

### III. ATMOSPHERIC ELECTRICITY

Atmospheric electricity data have been published since 1962. Table I contains the hourly average values of the potential gradient expressed in V/m. Hourly averages have been taken only from hours having a recording period of 30 minutes or more. If values were available only for part of an hour the average is entered in square brackets [ ]. These data have been used in the determination of the monthly and daily means. Values uncertain for some reason are entered in round brackets ( ) and have not been used in calculating of monthly and daily means. Daily means of each day with 24 hours of recording are entered. However, loss of a maximum of one hour's data out of twelve (for example, on account of instrument maintenance or calibration) has not precluded entering this mean value. In hours marked by S the value of the potential gradient exceeded permanently or several times the measuring limits of the equipment making the determination of an hourly average impossible. The directions of the deviations are marked by signs.

Table II gives the hourly means of the quantities of positive and negative charges transported by point-discharge for each month. The values are expressed in  $10^{-6}$  Asec/hour.

All data are presented in universal time (GMT).

Tables were compiled by F. MÄRCZ. Both the equipments and the methods of measurement of potential gradient and point-discharge have been described in the paper by P. BENCZE and F. MÄRCZ: „Atmosphärisch-elektrische und ionosphärische Messungen im Observatorium bei Nagycenk”, Observatoriumsberichte des Geophysikalischen Forschungslaboratoriums der Ungarischen Akademie der Wissenschaften vom Jahre 1966, Sopron, 1967.

I.

*Hourly means of the potential gradient*

January

Hour GMT Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	-10	-10	0	0	0	0	0	0	0	10	10	30	30
2.	-50	50	110	+S	+S	30	40	70	40	30	100	90	110
3.	0	0	10	-10	0	10	10	10	10	10	10	20	20
4.	0	0	0	0	0	0	0	0	0	0	0	0	-10
5.	30	50	50	20	60	30	20	40	30	40	20	10	30
6.	-	-	-	-	-	-	0	0	0	10	20	30	30
7.	70	60	30	130	+S	+S	40	40	10	-	-	100	110
8.	-10	-10	-10	+S	20	10	10	0	30	50	20	-20	50
9.	-30	-50	-30	0	0	0	0	0	0	0	0	0	0
10.	-10	-10	0	0	0	10	10	-	-	10	20	30	30
11.	60	0	40	20	0	-10	30	-20	-50	-60	-60	-90	-60
12.	10	-10	20	40	90	100	30	+S	100	140	100	90	120
13.	+S	130	100	90	40	80	40	10	-10	10	-10	-10	-20
14.	-30	-30	-40	-40	-40	-20	-20	-30	-	-40	-50	-50	-50
15.	-50	-80	-60	-40	-10	-20	-30	-100	-50	-40	-60	-70	-60
16.	-	-	20	20	20	20	20	10	20	20	40	40	0
17.	-20	-30	-20	-20	-10	-10	-20	-30	-10	0	-10	10	-S
18.	-240	-140	-190	-140	-90	-100	-110	-S	-110	-110	-	-	-
19.	-140	-210	-240	-290	-200	-130	-S	-130	-40	-40	-70	-260	-S
20.	-30	-10	-20	-40	-30	-40	0	-20	-S	-120	-S	-S	-
21.	-	-	-	-	-	-	-	-	-	-	-	-	-
22.	-	-	-	-	-	-	-	-	-	-	-	-	-
23.	-	-	-	-	-	-	-	-	-	-	-	120	80
24.	70	70	50	60	60	60	70	60	100	120	170	150	110
25.	-30	0	70	90	80	90	130	110	100	+S	170	130	90
26.	+S	120	100	110	150	100	70	160	130	+S	110	90	80
27.	-10	-40	-30	-30	-30	-40	-60	40	50	120	110	60	110
28.	20	60	50	70	70	90	130	+S	-	150	160	160	130
29.	30	-30	-60	-40	-40	0	-10	0	20	20	-20	-40	-30
30.	110	60	70	60	70	70	150	160	+S	60	90	20	0
31.	-10	-30	-40	-40	-40	-70	-70	-90	-80	-50	-80	-40	-10
Means	-11	-3	-1	1	7	10	18	12	13	14	32	22	36
Number of days	24	26	27	25	25	26	27	24	23	25	25	27	25

13	14	15	16	17	18	19	20	21	22	23	Daily means
60	70	80	140	140	130	190	+S	70	0	30	42
20	30	20	-10	-10	10	0	-10	0	-30	-20	—
20	0	0	0	0	0	0	0	0	0	0	5
-10	-10	-10	-10	20	20	30	50	80	60	50	11
—	—	—	—	—	—	—	—	—	—	—	—
30	30	50	50	70	100	100	80	90	80	130	—
140	130	-10	0	10	-20	0	-20	-10	-10	-10	—
100	130	120	50	70	80	70	0	10	-10	-10	33
0	0	0	0	0	0	0	0	0	-10	-10	-5
30	40	50	40	40	30	60	110	100	50	50	—
-60	-60	-60	-50	—	-10	-10	-10	-10	0	10	-20
80	70	130	180	+S	+S	+S	+S	+S	100	+S	—
-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-20	14
-50	-50	-50	-50	-30	-50	-50	-60	-20	-40	-50	-41
-40	-10	40	30	30	20	10	10	0	0	0	-24
-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	—
-S	-S	-S	-30	-30	-80	-S	-90	-S	-140	-180	—
—	-S	-S	-S	-S	-260	-150	-40	-20	-30	-20	—
-S	-100	-50	-40	-30	-S	-S	-50	-50	-20	-20	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
-30	-190	+S	-S	—	—	90	110	120	160	120	—
110	120	90	70	70	100	120	120	130	100	60	93
40	50	100	100	100	120	150	100	100	80	60	88
110	120	100	100	100	40	20	100	80	30	30	—
+S	160	130	+S	+S	100	60	140	170	110	70	—
110	90	100	110	120	100	100	100	50	20	-10	—
-60	-50	20	-10	20	+S	50	80	80	90	90	5
-20	-40	-20	-80	-100	-90	-80	-30	0	-30	-20	18
30	70	110	130	150	180	200	200	+S	+S	180	—
26	23	38	29	33	22	39	35	40	21	19	
23	25	24	24	22	23	24	25	24	26	26	

February

Hour GMT Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	+S	180	180	160	+S	+S	+S	+S	+S	+S	80	60	80
2.	50	40	60	130	160	150	150	40	110	110	190	160	80
3.	-30	-50	-100	-30	10	10	20	20	-90	-80	20	20	30
4.	50	60	70	60	90	100	+S	100	—	10	10	10	10
5.	50	60	80	70	70	80	80	90	100	90	80	90	80
6.	-10	-20	20	20	20	30	-110	-90	—	-30	30	40	-40
7.	20	40	50	70	70	60	70	80	100	90	80	110	110
8.	80	60	60	60	50	70	90	100	80	100	90	110	110
9.	80	70	20	-30	-30	-S	-50	0	50	70	100	70	120
10.	90	60	+S	+S	-S	60	80	100	80	70	100	130	130
11.	100	90	60	70	70	70	120	130	—	130	120	130	140
12.	100	110	110	110	110	120	140	110	130	180	170	150	130
13.	90	+S	+S	+S	+S	+S	+S	+S	+S	190	100	100	90
14.	30	50	50	60	50	60	30	60	120	120	100	110	120
15.	70	80	80	80	80	90	70	70	80	70	70	30	20
16.	50	50	30	30	40	30	10	-10	-50	-30	-50	-30	-50
17.	-10	-20	0	-30	0	40	30	-20	-60	-50	-50	-10	20
18.	20	20	30	20	10	10	30	50	—	-40	-30	-50	-10
19.	50	70	80	70	80	90	70	50	70	50	30	0	20
20.	70	80	40	50	40	60	60	60	0	-10	-20	-20	-10
21.	70	70	110	120	120	110	140	110	120	130	150	150	170
22.	80	70	40	60	90	80	0	100	—	—	—	140	160
23.	80	60	70	70	100	40	50	+S	+S	220	190	130	130
24.	-20	-10	-10	-20	-10	-30	10	-20	-20	-10	20	70	80
25.	30	10	30	30	30	50	30	40	—	80	20	-30	20
26.	100	90	80	80	90	90	80	60	50	30	30	50	30
27.	40	50	80	100	100	100	150	170	160	100	100	110	110
28.	100	100	80	60	100	100	120	80	—	50	100	100	80
Means	53	54	54	57	62	67	59	59	54	63	68	69	70
Number of days	27	27	26	26	25	25	25	25	19	26	27	28	28

13	14	15	16	17	18	19	20	21	22	23	Daily means
70	40	20	10	20	-70	-10	30	10	0	30	—
130	130	110	110	120	130	130	120	80	30	-10	105
70	70	60	50	40	40	10	50	90	80	110	18
10	10	-30	-50	-30	20	30	20	10	-10	0	—
80	70	80	60	10	20	-100	-60	0	-50	0	47
0	-40	-20	-S	±S	±S	±S	±S	+S	50	50	—
140	120	70	90	80	60	±S	90	70	90	±S	—
110	90	110	110	110	110	100	90	90	90	90	90
120	120	130	180	150	150	140	130	120	120	110	84
120	150	170	130	130	140	140	140	120	80	80	—
130	100	100	100	80	30	30	0	30	50	80	85
140	160	160	100	100	110	120	70	80	90	90	120
90	90	100	100	90	30	30	60	80	70	50	—
120	100	110	120	100	100	100	90	70	70	80	84
-50	-50	-10	0	-30	-50	-10	30	-40	20	50	31
-50	30	-10	-50	-30	0	-40	60	30	30	20	0
30	30	20	-30	0	-10	0	0	-30	-50	10	-8
30	30	50	30	20	0	30	40	90	50	100	23
20	20	30	30	50	100	60	10	10	90	80	51
-20	0	10	-10	10	30	30	50	60	40	70	28
170	170	160	180	200	190	170	100	110	100	60	133
110	170	150	110	130	160	110	100	80	40	50	—
130	150	160	90	-120	90	60	-30	-70	-20	-10	—
90	80	70	90	60	70	30	40	70	70	60	32
110	30	100	90	80	130	130	110	150	110	90	66
50	100	120	130	120	110	90	80	90	70	30	77
110	80	60	80	100	120	110	90	100	100	90	100
100	80	90	70	80	100	120	90	80	30	30	81
77	78	78	71	62	71	62	59	58	51	55	
28	28	28	27	27	27	26	27	27	28	27	

												March	
Hour GMT	0	1	2	3	4	5	6	7	8	9	10	11	12
Day													
1.	30	30	20	10	20	60	70	80	90	100	110	100	110
2.	30	40	40	30	40	40	50	20	20	80	110	110	110
3.	100	100	100	90	100	80	60	100	110	60	50	60	70
4.	60	30	30	30	20	30	30	30	—	20	40	40	70
5.	40	30	30	30	0	20	30	20	—170	—40	0	—90	—10
6.	30	30	20	—30	—100	80	0	10	10	—20	—20	40	50
7.	50	50	40	60	60	50	60	50	60	90	70	100	100
8.	—40	—70	—60	—60	—90	—80	—30	—50	—20	—10	30	40	30
9.	30	50	60	30	50	70	10	0	30	30	30	30	30
10.	40	30	40	40	30	30	30	130	110	70	70	60	60
11.	100	60	30	30	50	90	50	60	—	40	70	40	60
12.	30	10	60	60	60	—10	0	—30	—40	—40	—30	—30	0
13.	—40	30	10	40	30	30	20	30	50	80	90	80	90
14.	100	120	120	110	110	90	90	100	90	110	90	110	140
15.	80	90	100	70	70	90	50	30	30	60	100	100	100
16.	20	30	30	40	60	80	60	80	90	60	70	80	90
17.	50	30	40	60	60	50	70	80	90	—S	+S	30	50
18.	40	—S	10	30	30	50	50	50	—	100	100	100	110
19.	40	40	60	40	40	90	100	110	100	100	100	100	110
20.	40	70	30	10	10	—30	—30	—10	40	60	90	70	80
21.	60	60	50	70	30	50	100	100	120	120	140	130	140
22.	80	50	60	80	50	60	50	80	110	80	70	70	90
23.	60	50	70	50	60	70	100	100	100	100	110	90	70
24.	10	20	30	50	60	60	90	110	80	170	200	160	130
25.	50	60	60	50	60	50	90	70	—	70	50	±S	20
26.	50	70	50	60	70	70	70	40	30	50	70	100	100
27.	20	20	40	70	60	30	10	30	70	60	80	90	100
28.	40	50	40	50	40	80	100	100	90	90	100	70	70
29.	50	40	30	30	50	40	20	30	60	60	60	70	70
30.	60	60	50	70	60	50	70	80	90	80	70	90	120
31.	100	100	70	80	100	90	110	110	110	70	80	110	120
Means	45	46	44	45	42	50	51	56	57	63	73	72	80
Number of days	31	30	31	31	31	31	31	31	27	30	30	30	31

13	14	15	16	17	18	19	20	21	22	23	Daily means
100	100	100	100	100	90	80	80	80	50	30	73
110	100	100	100	130	130	130	170	130	120	140	87
60	40	50	50	50	40	30	40	60	70	50	68
60	60	50	40	70	80	70	60	50	30	40	45
—S	—S	—140	—S	—S	—S	—S	—S	—S	40	20	—
80	80	70	80	90	90	40	30	50	70	50	35
100	100	80	70	70	50	30	10	10	—30	—10	55
30	30	10	40	30	0	—30	10	30	10	30	—9
60	50	50	60	80	100	100	60	40	50	50	48
20	30	40	50	50	60	50	80	70	60	70	55
80	80	80	90	80	40	40	20	10	30	0	54
30	50	30	50	20	30	30	10	10	40	0	14
100	100	100	80	80	100	50	40	80	50	50	57
150	120	90	50	80	110	120	80	80	70	80	100
100	100	90	70	30	30	10	30	30	20	20	63
100	70	50	70	80	130	170	110	90	70	0	72
100	80	90	60	60	60	90	80	40	40	—S	—
100	80	80	50	40	80	80	70	60	30	50	—
120	140	150	100	40	20	—10	10	60	20	30	71
70	70	90	70	70	70	70	80	80	60	70	51
100	90	80	40	70	70	50	50	50	60	80	80
80	70	60	40	80	80	100	60	60	70	60	70
60	+S	+S	50	30	130	90	110	80	70	40	—
130	110	30	100	100	70	80	50	40	30	40	83
±S	±S	±S	60	70	70	70	70	50	60	70	—
110	100	130	150	150	140	120	110	90	70	30	85
100	110	110	100	80	90	60	60	60	60	40	65
80	90	90	90	100	70	70	80	70	50	70	74
90	80	90	90	80	80	80	80	70	70	70	62
120	120	130	110	130	140	100	80	80	70	80	88
110	110	120	100	100	70	50	30	—20	20	30	82
88	84	74	74	75	77	67	62	56	49	46	
29	28	29	30	30	30	30	30	30	31	30	



April

Hour GMT Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	30	50	50	50	50	70	70	70	—	50	30	40	30
2.	60	70	60	60	40	20	30	30	50	50	60	70	70
3.	40	40	40	50	40	60	70	90	100	80	70	60	60
4.	50	40	40	50	50	50	70	70	60	60	70	70	70
5.	30	30	20	40	40	50	60	60	70	70	70	70	50
6.	30	30	40	30	50	60	60	60	80	100	90	90	100
7.	60	60	40	20	20	40	50	50	—	80	80	80	80
8.	80	100	80	70	70	80	100	110	120	100	70	70	—
9.	40	50	40	30	60	80	110	120	130	130	140	140	150
10.	20	30	20	20	30	60	70	70	80	90	70	70	50
11.	40	30	30	30	30	50	70	70	—	60	70	60	50
12.	20	20	30	40	50	40	30	20	30	40	50	50	50
13.	100	80	60	30	30	70	70	20	0	—30	—20	20	20
14.	70	50	50	60	60	50	30	40	70	70	90	90	80
15.	70	50	40	40	50	60	50	70	40	60	30	50	50
16.	10	10	20	20	20	40	20	60	—	—	+S	60	70
17.	40	40	30	40	30	40	40	70	70	90	90	70	70
18.	10	20	20	20	40	30	40	60	70	100	100	80	70
19.	50	40	40	50	40	50	60	70	70	70	70	50	30
20.	50	50	30	40	40	70	70	60	70	70	70	60	50
21.	40	0	+S	+S	+S	+S	+S	—110	40	90	70	90	80
22.	40	30	30	30	20	30	40	20	—	+S	+S	—S	+S
23.	20	30	30	30	30	60	60	60	100	—	—	—	—
24.	30	20	20	30	20	20	—	—	—	—	70	70	—10
25.	30	20	20	20	20	50	20	50	60	—80	—S	—S	40
26.	10	20	20	20	40	50	20	20	60	70	0	—10	0
27.	40	20	20	30	30	30	50	60	60	50	50	50	50
28.	50	60	—10	—10	10	10	10	40	50	50	40	30	30
29.	+S	0	60	40	60	60	60	+S	—	30	50	60	60
30.	30	50	50	—	—	—	—	—	—	—	—	20	20
Means	41	38	35	35	38	49	53	52	67	62	63	61	54
Number of days	29	30	29	28	28	28	27	27	22	25	25	27	27

ATMOSPHERIC ELECTRICITY

13	14	15	16	17	18	19	20	21	22	23	Daily means
30	40	40	40	50	60	40	30	20	30	40	44
80	70	60	60	60	60	40	50	40	30	30	52
70	80	80	60	80	90	100	90	70	60	60	68
80	90	90	90	100	100	90	70	50	40	30	66
60	60	40	60	90	80	60	60	60	40	40	55
110	100	110	120	110	100	70	70	80	60	60	75
70	50	70	70	70	100	110	100	90	70	70	67
—	—	110	140	120	120	120	80	70	60	50	—
130	120	100	80	60	70	90	60	50	40	30	85
40	40	60	50	50	50	40	30	30	30	30	47
50	60	60	60	70	80	90	110	70	50	50	58
60	50	60	60	40	40	70	90	70	60	80	48
20	40	70	70	110	110	130	130	120	100	60	59
90	80	100	110	100	60	60	70	80	60	60	70
60	50	40	50	40	40	40	40	30	10	—10	44
70	70	70	90	80	70	60	50	50	50	40	—
80	70	90	100	130	120	70	40	—30	—20	—10	57
80	70	60	40	60	50	50	50	50	50	50	53
60	40	50	60	70	70	70	70	60	50	50	56
50	50	60	50	30	30	50	40	30	30	70	50
100	80	70	+S	20	30	30	30	30	30	30	—
40	40	70	70	80	70	70	60	30	20	20	—
—	—	60	50	50	40	40	50	40	30	40	—
0	+S	+S	—60	—90	0	0	20	20	—30	20	—
30	0	20	40	40	20	10	0	10	0	10	—
40	40	20	30	—10	20	40	40	40	50	40	28
50	40	40	40	30	30	30	40	50	50	40	41
20	30	30	30	0	10	10	30	40	30	—40	23
40	70	+S	—S	+S	50	80	50	30	40	30	—
+S	+S	—S	+S	+S	+S	+S	+S	+S	+S	+S	—
60	59	64	61	59	61	61	57	48	39	37	
27	26	27	27	28	29	29	29	29	29	29	

May

Hour GMT Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	+S	-50	-40	-30	-10	0	+S	-S	0	10	20	10	-10
2.	50	20	20	20	20	-10	20	30	60	70	60	50	40
3.	0	0	—	—	—	—	—	—	—	—	—	—	—
4.	—	—	—	—	—	—	—	—	—	-20	0	10	-10
5.	0	30	50	70	70	70	70	50	70	70	80	70	70
6.	-S	-S	-240	0	-10	20	30	50	60	70	100	—	90
7.	60	30	30	30	30	50	—	—	40	80	80	80	90
8.	30	40	50	40	40	40	70	90	110	140	130	100	110
9.	30	30	30	20	30	50	70	100	110	120	100	90	90
10.	60	50	50	40	50	50	70	90	60	70	60	60	40
11.	20	20	30	30	30	60	60	60	60	70	50	80	60
12.	50	30	-20	0	30	30	20	+S	50	40	40	40	0
13.	30	30	30	30	40	40	50	80	—	100	110	100	90
14.	10	0	10	10	10	20	30	40	60	80	60	+S	+S
15.	50	30	10	20	10	60	130	70	50	60	20	20	10
16.	-10	10	20	10	20	30	40	40	20	10	0	-20	30
17.	70	80	60	20	-10	+S	0	100	30	130	100	100	110
18.	10	30	20	20	30	50	60	—	90	100	120	130	200
19.	100	90	80	60	60	70	80	130	140	120	130	130	120
20.	50	50	50	40	50	80	—	80	100	100	100	—	—
21.	20	20	30	20	20	—	—	—	—	40	30	50	40
22.	10	20	0	0	-10	10	+S	-10	10	-60	+S	+S	+S
23.	40	50	40	40	50	60	70	70	60	50	+S	+S	+S
24.	20	20	20	30	30	30	50	80	70	80	90	90	90
25.	10	-90	-S	+S	+S	+S	-50	130	160	70	50	10	+S
26.	10	20	30	30	50	80	80	90	70	70	70	60	60
27.	30	30	30	30	30	50	90	100	—	—	60	50	50
28.	40	30	20	50	40	-10	30	30	60	60	50	40	40
29.	50	40	50	50	40	40	40	50	50	50	30	50	50
30.	20	10	20	50	40	30	50	80	100	100	110	90	50
31.	20	20	10	10	10	0	30	50	60	50	30	30	50
Means	30	24	18	26	28	38	50	70	67	67	67	61	62
Number of days	28	29	28	28	28	26	24	24	26	29	28	25	25

13	14	15	16	17	18	19	20	21	22	23	Daily means
—30	—20	30	40	30	20	10	20	20	10	10	—
10	—10	—10	—20	0	—10	—10	20	10	10	20	18
—	—	—	—	—	—	—	—	—	—	—	—
0	30	40	30	30	40	70	40	20	0	—50	—
70	20	50	70	60	40	60	70	40	0	—240	42
60	50	40	40	50	40	40	70	40	30	30	—
100	100	100	120	110	100	70	60	90	80	50	—
110	100	100	110	110	90	50	30	30	30	30	74
70	60	40	50	70	50	50	60	70	60	50	63
40	50	50	50	40	30	30	30	30	30	20	48
80	70	60	60	40	30	30	40	40	50	50	49
40	30	20	30	30	50	60	40	40	40	30	31
80	80	80	80	60	60	50	40	20	20	20	57
±S	±S	±S	±S	±S	±S	—S	20	40	40	40	—
±S	±S	0	—S	20	40	40	30	20	—10	10	—
40	50	70	110	110	100	110	110	100	90	80	49
100	90	90	100	100	90	80	40	30	30	30	68
130	140	130	110	170	170	140	120	100	100	100	99
120	120	110	100	100	80	90	90	80	80	80	98
—	60	60	30	20	40	50	50	40	30	20	—
70	50	50	40	60	50	50	50	30	20	20	—
±S	±S	±S	30	±S	±S	50	60	70	40	30	—
±S	10	40	30	30	40	50	40	30	30	30	—
90	80	90	100	100	70	50	50	40	40	30	60
±S	10	—30	10	—S	±S	30	30	20	10	10	—
60	60	60	60	60	70	60	50	30	30	30	54
70	80	90	90	70	50	50	50	40	20	30	—
50	50	50	60	70	60	50	50	60	50	50	45
70	70	80	100	110	80	60	50	40	40	30	55
50	40	50	50	50	50	50	40	30	10	20	50
50	40	—S	±S	20	30	20	0	30	40	40	—
64	56	57	62	64	58	53	48	43	35	23	
24	27	27	27	27	27	29	30	30	30	30	

June

Hour GMT Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	40	-20	+S	-30	20	40	+S	±S	+S	10	+S	110	50
2.	0	-10	0	-20	10	30	10	0	0	10	20	30	30
3.	40	40	50	50	50	60	80	80	—	100	—	110	100
4.	30	40	40	30	30	40	60	110	100	100	100	100	110
5.	50	100	80	90	50	70	70	100	80	120	110	110	120
6.	50	40	50	40	30	0	20	10	30	90	+S	—	—
7.	-10	-10	±S	+S	0	30	±S	+S	+S	+S	+S	-S	80
8.	30	20	30	30	40	60	80	100	100	110	70	60	40
9.	30	30	50	40	50	70	80	90	100	100	90	100	90
10.	30	30	30	0	20	—	80	—	—	140	100	70	70
11.	-20	-10	-10	10	30	20	30	20	30	-10	+S	±S	±S
12.	40	50	50	70	70	60	+S	20	60	40	-S	±S	+S
13.	-30	-100	-150	-120	-30	0	-10	30	0	-30	10	60	30
14.	-S	-40	30	30	30	70	80	±S	+S	+S	+S	120	+S
15.	40	40	30	30	30	70	90	80	100	80	80	-S	90
16.	30	40	40	50	40	60	50	90	110	100	100	90	80
17.	30	30	30	30	30	40	50	40	—	60	-S	10	+S
18.	30	30	30	30	50	30	60	70	70	70	80	100	±S
19.	30	30	20	20	30	50	50	20	40	50	60	60	80
20.	40	40	30	30	40	70	80	100	100	110	100	100	100
21.	70	50	40	40	70	+S	100	120	110	100	120	110	100
22.	40	40	40	30	40	50	30	50	50	50	50	70	30
23.	30	20	20	20	30	100	+S	+S	90	70	80	90	70
24.	40	40	40	-S	±S	±S	-90	0	±S	—	+S	+S	80
25.	30	30	40	30	30	50	50	80	70	70	80	80	90
26.	40	30	70	50	60	100	100	100	100	100	70	100	90
27.	+S	30	30	30	40	40	40	90	+S	±S	70	60	50
28.	10	-20	-20	10	30	50	50	30	50	50	60	70	50
29.	60	60	30	30	60	80	60	40	90	90	90	70	50
30.	0	10	10	10	10	30	40	50	50	50	40	50	60
Means	29	22	26	24	34	51	52	61	70	70	75	80	73
Number of days	28	30	28	28	29	27	26	25	22	26	21	24	24

13	14	15	16	17	18	19	20	21	22	23	Daily means
60	-40	-40	-20	-30	-20	-30	-10	0	0	30	—
20	20	30	50	50	50	50	50	50	40	40	23
100	110	110	130	90	60	50	40	40	30	30	—
120	100	100	100	100	100	100	60	50	70	100	79
120	140	140	120	100	50	50	60	50	40	30	85
+S	±S	±S	±S	20	30	0	0	0	-10	-10	—
10	50	50	50	50	60	70	70	60	50	40	—
60	60	50	60	60	60	50	60	70	70	40	54
40	60	±S	±S	+S	30	20	30	-20	100	-10	—
50	30	-120	-60	60	80	40	30	-60	-50	-20	—
+S	±S	20	20	10	30	30	40	50	40	50	—
+S	30	40	-S	±S	30	30	60	0	-20	30	—
±S	0	30	0	10	30	50	60	70	60	60	1
±S	20	30	60	40	40	40	30	40	60	40	—
90	±S	+S	100	100	50	30	30	30	30	40	—
60	90	+S	0	40	40	50	40	30	40	30	57
±S	-S	+S	60	60	50	20	10	20	30	20	—
±S	±S	-S	100	80	50	40	50	40	40	50	—
80	90	100	100	110	120	80	70	50	50	40	60
100	30	60	100	100	±S	±S	-40	20	30	60	—
100	110	100	100	60	60	50	40	30	30	30	76
+S	±S	±S	-S	60	50	30	-30	-60	-30	30	—
70	80	+S	80	40	±S	±S	20	10	20	30	—
70	30	30	30	30	40	30	30	30	30	30	—
100	90	80	80	70	60	60	40	30	40	30	59
70	80	80	90	90	100	100	100	+S	10	+S	—
50	60	60	70	70	80	±S	±S	40	40	30	—
60	70	70	80	+S	±S	±S	0	40	70	60	—
70	70	80	90	80	90	50	+S	+S	40	0	—
50	40	+S	50	50	50	80	80	70	90	70	45
70	59	52	63	59	54	45	36	28	35	34	
22	24	21	26	27	27	26	28	28	30	29	

July

Hour GMT Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	60	+S	40	50	60	50	30	—	—	—	+S	60	60
2.	30	30	30	30	50	60	40	50	—	—	40	30	30
3.	40	30	20	50	40	50	50	50	70 <sup>l</sup>	60	70	60	70
4.	50	40	40	40	30	50	70	40	30	40	40	50	60
5.	30	30	30	30	30	40	40	50	50	70	60	60	70
6.	40	50	40	50	50	60	60	70	70 <sup>l</sup>	60	60	50	±S
7.	-50	±S	-40	-20	40	40	50	50	—	—	—	—	—
8.	—	—	—	—	—	—	—	—	—	—	70	60	70
9.	30	20	10	10	20	30	50	30	40	50	30	30	+S
10.	30	-100	-120	-40	60	70	100	—	—	40	30 <sup>l</sup>	40	40
11.	30	30	30	30	30	30	0	30	50	30	100	110	+S
12.	±S	+S	10	-70	-S	—	±S	±S	+S	20	±S	+S	30
13.	-50	-100	-10	40	30	70	70	70	70	70	50	60	70
14.	30	30	20	30	30	50	50	70 <sup>l</sup>	80	80	90	70	60
15.	40	40	30	30	20	20	20	30	20	—	-20	30	50
16.	100	70	70	90	60	70	40	40	50	40	40	50	50
17.	50	50	50	50	60	50	—	—	—	—	—	—	110
18.	+S	+S	±S	±S	50	60	+S	+S	80	70	10	40 <sup>l</sup>	-20
19.	50	30	40	30	40	60	60	70	70	100	110	100	110
20.	70	80	100	80	80	80	100	120	100	130	130	120	110
21.	0	-S	±S	30	100	120	120	60	40 <sup>l</sup>	0	50	80	120
22.	70	70	70	70	60	90	110	130	—	—	60	100	80
23.	30	30	30	30	20	20	30	30	30	60	50	80	80
24.	30	30	30	30	30	40	60	70	70 <sup>l</sup>	100	120	110	100
25.	40	0	10	0	-S	-S	+S	+S	-20	90 <sup>l</sup>	+S	±S	40
26.	20	20	10	0	0	30	40	60	50	50	50	60	60
27.	30	30	30	30	30	30	50 <sup>l</sup>	70	80	80	70	70	60
28.	10	20	10	0	10	50	60	50	50 <sup>l</sup>	70	60	60	60
29.	0	0	0	-10	0	20	30	30	—	50 <sup>l</sup>	50	50	60
30.	30	30	10	0	0	10	40	60	50	60	70	70	110
31.	20	20	10	10	30	30	60	70 <sup>l</sup>	110	100	100	120	+S
Means	31	23	21	24	38	49	55	58	56	63	61	67	67
Number of days	28	25	28	29	28	28	26	24	22	24	26	27	26

13	14	15	16	17	18	19	20	21	22	23	Daily means
70	60	70	90	60	30	30	0	-30	-40	30	—
40	40	50	70	80	90	70	60	50	50	40	—
70	50	50	±S	±S	±S	±S	±S	-S	50	50	—
70	80	70	80	90	80	80	70	60	50	40	56
70	60	70	60	50	60	70	80	50	40	40	52
-S	40	+S	±S	±S	-S	20	20	-50	-50	-60	—
—	—	—	—	—	—	—	—	—	—	—	—
60	60	+S	60	50	70	70	60	50	40	30	—
-90	-20	20	0	-60	-170	-50	+S	±S	30	30	2
50	50	50	60	70	60	40	40	30	40	30	—
70	40	120	100	70	70	-140	-S	+S	±S	-40	—
-20	50	70	100	100	90	80	70	50	20	0	—
60	70	+S	70	70	70	60	60	40	30	30	44
60	70	60	60	60	60	60	40	50	50	50	55
50	80	100	80	60	70	80	70	80	90	70	50
60	70	60	60	60	70	60	70	70	60	60	61
120	120	+S	±S	±S	100	+S	-S	+S	-S	+S	—
30	80	80	60	50	50	50	60	50	50	50	—
110	80	50	100	80	60	80	80	90	90	80	74
90	90	70	90	80	50	—	—	—	70	40	—
100	70	-20	40	40	20	50	40	50	50	50	—
70	50	30	30	30	30	30	30	30	30	30	—
90	90	100	100	70	60	80	100	70	50	30	57
100	90	70	70	80	60	50	60	20	50	60	64
50	50	60	60	50	50	50	50	30	30	30	—
90	90	100	90	50	50	50	40	30	30	40	46
50	50	50	50	50	40	40	30	30	20	30	46
60	70	±S	-S	60	30	30	—	—	10	10	—
70	60	60	40	40	30	40	40	40	40	40	34
±S	-S	70	30	30	30	30	0	30	20	20	—
±S	±S	±S	70	60	40	30	30	20	30	+S	—
61	64	63	66	57	52	42	50	39	37	33	
27	28	24	26	27	28	27	24	24	28	28	



August

Hour GMT Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	+S	±S	-S	-10	10	30	100	80	70	70	70	80	70
2.	10	30	20	20	30	30	30	60	70	90	110	120	110
3.	±S	±S	±S	-20	-10	-S	±S	+S	+S	130	110	110	100
4.	0	0	0	-10	-20	-10	10	30	40	50	50	40	40
5.	30	30	10	30	30	30	40	50	—	+S	±S	+S	90
6.	50	50	50	50	50	60	50	50	80	90	100	100	70
7.	30	20	20	10	30	40	40	40	40	50	60	70	70
8.	30	40	30	30	30	50	40	40	60	50	40	60	70
9.	10	10	10	10	10	30	30	—	—	—	80	70	±S
10.	30	40	30	30	50	50	80	60	80	70	70	40	50
11.	40	-90	10	30	40	60	120	100	70	70	60	30	10
12.	30	30	30	30	30	30	40	30	—	20	0	30	40
13.	30	30	20	10	10	30	50	60	70	80	70	70	70
14.	30	30	30	30	30	30	30	50	60	70	60	70	70
15.	10	0	0	0	10	20	30	40	60	60	70	70	70
16.	0	0	-10	-10	0	30	40	60	100	90	70	60	60
17.	30	20	10	0	30	60	50	30	—	—	—	—	—
18.	—	—	—	—	—	—	—	50	70	70	70	70	70
19.	0	10	10	10	20	30	30	40	50	50	60	80	100
20.	0	10	30	30	10	20	10	20	30	30	60	70	90
21.	30	30	30	30	30	70	80	30	—	—	80	100	100
22.	±S	±S	±S	±S	-10	40	-10	40	50	50	-10	-10	0
23.	30	40	70	40	20	60	140	+S	+S	+S	130	140	120
24.	50	50	60	70	70	120	130	90	90	110	110	110	110
25.	70	60	50	40	60	70	130	100	80	80	100	130	110
26.	0	+S	+S	30	-S	±S	50	110	—	0	90	60	+S
27.	40	50	90	70	60	±S	±S	±S	-S	90	120	100	160
28.	70	50	50	40	-40	0	50	50	40	50	50	110	120
29.	—	—	—	—	80	110	110	100	120	140	130	120	130
30.	110	110	100	90	100	90	+S	110	100	130	100	100	100
31.	40	40	40	50	50	70	80	60	60	70	60	50	50
Means	31	28	32	26	28	46	59	59	68	72	75	78	80
Number of days	26	25	25	28	29	27	27	27	22	26	29	29	28

13	14	15	16	17	18	19	20	21	22	23	Daily means
70	130	110	70	60	50	40	50	40	30	30	—
90	80	100	90	+S	-20	±S	±S	-S	-30	-S	—
100	100	100	100	60	30	40	30	0	0	10	—
50	50	30	30	40	50	50	30	30	30	20	26
100	110	110	120	80	70	40	+S	30	60	60	—
80	70	60	70	60	50	60	50	60	60	40	63
70	70	70	60	50	60	50	30	40	30	30	45
70	80	80	70	+S	±S	±S	±S	-S	-S	±S	—
+S	+S	50	30	50	70	70	40	40	40	30	—
40	40	40	40	±S	±S	±S	±S	30	30	50	—
50	50	50	40	50	60	50	40	30	40	30	43
30	20	20	20	30	30	30	40	30	30	30	28
60	50	50	60	50	50	50	40	30	30	30	46
70	70	60	50	30	30	30	20	10	20	30	42
70	80	-140	30	30	20	20	10	0	10	10	24
50	60	70	50	40	50	50	30	30	30	30	41
—	—	—	—	—	—	—	—	—	—	—	—
70	70	70	60	60	60	40	30	30	20	20	—
90	100	100	80	50	40	30	10	30	20	0	43
100	120	110	100	60	40	50	40	40	40	40	48
100	120	110	80	70	70	70	70	60	60	-S	—
20	50	50	50	60	70	70	50	70	30	20	—
150	120	110	80	60	70	70	70	70	70	70	—
110	110	130	130	140	120	120	110	90	70	60	98
100	100	90	80	90	70	70	60	40	30	40	77
+S	130	110	110	100	-S	±S	+S	+S	50	60	—
150	100	160	50	50	90	120	120	130	110	100	—
160	110	70	50	—	—	—	—	—	—	—	—
110	100	110	70	60	80	100	110	130	120	130	—
80	80	80	70	60	70	70	50	50	50	40	84
50	60	60	60	60	70	70	70	70	50	50	58
82	84	74	67	60	56	58	50	47	40	41	
28	29	30	30	26	26	25	24	26	28	26	

September													
Hour GMT Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	50	+S	30	50	40	+S	—S	70	+S	140	130	110	90
2.	50	60	90	+S	80	140	110	130	—	150	160	140	130
3.	100	+S	120	30	30	140	+S	+S	150	100	70	110	130
4.	70	30	70	40	30	40	40	60	60	70	70	60	—S
5.	50	40	30	40	30	40	60	100	100	90	100	100	100
6.	70	60	70	60	60	80	90	100	100	100	90	100	100
7.	30	20	30	40	30	30	—	60	50	50	40	40	50
8.	30	30	30	30	30	30	70	100	110	90	70	70	70
9.	70	60	50	60	100	80	100	130	—	130	100	80	70
10.	60	60	60	60	80	80	100	80	50	50	30	10	40
11.	70	60	60	50	70	100	150	150	190	180	170	190	170
12.	30	30	20	20	30	30	50	60	60	80	80	70	70
13.	50	40	40	50	50	80	100	100	100	100	100	100	100
14.	30	30	20	30	30	30	70	80	100	90	110	110	130
15.	50	50	40	50	40	30	50	110	130	160	170	100	120
16.	30	30	30	40	30	40	—	40	0	20	30	50	30
17.	50	50	50	50	50	50	50	50	50	50	50	70	50
18.	60	60	70	60	70	60	70	60	60	60	70	60	50
19.	70	60	50	60	50	60	120	110	120	80	70	80	90
20.	50	40	30	30	40	60	70	60	50	50	40	40	60
21.	10	50	60	100	90	90	120	200	140	100	90	60	100
22.	50	60	50	20	40	40	20	80	120	110	30	40	50
23.	—20	—20	+S	—S	—20	+S	50	70	—	110	130	110	150
24.	20	30	30	30	30	10	—20	20	40	70	+S	—S	20
25.	—10	—50	—10	30	30	20	30	+S	40	30	+S	+S	+S
26.	70	70	100	100	100	120	160	+S	+S	+S	+S	70	60
27.	30	30	30	40	70	70	70	80	80	80	70	60	70
28.	90	80	100	80	100	100	+S	+S	120	100	120	+S	130
29.	100	70	60	80	80	130	+S	+S	120	50	0	—80	+S
30.	+S	—S	50	120	+S	+S	70	30	—	—S	—S	—S	—S
Means	49	44	50	52	52	66	75	85	89	89	82	75	86
Number of days	29	27	29	28	29	27	24	25	24	28	26	26	26

13	14	15	16	17	18	19	20	21	22	23	Daily means
110	90	110	90	100	100	90	-40	50	50	50	—
110	100	100	100	110	110	100	80	80	80	80	—
140	140	160	160	120	120	120	100	90	70	60	—
±S	-S	140	+S	130	100	100	100	90	80	70	—
100	100	+S	100	100	120	110	100	110	100	90	83
90	100	100	100	100	80	70	70	100	30	50	82
60	40	40	50	70	100	100	—	—	—	—	—
70	70	50	50	50	40	30	50	40	50	70	55
80	70	80	80	70	50	40	50	60	60	70	76
50	-S	±S	40	80	100	—	—	100	80	70	—
160	140	120	100	70	60	60	50	60	50	30	105
60	70	70	60	70	60	40	70	60	50	50	54
100	100	90	50	50	40	40	50	30	50	40	69
120	120	100	100	100	100	100	80	60	50	50	77
130	110	100	80	70	60	60	60	60	40	40	78
10	10	40	60	50	50	60	50	60	60	50	38
50	70	60	70	70	80	70	50	50	50	60	56
50	50	70	50	80	80	80	80	90	70	70	66
110	110	100	90	70	80	70	70	50	40	30	77
50	50	50	50	60	50	10	0	-50	-10	30	38
60	60	80	60	70	50	+S	50	70	50	50	79
50	30	50	50	50	80	80	70	20	-40	±S	50
140	110	100	80	60	70	80	70	30	30	-10	—
±S	+S	±S	±S	-S	-S	-90	-S	-S	-170	-50	—
70	50	70	60	70	70	90	100	70	80	60	—
50	40	40	30	40	50	40	30	30	30	30	—
80	100	110	110	+S	120	120	90	80	70	90	76
130	110	100	100	80	100	130	120	120	120	120	—
100	80	70	90	100	100	90	70	100	30	-S	—
-30	40	100	120	120	100	100	80	60	80	60	—
82	80	85	78	79	80	71	65	63	46	52	
28	27	27	28	28	29	28	27	28	29	27	

October

Hour GMT Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	50	60	80	60	80	90	100	130	100	90	—	—	+S
2.	30	50	30	30	20	30	60	+S	+S	100	100	100	70
3.	+S	—S	+S	10	10	30	50	60	60	60	60	60	60
4.	20	40	50	50	50	+S	+S	+S	20	+S	+S	—S	20
5.	40	40	40	50	40	40	60	40	70	60	60	30	20
6.	60	60	70	100	70	70	80	70	60	60	70	60	30
7.	30	30	30	50	60	50	20	30	—	80	70	70	50
8.	20	0	30	10	20	0	0	20	—30	—S	+S	+S	20
9.	20	20	30	40	30	30	40	70	80	70	40	70	50
10.	70	30	20	20	20	20	20	30	30	30	40	70	70
11.	40	60	70	60	70	60	80	110	120	30	20	20	20
12.	70	60	50	50	50	30	60	70	70	70	70	60	0
13.	—S	—S	—S	—80	30	70	—	80	90	70	70	70	70
14.	70	70	70	80	70	90	100	90	—	70	60	70	80
15.	50	50	50	60	60	70	70	70	70	80	90	80	70
16.	—40	—10	10	10	20	30	+S	70	70	70	30	40	70
17.	30	10	50	60	60	100	90	70	60	70	—	—	90
18.	70	70	60	50	70	70	100	90	90	70	70	70	70
19.	30	30	30	30	30	30	70	60	60	0	10	20	30
20.	70	70	80	70	60	50	20	20	20	10	50	+S	+S
21.	50	50	60	60	30	30	20	—100	—	10	—40	—S	+S
22.	30	40	50	40	30	30	30	70	70	70	70	60	50
23.	70	70	70	50	70	70	80	110	90	—	90	80	70
24.	60	50	50	20	40	30	30	—10	0	20	30	20	40
25.	10	40	20	20	20	30	60	50	60	70	70	70	80
26.	30	50	40	110	30	20	—10	90	70	70	30	20	—S
27.	90	80	70	70	50	40	50	50	30	0	+S	+S	40
28.	—S	—S	—S	—S	+S	30	120	100	—	60	70	+S	+S
29.	110	110	120	130	120	120	110	80	70	80	70	70	80
30.	80	70	70	80	70	100	90	110	100	90	70	70	70
31.	30	30	30	30	30	50	50	50	70	70	70	60	90
Means	46	48	51	47	47	50	59	61	62	58	55	58	54
Number of days	28	28	28	30	30	30	28	29	26	28	26	23	26

13	14	15	16	17	18	19	20	21	22	23	Daily means
-30	-S	-S	30	80	100	100	90	60	50	30	—
100	100	+S	70	40	+S	-S	±S	+S	±S	±S	—
60	60	60	50	40	20	20	50	40	20	-10	—
80	20	-50	20	20	30	30	30	30	20	20	—
20	70	80	70	70	90	80	110	80	70	60	58
50	-S	-S	40	40	60	70	50	50	40	40	—
40	40	50	50	50	20	30	20	-20	20	20	39
60	20	60	90	100	50	30	20	-10	-10	0	—
20	±S	±S	10	20	20	30	30	30	40	50	—
70	80	60	70	60	70	70	70	60	60	50	50
50	70	70	70	70	90	80	90	80	70	80	66
-S	+S	-30	-30	+S	-S	-S	-S	-S	±S	-S	—
80	90	100	100	110	120	100	100	90	70	70	—
60	80	80	40	60	60	70	80	100	70	70	74
50	30	30	-30	±S	-S	-S	-S	±S	-S	-S	—
70	70	40	+S	+S	-40	+S	+S	-S	-S	30	—
90	80	70	50	60	100	130	100	70	70	60	—
60	70	70	80	90	100	70	60	40	40	30	69
50	50	40	10	20	70	90	80	50	70	70	43
±S	±S	±S	±S	±S	20	60	20	40	50	70	—
±S	±S	±S	±S	±S	+S	-40	-140	40	50	40	—
50	70	70	90	70	80	70	70	70	70	60	59
90	100	110	100	90	130	140	110	100	120	90	91
30	70	70	120	120	120	80	60	20	0	10	45
90	80	70	70	60	70	90	70	70	40	20	55
±S	70	±S	50	30	80	140	120	80	90	90	—
+S	10	70	50	90	100	130	120	120	+S	100	—
+S	-20	60	70	70	70	70	90	90	110	100	—
70	70	70	90	140	180	190	150	130	120	120	108
60	70	70	70	90	80	70	70	60	60	40	75
70	70	80	100	100	80	80	80	100	100	90	67
58	61	60	57	69	73	77	67	62	58	54	
25	25	24	28	26	27	27	27	27	26	28	

November

Hour GMT Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	70	60	60	70	70	40	60	60	50'	60	60	60	70
2.	60	60	70	50	50	60	80	100	100	90'	80	70	70
3.	+S	30	10	0	10	30	30	40	50	70'	70	50	50
4.	30	30	30	30	20	20	30	50'	—	60	70	100	90
5.	60	40	60	20	-50	-190	-60	-20	-110	-80'	-140	-230	-150
6.	30	0	30	20	50	50	60	100	80	10'	-40	-90	-60
7.	30	30	20	10	10	40	40	20	50'	20'	20	30	50
8.	50	60	60	40	60	90	60	100	100	100'	130	130	120
9.	60	60	50	50	50	50	80	120	140	—	80	110	130
10.	100	70	100	120	160	+S	+S	+S	+S	+S	+S	90	80
11.	60	60	30	70	130	130	70	+S	—	150	100	110	100
12.	-50	-40	-20	0	10	50	+S	60	100	50'	30'	50	120
13.	+S	70	50	60	100	110	100	90	80	100'	+S	80	70
14.	70	50	80	+S	+S	+S	+S	+S	+S	+S	130'	100	100
15.	60	70	120	90	90	+S	+S	+S	+S	100'	90	70	70
16.	50	40	0	10	40	40	50	70	80'	70	70	70	70
17.	50	40	40	50	60	70	70	100	90	90'	100	100	100
18.	+S	+S	40	70	200	+S	130	100	—	140	170	170	270
19.	80	50	40	20	30	50	70	110	70	50'	-S	+S	+S
20.	100	60	70	70	90	90	140	160	200	180	140'	130	130
21.	130	200	+S	40	110	70	170	+S	40'	170'	120	-50	-30
22.	90	90	70	60	110	+S	+S	+S	200	130'	60	—	40
23.	120	-160	+S	10	-20	-100	30	-80	-10	0	40	30	60
24.	90	-10	-30	0	20	10	0	0	20'	0	-30	-70	-130
25.	-90	-140	-140	-70	-60	-90	-80	—	—	-90	-100	-70	-60
26.	60	50	40	40	70	70	130	150	—	—	100	-S	70
27.	100	80	110	110	90	70	90	90'	100	110	100	100	110
28.	-10	-10	-30	-50	0	40	-S	+S	-S	60'	70'	60	60
29.	-S	30	40	30	40	20	30	30	30	-10	30'	40	30
30.	30	30	30	100	+S	30	60	70'	100'	60	80	70	70
Means	55	34	37	39	55	34	60	69	74	65	60	49	53
Number of days	26	29	28	29	28	25	24	22	21	26	27	27	29

13	14	15	16	17	18	19	20	21	22	23	Daily means
70	80	90	100	100	80	80	70	60	60	50	68
80	100	90	120	100	70	+S	50	20	20	+S	—
60	60	60	90	100	120	110	90	70	60	40	57
80	70	60	60	60	60	60	80	80	100	90	59
-50	-30	-40	20	10	40	60	30	30	40	40	-29
-10	-20	-50	-180	-150	-70	-10	0	20	-20	-50	-13
60	40	20	70	60	60	90	100	90	60	60	45
120	130	130	160	170	140	110	100	100	100	80	102
70	110	80	90	100	100	110	90	100	80	80	87
100	110	100	90	60	60	40	60	70	40	50	—
100	70	90	60	70	40	-20	0	-10	-30	-50	—
140	120	100	80	90	150	30	50	70	30	70	56
60	80	70	40	70	100	100	40	90	100	70	—
100	110	120	100	70	70	90	80	70	70	60	—
70	70	70	70	70	70	70	60	50	50	40	—
70	70	80	90	80	100	+S	160	120	80	60	68
130	120	130	140	140	150	150	170	150	+S	+S	—
190	140	130	130	130	110	-30	-30	110	90	80	—
+S	+S	+S	+S	+S	100	110	120	90	90	90	—
130	130	120	130	140	150	170	170	140	110	20	124
-20	40	120	200	150	120	180	130	130	90	50	—
60	40	80	200	150	+S	130	+S	100	80	80	—
100	80	100	80	120	140	60	20	50	80	30	35
-100	-90	-90	-80	-100	-130	-140	-130	-90	-80	-80	-52
-50	-40	-60	-S	-S	-S	30	90	80	70	70	—
100	100	70	40	-20	70	50	40	90	100	100	—
100	90	100	110	80	70	100	80	60	0	0	85
70	100	100	40	80	60	30	20	30	30	-S	—
40	60	60	60	50	60	-S	+S	50	30	30	—
50	60	50	90	100	110	100	110	110	80	70	72
66	69	68	79	74	79	69	66	71	56	46	
29	29	29	28	28	28	27	28	30	29	27	



December

Hour GMT Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	80	80	100	90	50	+S	±S	±S	±S	30	20	110	80
2.	—S	—S	±S	±S	—S	—10	50	70	—	70	90	80	100
3.	70	70	70	60	50	50	60	70	80	80	100	90	110
4.	50	50	50	40	50	60	140	110	110	140	100	100	150
5.	+S	150	50	80	20	40	60	50	60	60	60	80	60
6.	40	50	50	70	70	90	80	140	90	70	±S	±S	—20
7.	±S	20	—S	±S	20	—S	±S	+S	+S	+S	90	100	70
8.	40	50	50	50	30	30	60	70	90	—40	20	0	—S
9.	20	20	10	0	10	—20	—10	0	—	40	80	70	80
10.	70	—40	—50	—90	—10	—50	—30	0	—10	0	20	70	70
11.	+S	+S	+S	+S	+S	+S	100	20	40	60	20	40	—20
12.	+S	—S	—S	30	50	70	80	100	110	120	130	110	110
13.	30	—30	40	20	40	60	50	+S	30	70	70	70	40
14.	0	10	30	20	20	0	—20	—20	30	20	20	50	80
15.	80	70	60	140	110	150	100	160	110	110	100	110	100
16.	70	70	80	70	60	60	80	70	—	120	90	110	100
17.	70	70	60	50	80	70	50	60	70	60	50	30	—30
18.	30	50	90	100	90	70	90	+S	140	100	140	110	140
19.	50	30	50	60	90	40	70	90	100	90	120	90	70
20.	50	60	20	—10	—10	0	—10	20	20	70	130	100	90
21.	40	60	50	70	100	70	90	50	+S	140	170	150	140
22.	100	110	100	100	100	190	190	+S	—	210	160	140	150
23.	110	100	140	140	+S	+S	+S	+S	—	+S	+S	+S	+S
24.	20	—30	—10	10	—20	10	—40	20	—10	—10	40	50	70
25.	80	70	50	90	50	—20	40	50	80	50	50	40	80
26.	40	0	—10	30	70	—10	10	10	—10	50	90	80	140
27.	80	50	50	50	50	60	90	90	120	130	150	140	170
28.	80	70	80	60	90	120	120	120	120	180	140	130	150
29.	80	70	70	90	80	—	50	90	90	160	130	—	+S
30.	±S	40	50	70	60	60	70	70	—	—	110	90	90
31.	90	90	30	80	60	+S	100	+S	+S	100	40	110	160
Means	55	50	50	56	52	48	61	63	70	81	87	88	90
Number of days	25	28	27	28	28	25	28	24	21	28	29	28	28

13	14	15	16	17	18	19	20	21	22	23	Daily means
90	90	60	100	150	80	90	110	40	50	±S	—
90	100	40	20	130	110	30	120	60	70	70	—
100	140	110	110	40	40	40	50	60	60	40	73
110	150	140	110	50	120	110	110	40	+S	+S	—
60	+S	70	80	70	70	70	70	—S	±S	+S	—
50	100	50	+S	±S	±S	±S	±S	±S	—S	±S	—
70	70	70	100	120	140	110	70	70	40	60	—
—S	±S	+S	+S	+S	—50	—10	—S	—30	—90	—20	—
110	0	—10	60	60	80	120	150	130	120	150	55
60	70	80	70	0	100	60	140	190	160	170	44
—20	—50	—80	—50	—60	—50	—40	—40	40	±S	±S	—
100	110	120	120	120	170	160	180	70	70	50	—
30	60	±S	40	120	70	40	10	—40	—50	—30	34
90	110	110	130	150	150	150	140	120	120	110	68
140	150	150	110	120	110	140	110	70	80	70	110
100	120	140	120	170	150	110	100	100	120	80	100
10	—50	—40	30	—S	±S	30	—30	—30	30	40	—
150	200	100	100	110	110	100	70	70	60	50	95
70	80	70	70	70	90	100	90	70	60	60	74
110	120	140	140	100	120	180	200	190	140	160	85
150	140	140	+S	+S	150	200	180	140	170	140	—
160	140	140	140	150	160	140	140	190	170	110	—
+S	+S	+S	+S	+S	+S	+S	+S	80	—10	30	—
10	80	140	0	70	40	10	30	0	40	50	24
150	210	200	150	210	+S	150	70	30	130	100	92
—20	50	40	+S	80	80	50	60	+S	40	60	—
160	150	160	110	150	160	150	+S	0	40	50	103
110	200	50	—50	—30	10	110	110	150	120	100	98
+S	110	110	110	+S	+S	+S	50	±S	±S	±S	—
80	90	+S	90	110	130	120	120	60	30	70	—
150	190	180	160	170	90	120	110	100	90	80	—
88	105	92	83	97	93	94	93	73	72	74	
28	28	27	26	25	26	28	27	27	26	25	



*charges transported by point-discharge for each month*

12	13	14	15	16	17	18	19	20	21	22	23	Means
1	0	5	2	3	0	0	2	2	0	2	2	1,7
0	0	0	2	0	0	2	0	0	8	4	1	1,3
0	0	0	0	0	14	31	61	8	0	0	0	4,8
0	0	0	0	0	0	92	39	16	0	0	0	6,2
0	0	3	0	0	0	0	0	0	0	0	0	0,1
0	0	0	1	0	0	0	0	0	0	0	0	0,0
6	0	28	19	0	15	22	17	47	50	34	0	11,3
11	11	38	1	0	0	14	37	73	67	54	0	13,1
80	60	70	13	20	27	15	0	0	0	0	0	13,8
167	60	43	55	85	35	60	0	0	0	0	0	24,2
147	85	60	13	0	46	35	90	8	0	0	2	28,4
68	100	73	17	50	43	17	87	12	0	0	0	24,2
32	71	0	22	163	108	37	9	23	15	4	0	27,5
2	14	0	23	150	100	28	32	1	14	1	0	21,4
3	0	0	0	0	54	37	33	68	0	0	0	17,7
0	0	0	0	0	7	160	193	127	3	4	39	32,4
0	66	2	80	0	0	0	0	0	0	0	0	6,2
145	8	0	13	9	0	0	0	0	0	0	0	7,3
20	8	73	34	61	5	1	0	0	9	0	5	9,2
57	28	16	93	27	26	0	0	6	13	0	8	12,0
16	29	9	1	11	0	0	0	7	0	0	0	3,5
13	39	21	1	12	0	0	0	1	0	0	0	4,3
0	0	2	1	1	5	5	1	14	44	56	55	7,9
0	0	1	3	0	0	9	0	11	59	86	76	10,9