

WOKINGHAM

METEOROLOGICAL

DATA

Wokingham Climatological Station, Emmbrook, Berkshire.

Lat/Long 51°25'N 00°51'W NGR (SU)798701 Altitude 46m ASL.

Monthly Means and Totals

FEBRUARY 2023

Temperature (°C)		Anomaly		Rank in the past 142 years					
Mean maximum	10.6	+1.8		9th highest					
Mean minimum	2.2	+0.3		43rd highest					
Daily mean	6.4	+1.0		24th highest					
Highest maximum	14.5	on 15th	Lowest maximum	6.8	on 7th				
Highest minimum	10.3	on 18th	Lowest minimum	-5.7	on 8th				
Mean grass minimum	-0.8	+0.5	Lowest grass minimum	-9.1	on 8th				
Mean earth @30 cm	6.0	+0.4	Earth @100 cm	6.7	-0.4				
Frost duration (hrs)	92.7		Rain duration (hrs)	7.1					
Rainfall total (mm)	4.4	9 %	6th lowest						
Highest daily fall	2.1	on 21st	Highest rate mm/hr	9.5	on 24th				
Number of: Dry days (<0.2mm)	25	Wet days (>0.9mm)	2	days ≥5mm	0				
Sunshine total (hrs)	91.4	Daily mean	3.26	108%	Sunniest day	9.0	on 6th		
N° days with: Air frost	11	Ground frost	15	Snow falling	0	Snow lying	0		
Thunder	0	Hail ≥5mm	0	Small hail/ice	0	Fog @09	3	Nil sun	7
Pressure MSL: Mean @09 GMT, mbar	1029.2	+12.5	Highest	1047.3	on 5th	Lowest	1010.7	on 22nd	
Relative humidity : Mean (%)	84.1	Lowest	40	on 26th	Water vapour (g/kg), mean at 09 and 15 GMT	4.9,	5.3		
Overall mean wind speed (mph)	5.9	Windiest day	12.0	on 18th	Max gust	32	on 17th		
Wind direction (days)	N 5	NE 4	E 1	SE 1	S 0	SW 6	W 11	NW 0	
Least windy day (mph)	3.1	on 22nd	Calm; less than 0.5 mph (minutes)	n/a					

Anomaly = departure from 1991 to 2020 average (degrees C, percent and mbar).

Notes:

Very Dry with Mean Temperature and Sunshine Above Average.

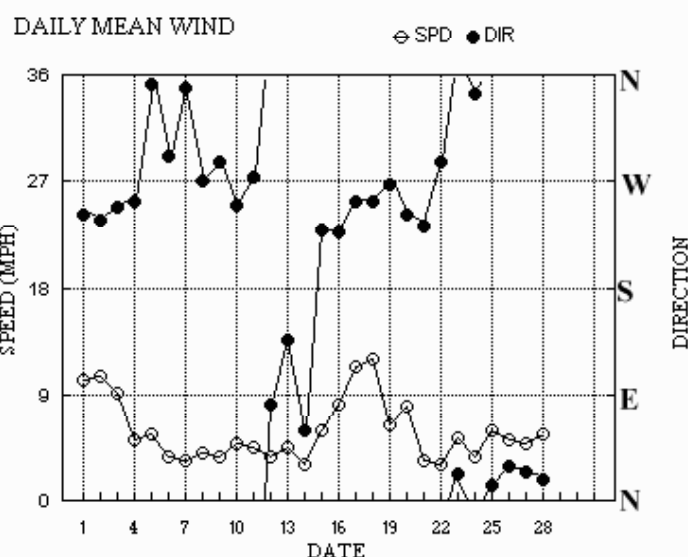
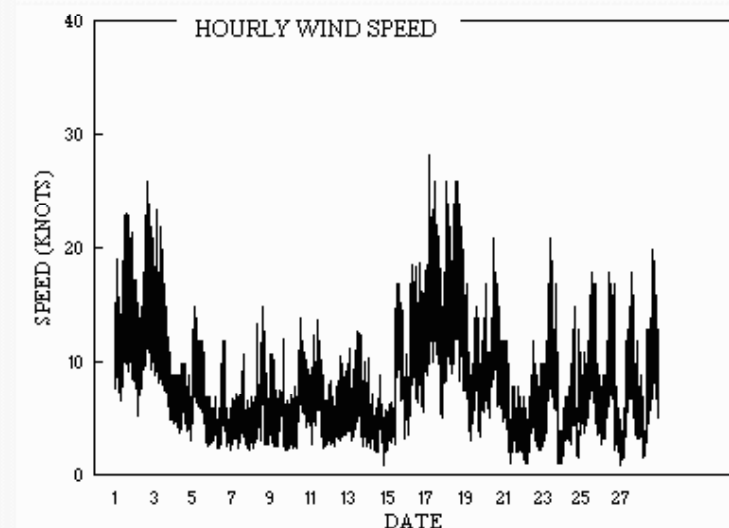
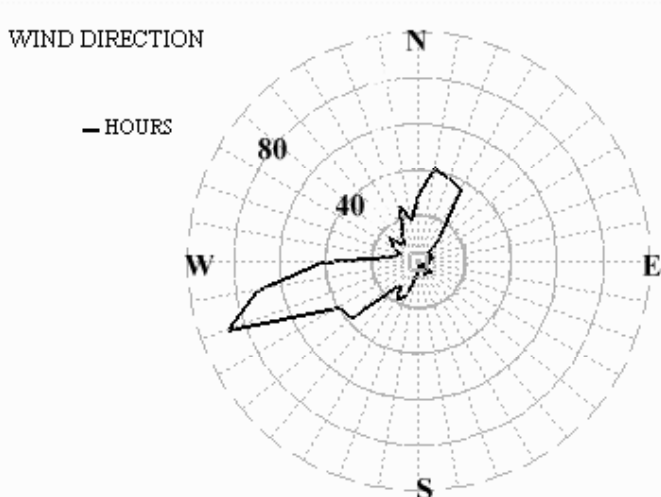
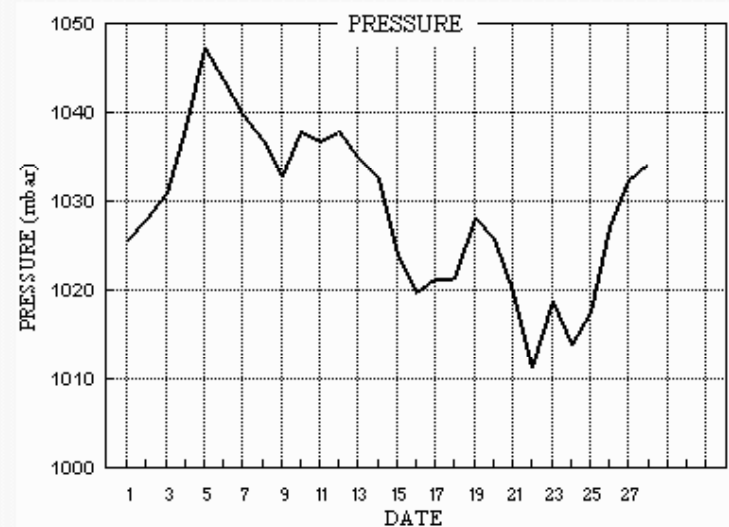
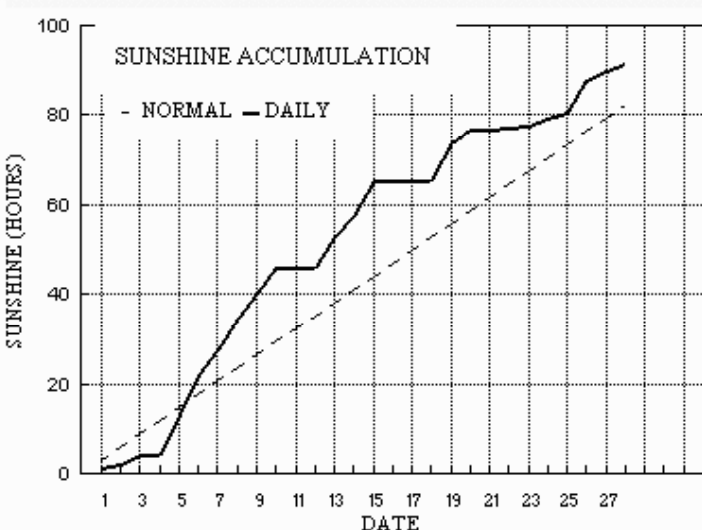
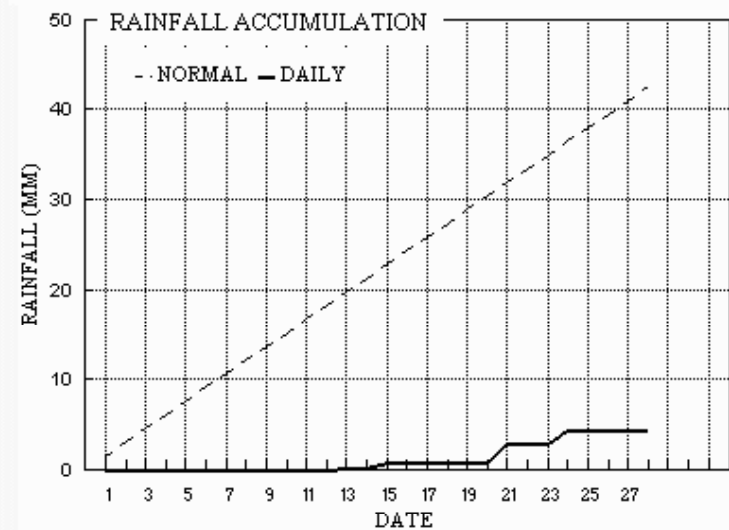
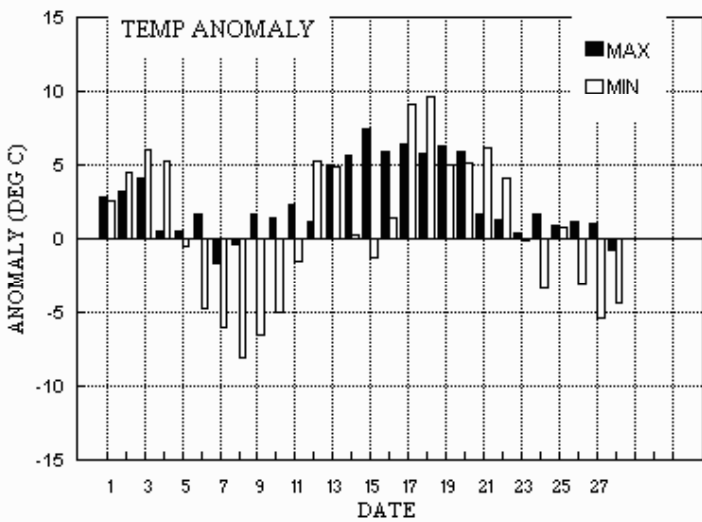
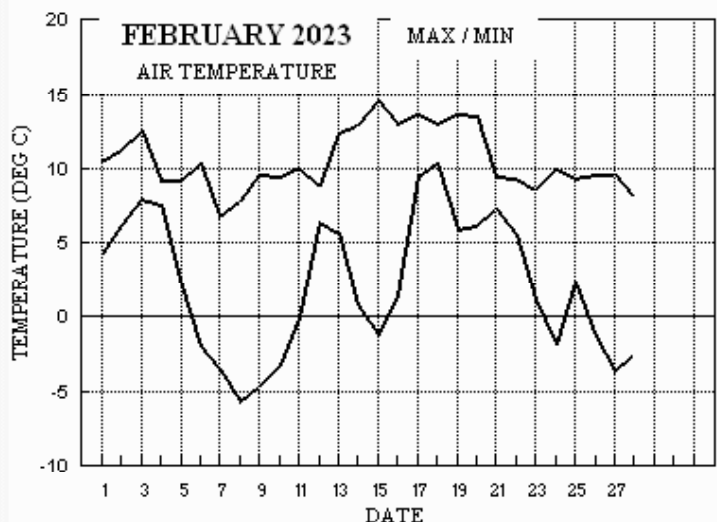
Temperature: This has been a mild February overall, though quite contrasty, with a spell of cold nights and normal daytime temperature, then a spell of very mild values by day and night. The mean maximum of 10.6° is 1.8° above average and ranks 9th highest in 142 years, though it was exceeded as recently as 2019. The highest max is 1.4° above the median and the lowest max is 4.4° above its median and ranks 7th highest in 111 years. The highest min is 2.3° above the median while the lowest min is 0.6° below its median. The mean grass min is lowest since 2019 but is 0.5° above average. The number of ground frosts is 2 fewer than average. Mean earth temperature at 30 cm depth is slightly above average while at 1 m depth is slightly below average., The duration of air frost is 8% above the 42 year average, and 3rd highest in the past 10 years. Anomalies for daily max were above +5° from the 14th to 20th, and exceeded -0.1° on just 3 days, with extreme values of +7.4° on 15th and -1.6° on 7th. Anomalies for daily min were above +5° on the 3rd, 4th, 12th and 17th to 21st, and exceeded -5° from 7th to 10th and on 27th, with extreme values of +9.6° on 18th and -8.0° on 8th. **Rainfall:** This has been an extremely dry February, the total fall of 4.4mm is equal lowest for the month with 1993 since 1959, and is 6th lowest in 142 years. All of this month's rain fell after the 12th, and all but 1mm fell on just 2 days, 21st and 24th. The last wet spell ended on 15th January, and in the subsequent 36 days to 20th February, only 1.6 mm of rain fell. There were 10 more dry days than average, and equal highest with 1959 since before 1905. Rainfall duration is just 14 % of average and lowest for February since 1998. There was no snow, thunder or hail, but there was fog on 3 mornings with rime ice deposits on the 7th and 8th. Rainfall accumulation compared with normal was 20 mm in deficit by the 13th increasing to 38 mm by the 28th. **Sunshine:** This month's sunshine is slightly above average, but in this millennium 7 Februaries have been sunnier, including last year. The number of days with nil sun is equal highest with 2017 since 2013, but is exactly average. Overall there were 16 days with <3 hours and 7 days with =>6 hours. The period 5th to 9th was especially sunny, only 1 day having <60% of the maximum, and 2 having over 90%. Sunshine accumulation compared with normal was 8 hours in deficit on 4th, becoming a 16 hour surplus by the 10th, increasing to 21 hours by the 15th then slowly decreasing to 8 hours by the 28th. **Wind:** The overall mean speed is 2.2 mph below average and lowest since 2009, and the highest gust is 16 mph below average and lowest since before 1988. **Pressure:** The MSL pressure reached 1047.3 mbar on 5th, the highest February value since before 1976, and 2nd highest for any month after 1050.0 mbar on 19th January 2020. The mean at 09 GMT this month is highest since 1993. **Miscellaneous:** The wind sensor failed on the 19th, and wind data is now being estimated from readings at nearby sites.

Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 28th			
+1.4°	-1.3°	0 %	152%	+5.2°	+3.8°	6 %	102%	+0.9°	-0.7°	30%	59%

B J Burton FRMetS. Hon. Met. Officer to Wokingham Town Council.

Wokingham climatological graphs for February 2023



Month: FEBRUARY 2023

Date	Max C	Min C	Rain mm	Grass Min	30cm C	100cm C	Sun hrs	Frost hrs	pp09 mbar	Af Gf	Sf SI	Th Ha	Ic Fg	Vec ddd	mean ff	sp	Max gust ddd	gg HHhh	High hr ddd	ff	Rain HH	hrs	
1	10.5	4.2	0.0	-2.0	4.7	6.0	1.5	0.0	1025.5	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	242	8.9	8.9	248	23 1731	244	11	15	0.0	
2	11.3	6.2	tr	1.6	5.2	6.1	0.7	0.0	1027.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	237	9.1	9.2	239	26 1550	241	12	16	0.0	
3	12.5	8.0	tr	6.0	5.9	6.2	2.3	0.0	1030.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	248	7.8	7.9	229	24 0325	246	12	09	0.0	
4	9.2	7.6	tr	6.6	6.5	6.4	0.0	0.0	1038.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	253	4.4	4.4	267	10 1220	267	6	12	0.2	
5	9.2	2.1	tr	-2.6	6.5	6.6	8.6	3.6	1047.2	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	352	4.3	5.0	330	15 0216	346	8	04	0.0	
6	10.4	-2.0	tr	-6.2	5.7	6.7	9.0	10.0	1043.6	1 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	291	1.8	3.2	198	12 1442	217	5	14	0.0	
7	6.8	-3.5	tr	-7.2	5.0	6.7	5.2	14.9	1039.8	1 1 0 0	0 0 0 0	0 0 0 1	0 0 0 1	349	2.3	3.0	111	11 1423	56	4	14	0.0	
8	7.8	-5.7	tr	-9.1	4.4	6.6	7.2	13.8	1036.8	1 1 0 0	0 0 0 0	0 0 0 1	0 0 0 1	270	1.5	3.6	205	15 1501	193	7	15	0.0	
9	9.6	-4.7	0.0	-5.4	3.9	6.4	5.8	5.8	1032.8	1 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	286	2.5	3.2	300	12 1505	340	6	14	0.0	
10	9.4	-3.3	0.0	-7.0	3.9	6.3	5.8	9.1	1037.9	1 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	249	3.9	4.3	257	14 1231	245	7	14	0.0	
11	10.1	-0.1	0.0	0.6	4.3	6.1	0.0	0.0	1036.9	1 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	274	3.1	3.9	295	14 1126	284	6	11	0.0	
12	8.8	6.4	tr	5.1	5.2	6.1	0.0	0.0	1038.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	82	2.7	3.2	140	11 1308	98	4	23	0.0	
13	12.4	5.7	0.1	4.9	5.7	6.1	6.8	0.0	1034.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	137	3.2	3.9	172	13 1247	158	6	13	0.0	
14	12.9	0.8	0.0	-4.3	5.8	6.3	4.3	0.9	1032.6	0 1 0 0	0 0 0 0	0 0 0 1	0 0 0 1	60	0.6	2.7	124	11 0226	131	4	17	0.0	
15	14.5	-1.2	0.6	-4.9	5.5	6.4	8.1	8.5	1023.8	1 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	228	3.0	5.2	192	17 1318	210	9	14	1.1	
16	13.0	1.5	0.1	3.6	5.9	6.4	0.0	0.0	1019.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	227	6.6	7.1	275	19 1635	215	10	10	0.4	
17	13.7	9.5	tr	6.8	6.7	6.5	0.0	0.0	1021.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	253	9.8	9.9	262	28 0513	238	14	10	0.0	
18	13.0	10.3	tr	8.4	7.5	6.7	0.0	0.0	1021.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	253	10.1	10.4	247	26 0142	250	14	14	0.2	
19	13.7	5.9	tr	2.0	7.7	6.9	8.3	0.0	1028.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	267	5.4	5.6	271	15 0744	258	8	07	0.0	
20	13.5	6.2	tr	2.7	7.5	7.1	3.1	0.0	1025.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	242	6.8	7.0	250	21 1158	260	10	13	0.3	
21	9.5	7.3	2.1	5.7	7.9	7.3	0.0	0.0	1019.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	232	2.6	2.9	250	12 0230	255	6	02	2.3	
22	9.3	5.5	0.1	2.8	7.9	7.4	0.5	0.0	1011.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	286	2.0	2.7	310	12 1301	310	5	13	1.4	
23	8.6	1.2	tr	-2.7	7.5	7.6	0.2	2.1	1018.8	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	23	4.5	4.6	40	21 1030	30	8	11	0.0	
24	10.0	-1.9	1.3	-5.3	6.9	7.6	2.0	4.5	1013.9	1 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	344	1.8	3.3	30	15 1703	30	6	17	0.7	
25	9.3	2.3	tr	-1.4	6.6	7.6	1.3	0.0	1017.5	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	14	5.2	5.2	30	18 1458	20	8	13	0.1	
26	9.6	-1.4	0.0	-6.0	6.2	7.5	7.0	6.6	1027.0	1 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	30	4.2	4.5	50	18 1158	50	8	11	0.0	
27	9.6	-3.7	0.0	-7.2	5.6	7.4	2.2	7.7	1032.4	1 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	24	4.2	4.3	40	18 1410	40	8	14	0.0	
28	8.1	-2.5	0.1	-6.5	5.4	7.2	1.5	5.2	1034.4	1 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	19	4.7	4.9	20	20 1550	20	8	18	0.4	
Total			4.4				91.4	92.7	28819													7.1	
Mean	10.6	2.2		-0.8	6.0	6.7	3.26	3.3	1029.2					268	2.5	5.1							
Anom	+1.8	+0.3	9%	+0.6	+0.4	-0.4	108%		+12.5														

Note: Wind estimated from Reading Uni data after the 18th due to instrument failure

Number of days with:

Air frost = 11 Ground frost = 15 Nil sun = 7
 Snow falling = 0 Snow lying = 0 Thunder = 0
 Hail=>5mm = 0 Hail<5mm or ice = 0 Fog at 09GMT = 3

Abbreviations.

Max/min = highest and lowest air temperature at 1.2m in 24 hour period ending at 09 GMT

Rain = total rainfall and melted snowfall in 24 hour period ending at 09 GMT, millimetres. (Tr = trace, <.05mm).

Grass min = Lowest overnight temperature at grass tip level.

Sun = hours of bright sunshine, measured electronically. Frost = Number of hours with air temp below 0 deg C.

pp09 = Air pressure corrected to mean sea level at 0900 GMT, millibars.

Af = Air frost. Gf = Ground frost. Sf = Snow falling. SI = Snow lying at 09 GMT.

Th = Thunder. Ha = Hail =>5mm. Ic = Hail <5mm or ice. Fg = Fog at 09 GMT.

Vec mean = 24 hour mean wind vector, ddd = direction in degrees from true north, ff = speed in knots.

Sp = 24 hour mean wind speed in knots.

Max gust = Highest gust in 24 hours, gg = speed in knots, HHhh = Time, hours and minutes, GMT.

High hr = Highest hourly mean wind, HH = hour commencing. Rain Hrs = Duration of rain, 24 hours to 09 GMT. Excludes snow/hail.

30cm and 100 cm are earth temperatures at those depths, read at 09 GMT.

Maximum daily rain rate in mm/hr

All temperatures in degrees Celsius.

Anomaly - Departure from the 1991 to 2020 climatological average

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for FEBRUARY 2023

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	Nh	Ch	shs	NCh	shs	NCh	shs	Date	Remarks		
1	80	7	24	07	14	6.3	2.9	79	4.6	1025.7	1	004	03	2	2	7	5	6	/	1	82630	87635							1	/Ci75		
2	80	7	24	07	15	8.0	6.5	90	5.9	1027.9	2	010	02	2	2	7	6	4	/	2	87710									2	/Ci73	
3	82	7	25	10	16	9.1	7.1	87	6.1	1030.9	3	007	02	2	2	1	5	6	0	8	81630	83075	87280						3			
4	72	7	28	03	09	7.8	6.1	89	5.7	1038.4	3	012	02	5	2	7	5	5	/	/	87627									4		
5	80	6	35	07	10	3.4	-0.1	78	3.6	1047.2	2	027	03	1	1	0	0	9	0	1	86081									5	COTRA	
6	56	1	33	03	07	-0.3	-0.7	97	3.5	1043.6	5	008	10	1	1	1	0	9	4	0	81368									6	Hoar mod	
7	01	0	31	08	04	-0.5	-0.6	99	3.5	1039.8	2	008	48	4	0	0	0	9	0	0										7	vv130m Hoar/rime slt	
8	02	3	33	03	12	-4.7	-5.0	98	2.6	1036.8	4	000	48	4	0	3	6	0	0	0	83701									8	Hoar+rime thk	
9	50	7	30	02	07	3.0	2.4	96	4.4	1032.8	2	020	10	5	2	7	5	4	/	/	81615	83625	87635						9			
10	50	6	26	02	06	-0.2	-0.8	96	3.5	1037.9	2	009	10	1	1	1	0	9	4	8	81368	86275							10	COTRA Hoar mod		
11	82	8	26	04	10	8.5	5.8	83	5.6	1036.9	1	005	02	2	2	8	5	5	/	/	88620									11		
12	70	8	05	02	05	7.8	4.7	81	5.2	1038.0	3	002	02	2	2	8	5	5	/	/	88626									12		
13	56	8	09	04	08	6.3	3.8	84	4.9	1034.9	4	000	05	2	2	8	6	3	/	/	88708									13		
14	01	9	02	02	05	2.9	2.8	99	4.5	1032.6	2	005	45	4	4	9	/	/	/	/										14	vv180m	
15	20	6	35	03	06	1.4	1.3	99	4.1	1023.8	0	000	10	2	2	0	0	9	0	1	86078									15	COTRA Hoar mod	
16	50	8	21	08	18	9.5	8.4	93	6.8	1019.8	7	003	50	6	2	8	5	3	/	/	87706	88615									16	
17	86	8	25	10	24	11.4	9.0	85	7.0	1021.3	3	012	02	2	2	7	5	4	/	8	87612									17	/Cs75	
18	65	8	23	12	22	11.1	8.7	85	6.9	1021.3	2	001	02	2	2	7	6	4	/	8	87712									18	/Cs75 Wind est	
19	81	7	27	05	08	8.0	4.9	81	5.3	1028.1	2	020	02	2	2	3	5	5	0	1	81625	83630	85069						19	7Ci80 COTRA Ci fib/spi Wind est		
20	56	8	23	07	12	8.1	7.0	93	6.1	1025.9	3	002	20	5	2	8	6	2	/	/	88705									20	Wind est	
21	22	8	21	02	04	7.7	7.1	96	6.2	1019.8	2	002	51	5	2	8	6	2	/	/	88705									21	Wind est	
22	45	8	22	03	07	6.5	5.9	96	5.8	1011.4	2	005	60	6	2	8	5	3	/	/	83706	88622									22	Wind est
23	58	7	02	07	17	6.4	4.7	89	5.3	1018.8	2	017	15	2	2	7	5	3	/	/	86707	87612									23	jp NW Wind est
24	77	7	25	03	07	4.0	0.9	80	4.0	1013.9	7	014	03	1	1	7	5	4	/	/	87615									24	Wind est	
25	70	7	01	05	12	4.5	1.2	79	4.1	1017.5	1	011	03	2	2	7	8	4	/	/	82818	87650									25	Cu fra Wind est
26	75	2	03	05	12	2.9	0.6	85	3.9	1027.0	2	021	02	0	0	2	5	7	0	1	82656									26	1Ci80 Hoar mod in shade. Wind est	
27	63	6	02	06	11	4.3	2.7	89	4.5	1032.4	1	007	03	1	1	6	5	6	0	0	81633	86642									27	Wind est
28	60	6	03	07	14	3.9	3.0	94	4.6	1034.4	0	003	05	1	1	6	5	4	0	0	86615									28	2Sc45 Wind est	

Mean vis = 16.7 km

Mean cloud = 6.4 80%

Mean wind speed = 5.3 kn

Mean gust = 11 kn

Mean TT = 5.3 °C

Mean TdTd = 3.6 °C

Mean RH = 89.3 %

Mean r = 4.9 g/kg

Mean PPP = 1029.2 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

dd = Direction from which wind is blowing, tens of degrees true

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

r = Humidity mixing ratio at 1.2 m, g/kg

PPP = Air pressure reduced to sea level, mbar

a = Characteristic of pressure tendency (Code FM12-0200)

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

W1, W2 = Past weather code (Code FM12-4561)- covers past 3 hours.

Nh = Amount of low cloud present, oktas

Cl = Type of low cloud (Code Fm12-0513)

h = Height of low cloud (Code FM12-1600)

Cm = Type of medium cloud (Code FM12-0515)

Ch = Type of high cloud (Code FM12-0509)

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs= Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation trails present

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 1500 GMT for FEBRUARY 2023

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cf	NCh	shs	NCh	shs	NCh	shs	Date	Remarks
1	70	7	25	11	20	10.1	4.7	69	5.2	1025.2	6	006	02	2	2	7	8	5	/	1	82828	86645					1	/Ci80 COTRA Cu med	
2	82	7	24	09	21	10.8	7.3	79	6.2	1027.4	7	006	25	8	2	7	8	4	/	/	84815	87635					2	Cu med	
3	83	8	25	07	15	11.6	7.5	76	6.3	1032.6	2	001	02	2	2	8	5	5	/	/	88620						3		
4	82	8	24	04	09	9.1	4.1	71	5.0	1038.7	8	004	02	2	2	8	5	6	/	/	88630						4		
5	78	6	02	06	11	8.0	1.4	63	4.1	1045.2	7	015	02	2	2	0	0	9	0	1	81070	86080					5	Parhelia	
6	78	0	24	05	10	10.2	-1.3	45	3.4	1040.0	6	020	02	0	0	0	0	9	0	0						6			
7	61	1	03	03	06	6.7	3.1	78	4.6	1038.5	6	013	02	1	1	1	0	9	3	0	81363					7			
8	60	1	19	07	14	7.7	-1.0	54	3.4	1032.2	7	035	05	0	0	0	0	9	0	5	81281					8	Cs edge NW		
9	84	3	31	05	10	9.1	1.5	59	4.1	1033.4	3	001	02	0	0	3	5	6	0	1	83630					9	2Ci80 COTRA		
10	82	8	23	07	13	9.3	4.1	70	5.0	1036.2	6	011	03	2	2	5	8	4	7	7	81818	85628	85366			10	3Ac63 8Cs75 Cu hum		
11	86	8	26	04	07	10.0	5.0	71	5.3	1036.6	7	005	02	2	2	8	5	5	/	/	88625					11			
12	82	8	10	03	09	8.4	5.7	83	5.5	1036.5	7	013	50	5	2	8	5	4	/	/	85615	88620					12		
13	62	0	15	05	11	12.4	4.6	59	5.2	1032.3	7	017	02	0	0	0	0	9	0	0						13			
14	58	3	17	04	07	12.7	5.6	62	5.5	1029.2	7	025	05	4	1	0	0	9	0	1	83077					14	COTRA		
15	62	1	21	09	16	14.2	6.8	61	6.1	1021.6	6	012	02	0	0	1	0	9	4	0	81363					15			
16	86	7	21	07	14	12.6	10.7	88	7.9	1018.7	7	009	01	5	2	7	8	4	/	/	83818	87625					16		
17	88	7	26	12	21	13.6	10.2	80	7.6	1022.8	2	016	02	2	2	7	5	4	/	/	87615					17			
18	82	8	25	11	22	12.9	9.0	77	7.0	1021.1	7	009	02	5	2	7	8	4	/	8	85815	87622					18	/Cs68 Cu hum Wind est	
19	82	3	25	07	14	13.6	5.5	58	5.5	1027.3	7	016	02	1	1	0	0	9	0	1	83081					19	COTRA Wind est.		
20	86	5	25	08	16	13.4	8.0	70	6.6	1022.7	7	020	02	2	2	5	5	4	0	0	85618					20	Wind est		
21	57	8	19	03	07	8.4	7.0	91	6.2	1016.3	7	020	05	2	2	8	6	3	/	/	88706					21	Wind est		
22	75	7	30	04	09	9.3	5.7	78	5.7	1011.6	2	002	16	8	2	7	8	4	/	/	83818	87632					22	Cu med jpN Wind est	
23	75	8	02	07	13	7.3	3.5	77	4.8	1020.0	3	004	20	5	2	8	5	4	/	/	83618	88630					23	Wind est	
24	81	3	04	04	13	8.3	6.9	91	6.2	1011.4	7	012	25	8	1	3	8	4	0	0	81815	83650					24	Wind est. VV est	
25	75	5	03	08	18	6.9	0.1	62	3.8	1017.7	5	001	15	8	1	5	8	6	0	0	81830	85650					25	Cu med jpSW Wind est	
26	88	5	05	07	16	9.2	-3.0	42	3.0	1028.7	0	002	02	2	2	5	8	6	0	0	81848	85650					26	Cu hum Wind est	
27	86	6	04	08	19	7.9	0.9	61	4.0	1031.1	6	012	02	2	2	6	8	5	0	0	82828	85648					27	2Sc35 Cu med Wind est	
28	86	7	02	07	15	7.8	3.7	75	4.8	1031.1	7	025	02	2	2	7	5	5	/	/	85620	87625					28	Wind est	

Mean vis = 36.5 km

Mean cloud = 5.3 66%

Mean wind speed = 6.5 kn

Mean gust = 13 kn

Mean TT = 10.1 °C

Mean TdTd = 4.5 °C

Mean RH = 69.6 %

Mean r = 5.3 g/kg

Mean PPP = 1028.1 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

dd = Direction from which wind is blowing, tens of degrees true

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

r = Humidity mixing ratio at 1.2 m, g/kg

PPP = Air pressure reduced to sea level, mbar

a = Characteristic of pressure tendency (Code FM12-0200)

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

W1, W2 = Past weather code (Code FM12-4561)- covers past 3 hours.

Nh = Amount of low cloud present, oktas

Cl = Type of low cloud (Code Fm12-0513)

h = Height of low cloud (Code FM12-1600)

Cm = Type of medium cloud (Code FM12-0515)

Ch = Type of high cloud (Code FM12-0509)

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs= Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation trails present

Wokingham	Hour	01-Feb	02-Feb	03-Feb	04-Feb	05-Feb	06-Feb	07-Feb	08-Feb	09-Feb	10-Feb	11-Feb	12-Feb	13-Feb	14-Feb	15-Feb
Sunshine	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hourly analysis	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	7	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.22	0.00	0.27	0.00	0.00	0.00	0.00	0.00
	8	0.01	0.00	0.00	0.00	1.00	0.96	0.00	1.00	0.00	0.79	0.00	0.00	0.00	0.00	0.62
	9	0.29	0.27	0.88	0.00	1.00	1.00	0.00	0.40	0.00	0.92	0.00	0.00	0.27	0.00	1.00
	10	0.61	0.42	1.00	0.00	1.00	1.00	0.00	0.00	0.33	1.00	0.00	0.00	0.49	0.00	1.00
	11	0.45	0.00	0.33	0.00	0.98	1.00	0.34	0.93	0.92	1.00	0.00	0.00	1.00	0.00	1.00
	12	0.03	0.00	0.13	0.00	1.00	1.00	1.00	1.00	0.97	0.44	0.00	0.00	1.00	0.45	1.00
	13	0.00	0.01	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.82	0.00	0.00	1.00	1.00	1.00
	14	0.04	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.46	0.00	0.00	1.00	1.00	1.00
	15	0.07	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.90	0.07	0.00	0.00	1.00	1.00	1.00
	16	0.00	0.00	0.00	0.00	0.66	0.89	0.89	0.61	0.69	0.00	0.00	0.00	1.00	0.82	0.44
	17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00
	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot		1.50	0.70	2.34	0.00	8.64	8.95	5.23	7.17	5.80	5.76	0.00	0.00	6.83	4.27	8.06

Wokingham	Hour	16-Feb	17-Feb	18-Feb	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb	24-Feb	25-Feb	26-Feb	27-Feb	28-Feb	Mean
Sunshine	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hourly analysis	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.24	0.49	0.07
	8	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.24	1.00	0.56	0.96	0.26
	9	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.01	0.04	0.29
	10	0.00	0.00	0.00	0.96	0.09	0.00	0.00	0.00	0.00	0.07	1.00	0.02	0.00	0.32
	11	0.00	0.00	0.00	0.93	0.21	0.00	0.00	0.17	0.00	0.14	0.64	0.02	0.00	0.36
	12	0.00	0.00	0.00	0.90	0.66	0.00	0.00	0.00	0.00	0.20	0.29	0.20	0.00	0.37
	13	0.00	0.00	0.00	1.00	0.95	0.00	0.00	0.02	0.00	0.06	0.15	0.04	0.00	0.39
	14	0.00	0.00	0.00	1.00	0.95	0.00	0.00	0.00	0.01	0.00	0.57	0.22	0.00	0.40
	15	0.01	0.00	0.00	1.00	0.27	0.00	0.00	0.00	0.94	0.50	0.36	0.27	0.00	0.41
	16	0.00	0.00	0.00	1.00	0.00	0.00	0.49	0.00	1.00	0.05	0.93	0.40	0.00	0.35
	17	0.00	0.00	0.00	0.28	0.00	0.00	0.02	0.00	0.05	0.00	0.30	0.18	0.00	0.03
	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot		0.01	0.00	0.00	8.29	3.13	0.00	0.51	0.20	1.99	1.27	7.00	2.15	1.49	91.34

FEBRUARY 2023	T mn	Tx	Time	Tn	Time	RHmn	RH x	Time	RH n	Time	Tdmn	r mn	r x	Time	r n	Time	p mn	p x	Time	p n	Time	R tot
1	7.65	10.5	1156	4.3	40	76.0	84.2	132	62.6	1401	3.7	4.9	5.4	1757	4.2	38	1025.66	1027.2	2352	1024.4	429	0
2	9.12	11.3	1350	6.2	540	82.0	90.9	742	72.7	1544	6.2	5.8	6.6	1322	4.9	518	1027.76	1029.2	2132	1026.6	320	0
3	10.27	12.5	1205	8.6	748	81.7	89.1	2355	72.1	1206	7.3	6.2	6.5	1159	5.9	739	1032.02	1036.3	2348	1028.5	233	0
4	8.42	9.2	1228	7.6	755	83.1	91.7	629	66.9	1238	5.7	5.5	6.2	6	4.7	1236	1038.48	1040.6	2339	1036.0	13	0
5	4.38	9.2	1327	-1.8	2311	81.0	96.9	2322	56.8	1312	1.2	4.0	6.0	47	3.1	2311	1045.12	1047.3	900	1040.3	13	0
6	2.61	10.4	1317	-2.0	736	82.2	98.1	826	41.4	1539	-0.6	3.5	4.6	1123	3.0	1538	1042.03	1045.9	17	1039.1	1901	0
7	0.18	6.8	1500	-3.5	541	94.0	99.5	1119	74.2	1530	-0.7	3.5	4.9	1338	2.7	549	1039.04	1040.2	825	1038.1	1713	0.1
8	-0.15	7.8	1503	-5.7	745	88.4	99.2	1124	52.3	1503	-2.1	3.2	4.8	1226	2.3	745	1034.66	1038.7	45	1030.6	2352	0.1
9	3.04	9.6	1254	-1.6	353	86.6	98.9	406	56.4	1426	0.8	4.0	5.3	1144	3.2	353	1033.24	1037.3	2359	1029.6	359	0.1
10	3.67	9.4	1450	-3.3	602	86.5	97.9	813	66.4	1257	1.5	4.2	5.9	2126	2.8	602	1036.90	1038.2	916	1035.9	1452	0.1
11	8.44	10.1	1417	5.6	341	81.0	96.0	410	67.1	1621	5.3	5.4	6.0	126	5.0	1640	1036.94	1038.3	2359	1035.7	320	0
12	7.70	8.8	1027	6.4	719	81.5	88.5	759	71.3	104	4.7	5.2	5.6	1526	4.8	1250	1037.21	1038.4	23	1035.8	2248	0
13	7.26	12.4	1457	1.1	2304	79.1	98.1	2313	58.4	1607	3.7	4.8	5.5	1218	3.9	2304	1033.82	1036.0	0	1031.8	1611	0
14	4.11	12.9	1508	-0.7	2321	93.9	99.6	639	60.6	1510	3.1	4.7	6.6	1401	3.5	2321	1030.55	1032.7	29	1027.0	2359	0.2
15	6.52	14.5	1302	-1.2	507	86.0	99.5	606	58.8	1302	4.0	5.2	7.1	2027	3.4	523	1023.27	1027.1	0	1021.3	1642	0.1
16	9.92	13.0	1606	7.3	323	89.1	95.7	1306	79.2	1636	8.2	6.7	8.2	1334	5.5	643	1020.13	1022.8	16	1018.6	1506	0.6
17	11.91	13.7	1429	10.4	0	86.9	95.0	1949	79.7	1432	9.8	7.4	7.8	2027	6.8	631	1022.02	1024.7	1902	1019.8	351	0
18	11.21	13.0	1425	9.2	2352	82.4	91.8	1259	73.5	317	8.3	6.7	7.9	1246	5.9	317	1021.67	1023.4	0	1020.3	1611	0
19	9.10	13.7	1448	5.9	703	78.3	90.0	2210	56.5	1447	5.4	5.5	6.3	0	5.1	1323	1026.81	1029.2	1135	1022.9	0	0
20	9.41	13.5	1500	6.8	1	85.0	93.7	547	69.5	1501	7.0	6.1	6.9	1204	5.3	1	1024.23	1027.1	2	1021.8	2349	0
21	7.74	9.5	1155	5.6	2357	90.5	96.0	914	85.3	1641	6.3	5.9	6.4	1155	5.2	1848	1017.73	1021.9	18	1012.8	2359	0.1
22	6.38	9.3	1454	1.2	2327	90.4	98.3	2340	74.9	1755	4.9	5.4	6.5	1150	4.0	2327	1012.25	1015.5	2359	1010.7	548	1.9
23	5.21	8.6	1320	-1.2	2339	85.1	96.5	4	70.1	1741	2.9	4.7	5.3	1146	3.3	2339	1018.77	1021.1	1906	1015.4	11	0.1
24	4.06	10.0	1313	-1.9	240	85.9	97.6	244	69.7	1658	1.9	4.4	6.5	1441	3.2	240	1014.37	1019.9	5	1011.0	1620	1.1
25	4.26	9.3	1303	1.2	2345	78.5	93.6	2348	58.6	1303	0.7	4.0	4.5	1301	3.5	1437	1018.15	1023.1	2359	1015.6	2	0.1
26	2.75	9.6	1502	-1.6	2327	74.3	97.7	644	40.3	1506	-1.9	3.3	4.1	938	2.7	1506	1027.66	1032.0	2354	1023.0	0	0.1
27	2.76	9.6	1424	-3.7	603	80.5	96.7	719	54.7	1426	-0.5	3.6	4.7	1109	2.7	605	1032.01	1033.5	2307	1030.7	1610	0.0
28	3.84	8.1	1540	-2.5	604	84.5	98.9	634	71.4	1847	1.4	4.1	4.9	1426	3.0	617	1032.92	1034.6	801	1030.5	1608	0.1

Total																					4.8	
Mean	6.13	10.58		2.03		84.1	95.34		65.05		3.50	4.93	5.96		4.05		1028.76	1031.50		1026.21		
Max	11.91	14.53		10.40		94.0	99.60		85.30		9.77	7.43	8.25		6.78		1045.12	1047.31		1040.34		
Min	-0.15	6.75		-5.75		74.3	84.20		40.26		-2.07	3.23	4.10		2.33		1012.25	1015.48		1010.70		

Wokingham Automatic Weather Station
 AWS samples taken every 0.5 seconds
 x and n refer to maximum and minimum respectively

Readings taken at Wokingham Climatological Station, Emmbrook, Berkshire
Lat 51.425 N, Long 0.853 W, NGR (SU) 798701
Altitude 45 m ASL.

Tmn = 00 to 24 GMT mean air temperature at 1.2 m, deg C
 RHmn = 00-24 GMT mean relative humidity at 1.2 m, percent
 Tdmn = 00-24 GMT mean dew point at 1.2 m, deg C
 rmn = 00-24 GMT mean humidity mixing ratio, g/kg
 pmn = 00-24 GMT mean air pressure reduced to mean sea level, mbar
 Time = hours and minutes in GMT of extreme values

Temperature and humidity are from an aspirated Vaisala HMP45 unit
 Pressure is from a Setra CS100 sensor
 Data is logged on a Campbell Scientific CR10X measurement and control system
 R tot = Rainfall from TBR, uncorrected

WOKINGHAM METEOROLOGICAL DATA

Wokingham Climatological Station, Emmbrook, Berkshire.

Lat 51°25'N 00°51'W NGR (SU)798701 Altitude 46m ASL

Seasonal Means and Totals

WINTER 2022/23

Temperature (°C)				Rank in the past 141 years					
Mean maximum	8.6	(+0.2)		36th highest					
Mean minimum	1.4	(-0.7)		62nd lowest					
Daily mean	5.0	(-0.3)		53rd highest					
Rainfall total (mm)	144.5	(81%)		56th lowest					
Sunshine total (hours)	259.3	(115%)							
N° of:	Dry days	56 (+12)	Wet days	25 (-7)					
Days with:	Air frost	37 (+7)	Ground frost	52 (+2)	Snow falling	2 (-7)	Snow lying	3 (-1)	
Thunder	0 (-1)	Hail ≥5mm	1 (+1)	Small hail/ice	0 (-4)	Fog @09 GMT	8 (+3)	Nil sun	23 (-4)
Air pressure MSL : Mean @09 GMT (mbar)	1018.6	(+2.2)							

Departure from 1991 to 2020 average shown in brackets.

Notes: **Temperature and Rainfall Below Average, Sunshine Above Average.**

Temperature: The mean this winter is slightly below the current 30 year average, but is 0.3° above the long-term median. While the mean maximum is slightly above average, the negative daily mean temperature anomaly is caused by the below average mean minimum. Compared with recent years, since 2015, this winter is equal coldest with 2021 and 2018, and the mean of 5.0° can be compared with the 3.0° in 2010, the coldest winter in this millennium. December was the coldest month, mean 3.6° (-1.8°), and February the mildest, mean 6.4° (+1.0°). This season's highest max was 14.5° on the 15th February, 0.6° above the median, while the lowest max was -0.8° on the 12th December, 0.6° below its median. The highest min was 10.3° on 18th February, 0.4° above the median, and the lowest min of -8.6° was on the 15th December, 1.1° below its median. There were two cold spells, 8th to 18th December and 17th to 25th January, also the 6th to 10th February was cold by night, and 2 mild spells, 18th December to 14th January (most days mild), and 13th to 20th February. The mean grass min was -1.5° (-0.5°), and the lowest value was a close to normal -12.3° on 15th December. The mean earth temperature at 30 cm depth was 6.1° (+0.2°), and at 1m depth, 7.8° (-0.3°). Air frost duration was 467.0 hours, 196 hours above average. There were 3 ice days this season (when the temperature fails to reach zero), the 6th winter in this millennium to have at least 1 such day. **Rainfall:** This has been a dry winter overall, although not without a wet spell. The total is slightly more than in the winter of 2021/22, but is well below that of the two previous winters. This winter, January was the wettest month, 72.7 mm, (110%), then December with 67.4 mm (104%), and lastly February with just 4.4 mm (9%). The 22nd December was the wettest day, 14.0 mm, but the 18th December had the longest duration with 12.9 mm falling over 12.6 hours. The season's rainfall duration of 118.7 hours is 71 % of average. There was a lot of dry weather this winter, in fact only 6.6 mm of rain, less than 5% of the total, fell outside a prolonged wet spell of 29 days from 18th December to 15th January. There were 12 more dry days than average, and 5 dry spells, two of 6 days ending on the 10th and 17th December, 9 days to 24th January, 20 days to 14th February and 5 days to 20th February. Snow fell on the 11th and 12th December, giving a 1cm cover that lasted until the 14th. Freezing fog was recorded at 09 GMT on the 11th December and the 22nd, 23rd and 25th January, also the 7th and 8th February, and there was freezing drizzle on 25th January, though not enough to cause problems with black ice locally. Large hail with stones up to 8 mm diameter fell on the 8th January but there was no thunder this season. The rainfall rate reached the violent category on the 8th, 12th and 14th of January, the highest value being 71 mm/hr on the 12th. **Sunshine:** This season saw a bit more of the sun than average, and it was the sunniest winter since 2019. February was the sunniest month, daily mean 3.26 hours (108%), then January 3.01 hours (128%), and December 2.40 hours (109%). February 6th was the sunniest day with 9.0 hours. There were no especially sunny periods, but it was quite sunny from 7th to 10th December and 5th to 8th February, both mean of 7.5 hr/day. Dull periods include 1st to 5th December, mean 0.8 hr/day, 27th December to 1st January, mean 0.7 hr/day, and 25th to 29th January, mean 0.3 hr/day. **Wind:** The overall mean speed of 6.9 mph is 0.8 mph below average, and lowest since 2011. The 8th December was the least windy day, mean 2.2 mph. Daily mean direction/number of days N,16 NE,7 E,2 SE,1 S,8 SW,29 W,19 NW,8. Compared with average, winds from the N and W combined were 17% more frequent, at the expense of all other directions except NW, and mostly from S, 7% less frequent. **Pressure:** The season's highest MSL pressure was 1047.3 mbar on the 5th February, 2nd highest for any winter since before 1977, and the lowest 982.5 mbar on the 16th January, span 64.8 mbar (+0.7 mbar). **Humidity:** The mean relative humidity was 87.3% and the lowest was 40% on the 26th February. The mean water vapour content per kg of air was 4.8g at 09 GMT and 5.2g at 15 GMT. **December:** Cold with above average rainfall and sunshine. Coldest since 2010. Significant cold spell from 7th to 17th. Most air frost since 2010, and before that 1981. Only 1.4 mm of rain before the 17th. **January:** Above average rainfall and sunshine, near average temperature. Wet, mild and windy up to the 15th, then dry, cold and calmer. 15 of the first 16 days were dry while 13 of the final 15 were wet. Equal 2nd sunniest since 2003. **February:** Very dry with mean temperature and sunshine above average. Mean max 9th highest in 142 years. Lowest max 7th highest in 111 years. Rainfall equal lowest with 1993 since 1989, and 6th lowest in 142 years. Only 1.6 mm of rain fell in the 36 days to the 20th. Number of dry days equal highest with 1959 since before 1905. Least windy since 2009, highest gust lowest since before 1988.

Month	Mean	Anom	Mean	Anom	Rain	Anom	Sun	Anom	Mean	Max	Mean	Anom
	Max		Min		mm		hrs		Wind mph	gust	pressure	
December	7.0°	-1.5°	0.2°	-2.1°	67.4	104%	74.5	109%	6.3	37	1012.3	-3.3
January	8.5°	+0.4°	1.9°	-0.1°	72.7	110%	93.4	128%	8.3	45	1015.2	-1.1
February	10.6°	+1.8°	2.2°	+0.3°	4.4	9%	91.4	108%	5.9	32	1029.2	+12.5

Explanation and definition of some of the terms used in the Wokingham Weather Reports.

Average: Generally refers to the 30 year climatological average, currently 1981 to 2010. This will be next updated in 2020. For some parameters, notably wind, the climatological average is not available, and if the word average is used in the context of wind, it refers to the average for the period for which data is held, namely 1988 to present.

For sunshine, there was a change, in July 1999, in the type of instrument used to detect sunshine amount, making the climatological average based on the old instrument of little use. In general, the new instrument produces higher values in the winter half year, and lower ones in the summer half, than the old type, due to a combination of faster reaction and higher sensitivity than the old type. The average used in this case is based on a theoretical equivalent 1981 to 2010 average, drawn from comparison with the Met Office published tables of departure from climatological average sunshine in the months since 2000 for their area 'Southern England'. Users of the Wokingham Monthly Weather reports should be aware of this, and regard anomalies for sunshine published therein as a guide only, until such time has elapsed since the introduction of the new instrument that a genuine average becomes available.

Mean: The mean of the data under discussion, often the monthly mean of daily data. The mean is obtained by summation of the individual values and dividing by the number of values. The term 'daily mean' in respect of temperature is defined as '(max + min) / 2'. A true daily 24 hour (00 to 24 GMT) mean temperature is available from the Automatic Weather Station (AWS), and is currently published on page 7 of the Wokingham Monthly Weather report, on the Wokingham Weather web site, page 1. <http://www.woksat.info/wwp1.html>

Anomaly: When a value is given for anomaly, this will have one of the following meanings:

- a): The departure of a mean from the current climatological average.
- b): The departure of a value on a particular day from the average for that day, (this need not be a climatological average).

When the word anomaly is used in respect of temperature, any values given are in °C. In respect of rainfall or sunshine, percent. In respect of wind, mph. In respect of pressure, millibars (hpa).

Categories: Reference may be made in the reports to 'categories'. Each category has a strict statistical range, as outlined below.

Temperature: The terms cold/mild are used in the winter half year, and cool/warm in the summer half. The term 'normal' is used when the individual mean (monthly, seasonal or annual) value is within 20 % of the median of all ranked values for that month/season/year.

Mild/warm: The value lies between 10 % and 30 % below the highest value in the ranked series.

Very mild/very warm: The value lies within 10 % of the highest value in the ranked series.

Cold/cool: The value lies between 10 % and 30 % above the lowest value in the ranked series.

Very cold/very cool: The value lies within 10 % of the lowest value in the ranked series.

Sunshine: The terms for sunshine are very sunny, sunny, normal, dull and very dull.

The definition of these terms follow the same rules as for temperature.

Rainfall: The terms for rainfall are very dry, dry, normal, wet and very wet.

The definition of the term 'normal' follows the same rule as for temperature and sunshine.

Wet: The value lies between 10 % and 30% of the highest value in the ranked series.

Very wet: The value lies within 10 % of the highest value in the ranked series.

Dry: The value lies between 10 % and 30 % above the lowest value in the ranked series.

Very dry: The value lies within 10 % of the lowest value in the ranked series.

Long-term: Mention may be made in the reports to the 'long-term'. The long-term record comprises a temperature/rainfall/sunshine data series compiled from records of various weather stations in the Wokingham area in the years prior to the establishment of the weather station at Emmbrook in 1976 together with data from this station.

In the case of monthly max, min and mean temperature and of rainfall total the series starts in 1882. For temperature extremes, the highest max and lowest min go back to 1904, and lowest max and highest min to 1913.

Rank: The word rank refers to the position of a value for a particular month/season/year in the ranked series, and may be expressed relative to either the highest or lowest value in the series. The central value in the ranked series is known as the **median**. This value may be different from the average of the whole series if the population is skewed. It can also be different from the climatological average which only refers to a 30 year period.

Month: Calendar month.

Season: Spring, March to May.

Summer, June to August

Autumn, September to November

Winter, December to February.

When discussing 'winter', if a single year is given this refers to the year in which the January/February fall.

Annual or Year: The calendar year, 1st January to 31st December.

The climatological day: runs from 0900 to 0900 GMT. The max temperature and rainfall read at 0900 hours are attributed to the previous day (thrown back), as is the duration of measurable rain. The min temperature and grass min read at 0900 hours are attributed to the day of reading. Pressure read at 0900 GMT, and the monthly mean pressure is the mean of the 0900 GMT readings. Sunshine data, wind data, rainfall rate data and 24 hour data from the AWS use the normal 00-24 GMT day.

Frost: An air frost day is recorded when the minimum temperature read at 0900 GMT on that day is -0.1°C or below. A ground frost day is recorded when the grass minimum temperature read at 0900 GMT on that day is -0.1°C or lower.

Duration of air frost is defined as the number of minutes that the AWS one minute average temperature is below 0.0°C , and the day runs from midnight to midnight.

Snow: A day with snow falling is triggered if snow falls at any time in the 24 hours from midnight on that day. A day with snow lying is entered if there is at least 50% snow cover at the 0900 GMT observation.

Snow depth is the depth of undrifted snow. Snow that collects in the raingauge funnel is melted and the amount recorded as rainfall.

Hail: A day of hail is recorded if hailstones 5 mm or more in diameter are observed or recorded on the hail pad in a 24 hour period starting at midnight.

A day of small hail is recorded if hailstones less than 5 mm diameter are observed or recorded in a 24 hour period starting at midnight. The term small hail also includes various other types of ice meteor such as ice pellets, snow grains and some types of snow pellets.

Fog: A day with fog is recorded if the horizontal visibility at 0900 GMT is below 1000 m.

Thunder: A day of thunder is recorded if thunder is heard in the 24 hour period from midnight on that day. The appearance of lightning without thunder being heard does not qualify as a thunder day.

Trace of rainfall: A trace of rain, entered as 'tr' in the daily log, is recorded if rain is observed to fall but is of insufficient quantity to collect in the raingauge, or if the amount of rain in the gauge is less than 0.05 mm.

Dry spell: A dry spell is defined as a period of 5 or more consecutive dry days.

Dry day: A dry day is one with less than 0.2 mm of rainfall.

Rain day: A rain day is one with 0.2 mm or more of rainfall.

Wet day: A wet day is one having 1.0 mm or more of rainfall.

Appendix 2.

Explanation and decode for code figures used in the Wokingham 0900 and 1500 GMT observations

VV : Visibility.

Code figures 00 to 50 are in km and tenths e.g. 01 = 0.1 km = 100 m, 33 = 3.3 km, 50 = 5.0 km

Code figures 60 to 80. Subtract 50 to obtain visibility in km. e.g. 56 = 6 km, 65 = 15 km, 77 = 27 km.

Code figures 81 to 89. Subtract 50 and add 5 for every one above 80. e.g. 83 = 45 km, 86 = 60 km.

Code figure 89 = visibility above 70 km.

N : Total cloud amount in okta (eighths of sky covered). 9 = sky obscured (e.g. by fog or snow)

dd : Wind direction in tens of degrees from true north. Wind is measured at a height of 10 m, and the direction is the mean over a period of 10 minutes ending at the observation time.

ff : Wind speed in knots, measured at 10 m, and is the mean over a period of 10 minutes ending at observation time.

gg : Wind gust in knots at 10 m. The highest gust in the 60 minutes up to observation time.

TT : Air temperature at 1.2m, degrees C and tenths.

TdTd : Dew point temperature at 1.2m, degrees C and tenths.

RH : Relative humidity at 1.2m, %.

r : Humidity mixing ratio (amount of water vapour per kg of air), grams and tenths.

PPP : Air pressure reduced to MSL, millibars and tenths.

a : Characteristic of pressure tendency during the past 3 hours.

Code figures 0 to 3, pressure higher than 3 hours ago, 5 to 8, pressure lower than 3 hours ago

Code figure 0 = Increasing then decreasing, pressure the same as or higher than 3 hours ago

1 = Increasing then steady or increasing more slowly

2 = Increasing steadily or unsteadily

3 = Decreasing or steady then increasing, or increasing then increasing more rapidly

4 = Steady, pressure the same as 3 hours ago

5 = Decreasing then increasing, pressure lower than 3 hours ago

6 = Decreasing then steady or decreasing more slowly

7 = Decreasing steadily or unsteadily

8 = Steady or increasing then decreasing, or decreasing then decreasing more rapidly

ppp : 3 hour pressure tendency in tenths of a millibar

ww : Present weather code figures, 00 to 99.

Present weather decode:

00 = Cloud development not observed or not observable

01 = Clouds generally dissolving or becoming less developed

02 = State of sky on the whole unchanged

03 = Clouds generally increasing or becoming more developed

04 = Visibility reduced by smoke, e.g. veldt or forest fires, industrial smoke or volcanic ashes.

05 = Haze, visibility reduced by extremely small dry particles (RH less than appx. 95 %)

06 = Widespread dust in suspension, not raised by the wind near the station at the time of the observation

07 = Dust or sand raised by the wind at or near the station at the time of the observation, but no well-developed dust whirls or sand whirls, and no duststorm or sandstorm seen: In marine environments, blowing spray at the station.

08 = Well-developed dust or sand whirls seen at or near the station during the preceding hour or at the time of the observation, but no duststorm or sandstorm.

09 = Duststorm or sandstorm within sight at the time of the observation, or at the station during the preceding hour

10 = Mist
11 = Patches of shallow fog not deeper than 2 metres on land
12 = More or less continuous shallow fog not deeper than 2 metres on land
13 = Lightning visible, no thunder heard
14 = Precipitation within sight, not reaching the ground
15 = Precipitation within sight, reaching the ground more than 5 km from the station
16 = Precipitation within sight, reaching the ground, near to but not at the station
17 = Thunderstorm, but no precipitation at the time of the observation
18 = Squalls at or within sight of the station at the time of the observation or during the preceding hour
19 = Funnel cloud(s) at or within sight of the station at the time of the observation or during the preceding hour

20 = Drizzle (not freezing) at the station during the preceding hour but not at the time of the observation
21 = Rain (not freezing) at the station during the preceding hour but not at the time of the observation
22 = Snow at the station during the preceding hour but not at the time of the observation
23 = Rain and snow or ice pellets at the station during the preceding hour but not at the time of the observation
24 = Freezing drizzle or freezing rain at the station during the preceding hour but not at the time of the observation
25 = Shower(s) of rain at the station during the preceding hour but not at the time of the observation
26 = Shower(s) of snow or rain and snow at the station during the preceding hour but not at the time of the observation
27 = Shower(s) of hail or rain and hail at the station during the preceding hour but not at the time of the observation
28 = Fog or ice fog at the station during the preceding hour but not at the time of the observation
29 = Thunderstorm, with or without precipitation at the station during the preceding hour but not at the time of the observation

30 = Slight or moderate duststorm or sandstorm has decreased during the preceding hour
31 = Slight or moderate duststorm or sandstorm with no appreciable change during the past hour
32 = Slight or moderate duststorm or sandstorm has begun or increased during the past hour
33 = Severe duststorm or sandstorm has decreased during the preceding hour
34 = Severe duststorm or sandstorm with no appreciable change during the past hour
35 = Severe duststorm or sandstorm has begun or increased during the past hour
36 = Slight or moderate drifting snow generally below eye level
37 = Heavy drifting snow generally below eye level
38 = Slight or moderate blowing snow generally above eye level
39 = Heavy blowing snow generally above eye level

40 = Fog or ice fog at a distance at the time of the observation, but not at the station during the preceding hour, the fog extending to a level above that of the observer.
41 = Fog or ice fog in patches
42 = Fog or ice fog, sky visible has become thinner during the past hour
43 = Fog or ice fog, sky invisible has become thinner during the past hour
44 = Fog or ice fog, sky visible no appreciable change during the past hour
45 = Fog or ice fog, sky invisible no appreciable change during the past hour
46 = Fog or ice fog, sky visible has begun or become thicker during the past hour
47 = Fog or ice fog, sky invisible has begun or become thicker during the past hour
48 = Fog, depositing rime, sky visible
49 = Fog depositing rime, sky invisible

50 = Drizzle, not freezing, intermittent slight at time of observation
51 = Drizzle, not freezing, continuous slight at time of observation
52 = Drizzle, not freezing, intermittent moderate at time of observation
53 = Drizzle, not freezing, continuous moderate at time of observation
54 = Drizzle, not freezing, intermittent heavy at time of observation
55 = Drizzle, not freezing, continuous heavy at time of observation
56 = Drizzle, freezing, slight
57 = Drizzle, freezing, moderate or heavy (dense)
58 = Drizzle and rain, slight
59 = Drizzle and rain, moderate or heavy

60 = Rain, not freezing, intermittent slight at time of observation
61 = Rain, not freezing, continuous slight at time of observation
62 = Rain, not freezing, intermittent moderate at time of observation
63 = Rain, not freezing, continuous moderate at time of observation
64 = Rain, not freezing, intermittent heavy at time of observation
65 = Rain, not freezing, continuous heavy at time of observation
66 = Rain, freezing, slight
67 = Rain, freezing, moderate or heavy
68 = Rain or drizzle and snow, slight
69 = Rain or drizzle and snow, moderate or heavy

70 = Intermittent fall of snowflakes slight at time of observation
71 = Continuous fall of snowflakes slight at time of observation
72 = Intermittent fall of snowflakes moderate at time of observation
73 = Continuous fall of snowflakes moderate at time of observation
74 = Intermittent fall of snowflakes heavy at time of observation
75 = Continuous fall of snowflakes heavy at time of observation
76 = Diamond dust (with or without fog)
77 = Snow grains (with or without fog)
78 = Isolated star-like snow crystals (with or without fog)
79 = Ice pellets

80 = Rain shower(s), slight
81 = Rain shower(s), moderate or heavy
82 = Rain shower(s), violent
83 = Shower(s) of rain and snow mixed, slight
84 = Shower(s) of rain and snow mixed, moderate or heavy
85 = Snow shower(s), slight
86 = Snow shower(s), moderate or heavy
87 = Shower(s) of snow pellets or small hail, with or without rain or rain and snow mixed, slight
88 = Shower(s) of snow pellets or small hail, with or without rain or rain and snow mixed, moderate or heavy
89 = Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder, slight
90 = Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder, moderate or heavy

91 = Slight rain at time of observation, thunderstorm during the past hour but not at time of observation
92 = Moderate or heavy rain at time of observation, thunderstorm during the past hour but not at time of observation
93 = Slight snow, or rain and snow mixed, or hail at time of observation, thunderstorm during the past hour but not at time of observation
94 = Moderate or heavy snow, or rain and snow mixed, or hail at time of observation, thunderstorm during the past hour but not at time of observation
95 = Thunderstorm, slight or moderate, without hail but with rain and or snow at time of observation
96 = Thunderstorm, slight or moderate, with hail at time of observation
97 = Thunderstorm, heavy, without hail but with rain and or snow at time of observation
98 = Thunderstorm combined with duststorm or sandstorm at time of observation
99 = Thunderstorm, heavy, with hail at time of observation

Hail includes large hail, small hail and snow pellets.

W1, W2 : Past weather (for 0900 and 1500 GMT observations, the period covered is 3 hours)

Code figures:

- 0 = Cloud covering half or less of the sky throughout the period
- 1 = Cloud covering more than half the sky during only part of the period
- 2 = Cloud covering more than half the sky throughout the period
- 3 = Sandstorm, duststorm or blowing snow
- 4 = Fog or ice fog or thick haze (visibility less than 1000 m)
- 5 = Drizzle
- 6 = Rain
- 7 = Snow or rain and snow mixed
- 8 = Shower(s)
- 9 = Thunderstorm(s) with or without precipitation

Nh : Amount of low cloud, or medium cloud if no low cloud present, okta

Cl : Type of low cloud

- 0 = No low cloud
- 1 = Cumulus with little vertical extent and seemingly flattened, or ragged Cumulus other than bad weather, or both
- 2 = Cumulus of moderate or strong vertical extent, either accompanied or not by other Cumulus or Stratocumulus all having their bases at the same level
- 3 = Cumulonimbus whose summits, at least partially, lack sharp outline, but are neither clearly fibrous (cirriform), nor in the form of an anvil; Cumulus, Stratocumulus or Stratus may also be present
- 4 = Stratocumulus formed by the spreading out of Cumulus; Cumulus may also be present
- 6 = Stratus in a more or less continuous sheet or layer, or ragged shreds, or both, but no Stratus fractus of bad weather
- 7 = Stratus fractus of bad weather or Cumulus fractus of bad weather or both (pannus), usually below Altostratus or Nimbostratus
- 8 = Cumulus and Stratocumulus other than that formed by the spreading out of Cumulus, the bases of the Cumulus and Stratocumulus are not at the same level.
- 9 = Cumulonimbus, the upper part of which is clearly fibrous (cirriform), often in the form of an anvil, either accompanied or not by any other type(s) of low cloud
- / = Types of low cloud invisible due to darkness, fog, blowing dust or sand or other similar phenomena.

'Bad weather' denotes the conditions which generally exist during precipitation and a short time before and after.

Cm : Type of medium cloud.

- 0 = No medium cloud.
- 1 = Altostratus, the greater part of which is semi-transparent; through this part the sun or moon may be weakly visible, as through ground glass
- 2 = Altostratus, the greater part of which is sufficiently dense to hide the sun or moon, or Nimbostratus
- 3 = Altocumulus, the greater part of which is semi-transparent; the various elements of the cloud change only slowly and are all at a single level
- 4 = Altocumulus in patches (often in the form of almonds or fishes), the greater part of which is semi-transparent ; the clouds occur at one or more levels and the elements are continually changing in appearance
- 5 = Altocumulus in bands semi-transparent, of Altocumulus in one or more fairly continuous layers (semi-transparent or opaque), progressively invading the sky; these Altocumulus clouds generally thicken as a whole
- 6 = Altocumulus resulting from the spreading out of Cumulus (or Cumulonimbus)
- 7 = Altocumulus in two or more layers, usually opaque in places, and not progressively invading the sky; or opaque layer of Altocumulus not progressively invading the sky; or Altocumulus together with Altostratus or Nimbostratus
- 8 = Altocumulus with sproutings in the form of small towers or battlements, or Altocumulus having the appearance of cumuliform tufts
- 9 = Altocumulus of a chaotic sky, generally at several levels
- / = Types of medium cloud invisible owing to darkness, fog, blowing dust or sand or other similar phenomena, or more often because of the presence of a continuous layer of lower clouds.

Ch : Type of high cloud

0 = No high cloud

1 = Cirrus in the form of filaments, strands or hooks, not progressively invading the sky.

2 = Dense cirrus, in patches or entangled sheaves, which usually do not increase and sometimes seem to be the remains of the upper part of a Cumulonimbus; or Cirrus with sproutings in the form of small turrets or battlements, or Cirrus having the appearance of cumuliform tufts

3 = Dense Cirrus, often in the form of an anvil, being the remains of the upper part of Cumulonimbus, or where the rest of the Cumulonimbus is below the horizon

4 = Cirrus in the form of hooks or filaments, or both, progressively invading the sky; they generally become denser as a whole

5 = Cirrus (often in bands converging towards one or two opposite points on the horizon) and Cirrostratus, or Cirrostratus alone; in either case they are progressively invading the sky, and generally growing denser as a whole, but the continuous veil does not reach 45 degrees above the horizon.

6 = Cirrus (often in bands converging towards one or two opposite points on the horizon) and Cirrostratus, or Cirrostratus alone; in either case they are progressively invading the sky, and generally growing denser as a whole; the continuous veil extends more than 45 degrees above the horizon, without the sky being totally covered

7 = Veil of Cirrostratus covering the celestial dome.

8 = Cirrostratus not progressively invading the sky and not completely covering the celestial dome

9 = Cirrocumulus alone, or accompanied by Cirrus or Cirrostratus, or both, but Cirrocumulus is predominant.

/ = Types of high cloud invisible owing to darkness, fog, blowing dust or sand or other similar phenomena, or more often because of the presence of a continuous layer of lower clouds.

8 Groups

N = Amount of cloud reported by C, okta.

C = Type of cloud

0 = Cirrus (Ci)

1 = Cirrocumulus (Cc)

2 = Cirrostratus (Cs)

3 = Altocumulus (Ac)

4 = Altostratus (As)

5 = Nimbostratus (Ns)

6 = Stratocumulus (Sc)

7 = Stratus (St)

8 = Cumulus (Cu)

9 = Cumulonimbus (Cb)

/ = Cloud type not visible owing to darkness, fog, duststorm, or other analogous phenomena.

hshs = Height of cloud above station level reported by type C

00 to 50 = Height in hundreds of feet

51 to 55 Not used

56 to 80 = Subtract 50 to obtain cloud height in thousands of feet

81 to 88 = Height of cloud between 35000 and 70000 ft in 5000 ft steps.