25.31	.	.	.
12	25.72	.	.	.
13	23.52	.	.	.
14	25.11	.	.	.
15	19.11	.	.	.
16	24.24	.	.	.
17	10.69	.	.	.
18	23.70	.	.	.
19	24.10	.	.	.
20	26.35	.	.	.
21	24.19	.	.	.
22	26.60	.	.	.
23	23.09	.	.	.
24	16.34	.	.	.
25	25.04	.	.	.
26	17.37	.	.	.
27	23.27	.	.	.
28	25.50	.	.	.
29	21.83	.	.	.
30	18.00	.	.	.
31				
TT Monthly Totals	637.82	.	.	.
 Daily Means	21.26	.	.	.
SS Monthly Totals				
 Daily Means				
Types of	PIRANOMETRO	PIRANOMETRO	PIRANOMETRO	PIRANOMETRO
Instruments	PSP EPPLEY	PSP EPPLEY	PSP EPPLEY	PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **NOVIEMBRE**Years: **2002**Country: **CHILE**

Daily Totals				
Latitude	38°45' S	41°25' S	42°55' S	45°35' S
Longitude	72°38' W	73°05' W	72°43' W	72°07' W
Elevation	114 m	85 m	7 m	310 m
Station	TEMUCO	PUERTO MONTT	CHAITEN	COYHAIQUE
Date				
1	.	10.53	.	26.58
2	.	10.22	.	25.78
3	.	16.93	.	26.22
4	.	25.71	.	27.26
5	.	24.30	.	27.40
6	.	5.74	.	17.75
7	.	13.46	.	14.61
8	.	18.84	.	19.96
9	.	15.57	.	23.14
10	.	12.81	.	23.78
11	.	12.52	.	17.59
12	.	3.64	.	9.03
13	.	4.74	.	19.81
14	.	16.43	.	25.93
15	.	7.89	.	8.98
16	.	5.40	.	23.62
17	.	17.70	.	19.34
18	.	9.28	.	8.90
19	.	17.96	.	13.55
20	.	22.68	.	25.62
21	.	21.59	.	20.44
22	.	13.75	.	19.88
23	.	13.14	.	29.41
24	.	14.63	.	14.00
25	.	8.59	.	5.39
26	.	17.55	.	23.61
27	.	12.98	.	19.94
28	.	24.73	.	20.74
29	.	24.78	.	29.87
30	.	27.88	.	29.86
31				
TT Monthly Totals	.	452.00	.	618.00
 Daily Means	.	15.07	.	20.60
SS Monthly Totals				
 Daily Means				
Types of Instruments	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **NOVIEMBRE**

Years: **2002**

Country: **CHILE**

Daily Totals				
Latitude	53°00' S			
Longitude	70°51' W			
Elevation	37 m			
Station	PUNTA ARENAS			
Date				
1	14.24			
2	20.54			
3	18.87			
4	8.55			
5	7.42			
6	22.13			
7	10.87			
8	22.77			
9	14.63			
10	21.70			
11	19.72			
12	20.82			
13	11.53			
14	21.45			
15	13.17			
16	19.38			
17	24.35			
18	16.32			
19	12.81			
20	24.22			
21	18.94			
22	26.00			
23	28.14			
24	20.80			
25	24.10			
26	19.13			
27	18.20			
28	14.09			
29	11.02			
30	23.46			
31				
TT Monthly Totals	549.36			
 Daily Means	18.31			
SS Monthly Totals				
 Daily Means				
Types of	PIRANOMETRO			
Instruments	PSP EPPLEY			

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: DICIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	18°20' S	22°29' S	23°26' S	27°09' S
Longitude	70°20' W	68°54' W	70°26' W	109°25' W
Elevation	58 m	2270 m	135 m	51 m
Station	ARICA	CALAMA	ANTOFAGASTA	ISLA DE PASCUA
Date				
1	.	.	15.49	.
2	.	.	19.37	.
3	.	.	21.15	.
4	.	.	21.75	.
5	.	.	19.45	.
6	.	.	17.48	.
7	.	.	21.18	.
8	.	.	22.01	.
9	.	.	22.16	.
10	.	.	22.19	.
11	.	.	22.30	.
12	.	.	21.47	.
13	.	.	20.32	.
14	.	.	21.92	.
15	.	.	21.02	.
16	.	.	22.32	.
17	.	.	21.97	.
18	.	.	20.74	.
19	.	.	21.97	.
20	.	.	20.86	.
21	.	.	21.91	.
22	.	.	22.06	.
23	.	.	13.03	.
24	.	.	22.24	.
25	.	.	21.24	.
26	.	.	22.46	.
27	.	.	22.16	.
28	.	.	21.98	.
29	.	.	21.83	.
30	.	.	22.65	.
31	.	.	21.18	.
TT Monthly Totals	.	.	649.86	.
 Daily Means	.	.	20.96	.
SS Monthly Totals				
 Daily Means				
Types of Instruments	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **DICIEMBRE**

Years: **2002**

Country: **CHILE**

Daily Totals				
Latitude	27°18' S	28°35' S	33°23' S	34°06' S
Longitude	70°25' W	70°46' W	70°47' W	71°45' W
Elevation	291 m	469 m	475 m	296 m
Station	COPIAPO	VALLENAR	PUDAHUEL	HIDANGO
Date				
1	43.03	24.02	27.94	25.63
2	37.17	22.20	28.46	28.67
3	.	17.51	27.46	18.68
4	40.59	24.28	21.88	27.46
5	42.89	24.44	19.39	23.27
6	39.05	24.16	22.54	19.63
7	33.65	24.23	25.84	27.94
8	38.06	21.43	26.69	9.58
9	36.74	24.65	.	15.41
10	38.61	24.57	.	27.12
11	35.26	24.84	.	30.56
12	35.59	24.28	.	30.84
13	26.20	17.41	.	29.28
14	31.56	24.37	.	27.07
15	31.05	20.63	.	24.96
16	26.76	23.95	.	30.70
17	26.93	18.86	29.72	30.82
18	29.35	20.61	28.23	25.70
19	34.78	21.12	29.14	31.72
20	33.12	24.92	29.61	31.04
21	27.61	22.36	23.53	26.29
22	27.51	24.27	19.41	22.38
23	33.21	24.90	29.24	30.98
24	32.89	24.72	26.17	28.07
25	30.11	24.40	29.48	30.89
26	26.69	21.14	29.13	30.95
27	27.56	19.19	28.81	30.97
28	.	24.61	29.95	31.36
29	.	24.59	30.02	31.13
30	.	22.86	29.45	30.70
31	.	24.37	29.40	30.84
TT Monthly Totals	.	709.87	.	840.63
 Daily Means	.	22.90	.	27.12
SS Monthly Totals				
 Daily Means				
Types of	PIRANOMETRO	PIRANOMETRO	PIRANOMETRO	PIRANOMETRO
Instruments	PSP EPPLEY	PSP EPPLEY	PSP EPPLEY	PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **DICIEMBRE**

Years: **2002**

Country: **CHILE**

Daily Totals				
Latitude	34°58' S	35°58' S	36°46' S	37°24' S
Longitude	71°14' W	72°20' W	73°03' W	72°26' W
Elevation	228 m	142 m	12 m	109 m
Station	CURICO	CAUQUENES	CONCEPCION	LOS ANGELES
Date				
1	25.45	.	.	.
2	26.03	.	.	.
3	26.18	.	.	.
4	24.71	.	.	.
5	15.98	.	.	.
6	13.25	.	.	.
7	25.87	.	.	.
8	24.48	.	.	.
9	17.56	.	.	.
10	22.36	.	.	.
11	25.87	.	.	.
12	24.61	.	.	.
13	25.63	.	.	.
14	22.13	.	.	.
15	17.24	.	.	.
16	19.76	.	.	.
17	26.05	.	.	.
18	25.16	.	.	.
19	27.06	.	.	.
20	27.07	.	.	.
21	19.41	.	.	.
22	12.53	.	.	.
23	28.27	.	.	.
24	23.98	.	.	.
25	26.60	.	.	.
26	26.49	.	.	.
27	24.83	.	.	.
28	26.74	.	.	.
29	26.65	.	.	.
30	24.72	.	.	.
31	26.82	.	.	.
TT Monthly Totals	729.47	.	.	.
 Daily Means	23.53	.	.	.
SS Monthly Totals				
 Daily Means				
Types of Instruments	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **DICIEMBRE**

Years: **2002**

Country: **CHILE**

Daily Totals				
Latitude	38°45' S	41°25' S	42°55' S	45°35' S
Longitude	72°38' W	73°05' W	72°43' W	72°07' W
Elevation	114 m	85 m	7 m	310 m
Station	TEMUCO	PUERTO MONTT	CHAITEN	COYHAIQUE
Date				
1	.	28.83	.	22.42
2	.	26.41	.	30.98
3	.	21.07	.	28.14
4	.	20.70	.	15.96
5	.	9.36	.	21.14
6	.	30.23	.	27.07
7	.	29.18	.	30.69
8	.	29.18	.	28.49
9	.	29.59	.	29.42
10	.	25.94	.	19.13
11	.	20.41	.	16.65
12	.	29.00	.	31.37
13	.	26.69	.	24.38
14	.	8.21	.	12.25
15	.	18.48	.	25.12
16	.	16.99	.	29.78
17	.	19.26	.	16.74
18	.	7.22	.	16.36
19	.	13.29	.	16.78
20	.	10.67	.	14.26
21	.	9.84	.	13.19
22	.	22.25	.	6.94
23	.	6.49	.	16.30
24	.	20.10	.	22.60
25	.	5.39	.	8.38
26	.	19.06	.	23.30
27	.	19.91	.	20.91
28	.	30.05	.	26.46
29	.	25.31	.	25.74
30	.	23.68	.	31.19
31	.	29.54	.	31.36
TT Monthly Totals	.	632.35	.	683.49
 Daily Means	.	20.40	.	22.05
SS Monthly Totals				
 Daily Means				
Types of Instruments	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY	PIRANOMETRO PSP EPPLEY

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **DICIEMBRE**

Years: **2002**

Country: **CHILE**

Daily Totals				
Latitude	53°00' S			
Longitude	70°51' W			
Elevation	37 m			
Station	PUNTA ARENAS			
Date				
1	13.42			
2	24.15			
3	10.70			
4	24.69			
5	24.06			
6	18.53			
7	24.35			
8	20.33			
9	15.03			
10	8.14			
11	20.69			
12	16.96			
13	9.35			
14	26.13			
15	23.26			
16	28.07			
17	19.59			
18	17.95			
19	23.34			
20	25.10			
21	23.50			
22	26.72			
23	12.35			
24	23.40			
25	11.52			
26	31.05			
27	20.68			
28	29.73			
29	15.04			
30	20.09			
31	14.38			
TT Monthly Totals	622.30			
 Daily Means	20.07			
SS Monthly Totals				
 Daily Means				
Types of	PIRANOMETRO			
Instruments	PSP EPPLEY			

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: JULIO

Years: 2002

Country: CHILE

Daily Totals				
Latitude	18°21' S	20°32' S	22°28' S	23°26' S
Longitude	70°19'W	72°10' W	68°55' W	70°26' W
Elevation	58 m	52 m	270 m	135 m
Station	ARICA	IQUIQUE	CALAMA	ANTOFAGASTA
Date				
1	0.0	0.8	8.3	4.3
2	0.2	0.0	0.0	1.1
3	0.0	0.0	4.5	0.0
4	2.7	9.5	9.4	5.1
5	7.9	9.7	9.7	10.0
6	10.2	10.0	10.4	9.7
7	4.4	8.2	10.6	9.6
8	1.7	7.8	9.4	8.1
9	0.2	6.7	10.5	5.6
10	0.4	2.2	10.1	1.9
11	6.0	9.7	8.5	9.4
12	3.4	6.4	10.6	4.5
13	0.8	1.3	10.6	3.6
14	0.5	6.2	9.0	5.3
15	0.1	3.7	10.5	5.5
16	0.0	1.0	10.5	3.9
17	4.3	7.9	10.1	6.5
18	2.6	4.1	10.5	4.2
19	1.9	0.2	10.5	0.7
20	4.3	1.3	9.6	2.9
21	5.5	9.6	10.6	9.8
22	3.7	3.1	10.7	6.0
23	1.1	3.4	10.8	1.9
24	1.1	8.3	10.7	8.6
25	4.0	2.2	10.7	4.7
26	4.0	8.9	10.7	5.8
27	5.1	1.8	10.7	8.9
28	1.5	0.7	10.8	6.9
29	1.3	0.3	10.0	6.8
30	4.1	9.3	10.8	9.5
31	3.0	6.4	10.8	8.1
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	86.0	150.7	300.6	178.9
 Daily Means	2.8	4.9	9.7	5.8
Types of	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO
Instruments	CAMPELL	CAMPELL	CAMPELL	CAMPELL
	STOKES	STOKES	STOKES	STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: JULIO

Years: 2002

Country: CHILE

Daily Totals				
Latitude	27°10' S	27°18' S	28°35' S	29°57' S
Longitude	109°26' W	70°25' W	70°46' W	71°22' W
Elevation	47 m	291 m	469 m	25 m
Station	ISLA DE PASCUA	COPIAPO	VALLENAR	LA SERENA
Date				
1	7.6	5.1	0.3	2.5
2	7.7	5.3	4.7	8.4
3	5.4	8.5	9.1	8.9
4	1.6	5.9	3.6	3.0
5	8.6	1.4	0.5	2.5
6	6.3	8.6	.	9.1
7	5.4	8.7	.	9.6
8	6.2	7.2	8.5	3.4
9	4.2	8.7	9.3	8.7
10	0.0	7.0	8.6	9.3
11	9.6	7.4	6.1	3.6
12	8.9	8.9	9.3	9.9
13	4.4	7.9	.	5.2
14	5.5	7.3	.	0.0
15	6.8	6.0	4.2	0.1
16	2.6	4.1	5.3	0.0
17	0.0	4.9	4.6	0.0
18	0.4	8.8	7.0	1.4
19	1.2	4.1	1.5	0.2
20	0.1	2.1	.	0.1
21	1.8	7.6	.	6.6
22	8.5	3.4	0.0	0.2
23	7.0	6.3	0.0	9.3
24	9.1	5.0	7.2	9.0
25	6.0	8.8	9.5	9.3
26	8.6	8.6	9.7	9.7
27	8.1	8.9	.	10.0
28	1.0	8.0	.	3.8
29	6.3	5.1	6.0	0.3
30	0.5	8.7	4.5	4.1
31	9.1	8.8	9.5	9.6
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	158.5	207.1	.	157.8
 Daily Means	5.1	6.7	.	5.1
Types of	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO
Instruments	CAMPELL	CAMPELL	CAMPELL	CAMPELL
	STOKES	STOKES	STOKES	STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: JULIO

Years: 2002

Country: CHILE

Daily Totals				
Latitude	32°51' S	33°23' S	33°27' S	33°37' S
Longitude	70°37' W	70°47' W	70°42' W	78°50' W
Elevation	880 m	474 m	520 m	30 m
Station	CALLE LARGA	PUDAHUEL	QUINTA NORMAL	ROBINSON CRUSOE
Date				
1	3.1	5.2	4.3	0.9
2	6.4	7.9	6.9	3.1
3	8.0	8.1	7.3	5.1
4	5.6	8.1	7.3	5.5
5	8.2	5.3	5.9	1.3
6	8.8	8.0	7.3	3.6
7	9.0	8.3	7.8	5.5
8	4.4	2.8	1.3	5.5
9	0.8	2.6	1.7	4.8
10	8.5	8.3	7.7	3.6
11	6.2	3.7	2.6	4.1
12	9.2	8.6	7.7	4.4
13	9.1	8.4	7.2	5.7
14	9.1	8.7	7.7	1.5
15	8.3	8.3	6.7	0.0
16	3.3	2.4	2.4	0.0
17	3.2	3.1	3.3	0.7
18	5.3	4.1	3.4	0.1
19	0.5	0.4	0.1	1.3
20	0.0	0.0	0.1	1.9
21	7.0	4.8	5.1	0.0
22	0.0	0.0	0.0	2.5
23	0.0	0.0	0.0	4.7
24	8.7	8.4	8.0	3.4
25	8.5	8.0	8.0	4.7
26	8.8	9.0	8.3	4.8
27	9.4	8.7	7.9	5.9
28	9.1	9.2	7.9	3.5
29	0.1	0.4	0.0	4.2
30	0.0	0.5	0.5	4.4
31	7.3	8.5	8.2	6.1
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	175.9	169.8	152.6	102.8
 Daily Means	5.7	5.5	4.9	3.3
Types of Instruments	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: JULIO

Years: 2002

Country: CHILE

Daily Totals				
Latitude	33°39' S	34°06' S	34°58' S	36°36' S
Longitude	71°36' W	71°45' W	71°12' W	72°26' W
Elevation	74 m	296 m	225 m	124 m
Station	SANTO DOMINGO	HIDANGO	CURICO	CHILLAN
Date				
1	7.5	7.8	0.9	4.4
2	7.4	7.8	3.1	4.4
3	4.3	6.9	5.1	4.4
4	6.9	5.5	5.5	8.8
5	6.5	8.5	1.3	1.9
6	6.4	.	3.6	8.0
7	7.5	.	5.5	5.9
8	5.8	6.0	5.5	3.5
9	4.7	6.5	4.8	3.1
10	7.2	7.3	3.6	2.8
11	5.3	4.0	4.1	6.4
12	7.4	9.0	4.4	6.6
13	7.8	.	5.7	6.0
14	6.4	.	1.5	3.9
15	6.6	7.4	0.0	4.4
16	3.1	5.9	0.0	3.1
17	0.1	1.0	0.7	2.3
18	0.0	0.0	0.1	2.5
19	0.0	1.1	1.3	0.0
20	0.0	.	1.9	0.0
21	4.2	.	0.0	1.3
22	0.0	0.9	2.5	0.0
23	0.8	0.0	4.7	1.6
24	8.2	9.0	3.4	4.1
25	8.4	9.1	4.7	7.8
26	7.9	9.1	4.8	2.7
27	8.5	.	5.9	6.9
28	7.4	.	3.5	7.2
29	0.0	0.0	4.2	0.0
30	3.5	5.5	4.4	1.0
31	8.0	7.5	6.1	9.5
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	157.8	.	102.8	124.5
 Daily Means	5.1	.	3.3	4.0
Types of	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO
Instruments	CAMPELL	CAMPELL	CAMPELL	CAMPELL
	STOKES	STOKES	STOKES	STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: JULIO

Years: 2002

Country: CHILE

Daily Totals				
Latitude	36°46' S	39°41' S	41°26' S	45°35' S
Longitude	73°03' W	73°04' W	73°07' W	72°07'W
Elevation	12 m	19 m	81 m	310 m
Station	CONCEPCION	VALDIVIA	PUERTO MONTT	COYHAIQUE
Date				
1	8.1	.	6.6	1.4
2	7.7	0.1	1.5	3.2
3	7.8	1.7	3.2	2.6
4	8.1	7.2	0.1	3.1
5	6.8	0.3	0.1	6.5
6	7.4	0.4	1.4	3.7
7	8.5	3.9	0.0	6.1
8	6.4	5.1	0.2	5.6
9	6.6	1.3	4.3	5.0
10	5.1	.	.	0.0
11	0.1	.	0.0	0.0
12	6.0	0.6	1.7	3.1
13	5.9	3.5	0.0	3.8
14	5.4	0.8	0.0	3.7
15	7.0	2.2	4.7	5.4
16	0.0	1.1	1.9	0.0
17	2.3	1.4	0.7	0.6
18	0.0	.	0.0	0.0
19	0.0	.	0.0	4.3
20	0.0	1.6	0.2	0.0
21	2.9	2.2	4.0	5.2
22	0.0	1.2	1.9	0.2
23	4.6	.	0.0	1.1
24	4.1	.	0.0	1.5
25	3.8	1.5	0.0	2.2
26	6.8	5.6	3.7	3.9
27	8.1	.	0.0	0.0
28	6.9	4.3	0.0	4.0
29	0.0	2.9	1.5	1.5
30	3.3	7.5	6.1	5.7
31	9.1	2.1	0.0	0.7
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	148.8	.	.	84.1
 Daily Means	4.8	.	1.5	2.7
Types of	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO
Instruments	CAMPELL	CAMPELL	CAMPELL	CAMPELL
	STOKES	STOKES	STOKES	STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: AGOSTO

Years: 2002

Country: CHILE

Daily Totals				
Latitude	27°10' S	27°18' S	28°35' S	29°57' S
Longitude	109°26' W	70°25' W	70°46' W	71°22' W
Elevation	47 m	291 m	469 m	25 m
Station	ISLA DE PASCUA	COPIAPO	VALLENAR	LA SERENA
Date				
1	4.1	9.0	10.0	9.8
2	8.1	8.8	9.0	6.7
3	7.3	5.8	.	1.9
4	8.6	8.7	.	5.1
5	8.1	6.5	7.0	1.2
6	9.0	8.8	8.8	8.9
7	9.7	6.3	5.1	2.4
8	5.8	9.0	10.2	9.3
9	0.2	9.0	9.6	9.9
10	7.2	6.0	.	5.7
11	4.4	7.6	.	6.2
12	5.3	5.0	7.0	4.8
13	6.2	3.2	4.0	0.0
14	5.8	6.0	5.9	0.0
15	9.3	7.7	8.3	0.0
16	6.5	7.3	9.2	2.6
17	8.5	1.0	.	0.0
18	5.8	7.8	.	7.0
19	8.4	8.6	9.7	9.7
20	9.2	9.0	4.9	9.5
21	7.7	9.0	10.3	9.6
22	6.1	6.1	1.9	4.1
23	6.5	7.0	4.6	0.0
24	10.2	9.0	.	6.1
25	10.4	6.8	.	0.0
26	10.7	6.0	7.8	0.0
27	2.5	1.4	0.0	0.0
28	4.5	8.8	8.8	10.6
29	9.0	8.7	10.7	10.6
30	10.3	6.2	8.8	8.6
31	9.3	8.8	.	10.9
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	224.7	218.9	.	161.2
 Daily Means	7.2	7.1	.	5.2
Types of	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO
Instruments	CAMPELL	CAMPELL	CAMPELL	CAMPELL
	STOKES	STOKES	STOKES	STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: AGOSTO

Years: 2002

Country: CHILE

Daily Totals				
Latitude	33°39' S	34°06' S	34°58' S	36°36' S
Longitude	71°36' W	71°45' W	71°12' W	72°26' W
Elevation	74 m	296 m	225 m	124 m
Station	SANTO DOMINGO	HIDANGO	CURICO	CHILLAN
Date				
1	6.0	.	8.0	6.5
2	1.1	3.1	0.0	1.2
3	0.3	.	0.5	4.5
4	2.7	.	1.4	2.2
5	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	7.3
8	10.0	9.1	7.5	7.2
9	10.1	9.6	8.1	6.1
10	9.3	.	6.9	0.7
11	8.3	.	0.0	5.2
12	9.8	9.5	7.6	9.1
13	10.1	.	9.1	8.9
14	10.2	9.1	4.7	6.7
15	7.4	.	6.5	6.1
16	0.0	5.7	2.2	6.9
17	0.6	.	1.1	3.5
18	0.6	.	0.0	0.0
19	6.3	5.7	2.8	2.4
20	10.0	8.9	6.2	8.0
21	9.6	8.1	3.6	5.2
22	3.9	3.4	0.9	0.0
23	0.0	0.0	0.0	0.0
24	1.2	.	0.0	0.0
25	1.8	.	0.0	0.0
26	1.0	0.0	0.3	0.0
27	0.0	0.0	0.0	0.0
28	1.7	0.0	0.0	0.8
29	3.9	6.0	5.8	9.2
30	10.6	9.6	6.7	10.1
31	10.5	.	7.3	9.1
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	147.0	.	97.2	126.9
 Daily Means	4.7	.	3.1	4.1
Types of	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO
Instruments	CAMPELL	CAMPELL	CAMPELL	CAMPELL
	STOKES	STOKES	STOKES	STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: SEPTIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	18°21' S	20°32' S	22°28' S	23°26' S
Longitude	70°19'W	72°10' W	68°55' W	70°26' W
Elevation	58 m	52 m	270 m	135 m
Station	ARICA	IQUIQUE	CALAMA	ANTOFAGASTA
Date				
1	3.6	.	11.0	9.0
2	1.2	.	10.9	8.7
3	6.0	.	11.2	7.5
4	3.9	.	11.1	6.2
5	4.3	.	11.3	6.5
6	5.0	.	11.2	8.8
7	6.2	.	11.1	8.7
8	5.1	.	11.3	8.7
9	5.7	.	9.8	3.7
10	3.6	.	10.5	8.6
11	5.8	.	10.7	7.3
12	3.6	.	11.3	5.8
13	5.1	.	11.2	9.5
14	0.9	.	11.3	6.9
15	6.4	.	11.4	10.2
16	8.8	.	11.4	7.9
17	5.3	.	11.3	7.8
18	5.4	.	11.3	2.6
19	3.4	.	11.0	5.1
20	5.3	.	11.5	9.4
21	1.9	.	11.5	8.4
22	5.5	.	11.4	9.7
23	7.9	.	11.4	6.3
24	7.1	.	11.4	6.4
25	10.4	.	11.4	9.9
26	11.3	.	11.4	10.3
27	10.4	.	11.3	8.7
28	5.1	.	11.2	8.4
29	4.7	.	11.3	7.0
30	5.0	.	11.3	9.8
31				
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	163.9	.	335.4	233.8
 Daily Means	5.5	.	11.2	7.8
Types of	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO
Instruments	CAMPELL	CAMPELL	CAMPELL	CAMPELL
	STOKES	STOKES	STOKES	STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: SEPTIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	27°10' S	27°18' S	28°35' S	29°57' S
Longitude	109°26' W	70°25' W	70°46' W	71°22' W
Elevation	47 m	291 m	469 m	25 m
Station	ISLA DE PASCUA	COPIAPO	VALLENAR	LA SERENA
Date				
1	8.2	6.4	.	3.0
2	7.5	5.3	6.8	0.0
3	2.1	6.0	6.0	0.0
4	7.6	5.7	3.9	0.4
5	5.5	0.0	0.0	0.0
6	2.5	7.4	10.5	9.8
7	9.1	8.5	8.3	5.3
8	9.5	8.7	8.9	7.1
9	9.8	5.9	0.9	0.2
10	1.2	8.7	10.3	10.1
11	8.6	8.5	8.1	9.4
12	8.3	9.7	7.2	0.6
13	0.0	6.3	4.3	4.3
14	0.0	9.0	4.9	2.7
15	0.8	6.2	5.6	2.0
16	10.4	8.2	8.2	9.1
17	11.1	10.1	11.0	9.2
18	8.7	9.0	9.5	4.0
19	6.3	10.0	10.7	10.1
20	11.1	10.5	11.9	11.1
21	10.4	8.4	9.9	9.3
22	8.9	4.7	.	0.5
23	3.1	8.7	9.0	9.2
24	1.7	7.8	10.5	4.2
25	8.2	6.1	6.5	0.0
26	8.4	7.4	9.0	0.0
27	9.8	7.5	11.0	1.8
28	2.3	8.1	11.3	10.5
29	6.9	6.6	7.3	0.5
30	6.6	10.7	10.4	10.3
31				
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	194.6	226.1	.	144.7
 Daily Means	6.5	7.5	7.9	4.8
Types of Instruments	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: SEPTIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	32°51' S	33°23' S	33°27' S	33°37' S
Longitude	70°37' W	70°47' W	70°42' W	78°50' W
Elevation	880 m	474 m	520 m	30 m
Station	CALLE LARGA	PUDAHUEL	QUINTA NORMAL	ROBINSON CRUSOE
Date				
1	10.2	9.9	8.6	6.6
2	4.1	6.6	5.6	3.9
3	0.4	0.6	0.2	4.3
4	0.0	0.0	0.0	0.3
5	0.3	2.1	0.2	4.2
6	10.0	9.7	8.4	4.6
7	0.0	0.0	0.0	0.0
8	0.0	0.2	0.0	3.8
9	5.9	6.7	5.0	5.3
10	1.5	1.5	0.9	4.4
11	4.9	9.6	8.3	5.4
12	1.5	2.0	2.2	1.6
13	7.6	8.5	7.5	2.5
14	0.1	0.0	0.0	6.7
15	9.7	9.9	8.3	3.3
16	8.6	9.7	5.6	5.9
17	0.0	0.4	0.5	2.2
18	0.1	4.5	1.9	7.4
19	8.7	8.6	8.0	8.1
20	7.0	8.0	6.7	3.6
21	10.0	10.1	9.0	5.4
22	6.2	7.8	7.1	7.9
23	10.0	10.0	9.1	5.3
24	10.0	10.1	9.1	0.7
25	9.5	10.2	9.0	4.8
26	7.3	8.8	7.4	2.4
27	7.5	3.9	2.4	7.4
28	10.1	6.4	6.6	5.3
29	10.1	10.2	9.8	6.2
30	10.1	11.0	10.9	7.5
31				
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	171.4	187.0	158.3	137.0
 Daily Means	5.7	6.2	5.3	4.6
Types of Instruments	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: SEPTIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	33°39' S	34°06' S	34°58' S	36°36' S
Longitude	71°36' W	71°45' W	71°12' W	72°26' W
Elevation	74 m	296 m	225 m	124 m
Station	SANTO DOMINGO	HIDANGO	CURICO	CHILLAN
Date				
1	10.7	.	9.6	6.8
2	8.5	7.4	4.8	4.7
3	1.2	3.3	0.0	0.0
4	0.0	0.0	0.0	0.0
5	8.0	7.2	8.4	5.2
6	10.7	9.8	10.0	9.9
7	1.2	.	0.0	5.2
8	4.8	.	2.6	2.1
9	1.0	.	2.7	0.0
10	4.5	10.0	2.6	6.3
11	10.4	0.0	9.9	10.3
12	2.3	0.0	1.0	0.0
13	9.0	0.0	7.2	5.9
14	0.4	.	0.8	0.4
15	3.9	.	9.3	4.8
16	2.5	0.0	0.3	0.4
17	0.5	0.0	1.0	5.1
18	9.6	.	6.9	5.7
19	10.4	.	9.5	7.7
20	9.0	.	7.8	6.6
21	11.0	.	7.7	8.4
22	8.9	.	6.1	6.6
23	10.9	10.6	9.9	10.2
24	10.2	10.6	9.4	2.7
25	7.8	10.6	5.9	10.9
26	10.1	7.5	5.4	10.0
27	4.1	10.6	0.0	3.1
28	11.1	.	6.7	9.0
29	7.4	.	10.9	10.3
30	10.9	10.6	9.2	8.5
31				
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	201.0	.	165.6	166.8
 Daily Means	6.7	.	5.5	5.6
Types of Instruments	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: SEPTIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	36°46' S	39°41' S	41°26' S	45°35' S
Longitude	73°03' W	73°04' W	73°07' W	72°07' W
Elevation	12 m	19 m	81 m	310 m
Station	CONCEPCION	VALDIVIA	PUERTO MONTT	COYHAIQUE
Date				
1	6.6	0.3	0.0	6.3
2	8.0	5.0	4.3	8.8
3	0.5	.	0.0	0.0
4	0.1	5.1	6.2	4.2
5	9.9	3.2	1.9	1.3
6	9.9	6.4	1.0	3.2
7	6.1	2.5	6.7	5.1
8	0.2	7.8	2.1	2.1
9	0.1	.	0.0	5.8
10	4.8	.	2.6	0.0
11	8.1	3.2	2.5	2.1
12	0.4	0.1	0.6	0.0
13	3.4	2.3	2.5	5.5
14	2.1	0.8	0.5	0.0
15	6.3	6.1	2.9	6.3
16	5.2	0.5	1.2	0.0
17	6.6	3.6	0.4	5.1
18	9.5	7.4	5.2	8.3
19	4.5	0.7	0.0	3.0
20	1.0	1.2	0.4	5.0
21	8.7	3.5	1.7	2.9
22	9.3	6.5	4.3	7.8
23	8.7	0.1	0.0	2.1
24	3.3	9.0	6.4	2.0
25	10.9	8.2	5.4	5.5
26	10.4	6.2	4.7	9.0
27	6.6	5.1	2.2	2.4
28	10.5	8.2	0.0	6.7
29	7.0	0.3	0.0	1.4
30	5.9	.	0.0	2.1
31				
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	174.6	.	65.7	114.0
 Daily Means	5.8	4.0	2.2	3.8
Types of	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO
Instruments	CAMPELL	CAMPELL	CAMPELL	CAMPELL
	STOKES	STOKES	STOKES	STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: SEPTIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	45°54' S	53°08' S	54°56' S	
Longitude	71°43' W	70°58' W	67°58' W	
Elevation	520 m	37 m	36 m	
Station	BALMACEDA	PUNTA ARENAS	PUERTO WILLIAMS	
Date				
1	7.0	5.7	.	
2	10.0	8.3	.	
3	0.0	9.9	.	
4	8.0	8.7	.	
5	1.6	4.9	.	
6	3.2	1.1	.	
7	3.8	2.4	.	
8	4.5	0.0	.	
9	5.5	0.0	.	
10	0.0	0.4	.	
11	4.9	0.0	.	
12	0.0	0.0	.	
13	9.2	2.6	.	
14	1.5	0.0	.	
15	7.2	0.0	.	
16	0.0	1.7	.	
17	9.8	0.2	.	
18	9.4	9.2	.	
19	4.1	2.6	.	
20	6.5	8.1	.	
21	2.6	4.0	.	
22	10.4	1.4	.	
23	7.3	0.0	.	
24	4.1	6.5	.	
25	9.3	10.6	.	
26	9.1	9.2	.	
27	5.5	2.3	.	
28	6.3	4.4	.	
29	1.1	0.2	.	
30	9.6	8.7	.	
31				
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	161.5	113.1	.	
 Daily Means	5.4	3.8	.	
Types of Instruments	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: OCTUBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	18°21' S	20°32' S	22°28' S	23°26' S
Longitude	70°19'W	72°10' W	68°55' W	70°26' W
Elevation	58 m	52 m	270 m	135 m
Station	ARICA	IQUIQUE	CALAMA	ANTOFAGASTA
Date				
1	7.2	1.1	11.2	7.9
2	6.0	10.7	11.4	10.8
3	3.9	8.5	11.5	7.8
4	6.7	10.0	11.5	10.4
5	5.1	0.2	11.5	8.7
6	6.2	10.8	11.2	10.3
7	3.2	0.1	11.6	.
8	5.0	0.0	11.0	.
9	8.7	6.8	10.4	.
10	5.4	6.2	11.1	.
11	5.7	9.2	11.2	.
12	4.4	3.0	6.2	8.0
13	3.5	0.7	3.4	1.5
14	9.0	2.3	6.6	7.9
15	2.0	8.4	9.9	0.2
16	2.3	9.3	9.4	10.8
17	7.6	5.4	5.8	9.3
18	6.8	8.4	11.1	6.1
19	7.2	6.1	11.3	6.7
20	6.2	10.5	11.6	10.6
21	0.2	0.7	11.5	6.0
22	11.0	10.9	11.1	11.0
23	8.7	7.9	9.1	3.0
24	7.7	7.9	6.9	7.5
25	6.3	11.1	12.0	7.2
26	6.5	7.0	12.0	9.2
27	11.0	11.6	12.0	11.2
28	6.3	9.8	12.1	9.6
29	6.0	10.0	12.0	9.4
30	7.3	8.3	11.9	9.2
31	10.9	11.7	11.9	9.7
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	194.0	214.6	321.4	.
 Daily Means	6.3	6.9	10.4	.
Types of	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO
Instruments	CAMPELL	CAMPELL	CAMPELL	CAMPELL
	STOKES	STOKES	STOKES	STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **OCTUBRE**Years: **2002**Country: **CHILE**

Daily Totals				
Latitude	27°10' S	27°18' S	28°35' S	29°57' S
Longitude	109°26' W	70°25' W	70°46' W	71°22' W
Elevation	47 m	291 m	469 m	25 m
Station	ISLA DE PASCUA	COPIAPO	VALLENAR	LA SERENA
Date				
1	10.0	7.7	10.5	0.0
2	6.6	9.1	9.4	10.6
3	5.4	8.9	11.3	9.2
4	6.4	10.3	11.5	10.9
5	5.4	10.3	11.0	1.7
6	6.6	8.6	.	11.4
7	11.4	11.0	10.9	11.3
8	11.5	9.9	11.8	5.7
9	11.6	9.9	11.5	11.3
10	7.8	9.3	11.5	9.9
11	9.0	7.5	11.3	8.3
12	7.3	10.1	.	9.2
13	10.2	6.9	.	3.7
14	2.8	11.1	10.5	6.8
15	8.9	9.2	9.7	11.4
16	1.8	11.7	10.2	10.2
17	8.5	8.8	11.4	7.9
18	7.8	8.4	10.4	5.4
19	6.1	10.1	.	4.3
20	4.7	10.4	.	11.0
21	8.9	10.6	8.6	10.8
22	11.5	7.1	5.5	5.6
23	12.3	7.0	10.8	1.1
24	8.5	11.5	11.8	12.0
25	6.7	8.1	11.8	10.9
26	0.4	11.1	.	12.4
27	4.2	7.9	.	11.6
28	3.2	7.0	8.1	10.7
29	11.9	9.3	8.7	6.8
30	10.2	9.1	10.0	1.5
31	4.6	8.9	8.3	5.4
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	232.2	286.8	.	249.0
 Daily Means	7.5	9.3	.	8.0
Types of	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO
Instruments	CAMPELL	CAMPELL	CAMPELL	CAMPELL
	STOKES	STOKES	STOKES	STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **OCTUBRE**Years: **2002**Country: **CHILE**

Daily Totals				
Latitude	32°51' S	33°23' S	33°27' S	33°37' S
Longitude	70°37' W	70°47' W	70°42' W	78°50' W
Elevation	880 m	474 m	520 m	30 m
Station	CALLE LARGA	PUDAHUEL	QUINTA NORMAL	ROBINSON CRUSOE
Date				
1	9.6	10.4	9.7	0.7
2	9.8	10.4	9.6	5.4
3	1.0	3.1	2.0	5.3
4	8.6	8.8	8.3	2.5
5	9.8	9.4	9.2	2.2
6	10.3	7.3	7.1	5.5
7	4.5	6.4	5.6	6.5
8	8.1	9.8	7.4	0.7
9	10.3	9.9	10.4	10.4
10	10.3	11.0	10.4	1.3
11	3.8	0.1	0.0	0.0
12	10.3	10.7	10.4	2.1
13	8.9	5.9	6.7	0.0
14	2.0	0.0	0.0	2.6
15	5.2	4.1	1.9	6.7
16	10.8	10.5	10.5	10.0
17	10.8	10.8	10.0	8.4
18	7.0	1.4	0.8	1.8
19	1.7	3.0	2.4	9.1
20	10.0	10.0	9.8	6.5
21	3.9	7.4	6.5	3.3
22	7.6	9.2	8.6	5.9
23	7.4	2.6	2.0	1.1
24	9.3	8.4	7.5	1.6
25	3.5	0.8	0.6	5.1
26	0.0	0.0	0.0	0.0
27	8.2	7.3	7.0	3.9
28	0.6	2.1	0.6	7.7
29	10.9	11.3	10.9	10.0
30	10.6	10.2	9.9	10.3
31	10.3	10.1	9.6	6.9
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	225.1	212.4	195.4	143.5
 Daily Means	7.3	6.9	6.3	4.6
Types of Instruments	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **OCTUBRE**Years: **2002**Country: **CHILE**

Daily Totals				
Latitude	33°39' S	34°06' S	34°58' S	36°36' S
Longitude	71°36' W	71°45' W	71°12' W	72°26' W
Elevation	74 m	296 m	225 m	124 m
Station	SANTO DOMINGO	HIDANGO	CURICO	CHILLAN
Date				
1	8.8	9.6	6.0	6.5
2	10.2	7.9	7.5	1.0
3	5.1	0.0	1.0	3.1
4	8.8	10.6	8.4	6.8
5	9.3	.	9.8	6.2
6	9.3	.	8.8	10.7
7	11.3	4.9	10.2	6.1
8	11.4	10.6	11.6	10.4
9	11.6	.	11.3	10.8
10	10.7	8.8	9.7	8.0
11	1.0	9.6	0.0	0.0
12	9.8	.	5.5	0.8
13	2.0	.	0.0	0.0
14	0.9	0.0	0.0	0.0
15	8.2	8.5	7.0	10.3
16	12.0	10.2	10.3	11.8
17	11.5	10.4	8.6	1.5
18	8.5	11.5	0.0	1.3
19	0.5	.	0.0	0.0
20	11.9	.	11.6	6.0
21	9.4	9.2	9.1	12.0
22	11.7	10.6	7.9	11.0
23	1.8	2.1	0.7	0.6
24	6.3	6.6	6.3	4.3
25	2.5	.	0.0	0.0
26	4.3	.	0.0	0.0
27	7.6	.	4.3	10.3
28	11.3	5.5	10.7	12.1
29	12.2	3.8	11.0	12.3
30	2.5	2.3	11.6	10.5
31	0.0	0.0	8.0	4.5
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	232.4	.	196.9	178.9
 Daily Means	7.5	.	6.4	5.8
Types of	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO
Instruments	CAMPELL	CAMPELL	CAMPELL	CAMPELL
	STOKES	STOKES	STOKES	STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **OCTUBRE**Years: **2002**Country: **CHILE**

Daily Totals				
Latitude	36°46' S	39°41' S	41°26' S	45°35' S
Longitude	73°03' W	73°04' W	73°07' W	72°07' W
Elevation	12 m	19 m	81 m	310 m
Station	CONCEPCION	VALDIVIA	PUERTO MONTT	COYHAIQUE
Date				
1	2.4	.	0.0	3.2
2	5.7	.	3.1	2.9
3	1.8	.	2.6	1.0
4	9.3	.	4.7	4.7
5	0.9	.	0.9	2.1
6	7.5	.	6.8	1.2
7	10.0	.	8.3	4.9
8	5.7	.	1.7	0.4
9	8.5	.	5.6	0.0
10	7.9	.	2.5	4.7
11	0.0	.	0.0	4.9
12	0.0	.	0.0	0.8
13	0.2	.	6.4	3.4
14	10.4	.	8.3	7.1
15	12.0	.	5.8	5.7
16	3.8	.	3.8	6.0
17	4.3	.	0.4	0.8
18	4.4	.	8.8	2.2
19	5.5	.	12.2	11.7
20	9.9	.	4.6	12.0
21	12.4	.	5.2	6.6
22	12.2	.	11.6	8.3
23	2.4	.	5.5	1.2
24	4.1	.	0.0	5.8
25	0.3	.	6.3	4.6
26	1.9	.	6.6	10.3
27	12.2	.	7.2	10.3
28	12.5	.	10.2	1.6
29	12.5	.	8.0	1.3
30	8.4	.	1.8	2.0
31	5.1	.	0.0	6.5
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	194.2	.	148.9	138.2
 Daily Means	6.3	.	4.8	4.5
Types of	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO
Instruments	CAMPELL	CAMPELL	CAMPELL	CAMPELL
	STOKES	STOKES	STOKES	STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: OCTUBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	45°54' S	53°08' S	54°56' S	
Longitude	71°43' W	70°58' W	67°58' W	
Elevation	520 m	37 m	36 m	
Station	BALMACEDA	PUNTA ARENAS	PUERTO WILLIAMS	
Date				
1	6.6	0.0	.	
2	4.1	8.9	.	
3	1.4	7.9	.	
4	7.4	0.0	.	
5	3.8	10.2	.	
6	4.9	11.0	.	
7	7.3	9.3	.	
8	1.6	5.3	.	
9	2.8	8.3	.	
10	6.4	9.5	.	
11	10.3	7.2	.	
12	6.7	1.1	.	
13	5.3	5.4	.	
14	10.2	4.6	.	
15	8.3	3.7	.	
16	10.3	8.0	.	
17	0.3	6.6	.	
18	1.3	12.9	.	
19	10.2	2.5	.	
20	11.5	7.4	.	
21	7.5	11.3	.	
22	12.1	6.2	.	
23	9.6	2.7	.	
24	9.9	7.4	.	
25	4.3	11.8	.	
26	12.2	2.1	.	
27	12.4	9.1	.	
28	3.0	0.0	.	
29	7.4	9.7	.	
30	5.6	6.9	.	
31	10.2	8.5	.	
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	214.9	205.5	.	
 Daily Means	6.9	6.6	.	
Types of Instruments	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: NOVIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	18°21' S	20°32' S	22°28' S	23°26' S
Longitude	70°19'W	72°10' W	68°55' W	70°26' W
Elevation	58 m	52 m	270 m	135 m
Station	ARICA	IQUIQUE	CALAMA	ANTOFAGASTA
Date				
1	9.7	11.6	11.9	8.7
2	6.6	9.2	11.9	8.5
3	8.0	10.4	11.7	8.6
4	8.7	9.5	12.0	8.6
5	5.3	5.6	12.0	8.3
6	6.0	5.2	12.0	6.4
7	8.9	11.6	11.9	9.6
8	5.7	8.0	12.0	8.3
9	6.1	4.5	12.1	6.1
10	7.2	8.6	12.0	7.9
11	7.2	4.7	12.0	10.8
12	6.1	10.0	12.1	8.1
13	7.1	9.0	12.1	11.0
14	7.1	6.3	11.5	9.7
15	9.6	4.3	7.2	9.8
16	11.2	9.1	8.6	10.3
17	8.1	10.5	12.3	9.8
18	7.2	11.0	12.1	9.5
19	7.6	6.8	12.0	10.4
20	11.3	11.3	12.0	11.2
21	7.0	10.4	11.7	8.3
22	5.9	8.9	4.9	6.9
23	7.8	11.6	10.7	8.0
24	8.4	8.8	10.3	9.2
25	6.1	9.1	11.9	8.3
26	4.4	9.7	11.5	11.4
27	7.9	8.3	10.7	9.7
28	6.7	10.3	11.9	9.2
29	7.1	5.4	11.0	6.5
30	11.2	11.1	11.0	9.9
31				
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	227.2	260.8	337.0	269.0
 Daily Means	7.6	8.7	11.2	9.0
Types of	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO
Instruments	CAMPELL	CAMPELL	CAMPELL	CAMPELL
	STOKES	STOKES	STOKES	STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **NOVIEMBRE**Years: **2002**Country: **CHILE**

Daily Totals				
Latitude	27°10' S	27°18' S	28°35' S	29°57' S
Longitude	109°26' W	70°25' W	70°46' W	71°22' W
Elevation	47 m	291 m	469 m	25 m
Station	ISLA DE PASCUA	COPIAPO	VALLENAR	LA SERENA
Date				
1	0.0	9.8	9.6	0.0
2	8.3	9.0	.	8.7
3	4.6	11.7	.	10.2
4	10.5	9.6	10.0	8.9
5	8.3	9.4	10.5	3.7
6	9.7	8.1	7.5	6.5
7	6.8	12.0	11.7	12.0
8	5.0	11.8	12.3	11.3
9	7.9	12.4	.	12.9
10	9.5	11.7	.	12.7
11	9.1	9.8	12.3	11.6
12	8.3	9.0	9.4	8.5
13	9.4	8.5	8.8	9.6
14	11.1	9.2	11.3	9.8
15	0.0	8.7	8.7	5.5
16	0.0	2.7	.	2.7
17	0.4	12.4	.	6.4
18	6.9	9.3	11.8	8.9
19	9.5	9.8	6.3	11.9
20	11.7	9.5	11.8	12.8
21	9.1	9.3	8.2	11.6
22	6.6	10.0	9.4	8.0
23	4.9	9.1	.	3.2
24	3.6	8.6	.	4.1
25	0.6	8.7	11.2	0.5
26	4.1	9.3	7.0	3.4
27	11.8	7.8	8.4	8.4
28	7.5	8.3	8.8	1.0
29	10.8	10.5	6.1	0.1
30	1.9	0.0	7.0	4.5
31				
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	197.9	276.0	.	219.4
 Daily Means	6.6	9.2	.	7.3
Types of Instruments	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **NOVIEMBRE**Years: **2002**Country: **CHILE**

Daily Totals				
Latitude	32°51' S	33°23' S	33°27' S	33°37' S
Longitude	70°37' W	70°47' W	70°42' W	78°50' W
Elevation	880 m	474 m	520 m	30 m
Station	CALLE LARGA	PUDAHUEL	QUINTA NORMAL	ROBINSON CRUSOE
Date				
1	.	7.3	6.1	.
2	.	2.1	0.8	.
3	.	11.4	10.0	.
4	.	11.9	10.8	.
5	.	10.9	9.8	.
6	.	6.6	5.8	.
7	.	10.0	10.2	.
8	.	9.6	5.8	.
9	.	11.5	11.0	.
10	.	12.0	11.1	.
11	.	11.8	11.2	.
12	.	11.9	11.3	.
13	.	12.0	11.4	.
14	.	12.0	11.3	.
15	.	12.1	11.1	.
16	.	11.9	11.0	.
17	.	8.2	6.7	.
18	.	11.7	11.1	.
19	.	3.5	1.5	.
20	.	11.7	11.0	.
21	.	12.2	11.9	.
22	.	12.0	11.3	.
23	.	12.2	11.3	.
24	.	12.1	11.5	.
25	.	11.6	11.3	.
26	.	6.3	6.3	.
27	.	11.8	11.1	.
28	.	12.1	11.5	.
29	.	10.8	8.7	.
30	.	4.1	3.5	.
31				
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	.	305.3	277.4	.
 Daily Means	.	10.2	9.2	.
Types of Instruments	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: NOVIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	33°39' S	34°06' S	34°58' S	36°36' S
Longitude	71°36' W	71°45' W	71°12' W	72°26' W
Elevation	74 m	296 m	225 m	124 m
Station	SANTO DOMINGO	HIDANGO	CURICO	CHILLAN
Date				
1
2
3
4	.	10.5	.	.
5	.	6.3	.	.
6	.	5.6	.	.
7	.	11.3	.	.
8	.	12.5	.	.
9
10
11	.	12.1	.	.
12	.	12.1	.	.
13	.	12.2	.	.
14	.	12.1	.	.
15	.	12.2	.	.
16
17
18	.	12.5	.	.
19
20
21	.	12.6	.	.
22
23
24
25
26
27	.	12.0	.	.
28	.	10.5	.	.
29	.	10.0	.	.
30
31
TT Monthly Totals				
 Daily Means				
SS Monthly Totals
 Daily Means
Types of Instruments	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: NOVIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	36°46' S	39°41' S	41°26' S	45°35' S
Longitude	73°03' W	73°04' W	73°07' W	72°07'W
Elevation	12 m	19 m	81 m	310 m
Station	CONCEPCION	VALDIVIA	PUERTO MONTT	COYHAIQUE
Date				
1	.	0.1	.	12.5
2	.	10.9	.	11.7
3	.	8.5	.	12.6
4	.	10.4	.	12.6
5	.	9.9	.	12.5
6	.	1.7	.	6.3
7	.	8.1	.	5.1
8	.	1.8	.	6.7
9	.	8.6	.	9.5
10	.	7.1	.	10.5
11	.	6.0	.	4.7
12	.	3.2	.	0.3
13	.	.	.	8.1
14	.	10.4	.	8.9
15	.	0.9	.	2.3
16	.	.	.	10.7
17	.	4.4	.	6.4
18	.	2.6	.	1.5
19	.	8.2	.	2.1
20	.	9.9	.	9.9
21	.	11.5	.	7.3
22	.	12.8	.	6.2
23	.	5.4	.	11.2
24	.	7.2	.	3.4
25	.	1.6	.	0.0
26	.	9.2	.	9.1
27	.	12.3	.	6.0
28	.	10.0	.	8.1
29	.	11.8	.	12.7
30	.	13.1	.	14.3
31				
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	.	.	.	233.2
 Daily Means	.	7.4	.	7.8
Types of Instruments	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES	HELIOGRAFO CAMPELL STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: NOVIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	45°54' S	53°08' S	54°56' S	
Longitude	71°43' W	70°58' W	67°58' W	
Elevation	520 m	37 m	36 m	
Station	BALMACEDA	PUNTA ARENAS	PUERTO WILLIAMS	
Date				
1	12.9	.	.	
2	12.3	.	.	
3	12.8	.	.	
4	12.8	.	.	
5	12.6	.	.	
6	6.9	.	.	
7	7.1	.	.	
8	7.3	.	.	
9	9.4	.	.	
10	10.1	.	.	
11	7.9	.	.	
12	5.9	.	.	
13	10.0	.	.	
14	11.9	.	.	
15	4.1	.	.	
16	11.0	.	.	
17	11.7	.	.	
18	3.4	.	.	
19	5.4	.	.	
20	12.7	.	.	
21	3.6	.	.	
22	11.1	.	.	
23	12.0	.	.	
24	10.6	.	.	
25	0.0	.	.	
26	9.4	.	.	
27	8.7	.	.	
28	11.1	.	.	
29	12.7	.	.	
30	13.2	.	.	
31				
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	280.6	.	.	
 Daily Means	9.4	.	.	
Types of	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO	
Instruments	CAMPELL	CAMPELL	CAMPELL	
	STOKES	STOKES	STOKES	

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: DICIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	18°21' S	20°32' S	22°28' S	23°26' S
Longitude	70°19'W	72°10' W	68°55' W	70°26' W
Elevation	58 m	52 m	270 m	135 m
Station	ARICA	IQUIQUE	CALAMA	ANTOFAGASTA
Date				
1	8.3	7.4	12.0	4.5
2	10.2	9.5	8.9	7.5
3	5.8	10.5	11.3	9.4
4	6.6	11.0	11.2	10.7
5	6.7	7.5	2.9	8.5
6	7.0	5.5	11.8	7.3
7	10.5	11.8	11.3	9.8
8	10.0	11.7	11.5	10.1
9	7.6	8.5	11.7	10.5
10	11.3	11.7	12.2	10.4
11	11.8	8.3	11.2	10.7
12	6.9	11.7	12.2	10.3
13	6.5	9.8	12.2	9.6
14	6.5	10.0	12.1	11.2
15	8.5	12.1	12.1	10.6
16	9.5	12.1	12.0	11.9
17	11.6	12.0	12.1	11.6
18	11.2	11.8	11.1	.
19	7.9	11.5	12.1	.
20	4.4	8.5	10.2	.
21	7.6	10.4	11.6	.
22	9.4	10.4	11.8	.
23	7.2	12.1	12.1	.
24	10.0	12.0	12.0	.
25	6.8	6.1	12.0	.
26	9.0	9.9	12.2	.
27	9.5	11.9	12.0	.
28	11.3	11.9	11.8	.
29	6.3	11.9	11.6	.
30	4.5	11.9	12.0	.
31	8.1	10.4	12.0	.
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	258.5	321.8	353.2	.
 Daily Means	8.3	10.4	11.4	.
Types of	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO
Instruments	CAMPELL	CAMPELL	CAMPELL	CAMPELL
	STOKES	STOKES	STOKES	STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: **DICIEMBRE**Years: **2002**Country: **CHILE**

Daily Totals				
Latitude	27°10' S	27°18' S	28°35' S	29°57' S
Longitude	109°26' W	70°25' W	70°46' W	71°22' W
Elevation	47 m	291 m	469 m	25 m
Station	ISLA DE PASCUA	COPIAPO	VALLENAR	LA SERENA
Date				
	6.7	12.6	12.7	10.8
2	5.3	9.0	9.4	6.0
3	5.9	9.5	7.2	0.0
4	0.0	12.5	12.5	13.0
5	11.4	12.7	12.7	12.8
6	12.8	9.8	12.5	12.3
7	7.6	8.1	12.2	9.6
8	3.5	11.0	9.1	4.4
9	4.6	9.8	12.4	11.3
10	12.1	12.5	12.5	13.1
11	13.2	9.8	12.6	5.6
12	12.2	9.8	10.9	2.2
13	4.5	6.9	7.0	0.9
14	2.8	8.5	.	0.9
15	10.8	8.6	.	4.7
16	13.0	7.3	12.6	2.8
17	11.0	7.9	7.5	0.0
18	5.9	9.1	8.3	3.6
19	12.5	12.2	12.6	13.2
20	7.4	11.7	12.4	13.0
21	10.1	8.4	.	12.2
22	11.4	8.4	.	10.7
23	7.3	11.3	12.6	12.8
24	11.4	12.3	11.9	12.9
25	11.9	9.4	.	12.7
26	11.7	8.1	8.7	3.3
27	12.0	8.6	7.7	4.1
28	12.3	9.2	.	5.3
29	7.8	10.2	.	11.4
30	8.6	7.9	10.0	12.8
31	7.9	9.2	11.5	12.6
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	275.6	302.3	.	251.0
 Daily Means	8.9	9.8	.	8.1
Types of	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO
Instruments	CAMPELL	CAMPELL	CAMPELL	CAMPELL
	STOKES	STOKES	STOKES	STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: DICIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	32°51' S	33°23' S	33°27' S	33°37' S
Longitude	70°37' W	70°47' W	70°42' W	78°50' W
Elevation	880 m	474 m	520 m	30 m
Station	CALLE LARGA	PUDAHUEL	QUINTA NORMAL	ROBINSON CRUSOE
Date				
1	.	10.2	.	4.3
2	.	12.2	.	4.4
3	.	10.1	.	5.8
4	.	7.4	.	3.5
5	.	4.9	.	2.1
6	.	4.3	.	4.0
7	.	10.6	.	3.4
8	.	10.2	.	0.1
9	.	8.5	.	1.1
10	.	10.2	.	7.8
11	.	12.5	.	8.1
12	.	11.2	.	7.5
13	.	12.1	.	9.5
14	.	10.7	.	5.6
15	.	8.4	.	0.8
16	.	12.7	.	2.9
17	.	12.8	.	3.0
18	.	11.0	.	9.5
19	.	12.7	.	6.1
20	.	12.7	.	6.8
21	.	9.1	.	6.3
22	.	4.4	.	9.5
23	.	12.3	.	8.9
24	.	11.1	.	7.5
25	.	12.8	.	8.3
26	.	12.8	.	9.4
27	.	12.6	.	0.0
28	.	12.7	.	3.3
29	.	12.8	.	6.1
30	.	12.5	.	8.8
31	.	12.6	.	5.1
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	.	331.1	.	169.5
 Daily Means	.	10.7	.	5.5
Types of	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO
Instruments	CAMPELL	CAMPELL	CAMPELL	CAMPELL
	STOKES	STOKES	STOKES	STOKES

WMO
Total radiation (sun and sky) T,MJ/m2
Duration of sunshine ss, hours

Month: DICIEMBRE

Years: 2002

Country: CHILE

Daily Totals				
Latitude	33°39' S	34°06' S	34°58' S	36°36' S
Longitude	71°36' W	71°45' W	71°12' W	72°26' W
Elevation	74 m	296 m	225 m	124 m
Station	SANTO DOMINGO	HIDANGO	CURICO	CHILLAN
Date				
1	8.2	.	11.8	13.0
2	0.9	.	12.8	12.2
3	2.3	.	12.8	9.0
4	11.6	.	11.8	8.3
5	6.7	.	2.6	4.3
6	5.9	.	2.6	9.0
7	1.6	.	12.5	12.4
8	0.0	.	12.2	12.8
9	0.0	.	6.7	8.0
10	4.7	.	9.0	9.9
11	10.3	.	13.0	11.1
12	11.4	.	10.3	13.3
13	0.6	.	12.7	8.5
14	2.7	.	9.3	6.3
15	3.4	.	7.7	7.8
16	11.6	.	7.6	11.0
17	12.4	.	13.1	12.3
18	9.9	.	10.4	3.2
19	12.9	.	12.0	13.0
20	13.0	.	13.0	13.0
21	9.6	.	4.9	10.0
22	1.1	.	4.8	9.2
23	10.5	.	10.8	7.7
24	11.3	.	11.9	10.8
25	12.4	.	11.6	12.3
26	12.1	.	13.1	10.6
27	10.1	.	10.1	10.8
28	12.5	.	12.9	11.3
29	12.5	.	12.5	12.4
30	4.0	.	12.8	8.1
31	9.8	.	12.8	12.9
TT Monthly Totals				
 Daily Means				
SS Monthly Totals	236.0	.	322.1	314.5
 Daily Means	7.6	.	10.4	10.1
Types of	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO	HELIOGRAFO
Instruments	CAMPELL	CAMPELL	CAMPELL	CAMPELL
	STOKES	STOKES	STOKES	STOKES

