

# 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

**MAY 2024**

Temperature (°C)		Anomaly	Rank in the past 143 years
Mean maximum	19.4	+1.3	12th highest
Mean minimum	9.3	+1.6	*Highest*
Daily mean	14.4	+1.5	Equal highest
Highest maximum	26.8	on 12th	Lowest maximum 13.5 on 3rd
Highest minimum	13.0	on 14th	Lowest minimum 4.6 on 5th
Mean grass minimum	6.1	+1.6	Lowest grass minimum 0.4 on 5th
Mean earth @30 cm	14.8	+1.0	Earth @100 cm 13.3 +1.2
Frost duration (hrs)	0.0		Rain duration (hrs) 47.0
Rainfall total (mm)	63.8	143%	38th highest
Highest daily fall	13.6	on 22nd	Highest rate mm/hr 145 on 2nd
Number of: Dry days (<0.2mm)	16	Wet days (>0.9mm)	14
Sunshine total (hrs) 174.1	Daily mean 5.62	90%	Sunniest day 14.6 on 20th
N° days with: Air frost 0	Ground frost 0	Snow falling 0	Snow lying 0
Thunder 1	Hail ≥5mm 0	Small hail/ice 1	Fog @09 0 Nil sun 5
Pressure MSL: Mean @09 GMT, mbar 1012.9	-3.6	Highest 1030.1	on 8th Lowest 999.1 on 2nd
Relative humidity: Mean (%) 80.0	Lowest 34	on 12th	Water vapour (g/kg), mean at 09 and 15 GMT 8.0, 7.9
Overall mean wind speed (mph) 5.5	Windiest day 8.8	on 28th	Max gust 29 on 26th
Wind direction (days)	N 4 NE 4 E 1 SE 3 S 5 SW 8 W 3 NW 3		
Least windy day (mph) 2.8	on 16th	Calm; less than 0.5 mph (minutes)	911

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

**Notes: Near Record High Temperature with Above Average Rainfall and Below Average Sunshine**

**Temperature:** The overall mean this May is equal highest with 2008 and 1992 in the past 143 years, and is 2.3° above the median value. The mean minimum is a new record high, 0.1° above the previous highest in 1964 and is 2.4° above the median. The mean maximum, however, is 1.4° below the record set in 2020, and ranks 12th highest since 1882. The highest max is 1.4° above the median and the lowest max is 2.4° above its median. The highest min is 0.5° above the median while the lowest min is 4.1° above its median and 2nd highest in 121 years. Air frost was absent again this May, the last was in 2020, and in the long-term average May has had a frost every 2.7 years, but in this millennium it has decreased to 1 in 4 years. The absence of ground frost is more unusual, the last May to have none was in 1964 and the average lowest grass minimum for the past 45 years is -3.7°. The mean earth temperature at 30cm depth is 1.0° above average and only 0.1° below the record set in 1989. At 1 m depth the mean is equal highest with 2007 in the past 35 years. Anomalies for daily max were above +7° from the 9th to the 12th, and exceeded -3° on the 21st and 31st, with extreme values of +9.8° on the 12th and -4.5° on the 31st. Anomalies for daily min were above +5° on the 2nd, 13th and 14th, and exceeded -1° on the 25th only, with extreme values of +6.0° on 14th and -1.7° on 25th. **Rainfall:** The total this May is 43% above the climatological average, but is only the wettest May since 2021. In this millennium no May has had as much as 100 mm, but in the past 143 years there have been 5 such falls, the last in 1979 when 119.3mm was recorded. May this year got off to quite a wet start, but the 14 day period to the 20th saw 12 dry days before it again became quite wet. Rainfall accumulation compared with normal was 10 mm in surplus by the 6th, decreasing to 1mm on the 12th, increasing to 9mm by the 16th and to 18 mm by the 22nd ending the month 19mm above normal. There was a thunderstorm overnight on the 2nd which included ice pellets and a rainfall rate of 145 mm/hr at 0317 GMT. Rainfall rate also exceeded 50 mm/hr on the 22nd and 30th.

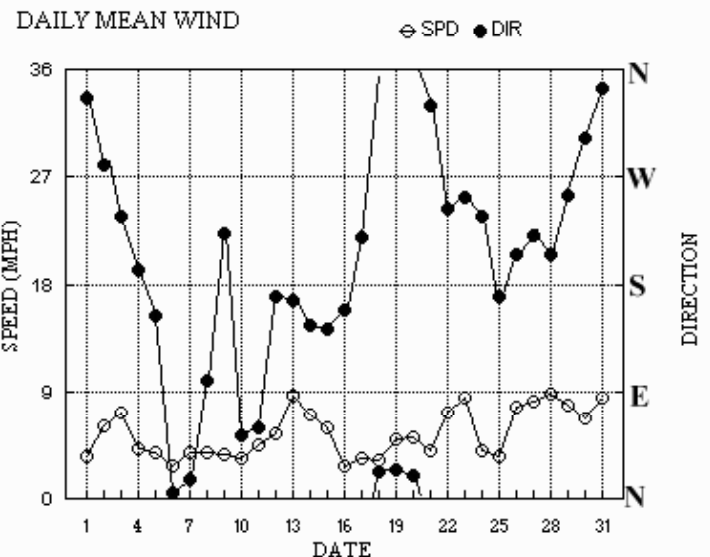
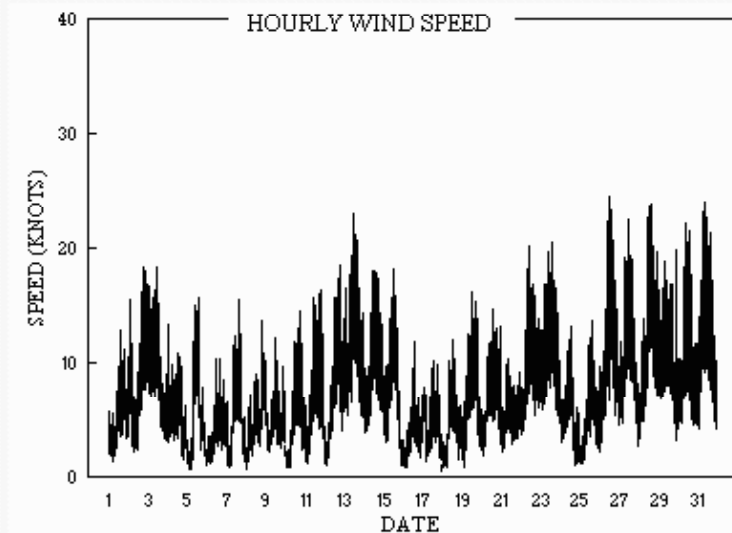
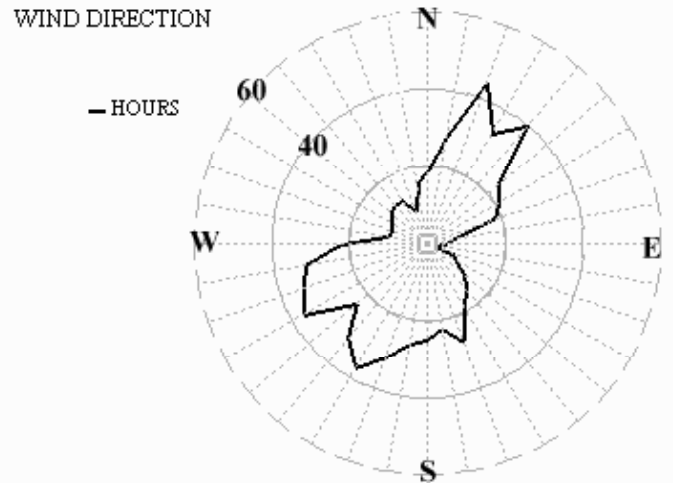
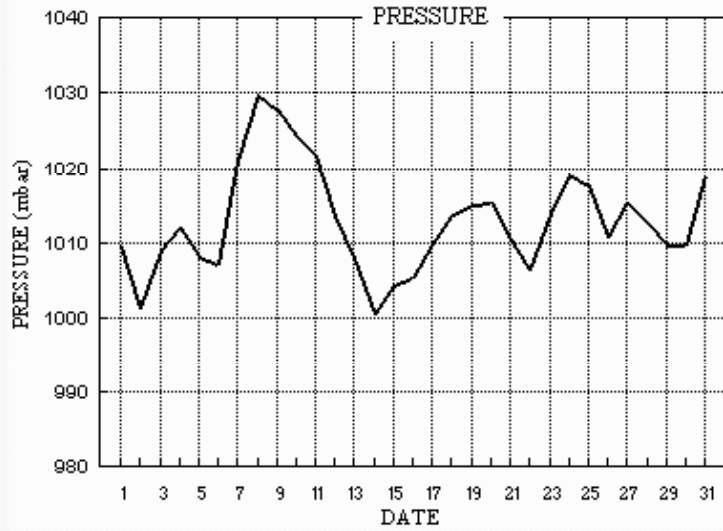
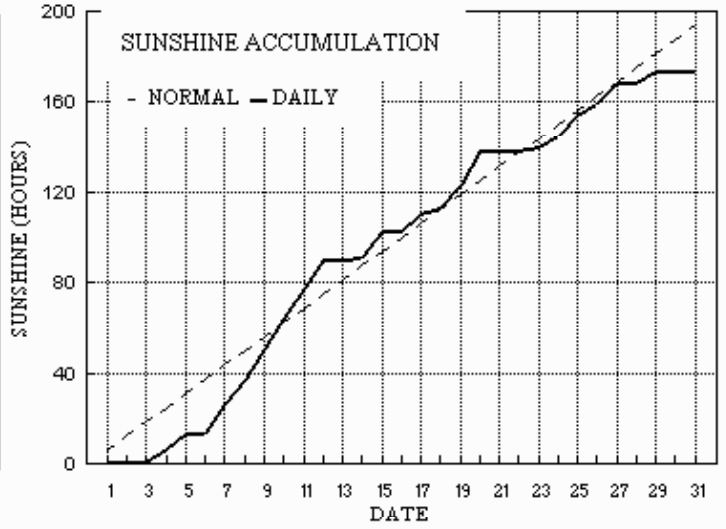
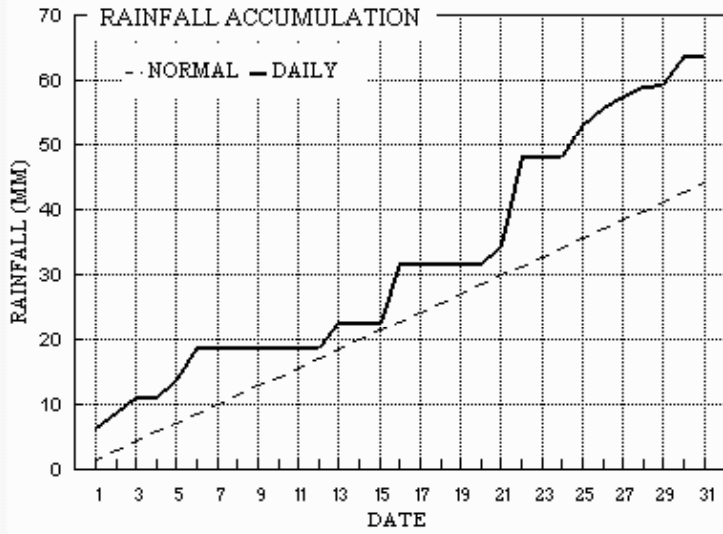
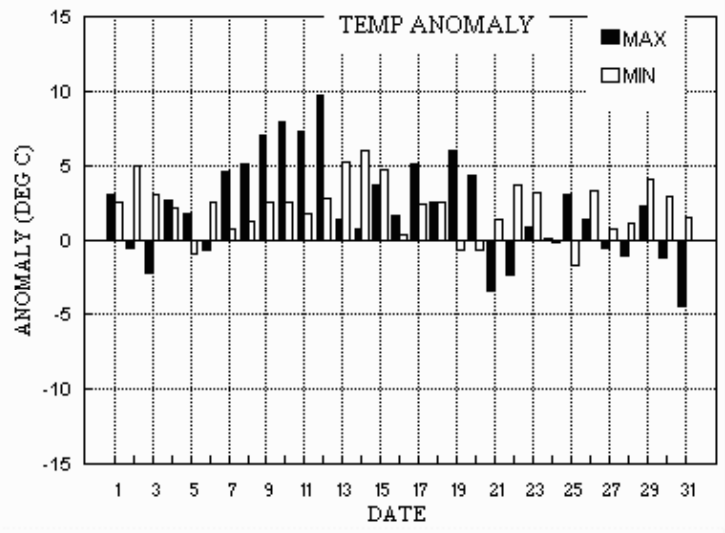
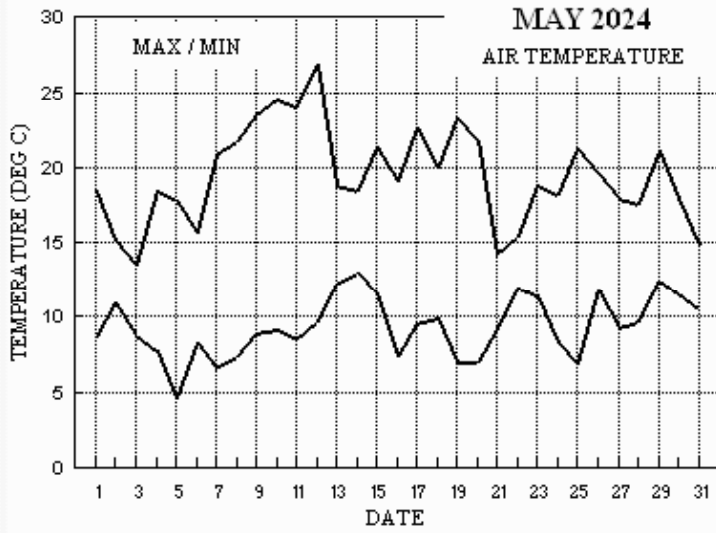
**Sunshine:** The total this May is 10% below average, although in this millennium 6 Mays have been duller, the last in 2021. The period 7th to 12th was sunny, each day having over 70% of the maximum, and over 90% on the 10th. Only 2 other days had >70%, the 15th and 20th. The number of days with nil sun is most since 2016. Sunshine accumulation compared with normal was 24 hours in deficit by the 6th, becoming a surplus of 14 hours by the 12th, decreasing to zero by the 18th, remaining near zero until the 27th, ending the month with a deficit of 19 hours. Overall there were 13 days with <3 hours, 13 with =>6 hours and 7 with =>12 hours. **Wind:** The mean speed is 0.9 mph below average and lowest since 2019. The highest gust of 29 mph is 9 mph below average and equal lowest with 2004 since before 1988. **Humidity:** The mean relative humidity is 6.1% above average and is highest since before 1998. Also the mean water vapour content at both 09 and 15 GMT is highest for May in the same period. **Miscellaneous:** The aurora was observed widely in the area on the 10th and 11th.

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

From the 1 <sup>st</sup> to the 10 <sup>th</sup>				From the 11 <sup>th</sup> to the 20 <sup>th</sup>				From the 21 <sup>st</sup> to the 31 <sup>st</sup>			
+2.9°	+2.2°	133%	103%	+4.3°	+2.5°	91%	118%	-0.5°	+1.9°	205%	52%

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

# Wokingham climatological graphs for May 2024



Month: MAY 2024

Date	Max C	Min C	Rain mm	Grass Min	30cm C	100cm C	Sun hrs	Frost hrs	pp09 mbar	Af Gf	Sf Sl	Th Ha	Ic Fg	Vec ddd	mean ff	sp	Max gust ddd	gg	High hr HHhh	High ddd	ff	Rain HH	hrs	
1	18.5	8.6	6.3	2.6	11.7	11.1	1.5	0.0	1009.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	335	2.0	3.2	5 13	1454	291	5	19	1.8		
2	15.1	10.9	2.4	8.2	12.2	11.2	0.0	0.0	1001.2	0 0 0 0	1 0 1 0	0 0 0 0	0 0 0 0	280	3.2	5.3	252	19	1845	249	9	18	3.4	
3	13.5	8.8	2.3	9.0	12.3	11.3	0.0	0.0	1009.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	237	6.1	6.2	254	19	1002	246	9	00	3.1	
4	18.5	7.7	tr	2.8	12.2	11.4	5.7	0.0	1011.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	192	3.4	3.7	208	13	0118	177	5	14	0.0	
5	17.8	4.6	2.7	0.4	12.4	11.5	6.4	0.0	1008.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	154	2.9	3.4	194	16	1300	162	8	12	1.3	
6	15.6	8.2	5.2	3.4	12.4	11.6	0.0	0.0	1007.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	6	2.1	2.5	20	11	1144	40	5	11	5.8	
7	20.9	6.6	0.0	2.8	12.5	11.7	12.7	0.0	1021.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	17	3.1	3.4	9	16	1556	16	7	15	0.0	
8	21.7	7.4	0.0	2.6	13.1	11.8	11.0	0.0	1029.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	100	1.2	3.3	192	14	1938	189	7	19	0.0	
9	23.5	8.9	0.0	4.7	14.0	12.0	13.2	0.0	1027.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	222	1.8	3.3	260	12	1229	186	5	21	0.0	
10	24.5	9.2	0.0	4.8	14.6	12.2	14.1	0.0	1024.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	53	2.5	3.0	69	15	1713	74	6	17	0.0	
11	24.1	8.5	0.0	3.7	15.1	12.5	13.5	0.0	1021.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	60	3.9	4.0	89	17	1947	68	7	11	0.0	
12	26.8	9.7	0.0	5.3	15.5	12.9	12.0	0.0	1013.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	169	2.9	4.8	193	19	1810	195	9	18	0.0	
13	18.8	12.2	3.6	9.7	15.9	13.2	0.2	0.0	1008.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	167	7.0	7.6	159	23	1140	173	11	11	6.1	
14	18.4	13.0	tr	13.0	15.5	13.4	0.8	0.0	1000.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	146	5.8	6.2	155	18	1120	156	9	15	0.3	
15	21.4	11.6	0.0	8.2	15.4	13.6	12.1	0.0	1004.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	142	5.0	5.1	163	18	1205	153	9	12	0.0	
16	19.1	7.4	9.3	3.9	15.4	13.7	0.1	0.0	1005.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	158	0.4	2.4	233	12	1332	193	6	13	2.7	
17	22.6	9.5	0.0	5.6	15.3	13.8	7.2	0.0	1009.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	219	1.5	2.9	246	10	1408	166	5	01	0.0	
18	20.0	9.9	tr	6.2	15.8	13.9	3.0	0.0	1013.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	23	2.6	2.9	22	12	1326	61	5	14	0.0	
19	23.3	7.0	0.0	3.0	15.8	14.0	10.0	0.0	1015.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	25	4.2	4.4	66	16	1245	18	7	18	0.0	
20	21.7	7.0	0.0	2.3	16.1	14.1	14.6	0.0	1015.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	20	4.4	4.5	76	15	1413	15	6	18	0.0	
21	14.2	9.2	2.7	5.4	16.4	14.3	0.0	0.0	1010.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	329	2.7	3.5	340	10	0958	10	5	06	5.0	
22	15.4	11.9	13.6	12.5	15.9	14.4	0.1	0.0	1006.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	243	6.1	6.2	250	20	1152	244	9	12	6.3	
23	18.8	11.5	0.0	10.1	15.5	14.5	2.2	0.0	1013.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	253	7.1	7.3	235	21	1422	253	10	14	0.0	
24	18.2	8.3	0.0	4.3	15.6	14.5	4.9	0.0	1019.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	237	2.5	3.5	325	13	1346	225	6	11	0.0	
25	21.3	6.8	5.2	3.2	15.7	14.5	8.8	0.0	1017.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	170	2.7	3.2	205	14	1609	203	6	16	3.5	
26	19.6	11.8	2.6	11.8	16.0	14.5	5.2	0.0	1010.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	205	5.3	6.7	205	25	1207	207	11	14	1.2	
27	17.9	9.3	1.6	6.1	16.1	14.6	9.3	0.0	1015.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	221	7.0	7.2	224	23	1225	208	11	12	1.5	
28	17.5	9.7	1.7	5.7	16.2	14.7	0.0	0.0	1012.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	205	6.9	7.6	233	24	1550	222	12	14	1.6	
29	21.1	12.5	0.2	10.5	16.0	14.8	4.7	0.0	1009.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	254	6.5	6.9	301	20	2147	259	9	08	0.4	
30	17.9	11.6	4.4	10.1	16.3	14.8	0.7	0.0	1009.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	302	5.0	5.9	290	22	0941	299	9	09	3.0	
31	14.7	10.5	tr	8.4	16.1	14.9	0.1	0.0	1019.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	344	6.9	7.4	334	24	1006	348	11	10	0.0	
Total			63.8				174.1	0.0																47.0
Mean	19.4	9.3		6.1	14.8	13.3	5.62	0.0	1012.9					228	1.2	4.8								
Anom	+1.3	+1.6	143%	+1.6	+1.0	+1.2	90%							-3.6										

Daily mean 14.4 Pressure, abs highest = 1030.1 on 8

Anom +1.5 Pressure, abs lowest = 999.1 on 2

Number of days with:

Air frost = 0 Ground frost = 0 Nil sun = 5  
 Snow falling = 0 Snow lying = 0 Thunder = 1  
 Hail=>5mm = 0 Hail<5mm or ice = 1 Fog at 09GMT = 0

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. Sl = 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 MAY 2024

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	pppww	W1	W2	Nh	Cl	hCr	Cl	NCh	shs	NCh	shs	NCh	shs	Date	Remarks
1	56	8	19	02	05	10.9	10.3	96	7.8	1009.5	1	003	10	4	2	8	6	3	/	/	88708						
2	35	8	04	03	06	12.0	11.5	97	8.5	1001.2	1	017	10	2	2	8	6	2	/	/	87705	88707			2		
3	57	8	24	09	16	9.5	8.6	94	6.9	1009.0	2	013	63	6	6	6	7	4	2	/	85710	83640	88556		3		
4	81	5	21	03	06	13.2	8.9	75	7.1	1011.9	0	000	01	2	2	1	1	4	0	1	81818	84071			4	COTRA Cu hum Halo 22° part+parhelion+u/a cont	
5	85	5	12	05	12	15.1	7.6	61	6.5	1008.1	8	007	03	1	1	1	5	7	4	1	81656	85075			5	1Ac59 COTRA Halo 22° part	
6	56	8	01	03	05	12.7	12.1	96	8.8	1007.2	1	007	21	6	2	2	8	4	7	/	81812	85550	88462		6	2Sc30 /Ac57 Cu fra/hum jpSE	
7	63	1	03	04	12	15.6	11.0	74	8.1	1021.0	1	017	02	0	0	1	1	4	0	1	81818				7	1Ci80 Cu hum	
8	56	3	10	02	05	13.9	9.9	77	7.5	1029.9	1	005	05	4	1	1	6	3	0	1	81708	83080			8	COTRA	
9	65	6	21	03	07	17.2	10.6	65	7.8	1027.7	7	008	02	1	1	0	0	9	0	1	86080				9		
10	65	7	02	03	06	19.5	11.3	59	8.2	1024.2	8	001	02	1	1	0	0	9	0	8	81275	87080			10	COTRA	
11	56	4	06	05	09	17.9	13.2	74	9.3	1021.7	8	003	05	1	1	0	0	9	0	1	81173	84080			11	COTRA Sky turbid	
12	57	3	05	03	07	20.3	14.2	68	10.0	1013.4	7	011	05	0	0	1	5	7	8	1	81656				12	2Ac68 2Ci80 COTRA Ac cas vir	
13	84	8	17	05	15	15.0	10.8	76	8.1	1008.0	8	012	02	2	2	8	5	4	/	/	85615	88620			13		
14	75	8	15	05	11	13.6	12.3	92	9.0	1000.5	2	007	03	6	2	4	2	3	7	/	84808	87363	88468		14	Cu fra/med	
15	84	4	15	08	14	17.0	9.9	63	7.6	1004.4	1	008	02	1	1	3	2	5	3	1	83828				15	1Ac65 1Ci75 COTRA Cu med	
16	68	8	05	02	04	14.2	11.4	83	8.4	1005.3	6	002	03	2	2	1	5	7	7	/	81656	81358	88459		16	Sun visible	
17	65	7	23	01	06	15.7	12.6	82	9.1	1009.8	2	011	03	4	2	1	2	3	0	1	81807	86075			17	COTRA Cu fra/med	
18	57	7	02	05	10	15.2	12.7	85	9.1	1013.6	1	005	05	2	2	1	6	4	8	/	81712	85360	87365		18	Ac cas	
19	62	4	02	06	13	15.3	10.1	71	7.6	1015.0	1	005	01	1	1	4	4	0	0	0	83618				19	2Sc56 Sc cas	
20	61	0	35	06	12	14.8	9.4	70	7.3	1015.2	8	005	01	0	0	0	0	9	0	0					20		
21	61	8	34	04	09	11.9	10.1	89	7.7	1010.5	4	000	02	2	2	8	6	3	/	/	88708				21		
22	62	8	26	07	15	13.5	12.6	94	9.1	1006.5	1	004	60	6	2	7	7	3	2	/	87707	88540			22		
23	84	8	25	08	15	13.2	9.5	78	7.3	1013.9	2	012	02	2	2	8	5	4	/	/	88618				23	Absent VV&cld est	
24	82	7	26	05	08	14.1	8.5	69	6.8	1019.2	1	009	03	2	2	7	8	5	/	/	83825	87650			24	Absent VV&cld est	
25	82	2	19	02	06	15.7	8.9	64	7.0	1017.7	8	007	03	1	1	2	1	5	0	0	82825				25	Absent VV&cld est	
26	82	5	20	08	15	17.6	13.3	76	9.5	1010.6	0	000	03	8	2	5	8	4	0	0	84812				26	2Sc30 Cu con	
27	80	7	22	12	19	14.4	7.0	61	6.2	1015.3	0	001	15	2	2	4	4	5	6	1	84825	86070			27	1Sc45 1Ac58 COTRA Cu con jpNW vv60k ex p Halo 22° p	
28	65	8	19	07	11	15.3	14.2	93	10.0	1012.6	6	009	21	6	2	7	7	2	2	/	83705	87708	88556		28		
29	83	4	25	09	19	17.5	11.8	69	8.6	1009.6	1	002	03	1	1	4	4	5	0	1	84825				29	1Sc35 1Ci75 Cu med	
30	84	7	30	08	19	14.1	9.5	74	7.4	1009.7	3	007	21	6	2	2	8	4	7	/	82818	83358	86460		30	1Sc40 /Ac65 Cu med/con S	
31	82	8	33	09	21	12.6	8.5	76	6.8	1019.0	1	008	03	2	2	7	5	5	7	/	83620	87625			31	/Ac57	

Mean vis = 23.7 km

Mean cloud = 5.9 74%

Mean wind speed = 5.2 kn

Mean gust = 11 kn

Mean TT = 14.8 °C

Mean TdTd = 10.7 °C

Mean RH = 77.5 %

Mean r = 8.0 g/kg

Mean PPP = 1012.9 mbar

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. Sl = 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 1500 GMT for MAY 2024

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks					
1	56	8	01	06	13	15.6	12.0	79	8.7	1006.8	7	011	60	6	2	7	5	6	7	83630	86650	88359	1		
2	35	8	28	05	12	13.5	11.2	86	8.3	1002.9	3	011	50	2	2	8	6	2	/	87705	88706		2		
3	82	7	25	05	11	12.2	9.2	82	7.2	1010.0	0	000	21	6	2	1	8	5	2	/	81825	87460		3	1Sc50 Cu med Cld breaks S
4	84	5	15	05	11	18.0	7.1	49	6.3	1009.2	7	013	02	2	2	2	2	6	6	1	82845	84358		4	1Ci75 Cu med
5	84	7	16	07	16	15.1	9.9	71	7.6	1006.8	8	006	02	6	2	7	8	5	/	82820	86640	87656	5	Cu med	
6	62	8	34	03	07	13.5	12.1	91	8.8	1008.8	1	005	63	6	6	5	8	4	2	/	81810	85640	88556	6	Cu fra
7	75	6	02	05	12	18.7	10.3	58	7.7	1023.5	2	010	02	1	1	4	2	6	6	1	84838	85080		7	1Ac58 COTRA Cu con
8	81	5	04	03	09	21.7	9.6	46	7.3	1028.1	7	009	02	1	1	1	1	6	0	1	81848	85080		8	Cu hum COTRA
9	82	5	34	04	08	21.6	10.1	48	7.6	1024.4	7	020	02	1	1	2	2	7	0	1	82850	84080		9	COTRA Cu med
10	68	7	04	05	11	24.5	12.8	48	9.1	1021.6	7	015	02	2	2	2	4	7	0	8	82850	87277		10	1Sc56 COTRA Cu hum Sky turbid
11	63	7	05	05	14	22.3	13.1	56	9.3	1018.6	7	014	03	1	1	3	4	6	0	1	83848	86080		11	1Ac57 COTRA Cu med Sky turbid
12	82	6	19	08	16	27.0	10.2	35	7.8	1009.6	7	018	02	2	2	2	2	7	0	1	82856	85078		12	COTRA Cu med
13	82	7	15	10	21	17.3	10.7	65	8.0	1005.1	7	013	02	2	2	7	5	5	/	86622	87628		13		
14	82	7	15	08	17	17.0	10.4	65	7.9	1000.7	1	002	02	8	2	3	4	5	0	8	83825	87270		14	1Sc40 Cu med U/a cont
15	88	2	18	09	16	19.5	7.3	45	6.4	1004.5	2	002	01	1	1	2	2	6	0	1	82848			15	1Ci75 COTRA Cu hum/med
16	62	7	25	03	10	18.3	10.7	61	8.0	1004.4	8	007	15	6	2	3	3	5	4	8	81925	83656	87270	16	1Cu33 2Ac65 jpNE Cb NE
17	86	7	25	03	10	21.2	8.8	45	7.0	1010.1	1	002	02	2	2	2	4	6	0	2	82848	87070		17	1Sc56 Cu med Irisation
18	68	7	05	05	11	19.8	13.5	67	9.6	1013.0	7	009	02	2	2	7	5	5	/	86625	84640		18		
19	81	2	02	06	14	22.4	11.8	51	8.6	1013.2	7	012	02	0	0	2	2	6	0	0	82849			19	Cu med
20	82	1	05	04	15	21.4	8.3	43	6.8	1012.2	7	018	02	0	0	1	4	6	0	1	81848			20	1Sc50 1Ci75 COTRA Cu hum
21	59	8	32	04	07	13.7	11.9	89	8.7	1009.4	7	007	61	6	6	6	7	3	2	/	86708	88556		21	Absent vv&cld est
22	60	8	22	06	14	14.3	13.3	94	9.5	1007.5	1	003	63	6	6	3	5	4	2	/	83612	88550		22	Absent vv&cld est
23	84	5	27	10	21	18.0	8.8	55	7.0	1014.3	5	000	03	1	1	5	2	5	0	0	85835			23	Absent VV&cld est
24	82	7	31	05	12	16.5	6.9	53	6.1	1018.9	6	002	02	2	2	7	8	6	/	83835	87650		24	Absent VV&cld est	
25	84	4	19	05	12	19.9	7.3	44	6.3	1014.9	7	017	02	0	0	2	1	7	0	1	82850	83080		25	Cu hum
26	80	6	22	12	23	18.8	11.6	63	8.5	1010.8	0	001	15	8	1	4	4	6	6	0	83830			26	2Sc50 2Ac58 1Ac62 jpSW
27	84	6	23	08	19	16.7	7.4	54	6.3	1014.9	0	001	25	8	2	4	4	6	6	0	82830	83650		27	3Ac58 1Ac63 Absent vv&cld est
28	80	8	22	12	24	16.3	13.8	85	9.8	1010.9	7	005	02	2	2	8	5	4	/	87611	88620		28		
29	84	7	26	08	17	17.7	9.8	60	7.6	1008.4	6	005	03	2	2	7	8	6	/	82835	87656		29	2Sc45 Cu med	
30	70	7	30	06	22	15.6	13.1	85	9.3	1011.5	0	007	25	8	2	1	8	5	6	3	81822	86357		30	1Sc50 1Ci68 Cu med Cb top N jpN&S vv50k ex p
31	81	8	36	09	20	14.3	9.9	75	7.5	1021.0	2	012	02	2	2	8	5	5	/	87620	88628		31		

Mean vis = 33.0 km

Mean cloud = 6.2 78%

Mean wind speed = 6.3 kn

Mean gust = 14 kn

Mean TT = 18.1 °C

Mean TdTd = 10.4 °C

Mean RH = 62.8 %

Mean r = 7.9 g/kg

Mean PPP = 1012.1 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 Sunshine Hourly analysis	2024	Hour01-May	02-May	03-May	04-May	05-May	06-May	07-May	08-May	09-May	10-May	11-May	12-May	13-May	14-May	15-May	16-May
	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	0.00
	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	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	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	0.00
	4	0.00	0.00	0.00	0.00	0.19	0.00	0.28	0.00	0.13	0.27	0.44	0.09	0.00	0.00	0.00	0.00
	5	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.82	1.00	1.00	0.85	0.00	0.00	0.69	0.00
	6	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.91	0.00	0.00	0.82	0.00
	7	0.01	0.00	0.00	0.24	1.00	0.00	1.00	0.10	1.00	1.00	1.00	0.93	0.00	0.00	0.76	0.00
	8	0.00	0.00	0.00	0.96	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.79	0.00
	9	0.44	0.00	0.00	0.81	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.04	0.97	0.00
	10	0.99	0.00	0.00	0.60	0.36	0.00	1.00	1.00	1.00	0.94	0.99	0.71	0.01	0.06	0.60	0.00
	11	0.02	0.00	0.00	0.02	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.86	0.16	0.00	0.53	0.00
	12	0.00	0.00	0.00	0.21	0.00	0.00	0.60	1.00	0.91	0.89	1.00	0.55	0.07	0.03	0.83	0.00
	13	0.00	0.00	0.00	0.00	0.00	0.00	0.51	1.00	0.77	1.00	0.95	0.61	0.00	0.00	0.67	0.00
	14	0.00	0.00	0.00	0.25	0.00	0.00	0.25	1.00	0.98	1.00	0.49	0.91	0.00	0.04	0.79	0.03
	15	0.00	0.00	0.00	0.69	0.00	0.00	0.80	1.00	0.50	0.79	0.68	0.48	0.00	0.16	0.90	0.11
	16	0.00	0.00	0.00	1.00	0.01	0.00	1.00	1.00	0.79	0.98	1.00	1.00	0.00	0.16	1.00	0.00
	17	0.00	0.00	0.00	0.61	0.29	0.00	1.00	1.00	1.00	1.00	1.00	0.98	0.00	0.16	1.00	0.00
	18	0.00	0.00	0.00	0.06	0.51	0.00	1.00	0.94	1.00	0.85	0.92	0.71	0.00	0.10	1.00	0.00
	19	0.00	0.00	0.00	0.28	0.00	0.00	0.29	0.00	0.33	0.39	0.00	0.40	0.00	0.00	0.74	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	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	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	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	0.00
Tot		<b>1.45</b>	<b>0.00</b>	<b>0.00</b>	<b>5.73</b>	<b>6.36</b>	<b>0.00</b>	<b>12.73</b>	<b>11.04</b>	<b>13.23</b>	<b>14.10</b>	<b>13.47</b>	<b>12.00</b>	<b>0.24</b>	<b>0.76</b>	<b>12.07</b>	<b>0.12</b>

	Hour17-May	18-May	19-May	20-May	21-May	22-May	23-May	24-May	25-May	26-May	27-May	28-May	29-May	30-May	31-May	Mean	
	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	
	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	
	4	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.50	0.48	0.00	0.19	0.00	0.00	0.00	0.08	
	5	0.00	0.04	0.00	0.93	0.00	0.00	0.00	1.00	0.99	0.08	1.00	0.00	0.64	0.00	0.36	
	6	0.03	0.53	0.00	1.00	0.00	0.00	0.00	0.62	0.54	0.00	1.00	0.00	0.89	0.00	0.37	
	7	0.89	0.02	0.00	1.00	0.00	0.00	0.02	0.00	1.00	0.00	0.99	0.00	0.40	0.00	0.37	
	8	1.00	0.02	0.70	1.00	0.00	0.00	0.00	0.04	0.59	0.33	0.78	0.00	0.67	0.00	0.45	
	9	0.91	0.00	0.57	1.00	0.00	0.00	0.06	0.52	0.70	0.50	0.57	0.00	0.38	0.25	0.47	
	10	0.37	0.00	1.00	1.00	0.00	0.00	0.02	0.24	0.61	0.57	0.90	0.00	0.65	0.00	0.44	
	11	0.23	0.00	1.00	1.00	0.00	0.00	0.11	0.00	0.13	0.87	0.61	0.00	0.58	0.07	0.36	
	12	0.71	0.00	0.89	1.00	0.00	0.00	0.28	0.00	0.31	0.05	0.63	0.00	0.45	0.09	0.34	
	13	0.25	0.07	0.66	1.00	0.00	0.00	0.37	0.45	0.33	0.42	0.25	0.00	0.08	0.00	0.30	
	14	0.90	0.22	0.80	1.00	0.00	0.00	0.80	0.26	0.83	0.64	0.43	0.00	0.00	0.02	0.37	
	15	0.40	0.41	0.95	1.00	0.00	0.00	0.25	0.03	0.51	0.14	0.30	0.00	0.00	0.21	0.33	
	16	0.45	0.17	0.69	1.00	0.00	0.00	0.28	0.13	0.96	0.52	0.38	0.00	0.00	0.03	0.40	
	17	0.52	0.94	1.00	0.96	0.00	0.02	0.02	0.72	0.87	0.75	0.25	0.00	0.00	0.00	0.45	
	18	0.17	0.58	1.00	1.00	0.00	0.01	0.00	0.32	0.00	0.20	0.42	0.00	0.00	0.00	0.35	
	19	0.32	0.00	0.71	0.65	0.00	0.00	0.00	0.00	0.00	0.17	0.54	0.00	0.00	0.00	0.16	
	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		<b>7.17</b>	<b>3.01</b>	<b>9.97</b>	<b>14.56</b>	<b>0.00</b>	<b>0.03</b>	<b>2.22</b>	<b>4.85</b>	<b>8.84</b>	<b>5.22</b>	<b>9.25</b>	<b>0.00</b>	<b>4.74</b>	<b>0.67</b>	<b>0.05</b>	<b>173.85</b>

MAY 2024	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	13.22	18.5	1234	8.6	326	88.6	99.8	736	61.7	1236	11.2	8.3	9.9	1649	6.8	323	1007.34	1009.8	912	1002.2	2359	0.3
2	12.22	15.1	1302	10.2	2359	91.0	98.0	801	80.8	1306	10.8	8.1	9.0	1218	6.5	2340	1002.67	1006.6	2359	999.1	530	5.2
3	10.51	13.1	1631	8.4	2359	88.4	96.4	420	75.1	1728	8.6	6.9	7.7	1514	6.3	2359	1009.32	1011.9	2324	1006.4	146	4.1
4	12.54	18.5	1523	7.6	2359	75.4	97.4	106	47.1	1227	7.8	6.6	7.4	1456	5.6	1026	1010.44	1012.4	716	1008.5	1716	0
5	11.49	17.8	1032	4.6	436	83.2	99.2	627	48.5	1025	8.4	6.9	9.1	1704	5.2	436	1007.69	1009.3	11	1006.2	1714	0.5
6	11.85	14.0	1017	8.9	0	96.3	99.3	639	87.4	1315	11.3	8.3	9.4	1044	7.0	0	1008.93	1015.0	2358	1006.1	324	6.4
7	13.89	20.9	1226	6.6	454	79.0	100.0	606	45.0	1227	9.8	7.4	9.0	1353	5.9	503	1022.12	1028.1	2340	1014.9	1	0.1
8	14.50	21.7	1525	7.4	324	76.5	100.0	751	42.1	1333	9.7	7.3	8.6	1507	6.2	314	1028.74	1030.1	820	1026.9	1749	0
9	16.34	23.5	1441	8.9	453	71.2	97.3	525	41.0	1632	10.5	7.8	9.6	1243	6.7	453	1026.32	1029.4	0	1023.4	1724	0
10	16.92	24.5	1458	9.2	449	72.1	98.3	547	40.0	1437	11.2	8.2	10.0	1218	6.9	447	1023.10	1024.9	1	1020.8	1648	0
11	16.27	26.8	1639	8.5	2359	74.9	98.1	2358	44.0	1648	11.4	8.3	10.3	1639	6.6	1948	1017.84	1018.4	2025	1017.1	2359	0
12	18.47	27.3	1510	9.7	403	69.3	98.4	523	33.8	1451	11.7	8.5	10.8	1058	7.2	403	1012.14	1017.3	0	1008.9	1714	0
13	14.99	18.8	1129	12.1	347	77.0	92.5	17	58.1	1131	10.9	8.1	9.3	2357	7.1	620	1006.43	1009.9	138	1001.3	2359	0.2
14	15.10	18.4	1622	13.2	745	82.4	96.8	511	61.6	1550	12.0	8.8	9.8	254	7.8	1312	1000.78	1002.6	2359	999.4	533	3.1
15	15.49	21.4	1219	8.9	2337	70.1	97.1	500	41.3	1354	9.4	7.4	8.9	49	5.8	1847	1004.32	1006.5	2250	1002.1	106	0
16	13.08	19.1	1520	7.4	422	87.0	98.4	2341	57.8	1520	10.8	8.1	9.6	1854	6.2	415	1005.42	1006.7	2353	1004.1	1520	8.4
17	15.36	22.6	1447	9.5	521	77.4	99.8	720	43.5	1250	10.8	8.1	10.1	1358	6.7	1250	1009.74	1012.5	2347	1006.4	4	0.2
18	14.57	20.0	1350	9.8	327	85.4	98.9	625	62.1	1729	12.0	8.7	10.3	1349	6.6	2351	1013.27	1014.5	2213	1012.0	319	0
19	15.17	23.3	1514	7.0	330	74.7	97.4	413	43.2	1442	10.2	7.7	10.2	1155	6.0	330	1014.26	1015.9	2306	1012.7	1702	0
20	14.48	21.7	1520	7.0	426	73.3	98.3	453	37.8	1327	9.1	7.1	8.4	1321	5.8	1327	1013.70	1015.9	537	1011.1	1741	0
21	12.22	14.2	1707	9.2	200	91.2	96.1	2357	86.5	1137	10.8	8.1	9.3	1747	6.7	151	1009.90	1011.9	0	1008.0	2354	0.7
22	13.25	15.4	1726	12.0	2338	94.7	97.2	645	89.8	1238	12.4	8.9	10.2	1726	8.2	2337	1007.62	1010.6	2351	1005.9	547	13.6
23	13.83	18.8	1411	11.5	253	74.6	95.3	249	53.9	1456	9.2	7.2	8.3	1411	5.6	2142	1014.09	1017.3	2336	1010.4	3	0
24	13.27	18.2	1402	8.6	426	72.6	94.3	449	47.9	1732	8.2	6.7	7.7	1400	5.8	1732	1018.69	1019.7	2154	1016.9	18	0
25	14.72	21.3	1552	6.7	423	68.1	98.1	438	36.6	1656	8.1	6.7	8.1	1055	5.1	1656	1016.28	1019.6	14	1013.0	2330	0.5
26	14.59	19.6	1428	11.5	2338	83.7	98.3	425	58.2	1140	11.7	8.5	10.8	1358	7.1	1531	1011.76	1014.5	2344	1010.4	858	6.2
27	13.31	17.9	1206	9.3	453	75.2	94.5	28	48.4	1131	8.7	6.9	8.0	1411	5.7	1038	1015.23	1016.5	2223	1014.2	2	0.2
28	14.21	17.1	1530	9.7	12	91.3	96.4	822	82.1	1532	12.8	9.2	11.0	1134	6.9	11	1011.92	1016.4	0	1009.1	2324	2.9
29	15.46	21.1	1220	12.4	14	73.6	92.1	355	47.4	1221	10.5	7.9	8.9	1013	6.8	1303	1009.20	1010.1	2150	1008.2	1447	0
30	13.41	17.9	1532	11.6	2338	83.5	94.9	1740	65.5	931	10.6	7.9	9.5	1529	7.1	931	1011.53	1016.9	2341	1008.7	259	4.1
31	12.78	14.7	1548	10.4	303	78.8	91.9	307	71.0	2333	9.2	7.1	7.9	1559	6.0	2355	1020.15	1023.9	2324	1016.7	20	0
Total																						56.7
Mean	14.11	19.47		9.23		80.0	97.11		56.10		10.31	7.79	9.26		6.45		1012.61	1015.32		1010.03		
Max	18.47	27.33		13.21		96.3	100.00		89.80		12.80	9.17	10.95		8.22		1028.74	1030.10		1026.94		
Min	10.51	13.07		4.63		68.1	91.90		33.77		7.82	6.56	7.41		5.11		1000.78	1002.57		999.14		

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

SPRING 2024

				Rank in the past 143 years	
Temperature (°C)					
Mean maximum	15.8	(+1.0)		9th highest	
Mean minimum	7.1	(+1.9)		*Highest*	
Daily mean	11.4	(+1.4)		*Highest*	
Rainfall total (mm)	203.5	(152 %)		16th highest	
Sunshine total (hours)	398.9	( 81 %)			
N° of:					
Dry days	46 (-9)		Wet days	37 (+11)	
Days with: Air frost	3 (-7)		Ground frost	20 (-15)	
			Snow falling	0 (-3)	
			Snow lying	0 (0)	
Thunder	3 (-1)		Hail ≥5mm	1 (0)	
			Small hail/ice	4 (-1)	
			Fog @09 GMT	1 (0)	
			Nil sun	11 (+2)	
Air pressure MSL : Mean @09 GMT (mbar)	1010.5	(-5.5)			

Departure from 1991 to 2020 average shown in brackets.

Notes: **New Record High Mean Temperature and Mean Minimum with Rainfall Well Above Average and Sunshine Well Below.**

**Temperature:** Another record season with both mean minimum and daily mean temperature highest since before 1882, the mean minimum 0.8° above the previous highest in 1998 and the daily mean 0.2° the previous highest in 2017. This brings to 9 the total of springs in this millennium in the warmest 10% in 143 years. The highest max this season was 26.8° on the 12th May, 1.4° above the median and the lowest max was 8.0° on 2nd March, 3.5° above its median. The highest min was 13.0° on the 14th May, 0.4° above the median while the lowest min was -2.1° on March 3rd, 2.0° above its median. Monthly mean temperature followed the normal trend with May the warmest, mean 14.4° (+1.5°), (anomalies in brackets), and March the coolest, mean 9.1° (+1.7°), while April had 10.8° (+1.1°). All the months had mean max and mean min temperature anomalies between +1° and +2° with the sole exception of the mean max for April, anomaly +0.1°. The mean grass min of 3.9° is the highest for spring in the past 44 years, while the lowest value, -6.1° on the 3rd March is equal highest with 1981 in the same period. The mean earth temperature at 30 cm depth was 11.7° and at 1 m depth, 11.1°, both new record highs for the past 44 years. The number of days with ground frost is lowest in the past 44 years, and the duration of air frost, 17.5 hours, is 37.3 hours below average and 4th lowest in 42 years after 1992, 1994 and 2017. **Rainfall:** This has been a wet spring, 16th wettest in 143 years, only just outside the very wet category. However, in this millennium the springs of 2023, 2001 and 2000 were all wetter. The season's highest daily total, 28.6 mm on the 27th April, ranks 10th highest for spring in 121 years and is 12.6 mm above the median value. All months this spring had above average rainfall with March the wettest, 80.1 mm (193%), then May, 63.8 mm (143%), then April, 59.6 m (124%). There were no dry spells in March or April, but one of 6 days ended on the 12th May, and the 14 day period to the 20th May contained 12 dry days. The 3 days to the 28th March were notably wet, having a total of 39.0 mm. Thunder was heard on the 23rd March, 16th April and 2nd May, and was accompanied by hail up to 7 mm diameter on 16th April. Rain rates were in the violent category on the 28th March, 2nd, 22nd and 30th May, with the maximum rate of 145 mm/hr at 0317 GMT on the 2nd May. With such a wet season, estimated soil moisture deficit never reached values indicating stress for unirrigated plants. **Sunshine:** Quite a poor showing this spring, 19 % below average, the total lowest since 2006, although 2013 had only 1.6 hours more than this spring. Each month this season had below average sunshine, ranging from 72% in April to 81 % in March to 90 % in May. The 20th May was the sunniest day with 14.6 hours, and it was notably sunny from the 7th to 12th May with a total of 76.5 hours, a mean of 12.75 hours per day. At the other extreme, there were 4 consecutive sunless days to the 13th March. Overall there were 44 days with <3 hours, 28 with =>6 hours and 8 with =>12 hours. **Wind:** The mean speed of 7.1 mph is close to average. The 15th April was the windiest day, mean 15.2 mph, but the highest gust of 54 mph was on the 28th March, 5 mph above average. The least windy day was the 16th May, mean 2.8 mph, and there were 25.7 hours of calm. Daily mean direction/number of days: N,9 NE,11, E,2 SE,7 S,19 SW,25 W,11 NW,8. Compared with average, S winds were 7.8% more frequent and NE winds 8.4% less frequent. **Humidity:** The overall mean relative humidity was 79.8%, the highest spring mean in the past 27 years, 3.7% above average. The absolute lowest was 34% on the 12th May. The mean water vapour content per kg of air at 09 and 15 GMT was 6.7g and 7.1g respectively, both new record highs in 27 years. **Pressure:** The overall mean MSL pressure this spring of 1010.5 mbar is equal lowest with 2018 since 1979. The absolute highest was 1031.9 mbar on 21st April and the lowest was 972.0 mbar on 28th March, span 59.9 mbar, normal 52.8 mbar. **March:** Mild and wet with below average sunshine. Mean earth temperature at 1m highest in 35 years. Almost twice the average rainfall. Mean relative humidity highest since 2001. **April:** Mild overall, wet and dull. Mean minimum 2nd highest in 143 years. Highest min 2nd highest in 112 years, lowest min 5th highest in 121 years. Lowest grass min 2nd highest in 45 years. Mean earth temperature at 1m highest in 35 years. Daily rainfall of 28.6 mm on 27th a new record for the month in 121 years. 3rd dullest in this millennium. Mean cloud amount at 09 GMT highest since 1998. **May:** Near record high temperature with above average rainfall and below average sunshine. Mean temperature equal highest in 143 years, mean minimum a new record high. Lowest min 2nd highest in 121 years. First May without a ground frost since 1964. Earth temperature at 1 m equal highest in 35 years. Mean humidity highest since before 1998.

Month	Mean Max	Anom	Mean Min	Anom	Rain mm	Anom	Sun hrs	Anom	Mean Wind mph	Max gust	Mean pressure	Anom
March	13.0°	+1.4°	5.1°	+1.9°	80.1	193%	102.1	81%	7.3	54	1005.2	-10.4
April	14.9°	+0.1°	6.7°	+2.0°	59.6	124%	122.7	72%	8.6	47	1013.4	-1.6
May	19.4°	+1.3°	9.3°	+1.6°	63.8	143%	174.1	90%	5.5	29	1012.9	-3.6

## Appendix 1.

### **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, 1<sup>st</sup> January to 31<sup>st</sup> 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  $-0.1^{\circ}\text{C}$  or below. A ground frost day is recorded when the grass minimum temperature read at 0900 GMT on that day is  $-0.1^{\circ}\text{C}$  or lower.

Duration of air frost is defined as the number of minutes that the AWS one minute average temperature is below  $0.0^{\circ}\text{C}$ , 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.