

### 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. MÁRCZ. 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. MÁRCZ: „Atmosphärisch-elektrische und ionosphärische Messungen im Observatorium bei Nagycenk”. Observatoriumsberichte des Geophysikalischen Forschungslaboratoriums der Ungarischen Akademie der Wissenschaften vom Jahre 1966, Sopron, 1967. Further information is given by P. BENCZE and F. MÁRCZ: „The Geophysical Observatory near Nagycenk. II. Atmospheric electric and ionospheric measurements” Acta Geod. Geoph. Mont Hung. 16/1981/353-357.



**I.**

*Hcurly means of the potential gradient*

January

Hour GMT Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	0	-10	50	50	40	50	30	40	20	[20]	40	60	40
2.	0	-10	40	50	70	40	10	-20	[60]	70	60	40	40
3.	50	10	0	0	0	10	40	40	30	30	[-10]	10	40
4.	+S	±S	-50	40	40	60	30	0	40	80	40	[30]	40
5.	60	70	60	20	0	-10	0	0	-10	[-10]	10	0	30
6.	-40	10	30	60	50	30	20	40	70	100	120	[120]	130
7.	-10	40	-30	40	60	80	50	—	—	60	70	140	180
8	80	70	80	120	80	70	90	130	110	140	[110]	120	150
9.	120	-10	-20	-160	20	40	30	40	50	30	[50]	50	70
10.	50	40	30	20	10	-20	-20	30	30	40	[50]	70	110
11.	30	40	40	30	50	40	20	-10	0	20	20	[30]	30
12.	40	30	30	50	30	40	50	80	110	110	[110]	50	70
13.	70	80	100	70	80	80	120	110	120	120	110	[110]	160
14.	90	80	10	30	20	50	90	50	—	60	50	80	90
15.	20	0	20	10	20	+S	+S	-20	±S	-S	[110]	30	30
16.	60	50	50	50	60	60	120	110	120	130	[130]	130	160
17.	150	120	90	80	80	70	120	+S	+S	+S	[120]	150	180
18.	110	90	80	90	80	80	90	130	150	[170]	200	190	160
19.	50	100	110	80	60	70	70	60	70	80	110	120	130
20.	90	60	60	100	120	70	90	80	100	[100]	120	110	100
21.	-70	-90	-100	-60	-90	-80	-80	—	—	-60	-30	50	20
22.	-100	-180	-160	0	-20	10	30	110	100	70	80	[110]	-70
23.	110	80	80	40	-40	0	-180	-60	+S	160	170	170	[130]
24.	40	60	80	110	110	-S	±S	±S	-S	±S	±S	±S	0
25.	40	40	40	40	50	50	60	100	110	[110]	100	100	120
26.	70	30	60	10	-40	-20	-40	-20	60	100	[100]	110	110
27.	30	40	40	40	30	80	110	120	70	+S	[190]	160	140
28.	70	70	70	50	60	70	90	[140]	—	140	120	110	90
29.	20	60	20	0	0	20	30	40	70	70	[100]	120	110
30.	40	20	-50	-10	70	70	30	70	120	110	[100]	80	100
31.	60	50	40	30	40	70	60	70	90	120	[150]	140	120
Means	44	35	29	35	37	41	40	54	73	80	90	93	91
Number of days	30	30	31	31	31	29	29	27	23	27	30	30	31

13	14	15	16	17	18	19	20	21	22	23	Daily means
10	20	10	0	-50	-10	10	20	30	20	40	20
40	40	70	110	170	130	80	70	70	-10	0	51
40	40	60	110	120	110	120	80	80	70	50	47
50	110	90	100	100	60	60	60	110	140	80	—
40	20	-20	-20	-20	-30	-50	-10	-10	-20	-10	4
150	170	170	160	150	130	140	80	80	70	10	85
190	200	140	120	70	20	60	90	120	80	60	—
170	160	140	120	120	110	110	120	100	160	120	116
80	50	70	80	70	80	70	60	50	50	50	43
90	100	120	160	170	200	140	120	120	90	50	75
30	50	40	30	10	10	30	-10	-50	50	30	23
70	30	-20	80	110	130	30	-10	0	50	80	56
170	170	160	190	170	170	160	120	130	130	110	125
90	80	70	10	0	0	-20	-10	0	10	20	42
50	60	40	50	60	50	30	30	60	10	50	—
160	160	160	140	90	90	110	130	90	50	100	105
210	190	190	170	190	170	150	150	130	110	110	—
120	150	110	50	-40	-10	0	10	10	30	20	86
[130]	130	150	190	120	130	130	150	130	190	160	113
90	70	70	30	10	30	20	-20	-30	-80	-90	54
60	40	-20	-10	-30	-20	-10	-20	-20	-50	-80	—
10	20	-60	-60	-10	0	20	130	+S	140	110	12
120	120	120	70	70	60	90	+S	+S	+S	60	—
90	110	110	90	80	80	70	90	70	40	40	—
100	60	40	50	30	40	60	100	100	100	70	71
120	80	90	70	80	100	60	60	20	50	40	54
150	180	90	90	90	70	100	110	90	80	90	98
80	90	100	80	80	70	30	20	-10	20	10	72
100	130	170	150	120	120	120	80	100	50	40	77
-S	-S	-S	-50	10	-40	20	60	70	70	50	—
110	130	140	120	120	70	100	-40	+S	30	10	80
97	98	87	80	73	68	66	61	59	56	48	
30	30	30	31	31	31	31	30	28	30	31	

													February	
Hour GMT	0	1	2	3	4	5	6	7	8	9	10	11	12	
Day														
1.	30	60	40	70	70	70	70	70	90	110	80	0	±S	
2.	30	30	30	20	20	±S	±S	±S	50	50	60	[70]	—S	
3.	70	60	50	50	+S	±S	±S	50	[80]	[70]	(60)	+S	90	
4.	60	60	60	60	60	70	80	—	—	120	120	120	130	
5.	40	30	40	50	50	80	120	180	150	150	[140]	130	130	
6.	70	60	50	50	60	50	50	90	90	90	90	[70]	110	
7.	70	—20	50	±S	±S	—S	+S	+S	±S	±S	[+S]	80	80	
8.	80	90	90	90	80	60	80	130	120	70	[80]	50	50	
9.	0	10	—10	—10	—10	10	0	20	20	40	[20]	[10]	—30	
10.	—10	50	70	40	—20	—30	—50	—30	0	—30	[—40]	—10	—10	
11.	40	20	30	30	40	30	30	30	—	100	120	120	120	
12.	80	90	90	60	40	50	40	50	80	—	100	[120]	140	
13.	110	80	60	50	0	10	30	40	90	[110]	120	150	160	
14.	70	50	50	60	20	—10	40	40	70	70	[90]	80	80	
15.	—50	—50	—10	30	30	+S	+S	110	90	40	50	[70]	70	
16.	50	40	10	70	50	50	80	90	60	80	[80]	90	100	
17.	50	50	50	60	80	80	80	90	110	90	[100]	110	110	
18.	80	70	70	80	70	50	70	80	—	70	70	60	10	
19.	30	20	10	30	50	50	40	50	—	40	30	30	30	
20.	60	70	60	50	50	50	50	60	50	60	[70]	[80]	80	
21.	90	80	80	70	80	70	70	70	80	70	[60]	[50]	50	
22.	60	20	10	—30	—40	—30	—10	40	60	70	30	10	10	
23.	40	50	50	50	50	50	50	80	70	100	110	[100]	110	
24.	30	70	100	80	+S	40	—50	30	110	—10	[—S]	—S	—50	
25.	20	20	40	20	30	30	50	—	—	80	120	160	170	
26.	—	—	—	—	—	—	—	—	—	—	—	—	—	
27.	—	—	—	—	—	—	—	—	—	—	—	—	—	
28.	—	—	—	—	—	—	—	—	—	—	—	—	—	
Means	48	44	47	47	39	40	44	65	77	71	77	76	76	
Number of days	25	25	25	24	22	21	21	21	19	23	22	23	23	

13	14	15	16	17	18	19	20	21	22	23	Daily means
±S	—S	—S	—S	—S	70	70	60	60	40	30	—
—S	120	70	60	—S	±S	±S	60	70	70	70	—
110	90	70	60	40	60	60	50	50	40	50	—
130	140	150	160	170	140	160	200	180	120	70	—
120	170	120	170	170	160	140	160	140	100	90	118
80	80	80	70	90	60	60	90	120	100	70	76
90	100	110	130	+S	120	110	120	120	110	90	—
50	0	50	50	60	50	110	10	120	10	—10	65
—170	—70	—100	—110	—70	40	—20	—50	—30	—20	—110	—27
—20	0	80	70	—10	30	50	—10	—60	—60	—10	0
120	120	140	140	140	140	130	120	170	150	110	95
150	140	150	170	170	150	140	150	120	120	120	110
150	150	160	160	120	120	120	120	130	120	110	103
120	120	120	110	100	90	30	—20	—70	—70	—80	48
80	70	70	70	110	120	140	130	120	110	70	—
90	90	100	100	140	130	120	90	100	80	60	81
110	50	30	30	80	80	110	90	90	90	80	79
0	50	50	30	60	60	70	70	40	30	0	54
30	10	40	60	70	70	60	60	50	40	40	41
90	90	100	110	120	120	120	100	100	100	90	80
40	50	50	40	70	110	70	30	60	70	60	65
10	20	30	30	30	30	10	—10	30	30	40	19
130	130	110	70	60	60	20	30	30	20	30	67
0	—S	—S	—120	20	140	170	170	150	80	30	—
160	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
73	78	81	72	83	93	89	76	79	62	46	
23	22	22	23	21	23	23	24	24	24	24	

March

Hour GMT Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	—	—	—	—	—	—	—	—	—	—	130	70	50
2.	-120	-120	-130	-140	-150	-150	-70	[-20]	-60	-60	-110	-100	-100
3.	-270	-100	-S	±S	±S	30	[30]	50	60	90	80	70	120
4.	70	90	90	190	110	50	50	20	—	—	20	-30	-80
5.	-40	-20	20	30	50	70	80	80	50	70	10	[-10]	0
6.	-40	20	50	50	50	60	60	70	70	[100]	60	50	70
7.	50	40	20	40	30	40	50	60	50	30	[30]	20	60
8.	0	20	30	30	20	40	30	40	50	[40]	20	50	40
9.	-50	-20	-10	-40	-10	-40	[-30]	-10	20	50	50	20	10
10.	10	20	50	50	50	40	[40]	40	30	20	30	40	50
11.	20	40	30	50	+S	+S	50	—	—	130	150	140	190
12.	-20	30	-10	-10	-40	-60	-80	-40	0	60	[70]	90	100
13.	-20	-40	-30	-30	-40	-20	-10	10	60	50	60	60	80
14.	50	80	70	50	60	50	50	80	90	80	[90]	60	80
15.	50	50	50	50	50	70	60	90	70	70	[50]	60	80
16.	50	60	60	70	60	60	60	[70]	90	80	80	80	80
17.	-30	-30	-40	10	30	30	[-10]	10	30	30	50	60	60
18.	—	—	—	—	—	—	70	50	50	—	70	60	60
19.	+S	±S	±S	+S	+S	+S	-60	+S	±S	—	—	—	—
20.	-S	-70	-100	-70	20	20	10	20	50	—	—	60	50
21.	40	10	-50	-60	-40	-50	-80	30	100	[110]	60	50	80
22.	0	70	70	+S	±S	40	50	[50]	40	20	50	40	50
23.	10	10	20	0	0	20	[30]	-10	-10	20	-10	30	50
24.	40	50	40	10	-10	10	[30]	50	50	10	20	10	20
25.	50	60	40	40	20	40	60	[70]	—	70	60	60	50
26.	20	20	30	20	20	30	40	50	70	60	70	60	[60]
27.	50	50	50	50	50	60	80	70	70	80	[90]	90	70
28.	+S	+S	±S	±S	20	30	60	50	40	40	[40]	40	50
29.	50	50	50	40	40	40	40	50	40	50	50	[50]	40
30.	50	50	50	50	50	50	60	100	100	90	80	[70]	60
31.	60	50	60	50	50	[50]	50	80	80	80	70	80	80
Means	3	17	20	21	20	23	28	43	50	57	52	48	54
Number of days	26	27	26	25	25	27	30	28	26	26	29	30	30



13	14	15	16	17	18	19	20	21	22	23	Daily means
20	10	50	60	40	-40	-80	-50	-70	-80	-100	—
-50	-50	-30	50	-70	-250	-190	-150	-80	-110	-230	-104
100	120	120	110	110	80	80	70	70	30	90	—
-90	-10	-20	-10	-40	-40	-50	-50	10	10	-30	—
10	30	50	20	100	100	110	70	50	10	20	40
80	80	60	20	-10	-10	40	60	50	40	50	47
80	120	80	50	80	150	130	70	40	40	20	58
40	20	20	40	-20	0	30	30	40	-20	-60	22
20	50	50	50	40	30	10	0	0	10	10	9
50	60	60	70	50	40	30	50	50	30	-10	40
+S	150	160	-30	+S	±S	-S	+S	-S	-10	-70	—
110	110	120	90	120	110	80	50	60	30	30	42
90	90	90	70	60	50	50	50	70	60	40	35
80	60	60	50	60	50	60	70	40	50	50	63
40	50	50	50	60	60	50	60	50	50	50	57
70	70	70	50	50	40	30	0	0	-10	0	53
60	±S	±S	±S	±S	±S	-S	—	—	—	—	—
50	50	70	80	60	80	80	40	±S	±S	70	—
+S	40	-10	-40	40	+S	±S	±S	-S	-S	-S	—
70	120	100	100	80	90	80	110	0	50	30	—
80	20	-10	10	-50	0	50	50	+S	-S	-110	—
70	70	70	60	50	60	60	50	30	30	20	—
30	0	40	30	50	50	80	50	30	20	20	23
30	10	10	30	30	40	20	40	30	30	40	27
50	50	40	50	30	30	40	0	-10	0	0	39
50	50	50	40	50	70	50	50	50	50	40	46
60	50	50	50	40	30	40	-10	20	+S	±S	—
50	60	60	40	50	60	60	60	60	60	50	—
50	50	50	60	50	50	50	50	50	50	60	48
50	50	50	50	60	70	90	70	60	50	60	63
70	80	60	60	60	-S	±S	±S	±S	±S	±S	—
49	55	53	45	42	37	40	33	28	19	6	
29	30	30	30	29	27	27	27	25	25	28	

April

Hour GMT Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	40	40	30	40	40	40	—	—	60	50	50	60	70
2.	50	50	80	90	70	30	90	90	60	[30]	30	40	30
3.	30	30	(30)	30	30	30	40	30	40	[40]	30	30	30
4.	20	20	20	30	30	30	30	30	30	50	[60]	50	60
5.	110	30	30	40	50	[50]	[70]	80	80	80	80	60	—
6.	40	50	30	40	30	[40]	[30]	50	50	40	30	50	60
7.	30	10	20	30	50	[50]	60	50	50	30	(30)	(40)	(30)
8.	30	30	30	30	50	60	70	70	80	[80]	70	80	70
9.	40	90	90	80	100	90	[90]	—	60	70	30	30	30
10.	40	50	40	30	20	30	20	[20]	30	30	0	50	20
11.	20	20	20	40	50	60	60	60	[60]	—S	±S	±S	—S
12.	20	20	10	10	20	30	60	30	30	30	[30]	30	40
13.	30	30	30	30	30	30	[30]	[40]	50	50	50	50	30
14.	10	20	±S	30	30	[30]	50	70	70	—S	±S	±S	±S
15.	30	30	30	50	70	70	60	—	70	60	50	50	60
16.	60	50	60	70	60	60	70	80	80	[80]	80	70	70
17.	30	70	20	0	—10	0	—10	[—20]	±S	±S	20	40	70
18.	—20	20	—10	0	0	0	0	30	20	—10	[—10]	—20	0
19.	30	40	40	40	40	40	60	70	70	90	[90]	90	110
20.	30	30	30	40	30	[30]	40	40	40	40	50	50	50
21.	—10	20	30	10	—10	—30	[—20]	—40	—10	40	60	60	60
22.	20	10	10	10	0	10	40	—	70	50	50	50	50
23.	40	40	50	50	40	40	50	50	40	40	—	50	40
24.	—10	—20	±S	0	—40	—50	30	0	10	[—60]	±S	—10	30
25.	40	40	20	10	30	40	50	60	[60]	60	50	40	40
26.	40	60	100	60	70	60	50	60	60	[50]	70	80	80
27.	0	10	—10	20	40	[20]	40	40	50	50	20	30	40
28.	20	10	30	—60	—60	60	[20]	±S	±S	±S	±S	±S	±S
29.	50	40	40	50	50	50	—	—	—S	±S	10	30	30
30.	20	20	20	20	30	20	10	40	40	[30]	30	20	30
Means	27	32	33	31	31	34	43	43	50	44	43	45	49
Number of days	30	30	27	30	30	30	28	24	27	25	24	26	25

13	14	15	16	17	18	19	20	21	22	23	Daily means
60	50	(60)	40	30	60	40	30	40	30	40	—
20	50	—S	±S	20	30	—S	30	±S	0	30	—
40	50	50	50	50	70	60	50	30	30	10	38
60	50	60	50	40	50	50	40	50	40	40	41
50	40	50	40	40	40	50	50	50	40	40	51
50	50	50	50	30	30	50	40	—50	30	40	38
40	50	50	50	30	30	30	10	10	30	30	—
80	30	—10	—10	0	0	—10	60	40	10	—10	39
40	60	60	50	40	30	50	30	30	30	20	54
90	+S	±S	—10	—30	10	—20	±S	±S	0	10	—
—S	—S	40	40	40	40	30	30	40	30	30	—
30	20	30	40	40	40	40	40	40	30	30	31
10	20	50	50	30	50	50	60	20	10	30	36
30	40	60	40	40	40	40	30	20	30	30	—
60	±S	60	60	60	60	60	60	70	70	60	57
70	90	80	90	90	80	60	40	30	—20	—40	61
90	80	70	70	70	80	70	40	20	0	—80	—
0	30	30	30	0	0	0	—30	—40	—10	10	1
100	100	110	120	100	80	60	60	50	30	40	69
50	60	60	60	50	40	20	10	—10	—20	0	34
60	50	40	40	50	40	40	30	30	20	20	24
50	40	40	40	30	40	40	40	40	40	50	36
40	40	+S	±S	±S	0	10	—10	0	—20	—10	—
—60	0	10	40	70	50	40	50	40	20	30	—
50	40	50	40	30	40	50	50	50	50	50	43
60	50	40	10	50	50	40	40	30	10	0	51
40	30	40	20	30	10	10	—10	—30	+S	—20	21
±S	10	40	40	50	50	60	50	50	50	50	—
30	30	40	40	50	40	40	40	30	±S	—60	—
40	40	40	40	40	40	30	40	30	30	20	30
46	45	48	44	40	41	38	34	25	21	16	
28	27	26	28	29	30	29	29	28	28	30	

May

Hour GMT	0	1	2	3	4	5	6	7	8	9	10	11	12
Day													
1.	20	30	30	20	30	30	30	30	40	[30]	20	20	+S
2.	30	+S	+S	+S	+S	-S	80	70	-10	70	70	-20	+S
3.	+S	-S	10	10	10	20	30	50	90	[30]	30	30	30
4.	20	20	20	20	20	[20]	30	30	30	30	30	20	20
5.	20	20	20	10	10	20	[20]	20	20	0	+S	-80	-10
6.	30	30	20	30	30	50	—	—	40	20	50	40	30
7.	40	50	40	50	20	30	40	70	[50]	70	30	+S	+S
8.	50	50	50	40	40	50	50	50	40	20	30	[30]	+S
9.	50	50	50	50	50	50	60	50	50	[50]	50	40	40
10.	30	30	40	30	30	40	50	50	50	[50]	50	50	(50)
11.	50	40	30	20	30	[50]	60	60	90	80	60	60	60
12.	30	50	50	40	40	40	[40]	40	50	50	50	50	50
13.	(40)	50	50	50	60	60	—	60	50	50	50	50	50
14.	50	50	30	50	70	70	50	(40)	30	[30]	(40)	40	30
15.	10	(10)	30	30	30	50	70	60	[50]	50	+S	+S	+S
16.	(20)	(0)	-20	-20	10	30	(30)	20	10	30	(30)	[30]	30
17.	—	—	—	—	10	30	(40)	20	40	100	80	[10]	+S
18.	-20	20	30	30	30	70	[70]	60	80	40	30	40	40
19.	30	30	30	30	30	30	40	[90]	30	30	10	10	-10
20.	50	30	40	30	30	20	[50]	—	50	40	30	30	30
21.	50	50	40	50	50	40	50	30	50	+S	+S	+S	+S
22.	-S	-S	-60	-10	10	20	30	30	80	[90]	30	+S	+S
23.	0	30	30	50	60	40	50	50	50	[40]	40	30	20
24.	+S	10	20	40	30	40	80	120	70	[50]	40	20	30
25.	20	30	30	30	30	[20]	30	30	30	30	20	20	20
26.	10	30	30	30	20	[20]	20	40	40	50	40	40	20
27.	10	20	20	20	20	30	10	—	—	20	20	30	20
28.	10	10	10	20	20	(20)	30	[20]	30	30	20	30	—
29.	40	10	10	30	40	50	30	30	20	[30]	40	50	+S
30.	-20	-20	-40	-30	-20	-10	-10	20	20	0	10	—	—
31.	10	-10	20	20	30	20	20	10	[20]	10	10	10	30
Means	25	28	23	27	29	36	41	47	43	41	37	26	28
Number of days	25	25	29	29	30	29	27	27	30	30	26	26	19

13	14	15	16	17	18	19	20	21	22	23	Daily means
±S	±S	20	20	—S	—S	—10	20	10	0	10	—
+S	—50	—100	+S	—S	±S	±S	±S	±S	±S	±S	—
30	40	20	30	—50	40	50	50	30	30	20	—
30	30	20	20	20	20	20	20	20	20	20	23
20	30	20	30	20	20	20	10	20	20	30	14
20	50	40	30	30	60	—50	50	40	—10	40	—
±S	±S	±S	+S	50	70	50	50	50	50	50	—
—	—	—	40	50	50	50	50	50	50	50	—
40	40	40	50	50	40	40	50	40	40	40	46
50	40	(40)	50	40	30	50	60	50	40	40	—
70	60	50	50	50	40	30	50	50	40	30	50
50	50	50	50	50	50	50	30	30	30	40	44
50	(60)	80	(90)	80	60	50	40	40	30	(40)	—
(30)	(30)	30	—	30	20	30	20	20	(20)	(10)	—
30	50	30	30	30	20	(10)	(—20)	±S	+S	—S	—
30	30	30	10	(10)	10	10	10	50	—	—	—
±S	—10	30	20	10	0	10	0	(10)	—10	—10	—
40	30	30	70	—	—	±S	±S	±S	+S	10	—
0	10	20	30	30	30	20	30	30	40	30	27
40	40	30	30	30	10	+S	±S	10	30	30	—
—S	30	30	30	+S	±S	—10	30	10	10	0	—
+S	±S	+S	10	40	10	+S	—S	20	±S	+S	—
20	20	30	40	40	40	±S	±S	+S	+S	±S	—
30	20	20	30	30	30	30	30	30	20	30	37
20	30	30	20	20	20	30	20	0	0	10	23
30	30	20	20	30	40	40	30	30	20	10	29
30	20	30	40	30	20	20	10	10	10	10	—
—	40	40	40	50	50	40	40	40	30	40	—
±S	±S	±S	±S	±S	10	+S	+S	—S	+S	—10	—
—	10	20	—10	±S	±S	±S	±S	20	10	10	—
10	—10	—20	±S	±S	20	20	+S	+S	—10	—10	—
32	26	25	31	33	31	26	32	29	21	22	
20	24	26	25	23	26	23	22	21	23	24	

June

Hour GMT Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	-10	-10	-20	±S	30	60	70	[50]	60	50	50	50	50
2.	20	40	40	40	50	50	50	[50]	50	10	30	60	10
3.	20	10	-10	0	10	0	—	—	30	20	30	20	(10)
4.	20	10	10	30	50	60	80	[60]	70	—	—	—	—
5.	0	20	30	30	40	10	-10	[-20]	-10	10	10	10	20
6.	10	10	—	—	—	—	—	—	—	10	0	10	40
7.	—	—	—	—	—	—	—	—	—	—	—	—	—
8.	—	—	—	—	80	50	70	50	+S	+S	+S	50	40
9.	-60	10	10	0	20	20	20	[30]	50	40	60	40	30
10.	30	20	30	30	40	40	40	—	—	—	—	—	—
11.	40	30	20	40	40	40	50	(70)	(70)	(40)	[40]	—	—
12.	10	10	10	10	20	30	40	40	[30]	30	40	30	30
13.	10	30	30	40	40	30	10	20	10	[30]	—	—	—
14.	—	—	—	—	30	50	50	60	(40)	[30]	20	20	10
15.	60	60	50	±S	+S	-S	20	[40]	80	-10	80	+S	40
16.	40	40	30	30	30	[40]	[40]	40	40	—	—	—	—
17.	10	-10	-30	-20	-50	-10	70	—	—	30	20	30	70
18.	40	70	40	40	60	70	60	70	50	40	[30]	30	40
19.	10	10	10	10	10	30	40	50	60	[60]	50	20	10
20.	0	0	0	0	-20	0	0	-20	0	-110	-260	-100	0
21.	—	—	—	—	—	40	150	100	40	[30]	10	20	10
22.	20	30	20	20	20	30	[30]	40	50	40	40	40	40
23.	—	—	—	—	—	—	—	—	—	—	—	—	—
24.	—	—	—	—	—	—	—	—	50	50	40	40	(40)
25.	—	—	40	40	(50)	80	50	[40]	40	30	40	20	10
26.	-10	0	10	10	40	30	(40)	—	—	—	—	—	—
27.	±S	±S	±S	±S	40	30	70	+S	—	—	—	50	[40]
28.	40	50	30	30	30	50	50	40	40	[50]	50	±S	+S
29.	10	10	10	10	20	30	30	[40]	30	50	50	40	50
30.	10	20	20	20	30	50	60	[50]	80	70	30	—	—
Means	15	21	17	21	29	36	48	42	43	27	22	25	30
Number of days	22	22	22	20	23	25	24	20	20	21	21	19	18

13	14	15	16	17	18	19	20	21	22	23	Daily means
50	40	40	50	60	60	60	40	30	50	50	42
10	10	20	-30	-10	-40	0	±S	-10	-10	10	20
30	30	30	30	40	50	50	30	20	30	20	—
50	40	40	40	50	50	40	20	10	20	10	—
20	20	20	30	30	20	20	20	10	0	10	14
30	10	0	-10	±S	±S	-20	-10	-20	-40	-20	—
—	—	—	—	—	—	—	—	—	—	—	—
100	60	50	40	40	50	50	20	30	-180	-60	—
20	20	20	30	40	40	50	40	30	20	20	25
30	40	40	40	40	-S	±S	±S	±S	±S	30	—
40	50	40	30	30	30	40	40	40	20	20	—
(30)	30	30	40	40	50	40	30	20	30	30	29
—	—	—	—	—	30	50	40	10	10	(10)	—
30	30	30	30	40	40	40	30	30	40	40	—
40	40	40	40	50	60	60	60	40	40	40	—
—	—	—	—	—	—	—	—	20	10	10	—
90	100	70	50	30	40	70	40	40	40	40	—
(30)	—	—	±S	±S	50	30	30	20	20	10	—
10	0	0	-10	-10	0	0	0	-10	-10	0	14
30	40	(70)	—	—	—	—	—	—	—	—	—
0	10	0	0	10	10	10	20	10	10	10	—
30	30	30	30	30	20	30	20	10	(0)	—	—
—	—	—	—	—	—	—	—	—	—	—	—
(40)	10	10	60	30	20	30	20	—	—	—	—
-10	-10	-10	-10	0	0	0	10	20	-10	-10	—
—	20	0	0	0	0	0	0	0	50	60	—
40	40	20	(0)	(20)	30	40	40	40	40	30	—
20	40	40	60	30	40	40	20	10	0	0	35
40	20	0	20	—	0	-10	10	20	20	30	23
—	—	—	—	—	—	—	—	—	—	—	—
33	30	24	25	29	28	30	25	18	9	17	
21	24	23	22	20	23	24	23	24	23	23	

													July	
Hour GMT	0	1	2	3	4	5	6	7	8	9	10	11	12	
Day														
1.	—	—	—	—	—	—	—	—	—	+S	±S	±S	±S	
2.	20	30	20	10	20	30	30	[0]	±S	—S	±S	—	—	
3.	—	—	—	—	—	—	—	—	—	—	80	50	40	
4.	30	20	40	40	40	70	60	[70]	[80]	90	80	60	60	
5.	20	20	30	30	30	70	—	—	—	—	30	30	30	
6.	30	10	20	10	20	40	50	[60]	80	70	60	60	50	
7.	40	40	60	50	60	80	40	[40]	30	30	30	40	20	
8.	—	—	—	—	—	—	—	—	—	—	50	40	30	
9.	—	—	—	—	—	—	—	—	—	60	60	50	60	
10.	10	10	0	10	30	30	[30]	[60]	0	50	50	50	70	
11.	20	20	30	20	30	40	[40]	[50]	70	70	60	60	50	
12.	40	30	30	20	30	10	—10	[40]	—	—	30	20	—10	
13.	20	30	30	30	20	30	[40]	[40]	40	40	50	40	40	
14.	10	20	30	20	20	40	[40]	[40]	40	30	30	30	10	
15.	10	0	0	20	20	20	—	—	30	30	30	30	0	
16.	40	40	30	30	20	80	[80]	60	50	50	30	30	20	
17.	—	—	—	—	—	—	90	+S	±S	+S	130	80	60	
18.	30	20	20	30	30	50	70	[80]	80	90	80	80	80	
19.	30	30	40	30	40	30	[40]	50	40	50	50	50	50	
20.	30	20	20	30	40	40	[50]	40	40	40	40	30	20	
21.	140	—S	30	±S	±S	±S	±S	±S	60	80	80	110	70	
22.	40	30	30	30	40	60	—	—	60	50	50	40	30	
23.	30	20	30	20	30	40	40	40	40	[40]	30	30	30	
24.	60	60	40	40	50	50	50	70	80	[70]	70	60	50	
25.	40	30	30	20	30	40	50	30	40	[40]	40	50	50	
26.	10	10	20	30	30	40	30	30	40	50	[50]	50	50	
27.	—	—	—	—	—	—	—	—	—	—	—	—	—	
28.	—	—	—	—	—	—	—	—	—	—	—	—	—	
29.	—	—	—	—	—	—	—	—	80	60	50	40	40	
30.	10	10	20	10	20	30	30	20	10	10	—10	—10	20	
31.	0	—10	40	30	—S	±S	±S	±S	±S	±S	140	120	80	
Means	31	22	28	25	31	44	45	46	50	52	54	49	41	
Number of days	23	22	23	22	21	21	19	18	20	21	27	27	27	



13	14	15	16	17	18	19	20	21	22	23	Daily means
±S	30	20	20	20	40	30	40	30	30	30	—
—	—	—	—	—	—	—	—	—	—	—	—
40	40	40	40	50	60	70	40	30	30	30	—
40	30	40	40	40	40	30	30	30	30	20	46
30	30	30	30	20	30	10	0	0	10	30	—
40	30	40	40	50	40	(40)	—	—	40	40	—
-10	30	—	—	—	—	—	—	—	—	—	—
40	30	40	40	20	0	+S	—	—	—	—	—
60	70	60	50	30	40	40	20	20	20	10	—
60	50	40	50	50	40	40	30	30	10	20	34
60	50	60	50	50	40	50	40	40	50	50	46
0	-10	20	0	0	0	10	-10	20	30	30	—
40	40	40	30	40	40	30	30	20	30	20	34
0	0	-10	-10	-10	-10	-10	0	0	-10	0	13
20	10	20	30	+S	±S	+S	±S	-S	-S	-S	—
20	10	10	-10	-10	0	0	10	0	-10	10	25
-S	-10	40	50	60	50	50	50	40	40	40	—
70	70	70	50	50	50	50	50	40	40	40	55
50	50	50	50	40	50	60	40	50	50	40	44
10	10	10	20	30	30	±S	±S	—	±S	50	—
60	70	50	50	50	50	60	60	60	50	40	—
30	30	40	40	40	40	40	40	40	40	30	—
30	40	40	30	20	30	(40)	40	40	40	50	34
50	50	50	40	50	50	60	50	60	50	40	54
50	50	40	40	30	30	40	30	20	20	20	36
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
20	10	0	-10	0	10	10	10	30	30	10	—
10	10	0	20	10	20	20	40	20	10	0	14
60	50	50	50	50	50	50	50	50	50	50	—
35	32	34	32	31	33	35	31	30	30	29	—
25	27	26	26	25	25	21	22	22	23	24	—

August

Hour GMT Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	50	50	40	40	50	70	60	60	[60]	60	50	50	50
2.	0	0	-10	±S	-S	-S	-S	20	[70]	60	+S	90	-S
3.	30	30	30	40	50	80	[40]	70	60	70	60	50	20
4.	40	40	40	30	0	0	+S	±S	±S	[±S]	60	70	40
5.	20	30	0	0	—	—	—	—	20	20	50	30	0
6.	30	40	30	40	40	50	40	50	40	[50]	50	50	10
7.	±S	±S	±S	±S	-20	40	50	50	-70	[±S]	±S	±S	0
8.	0	20	30	30	20	40	40	60	50	[40]	40	30	10
9.	-20	-20	-60	-30	-10	20	40	50	70	[80]	70	70	60
10.	50	30	20	30	40	90	90	[90]	70	40	40	40	40
11.	50	40	50	40	40	50	[40]	[50]	60	70	80	90	80
12.	50	40	40	40	50	120	90	40	50	—	50	40	30
13.	10	30	30	30	40	80	70	80	70	60	[50]	40	40
14.	40	40	50	40	40	80	110	60	60	[60]	50	40	0
15.	30	30	40	40	40	40	60	40	30	[30]	20	30	30
16.	30	30	30	30	30	50	70	60	50	[40]	30	40	30
17.	20	20	30	30	30	40	40	(40)	([40])	[40]	50	40	40
18.	-30	-50	—	—	—	—	0	±S	±S	+S	+S	+S	120
19.	40	30	30	40	40	70	80	[60]	70	70	40	50	40
20.	±S	-S	±S	30	50	70	50	[30]	130	30	50	30	20
21.	50	50	40	40	40	60	—	—	60	50	50	50	50
22.	60	50	50	50	50	60	70	50	[60]	[70]	60	50	40
23.	40	40	50	50	60	50	50	-S	+S	±S	±S	[60]	70
24.	20	20	30	30	30	40	[40]	[30]	30	30	30	20	-20
25.	50	40	30	10	20	[40]	[40]	50	50	40	50	50	50
26.	50	40	30	50	40	50	—	—	40	40	50	60	+S
27.	50	40	40	50	50	50	50	50	[50]	[50]	40	30	30
28.	-50	-60	-50	20	20	40	40	40	10	30	0	(10)	60
29.	30	20	30	30	30	30	30	[30]	10	(30)	(40)	30	20
30.	40	40	40	40	40	40	40	50	50	50	80	(10)	70
31.	50	70	70	60	70	80	70	50	30	50	50	50	40
Means	29	27	28	33	35	55	53	51	47	49	48	47	37
Number of days	29	29	28	28	28	28	26	24	27	25	26	27	29

13	14	15	16	17	18	19	20	21	22	23	Daily means
50	40	40	40	40	40	30	20	10	30	10	43
30	40	50	50	40	50	40	50	50	40	30	—
30	40	40	50	50	50	50	50	40	40	40	48
30	30	40	40	40	30	30	50	40	40	0	—
-20	30	30	30	20	30	40	40	30	40	30	—
40	70	—	—	—	—	—	—	±S	±S	±S	—
60	70	60	50	50	40	50	50	50	40	30	—
30	40	30	40	20	30	10	10	20	10	-20	26
50	50	30	40	10	0	0	10	20	40	40	25
30	40	50	40	40	40	40	+S	±S	20	40	—
60	50	40	40	30	40	20	30	40	50	40	49
30	30	20	20	30	40	30	10	20	20	20	40
40	40	40	40	40	40	50	30	50	50	40	45
10	30	30	40	40	30	30	40	50	30	30	43
20	30	30	40	40	40	30	30	40	40	40	35
30	30	30	40	30	30	30	30	40	30	30	36
40	30	30	10	-50	10	±S	0	10	0	-10	—
60	50	50	70	70	60	50	60	50	40	40	—
40	30	0	20	10	30	30	40	40	20	0	38
70	80	30	40	50	50	60	60	60	50	50	—
50	50	50	40	40	40	40	50	50	60	60	—
40	50	50	50	60	50	50	50	40	40	40	52
60	70	70	60	50	50	40	50	30	30	20	—
-10	10	20	40	40	40	40	30	40	30	40	27
50	50	50	40	40	40	30	30	40	40	50	41
60	100	±S	60	30	-20	0	30	60	50	50	—
40	30	30	50	60	50	50	50	10	30	-20	40
50	50	50	50	60	50	50	50	50	40	40	28
20	30	30	30	30	40	50	50	40	40	40	—
60	70	70	80	80	80	70	80	60	60	50	58
20	—	—	—	—	—	—	—	-20	-30	-40	—
38	45	39	43	38	38	37	39	37	34	27	
31	30	28	29	29	29	28	28	29	30	30	

September

Hour GMT Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	-30	-30	-10	-10	-20	-10	30	30	50	40	50	50	50
2.	—	—	-50	-50	-50	-50	40	50	60	(50)	-10	0	0
3.	0	-10	-10	-10	-10	0	0	0	-10	-10	-20	-40	-50
4.	±S	±S	±S	±S	±S	—	—	±S	-10	-50	-50	—	—
5.	—	—	(30)	10	10	40	50	60	70	60	[50]	(40)	(20)
6.	—	—	—	—	—	—	—	—	—	—	—	[70]	60
7.	0	±S	10	0	0	10	10	-20	[50]	[50]	50	50	50
8.	40	40	30	20	0	10	60	50	50	40	40	[-50]	[0]
9.	10	-40	-160	-20	0	0	-20	—	20	-10	-50	±S	±S
10.	70	60	50	60	50	60	90	90	110	110	100	[90]	80
11.	30	30	40	20	20	40	70	—	—	—	—	(50)	50
12.	20	30	20	0	20	30	40	50	50	60	50	[60]	60
13.	30	20	20	20	20	20	30	30	30	[40]	60	40	40
14.	20	30	30	50	40	30	60	60	50	[40]	40	50	50
15.	30	40	30	20	40	40	40	[50]	60	60	60	60	60
16.	20	30	30	30	20	30	—	—	50	40	50	50	40
17.	50	50	40	40	40	40	50	50	[40]	40	40	40	30
18.	20	30	30	40	30	40	[60]	70	60	60	60	80	70
19.	50	50	50	40	50	60	40	40	(50)	50	50	[30]	30
20.	30	30	30	40	50	70	70	80	100	130	120	[100]	100
21.	50	50	40	40	50	60	60	[90]	70	60	50	50	50
22.	20	30	30	30	40	30	40	50	50	50	[40]	30	40
23.	30	30	40	40	30	30	—	—	50	60	60	50	50
24.	30	30	30	10	30	30	50	60	30	[40]	40	50	40
25.	30	30	40	30	40	±S	±S	50	50	120	[80]	70	60
26.	30	40	50	50	30	20	30	50	60	70	60	[70]	70
27.	50	50	50	70	60	50	40	50	60	60	[50]	50	50
28.	60	50	40	50	50	60	40	50	60	70	80	[90]	100
29.	40	40	50	40	50	50	50	70	80	90	100	[100]	90
30.	50	70	70	50	50	50	50	—	—	130	110	80	100
Means	30	31	25	25	26	31	43	50	52	56	49	51	51
Number of days	26	25	27	28	28	27	25	23	26	27	28	26	27

13	14	15	16	17	18	19	20	21	22	23	Daily means
50	50	50	±S	±S	30	50	50	40	±S	±S	—
-10	-10	-10	0	0	10	10	10	0	10	10	—
-50	-30	-20	-30	-30	-40	—	(-30)	-40	-60	-S	—
—	—	—	—	—	—	—	—	—	—	—	—
10	10	—	—	—	—	—	—	—	—	—	—
60	50	50	40	50	40	40	40	40	30	20	—
50	40	40	50	(50)	60	60	50	50	50	40	34
-20	-10	-50	0	60	50	-30	-60	-50	-50	10	8
±S	±S	70	40	10	40	50	60	50	60	60	—
60	70	80	80	60	70	60	40	40	30	40	69
50	50	30	40	50	50	60	60	40	40	30	—
60	60	60	60	60	80	60	50	50	40	20	45
50	40	30	30	30	30	30	30	30	30	30	32
50	50	40	40	30	30	30	20	30	30	30	39
60	60	50	40	40	30	30	30	30	30	20	42
50	50	50	40	50	50	50	60	50	40	40	—
30	30	50	50	60	60	50	50	40	30	30	43
60	70	60	50	50	50	40	50	50	50	50	51
40	40	40	40	40	30	40	40	40	30	40	42
110	100	90	100	80	70	70	60	60	50	60	75
60	50	50	20	10	10	10	10	30	20	10	42
40	50	40	50	50	60	50	50	40	30	30	40
50	50	50	50	50	50	50	60	50	50	40	—
40	70	60	50	50	30	40	50	50	30	10	40
60	70	80	50	50	50	50	40	40	40	30	—
80	80	80	60	50	60	50	40	40	50	50	53
60	70	50	30	60	70	50	40	40	60	70	54
110	100	70	80	70	50	30	40	30	40	40	61
70	60	70	60	70	50	70	60	50	40	40	62
100	90	50	50	60	50	50	40	50	40	40	—
49	50	47	43	45	44	43	40	35	31	34	
28	28	28	27	26	28	27	27	28	27	26	

												October	
Hour GMT	0	1	2	3	4	5	6	7	8	9	10	11	12
Day													
1.	50	40	40	30	40	40	40	40	50	50	[30]	40	(30)
2.	-10	20	20	50	50	60	70	80	80	[70]	60	60	60
3.	60	50	70	70	90	120	140	130	160	120	60	50	[50]
4.	40	70	100	120	120	150	170	210	130	50	50	50	[40]
5.	20	0	30	50	50	100	170	[160]	90	50	50	50	40
6.	50	40	30	30	40	50	50	[60]	50	50	50	40	50
7.	20	30	30	20	20	30	30	—	—	70	80	70	(80)
8.	40	50	50	50	60	100	160	150	40	40	80	90	70
9.	40	30	20	40	40	40	50	60	80	70	[80]	90	80
10.	20	40	40	40	40	40	30	50	60	[60]	30	20	20
11.	10	20	20	20	30	20	30	40	40	40	40	[40]	40
12.	30	30	40	40	40	40	30	10	0	40	-10	10	[30]
13.	40	30	40	40	30	50	80	70	80	70	70	[60]	60
14.	10	-10	-20	10	50	60	60	—	—	40	30	40	10
15.	-50	-60	-50	-30	-40	10	0	-20	30	70	70	100	[110]
16.	50	50	40	50	40	50	70	70	80	80	70	50	[50]
17.	30	30	20	30	30	30	30	30	50	70	[80]	80	70
18.	30	30	30	30	40	40	30	60	60	60	70	50	60
19.	30	10	0	-10	10	20	10	10	40	10	10	10	-10
20.	10	10	10	30	30	40	50	70	80	[80]	80	80	80
21.	30	30	30	30	50	50	60	—	—	100	80	60	50
22.	20	20	0	10	30	40	40	50	40	40	30	[30]	30
23.	-30	0	10	-10	0	-10	-20	10	30	60	60	70	[70]
24.	-100	-50	30	10	-50	-70	-70	-40	10	60	[80]	120	110
25.	50	50	40	50	60	70	70	70	60	50	[60]	60	70
26.	60	50	40	50	60	50	80	80	130	80	60	[40]	60
27.	50	80	50	50	70	60	90	80	100	80	80	90	[120]
28.	-10	-30	-50	-10	-10	80	120	[90]	—	90	120	130	140
29.	110	90	10	40	80	80	110	100	90	70	[70]	70	80
30.	0	60	40	30	20	0	-30	-30	-20	-10	20	[-10]	-20
31.	-70	-50	-40	-50	-50	-30	-30	-20	-10	20	70	0	[20]
Means	20	25	23	29	35	45	55	60	60	59	58	56	57
Number of days	31	31	31	31	31	31	31	28	27	31	31	31	29

13	14	15	16	17	18	19	20	21	22	23	Daily means
30	40	40	50	50	40	40	40	30	20	10	38
50	—	50	70	80	70	70	70	50	60	70	57
50	50	40	50	60	50	50	50	50	40	50	71
30	40	40	40	50	50	50	50	50	40	30	74
40	40	40	50	50	50	50	50	50	40	40	57
50	50	50	50	50	40	40	50	30	30	20	44
—	—	—	80	100	80	50	50	50	50	30	—
[7C]	—	—	60	50	40	60	60	50	40	30	—
100	110	90	80	70	70	60	40	10	—10	10	56
30	10	—10	20	40	30	20	40	30	10	10	30
50	60	60	40	(40)	50	50	60	50	40	40	39
30	40	20	20	30	40	50	70	100	70	50	35
60	60	60	30	—50	—50	30	30	30	30	20	40
—40	—20	30	20	10	—10	10	—10	—10	—20	—40	—
160	110	90	90	100	80	80	60	30	30	50	43
50	60	70	70	60	80	90	70	60	40	30	60
80	80	90	70	60	60	40	30	30	30	30	49
[80]	70	50	60	70	80	80	60	30	30	30	51
0	—10	—10	10	0	—10	0	30	40	30	30	10
80	80	80	80	90	70	60	50	40	30	30	56
50	40	30	40	40	50	40	30	10	10	10	—
30	50	50	50	60	40	—10	—30	—10	—20	—10	24
70	70	70	60	80	50	—10	—40	—50	—50	—80	17
100	100	100	120	150	140	150	120	100	90	70	53
90	100	50	60	90	100	70	80	60	50	40	65
70	80	70	80	80	70	70	40	30	40	50	63
130	160	120	120	110	70	30	30	70	80	40	82
90	90	60	110	80	150	140	80	140	130	90	78
80	60	40	70	60	70	30	20	20	0	10	61
—40	—40	—50	—30	—40	—40	—50	—20	—40	—50	—50	—17
40	80	90	100	130	150	150	170	—S	—S	80	—
57	59	52	59	60	56	51	46	38	30	26	
30	28	29	31	30	31	31	31	30	30	31	

November

Hour GMT Day	0	1	2	3	4	5	6	7	8	9	10	11	12
1.	100	110	130	150	170	200	+S	+S	+S	+S	[200]	160	140
2.	—	—	—	20	30	60	70	110	100	80	90	[80]	80
3.	60	40	40	40	40	60	60	60	70	80	[90]	90	100
4.	—	—	—	—	—	—	—	—	—	80	70	60	50
5.	10	40	50	60	50	20	0	10	-20	-10	-10	[-10]	0
6.	-S	+S	-S	±S	±S	-10	30	50	60	50	50	[50]	50
7.	50	50	40	50	50	60	40	50	60	60	60	70	70
8.	40	40	30	20	10	40	60	120	110	80	[80]	80	100
9.	50	70	70	50	60	70	40	+S	70	70	[70]	60	40
10.	60	60	70	90	70	20	80	70	80	50	[40]	[50]	40
11.	0	±S	±S	±S	20	40	+S	—	—	70	80	70	60
12.	10	10	10	10	30	-10	-10	20	-10	40	60	[40]	[30]
13.	-S	±S	±S	±S	+S	+S	±S	-20	20	30	[60]	20	40
14.	30	±S	±S	-50	0	-50	-50	-20	20	50	60	[70]	[80]
15.	30	40	50	50	60	60	40	70	80	80	[80]	60	60
16.	70	50	60	50	50	40	70	90	110	120	80	[90]	100
17.	50	60	80	80	90	80	100	70	120	[100]	80	90	100
18.	60	60	80	30	10	-10	-60	—	—	30	-50	-20	30
19.	+S	+S	+S	±S	±S	±S	—	—	±S	±S	±S	[60]	[30]
20.	-10	-10	20	40	0	30	10	10	-10	-20	80	90	[60]
21.	60	50	70	-S	+S	60	40	20	50	30	10	[30]	40
22.	80	40	40	70	80	30	10	70	110	70	50	[60]	60
23.	70	50	90	70	30	40	80	10	30	40	30	50	[30]
24.	-S	-S	+S	80	20	-40	±S	±S	±S	±S	[10]	0	20
25.	60	60	20	-20	50	90	70	—	—	70	80	90	70
26.	50	50	50	40	50	50	10	50	[70]	80	100	[110]	110
27.	70	90	70	80	80	90	60	60	110	140	[140]	130	130
28.	40	70	110	70	110	140	+S	170	160	110	110	[140]	110
29.	50	50	50	60	60	70	70	80	70	80	130	[150]	180
30.	120	90	60	40	50	70	[110]	[80]	20	+S	+S	+S	120
Means	50	53	59	49	51	48	40	56	64	64	69	70	71
Number of days	24	22	22	24	25	27	23	22	22	26	28	29	30



13	14	15	16	17	18	19	20	21	22	23	Daily means
140	170	150	140	130	140	130	120	100	90	—	—
60	40	70	80	80	70	70	60	40	40	40	—
80	80	—	—	—	—	—	—	—	—	—	—
70	70	70	90	60	60	30	0	10	0	10	—
30	30	0	50	40	30	30	-10	-40	-50	-20	12
(50)	60	70	60	60	70	70	70	60	50	50	—
70	60	60	70	100	100	80	80	70	60	60	63
120	80	90	130	120	90	110	70	90	70	60	77
30	10	10	30	50	20	-30	-20	-20	10	50	37
70	50	30	20	10	+S	-60	-100	20	±S	-20	—
50	60	60	60	60	60	60	30	30	40	20	—
40	60	30	0	±S	±S	30	100	+S	+S	+S	—
90	80	80	70	80	90	80	0	20	40	10	—
80	70	80	70	60	60	50	30	40	30	20	—
80	80	90	80	60	60	70	60	70	70	60	64
80	90	80	70	80	90	70	50	50	40	40	72
110	100	90	110	120	60	50	0	-10	-20	40	73
80	70	70	80	+S	+S	+S	+S	+S	80	+S	—
20	30	0	0	0	0	0	60	70	10	-10	—
20	+S	130	80	±S	±S	40	130	±S	+S	40	—
70	+S	±S	±S	±S	±S	-60	50	±S	±S	±S	—
60	50	100	90	80	60	80	30	-10	0	80	58
60	10	50	80	80	-10	-20	-50	±S	±S	-20	—
50	20	60	40	80	130	70	120	80	70	50	—
60	80	70	70	70	60	70	70	60	50	50	—
110	90	70	70	100	80	110	120	110	110	90	79
110	130	120	130	170	120	90	70	60	50	50	98
50	50	30	60	120	60	60	50	70	40	60	87
130	160	190	170	140	110	70	120	170	160	130	110
120	130	200	210	+S	-30	110	100	+S	+S	140	—
74	72	77	79	81	66	52	50	50	45	43	
29	28	28	28	24	24	28	28	23	23	25	

December

Hour GMT	0	1	2	3	4	5	6	7	8	9	10	11	12
Day													
1.	110	-S	-S	-S	-10	30	30	30	-50	-40	-60	[0]	130
2.	30	30	-100	10	-70	50	120	-	-	+S	160	+S	+S
3.	130	90	110	130	110	50	90	180	160	140	170	[170]	170
4.	+S	180	130	130	170	170	160	170	190	230	[200]	+S	160
5.	+S	140	120	130	100	220	+S	+S	+S	+S	+S	[+S]	+S
6.	130	80	50	50	80	80	40	-60	[230]	160	130	150	160
7.	80	90	60	40	50	50	60	60	50	110	[90]	90	90
8.	+S	+S	+S	+S	90	50	+S	180	[180]	80	80	150	190
9.	160	80	-60	70	80	90	80	-	-	150	60	50	90
10.	80	70	50	30	30	-10	-10	90	70	50	[70]	40	70
11.	40	30	30	20	10	30	60	50	70	50	60	[60]	50
12.	0	0	0	0	10	10	0	0	-20	0	0	10	-10
13.	0	10	30	40	30	40	50	70	[80]	90	110	90	80
14.	40	70	70	80	110	90	70	80	80	110	40	80	120
15.	30	50	30	40	30	40	30	10	20	40	[70]	90	80
16.	40	40	40	50	40	50	50	-	-	50	50	50	50
17.	50	40	40	60	50	50	50	50	50	50	[60]	60	70
18.	0	-30	-70	-10	-80	-120	10	30	-40	0	[10]	10	10
19.	60	110	60	20	60	70	50	50	80	60	[80]	70	50
20.	40	50	40	40	50	50	[50]	[60]	70	60	70	60	70
21.	20	30	40	30	10	40	50	70	100	80	[80]	120	120
22.	100	80	100	110	+S	+S	+S	+S	+S	+S	[+S]	+S	+S
23.	-10	-10	-60	-60	-50	0	-10	-40	-20	-30	-20	-	-10
24.	70	60	80	50	50	60	50	60	50	[30]	30	10	20
25.	40	-10	30	30	0	0	-30	20	0	10	30	[50]	30
26.	60	30	10	30	30	20	50	50	40	50	[70]	80	40
27.	+S	80	30	50	60	50	50	50	70	80	[70]	80	80
28.	50	10	10	50	+S	+S	+S	+S	+S	+S	[+S]	140	70
29.	70	60	30	60	60	40	40	40	30	50	40	50	[30]
30.	+S	+S	0	30	40	110	110	110	-	80	110	120	130
31.	130	100	+S	+S	+S	+S	140	200	200	180	170	120	[130]
Means	60	56	32	47	41	50	53	64	70	71	73	77	81
Number of days	26	28	28	28	28	28	27	25	24	27	28	26	28

13	14	15	16	17	18	19	20	21	22	23	Daily means
170	210	+S	+S	+S	-40	90	150	70	60	20	—
+S	170	+S	0	40	+S	+S	+S	+S	170	130	—
190	180	120	120	130	140	130	150	180	+S	+S	—
170	180	180	160	150	180	170	180	150	110	140	—
+S	+S	+S	+S	+S	+S	+S	+S	90	90	120	—
180	190	230	200	100	80	80	110	80	80	80	114
90	100	70	80	110	160	130	170	190	180	+S	96
+S	+S	+S	+S	+S	+S	+S	+S	+S	+S	220	—
180	190	230	180	130	80	70	60	80	120	80	—
30	30	50	40	70	40	40	50	70	60	40	48
20	0	0	-20	-20	0	0	0	0	0	0	23
-20	0	0	-10	-10	0	-10	-20	-20	-10	0	-4
110	130	90	90	110	70	40	30	10	10	30	60
140	130	130	120	120	80	30	10	10	0	10	76
50	30	70	90	70	80	60	60	40	40	40	50
60	50	60	60	50	60	60	50	50	50	40	—
70	70	60	70	30	10	10	30	0	-10	-10	42
40	50	40	20	-40	-80	-30	-20	0	0	10	-12
60	60	70	70	110	70	50	50	+S	20	40	62
80	70	-20	-110	-130	30	50	60	60	50	30	37
100	110	110	130	120	120	150	160	190	150	140	95
+S	+S	+S	+S	+S	+S	210	120	60	40	40	—
-10	40	40	20	80	50	50	60	60	100	40	9
-20	-30	-20	-20	-30	0	50	50	30	-10	40	28
30	60	60	50	50	100	60	60	70	70	60	36
+S	-80	-10	-10	0	70	120	110	70	140	+S	—
90	110	140	100	120	120	120	80	80	70	60	80
50	50	50	60	70	60	50	50	50	60	70	—
-80	-100	+S	+S	+S	+S	+S	+S	+S	+S	+S	—
80	120	100	100	100	80	80	80	60	40	100	—
200	170	130	-40	10	30	0	-20	30	50	70	—
79	82	79	60	59	61	69	69	65	62	61	—
26	28	25	26	26	26	27	27	27	28	27	—

*II. Hourly means of the quantities of positive and negative*

Hour GMT Month	0	1	2	3	4	5	6	7	8	9	10	11	
January	+ 0	0	0	0	0	0	0	9	9	0	1	1	0
	— 0	0	0	0	0	0	0	1	32	1	7	2	0
February	+ 0	0	0	1	9	29	14	0	0	0	0	0	0
	— 0	0	0	0	2	18	9	2	0	0	0	0	0
March	+ 0	0	0	0	1	1	1	0	1	0	0	0	0
	— 0	0	1	0	0	0	1	12	14	0	0	0	0
April	+ 0	0	1	0	0	0	1	0	4	21	9	37	34
	— 0	0	0	0	0	0	0	2	30	17	37	34	0
May	+ 1	0	0	0	3	0	0	0	0	0	0	0	2
	— 0	0	0	0	0	0	0	0	0	0	0	5	0
June	+ 0	15	7	6	0	0	0	0	0	0	0	0	0
	— 29	25	11	7	0	0	0	0	0	1	1	1	0
July	+ 0	4	0	2	2	9	5	1	9	6	9	33	0
	— 0	0	0	2	14	5	26	9	18	39	4	0	0
August	+ 91	154	80	3	0	0	21	10	6	0	90	21	0
	— 116	73	64	48	4	0	28	91	10	21	55	62	0
September	+ 0	1	0	0	0	1	1	0	0	0	0	0	0
	— 0	0	0	0	0	0	1	1	0	0	0	0	1
October	+ 0	0	0	0	0	0	0	0	0	0	0	0	0
	— 0	0	0	0	0	0	0	0	0	0	0	0	0
November	+ 2	27	75	7	1	3	0	5	4	1	0	0	0
	— 1	91	32	17	1	14	1	3	1	5	0	0	0
December	+ 27	0	0	0	0	0	0	0	0	0	0	0	1
	— 5	0	0	0	0	0	0	0	1	1	0	0	0

*charges transported by point-discharge for each month*

12	13	14	15	16	17	18	19	20	21	22	23	Means
0	0	0	0	0	0	0	0	0	0	0	0	0.8
0	0	0	0	0	0	0	0	0	0	0	0	1.8
0	0	0	0	0	1	10	18	0	0	0	0	3.4
3	0	0	0	0	7	30	1	0	0	0	0	3.0
0	0	0	1	15	7	3	0	1	1	3	2	1.5
0	0	0	10	24	81	1	11	2	4	2	2	6.9
0	0	1	2	1	0	0	0	0	1	5	0	3.5
11	1	1	2	1	1	0	0	0	0	3	0	5.8
26	6	6	8	27	10	6	22	27	16	13	1	7.3
3	5	18	38	8	17	2	32	59	20	19	1	9.5
0	0	0	0	19	10	7	18	15	1	7	0	4.4
0	0	0	0	5	1	40	98	21	15	6	0	10.9
12	43	2	13	4	19	27	5	10	1	1	0	9.0
1	3	15	14	12	23	3	4	2	0	1	0	8.1
0	0	0	0	0	0	0	0	7	1	37	88	25.4
4	0	0	0	0	0	0	0	0	147	26	79	34.5
8	17	1	0	0	0	0	0	0	0	0	0	1.2
8	25	1	0	0	0	0	0	0	0	0	0	1.5
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	1	0	0
0	0	0	0	6	1	0	0	0	1	5	1	5.8
0	0	0	0	9	6	0	0	0	3	4	0	7.8
0	2	0	25	9	4	11	16	23	31	30	11	7.9
0	0	3	14	11	20	22	5	13	33	15	27	7.1