

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

NOVEMBER 2022

Temperature (°C)	Anomaly	Rank in the past 141 years
Mean maximum	12.7	+1.6 5th highest
Mean minimum	6.9	+2.5 3rd highest
Daily mean	9.8	+2.0 4th highest
Highest maximum	16.5	on 12th Lowest maximum 6.5 on 29th
Highest minimum	12.5	on 11th Lowest minimum 1.8 on 28,29
Mean grass minimum	4.2	+2.8 Lowest grass minimum -2.0 on 23,29
Mean earth @30 cm	11.5	+1.8 Earth @100 cm 13.0 +1.1
Frost duration (hrs)	0.0	Rain duration (hrs) 71.8
Rainfall total (mm)	118.3	159 % 12th highest
Highest daily fall	29.2	on 2nd Highest rate mm/hr 140 on 2nd
Number of: Dry days (<0.2mm)	12	Wet days (>0.9mm) 15 days ≥5mm 7
Sunshine total (hrs) 89.3	Daily mean 2.98	113 % Sunniest day 7.8 on 25th
N° days with: Air frost 0	Ground frost 5	Snow falling 0 Snow lying 0
Thunder 0	Hail ≥5mm 0	Small hail/ice 1 Fog @09 1 Nil sun 6
Pressure MSL: Mean @09 GMT, mbar 1007.9	-5.6	Highest 1029.5 on 30th Lowest 974.8 on 16th
Relative humidity: Mean (%) 88.6	Lowest 63 on 4th	Water vapour (g/kg), mean at 09 and 15 GMT 6.9, 6.9
Overall mean wind speed (mph) 7.1	Windiest day 13.0 on 1st	Max gust 47 on 1st
Wind direction (days)	N 1 NE 1 E 1 SE 2 S 11 SW 10 W 3 NW 1	
Least windy day (mph) 2.0	on 30th	Calm; less than 0.5 mph (minutes) 454

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

Notes:

Very Mild and Very Wet but with Above Average Sunshine

Temperature: This has been a very mild November with the mean temperature 4th highest since before 1882, and more recently, highest since 2015. The mean minimum is also highest since 2015, and ranks 3rd highest in 141 years, only 2015 and 1994 being milder in this respect. The mean maximum was exceeded in 2015, 2011, 1994 and 1938. The highest max is 0.9° above the median while the lowest max is 1.8° above its median. The highest min is 1.9° above the median and the lowest min is 5.3° above its median and a new record high in 119 years. The mean grass min is highest since 2015, and before that, 1994, and the lowest grass min is highest for this month in the past 44 years. Earth temperature at 30cm depth is well above average, and is over 1° above average at 1 m depth. A November without an air frost is quite rare, the last was in 2002, and this is only the 5th in the past 67 years. Anomalies for daily max were over +4° on the 11th, 12th and 15th, and exceeded -2° on the 29th, with extremes of +5.4° on the 12th and -2.6° on the 29th. Anomalies for daily min were above +6° on the 8th, 11th, 13th and 27th, and exceeded -1° on the 21st, with extreme values of +7.7° on 11th and -1.2° on the 21st.

Rainfall: This November is in the very wet category, ranking 12th highest in 141 years. In that time there have been 20 like this month having over 100 mm, the record being 172.2 mm in 1929, 53.9 mm more than in this November. The highest daily fall of 29.2 mm is the 7th highest for November in 119 years, and most since 32.3 mm in 2011. Despite the high total the 12 dry days is only 2 fewer than average, and there was a 5 day dry spell ending on the 13th. Rainfall duration was 123% of average, the total being highest for November since 2014. Daily accumulation compared with normal was already 27 mm in surplus on the 2nd, increasing to 38 mm by the 8th, decreasing to 26 mm by the 13th, increasing to 52 mm by the 16th, ending the month 43 mm in surplus. Rainfall rate was in the violent category on the 2nd and 21st, with 140 mm/hr at 2046 GMT on the 2nd. Ice pellets fell on the 1st but there was no thunder this month.

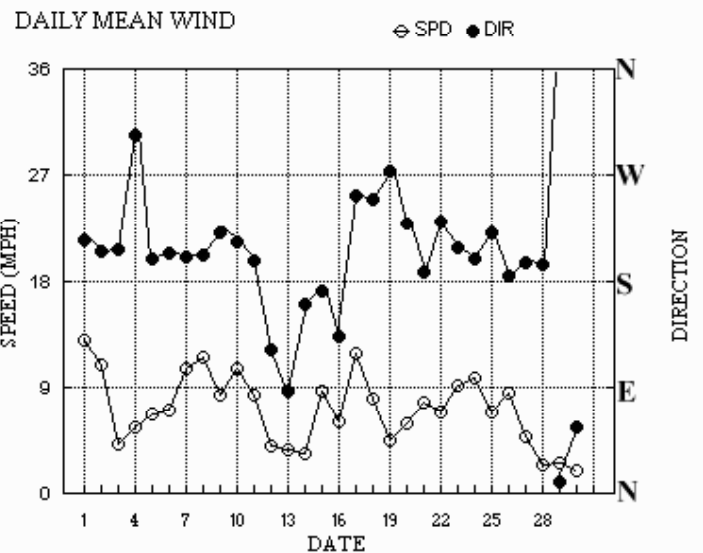
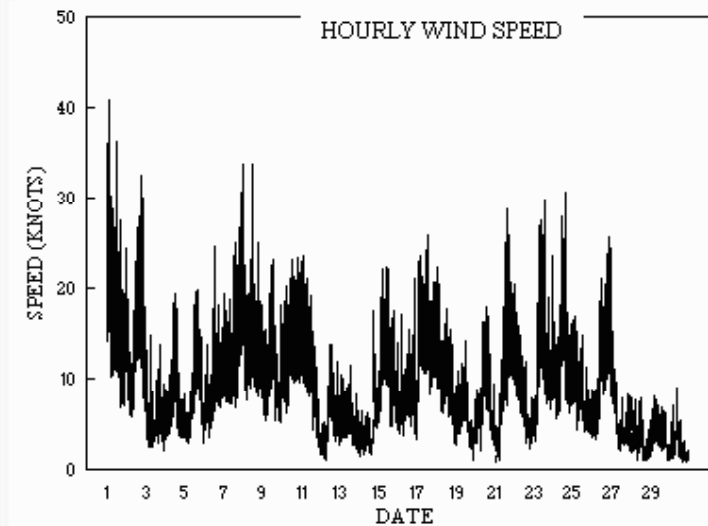
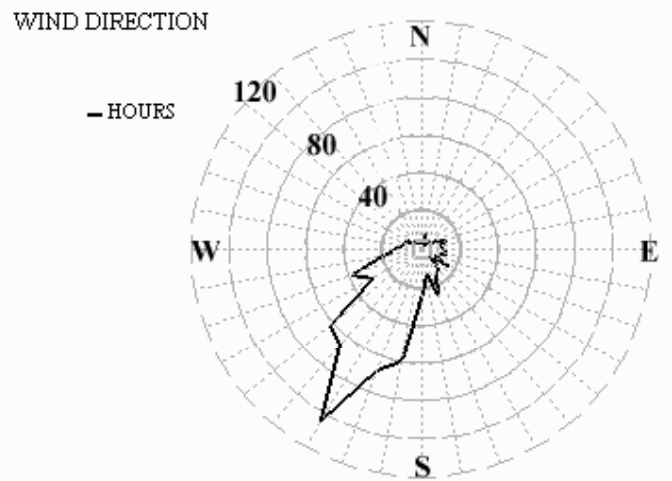
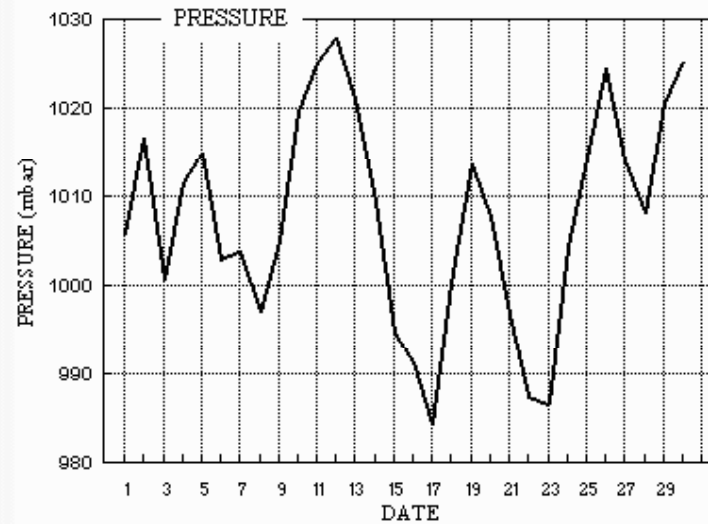
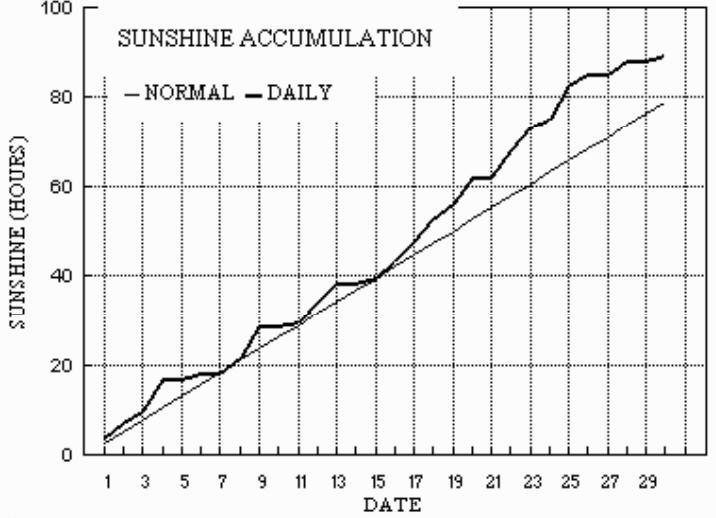
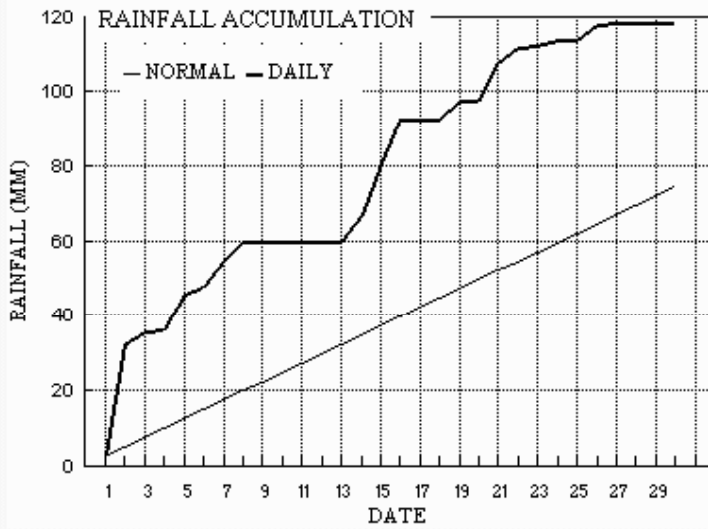
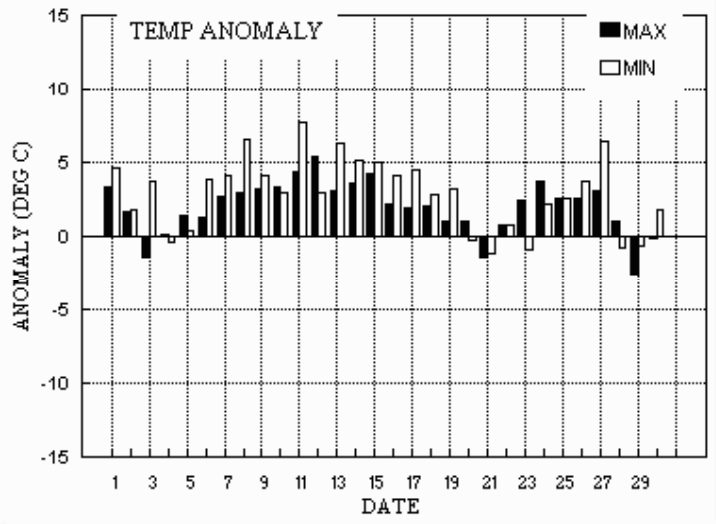
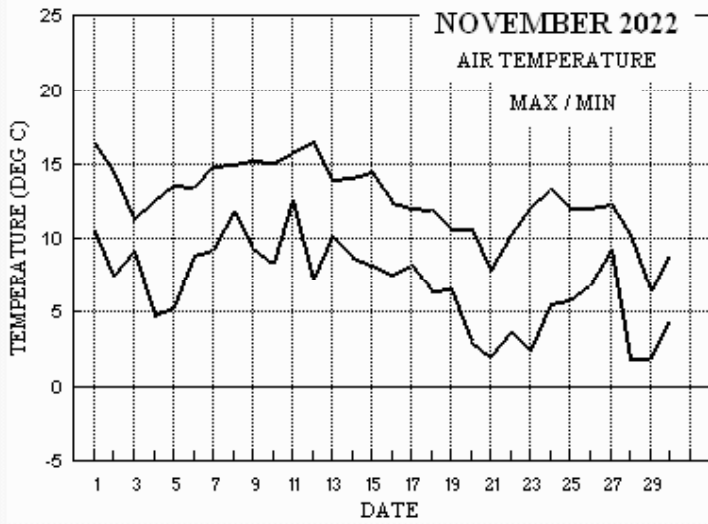
Sunshine: This November has had 13% above average sunshine. However, November last year and also in 2016, 2017 and 2018 were all sunnier than this month. There were no outstandingly sunny periods, and over the whole month just 9 days had over 50% of the maximum, and 3 over 70%, while the month's sunniest day, the 25th, had over 90%. Daily accumulation was close to normal up to the 16th, then saw an increasing surplus, reaching 16 hours by the 25th, before falling back to 10 hours by the 30th. Overall there were 14 days with <3 hours and 4 with =>6 hours.. **Wind:** The mean speed is 0.8 mph above average and highest since 2015. The highest gust is 3 mph above average, but was exceeded in 2017. Daily mean speed was strong on the 1st, fresh on the 2nd, 7th, 8th, 17th, 21st and 24th, very light on the 29th and 30th, otherwise light or moderate. Daily mean direction was between N and E on 29th and 30th, between E and S from 12th to 16th, between W and N on 4th and 19th, otherwise between S and W. **Humidity:** The month's lowest relative humidity is highest for November in the past 25 years.

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 30 th			
+1.9°	+3.2°	241%	109%	+2.9°	+4.1°	153%	126%	+1.2°	+1.4°	83%	104%

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

Wokingham climatological graphs for November 2022



Month: NOVEMBER 2022

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	HHhh	High hr ddd	ff	Rain HH	hrs	
1	16.4	10.5	3.1	9.3	14.0	14.5	3.9	0.0	1005.9	0 0 0 0	0 0 0 0	0 0 1 0	0 0 0 0	215	11.1	11.3	236	41	0251	230	18	02	0.9	
2	14.5	7.5	29.2	3.9	13.4	14.4	3.3	0.0	1016.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	205	9.3	9.5	205	33	1719	202	14	17	10.1	
3	11.3	9.1	3.3	9.4	13.2	14.3	2.4	0.0	1000.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	206	2.5	3.7	282	15	0524	193	7	01	3.9	
4	12.5	4.8	0.5	2.4	12.8	14.2	7.2	0.0	1011.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	303	3.4	4.9	322	20	1208	321	9	12	1.3	
5	13.6	5.3	9.6	0.2	12.0	14.0	0.0	0.0	1014.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	199	5.7	5.8	207	20	1611	202	10	15	9.2	
6	13.5	8.9	2.2	11.9	12.5	13.8	1.4	0.0	1003.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	204	6.0	6.2	195	25	1310	212	10	13	1.3	
7	14.8	9.3	7.1	7.1	12.4	13.7	0.0	0.0	1003.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	200	9.0	9.2	183	31	2323	186	14	23	3.4	
8	15.0	11.8	4.7	9.7	12.7	13.6	3.4	0.0	997.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	201	9.9	10.1	171	34	0011	185	14	01	1.7	
9	15.2	9.4	0.1	7.6	12.5	13.6	7.0	0.0	1005.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	221	7.2	7.3	228	23	1344	231	10	12	0.1	
10	15.1	8.3	0.0	4.0	12.2	13.5	0.0	0.0	1019.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	213	9.1	9.2	195	23	2138	202	11	21	0.0	
11	15.8	12.5	0.0	12.2	12.5	13.4	1.0	0.0	1025.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	196	7.0	7.3	193	24	0307	201	10	01	0.0	
12	16.5	7.2	0.0	2.5	12.7	13.4	4.5	0.0	1027.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	122	3.2	3.5	140	14	1120	141	6	15	0.0	
13	14.0	10.1	tr	7.5	12.7	13.4	4.2	0.0	1021.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	87	2.9	3.3	58	12	1355	59	5	13	0.0	
14	14.1	8.7	7.0	4.4	12.7	13.4	0.3	0.0	1009.5	0 0 0 0	0 0 0 0	0 0 0 1	0 0 0 0	160	1.2	2.9	232	18	1830	222	8	18	4.1	
15	14.5	8.2	13.7	4.4	12.8	13.3	1.3	0.0	994.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	172	7.0	7.6	164	22	1019	213	11	13	5.4	
16	12.4	7.6	12.4	4.6	12.3	13.3	3.4	0.0	991.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	133	3.5	5.4	55	21	2044	52	8	20	9.0	
17	12.1	8.2	0.0	7.7	12.0	13.2	4.6	0.0	984.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	253	10.0	10.3	263	26	1305	259	13	05	0.0	
18	11.9	6.4	0.0	2.7	11.5	13.1	4.7	0.0	1000.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	250	6.7	7.0	233	22	0137	241	10	01	0.0	
19	10.6	6.6	4.8	4.4	11.2	13.0	3.5	0.0	1013.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	274	3.1	3.9	293	14	1157	279	6	12	4.1	
20	10.6	3.0	tr	-1.9	10.8	12.8	5.7	0.0	1007.8	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	229	4.2	5.2	252	18	1426	254	9	12	0.1	
21	7.9	2.0	10.2	-1.6	10.3	12.7	0.0	0.0	996.8	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	188	2.8	6.7	253	29	1633	248	12	17	6.5	
22	10.2	3.7	4.2	1.8	9.8	12.5	6.0	0.0	987.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	231	5.6	6.0	225	21	0033	228	10	00	2.2	
23	12.0	2.3	0.2	-2.0	9.3	12.2	5.7	0.0	986.7	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	208	6.8	8.0	253	30	1440	233	11	12	0.7	
24	13.3	5.6	1.3	1.0	9.3	12.0	1.4	0.0	1004.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	199	8.2	8.5	177	31	1523	193	14	15	0.9	
25	12.1	5.8	tr	0.2	9.4	11.8	7.8	0.0	1014.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	221	5.9	6.0	230	17	0301	226	10	02	0.1	
26	12.1	6.8	4.5	2.3	9.2	11.6	2.3	0.0	1024.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	184	7.4	7.5	178	26	2234	183	12	22	6.4	
27	12.3	9.3	0.2	10.0	9.8	11.5	0.0	0.0	1014.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	195	4.2	4.3	173	20	0014	181	10	00	0.3	
28	10.2	1.8	tr	-1.7	10.1	11.4	3.1	0.0	1008.2	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	193	1.3	2.2	198	8	0027	157	4	01	0.1	
29	6.5	1.8	tr	-2.0	9.5	11.4	0.0	0.0	1020.5	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	11	1.2	2.3	4	8	0547	1	4	05	0.0	
30	8.9	4.4	tr	3.4	9.5	11.3	1.2	0.0	1025.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	56	1.2	1.7	55	9	0929	63	4	09	0.0	
Total			118.3				89.3	0.0																71.8
Mean	12.7	6.9		4.2	11.5	13.0	2.98		1007.9					208	4.6	6.2								
Anom	+1.6	+2.5	159%	+2.8	+1.8	+1.1	113%																	
Daily mean		9.8																						
Anom		+2.0																						

Number of days with:
 Air frost = 0 Ground frost = 5 Nil sun = 6
 Snow falling = 0 Snow lying = 0 Thunder = 0
 Hail=>5mm = 0 Hail<5mm or ice = 1 Fog at 09GMT = 1

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 NOVEMBER 2022

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	Nh	Ch	Nh	Ch	Date	Remarks
1	58	7	20	13	26	13.8	11.5	86	8.5	1005.9	0	003	80	8	2	7	3	4	3	/	82912	85815	87630	1	/Ac58 jpNW	
2	72	3	20	07	14	11.9	7.8	76	6.5	1016.6	0	001	15	0	0	2	5	5	0	1	81625			2	2Sc50 2Ci78 COTRA jpW	
3	61	8	18	05	09	9.4	8.9	97	7.2	1000.7	7	007	21	6	6	3	5	2	2	/	81704	83645	88550	3		
4	57	1	30	05	12	6.2	5.5	95	5.6	1011.6	1	044	10	0	0	1	6	2	0	0	81705			4		
5	58	8	17	05	09	8.9	8.0	94	6.6	1014.9	7	009	61	6	2	5	5	3	2	/	81706	85630	88557	5		
6	58	8	19	06	11	11.6	11.1	97	8.3	1003.0	7	015	63	6	6	3	5	3	2	/	81707	83633	86550	6	/As60 Cld edge W vv15k W	
7	60	8	21	08	17	13.5	11.6	88	8.5	1003.8	1	006	60	6	2	4	7	4	2	/	83712	88458		7	2Sc30	
8	50	7	20	10	19	12.3	10.4	88	7.9	997.0	2	005	81	1	1	7	3	4	/	/	86712	87920		8	Mod ra sh Rainbow	
9	84	4	23	09	16	10.4	8.5	88	6.9	1005.0	2	035	02	1	1	4	8	4	0	2	81812	83645		9	1Sc25 1Ci70 Cu fra	
10	65	8	20	07	15	12.5	10.4	87	7.8	1019.6	3	015	50	5	2	8	5	4	/	/	85712	88622		10		
11	70	8	20	09	17	14.7	11.7	82	8.4	1025.1	2	015	02	2	2	8	5	4	/	/	86617	88625		11		
12	56	8	07	02	05	10.1	9.8	98	7.4	1027.9	3	010	10	1	1	8	6	3	/	/	83706	88708		12		
13	15	8	09	03	09	11.1	10.6	97	7.9	1021.2	4	000	10	2	2	8	6	1	/	/	88702			13		
14	03	9	17	02	05	11.1	11.1	100	9.2	1009.5	7	006	43	4	4	9	/	/	/	/				14		
15	50	8	15	10	19	11.9	11.3	96	8.4	994.8	7	024	63	6	6	7	7	3	2	/	87707	88515		15		
16	65	3	19	05	10	8.4	7.6	95	6.6	991.3	6	005	25	8	1	1	5	4	6	3	81610			16	1Sc40 1As62 1Ac65 2Ci69 jpNW&E Cb tops SE-SW	
17	80	7	25	11	20	9.2	7.5	89	6.6	984.4	2	021	21	6	2	4	5	4	2	8	82610	83628	87270	17	3As120 Parhelion. Cs edge SW	
18	82	2	23	08	14	7.7	5.8	88	5.8	1000.3	2	034	02	0	0	1	5	6	3	2	81645			18	1Ac65 2Ci75	
19	82	8	29	05	12	7.8	4.9	82	5.4	1013.6	3	010	02	2	2	8	5	5	/	/	81626	88630		19		
20	62	5	25	04	10	6.7	6.4	98	6.0	1007.8	3	004	01	6	4	1	0	9	4	2	81360	85073		20	COTRA	
21	58	8	08	05	10	5.7	5.4	98	5.7	996.8	7	041	10	8	2	5	8	4	2	/	81815	85656	88558	21	Cu hum	
22	80	2	23	08	15	5.3	4.6	95	5.4	987.6	2	007	01	1	1	1	5	6	3	2	81633			22	1Ac66 1Ci72 Parhelion	
23	56	7	26	12	27	9.7	8.9	95	7.3	986.7	5	014	61	6	6	7	8	4	7	/	84812	85635		23	3Sc50 /Ac59	
24	60	7	19	07	15	9.1	6.7	85	6.1	1004.3	1	003	05	1	1	1	5	6	7	2	81630	86466		24	2Ac68 /Ci75 COTRA Parhelion	
25	70	1	22	05	09	6.8	5.1	89	5.4	1014.4	2	049	02	0	0	1	5	6	0	1	81640			25	1Ci78 COTRA	
26	61	7	19	04	08	9.2	7.8	91	6.5	1024.6	5	004	01	5	2	1	2	5	0	1	81820	86078		26	1Cc72 COTRA Cu med Parhelion	
27	59	8	21	03	07	11.6	11.1	97	8.2	1014.0	5	000	60	6	2	3	5	4	2	/	81712	83620	88558	27		
28	45	7	27	02	04	4.5	4.4	99	5.2	1008.2	1	005	10	1	1	2	8	5	7	2	81825	85360		28	2Sc50 3Ac64 /Ci70 Cu hum	
29	40	8	35	03	08	5.0	4.4	96	5.1	1020.5	2	018	10	2	2	8	6	2	/	/	88704			29		
30	18	8	07	02	04	6.5	5.9	96	5.7	1025.3	2	013	10	2	2	8	6	2	/	/	88705			30		

Mean vis = 13.9 km

Mean cloud = 6.3 79%

Mean wind speed = 6.2 kn

Mean gust = 13 kn

Mean TT = 9.4 °C

Mean TdTd = 8.2 °C

Mean RH = 92.1 %

Mean r = 6.9 g/kg

Mean PPP = 1007.9 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 NOVEMBER 2022

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks					
1	80	2	20	09	24	13.3	9.0	75	7.1	1006.8	0	000	15	8	1	1	8	4	6	3	81815	1	1Sc30 1Ac62 1Ci70 Cu med jpNW		
2	72	8	19	11	27	14.1	8.1	67	6.7	1011.1	7	030	03	2	2	6	8	5	7	/	82828	83635	88468	2	2Sc56 2Ac65 Cu hum
3	86	2	24	06	11	10.8	7.9	82	6.7	999.3	7	005	15	1	1	1	8	4	4	3	81815	3	1Sc50 1Ac68 1Ci70 Cu med Cb top S jpW		
4	89	6	29	06	18	11.8	5.4	65	5.6	1014.5	2	013	03	1	1	5	8	5	0	5	81828	85642	4	2Cs78 Cu med Cs edge W	
5	70	8	20	09	20	12.2	10.9	92	8.1	1010.9	7	021	02	6	2	8	5	4	/	/	87710	88615	5	5	
6	86	2	23	08	13	11.5	9.4	87	7.4	1000.1	5	008	01	8	1	1	8	4	4	2	81815	6	1Sc50 1Ac65 1Ci70 Cu fra Ci spi		
7	50	8	19	08	20	14.0	12.2	89	8.9	1003.2	8	008	58	6	5	7	5	4	2	/	85613	87625	88465	7	7
8	82	1	20	08	21	11.3	9.4	88	7.4	996.3	5	000	25	8	1	1	8	5	6	3	81825	8	1Sc50 1Ac63 1Ci68 Cb top W		
9	86	2	22	09	21	13.1	8.0	71	6.7	1009.2	2	018	01	0	0	2	8	6	0	1	81830	9	1Sc56 1Ci75 Cu med		
10	68	8	21	09	21	13.9	10.5	80	7.8	1021.1	0	008	02	2	2	7	5	4	/	8	87618	10	/Cs75		
11	83	5	21	06	15	14.7	11.3	80	8.2	1025.8	7	004	01	2	2	5	5	4	0	0	85618	11	11		
12	81	4	15	05	12	16.4	12.4	77	8.8	1025.0	6	016	02	1	1	0	0	9	0	1	84078	12	Ci fib		
13	62	2	08	03	10	12.4	10.8	90	8.0	1017.2	6	018	02	1	1	0	0	9	0	9	82171	13	COTRA Cc len		
14	50	6	30	01	06	12.7	12.1	96	8.8	1006.1	7	019	10	2	2	5	5	4	7	/	82610	83620	14	2Ac60	
15	84	2	22	07	16	12.4	10.0	85	7.7	992.1	3	008	01	6	1	2	8	4	3	1	81815	15	2Sc22 1Sc40 1Ac62 1Ci75 Cu med		
16	75	8	14	06	12	11.8	9.2	87	7.4	987.9	7	028	03	8	2	1	5	6	7	/	81645	88464	16	1Ac60	
17	88	7	25	10	23	11.8	6.7	71	6.3	986.6	2	010	02	2	2	2	8	5	0	8	81807	86075	17	2Sc42 2Cs70 COTRA Cu hum	
18	88	7	26	08	15	10.9	6.3	73	6.0	1003.8	2	017	02	1	1	7	8	5	/	/	82826	87640	18	Cu med	
19	82	2	29	05	09	9.9	5.1	72	5.4	1012.8	6	007	03	1	1	2	8	5	0	4	81820	19	1Sc30 1Ci75 Cu hum		
20	75	2	25	07	18	9.0	5.6	79	5.6	1007.5	5	005	25	8	1	2	3	4	6	0	81915	20	1Cu25 2Sc40 1Ac65 Cb cal & jpS		
21	45	8	08	07	24	6.7	6.1	96	6.0	983.5	7	065	63	6	6	7	7	3	2	/	87709	88515	21	21	
22	86	1	28	05	12	8.8	4.4	74	5.3	989.9	2	019	01	1	1	1	8	5	0	0	81822	22	1Sc30 Cu hum		
23	81	2	25	10	30	9.5	5.9	78	5.9	992.5	3	022	25	8	1	1	9	4	0	3	81915	23	1Cu25 1Sc35 1Sc56 2Ci70 Cb cap N&E Cb top all quads		
24	50	7	18	13	26	11.8	9.7	87	7.6	999.6	7	026	80	8	2	6	3	4	6	1	82913	85818	24	3Ac62 /Ci73 Rainbow	
25	72	1	23	05	11	10.8	6.4	74	5.9	1019.1	2	023	02	0	0	1	5	5	0	0	81627	25	Sc len		
26	75	8	19	08	17	11.5	8.5	82	6.8	1021.6	7	016	03	2	2	6	5	4	2	/	86615	88457	26	Absent vv&old est	
27	60	8	19	04	08	11.1	10.2	94	7.7	1010.7	7	018	21	6	2	2	7	3	2	/	82708	88559	27	1Sc50	
28	65	6	27	03	08	9.2	6.6	84	6.1	1009.3	2	011	15	8	1	4	9	4	6	3	81918	83650	28	1Cu20 2Ac60 2Ci72 Cb cap&jpE	
29	25	8	01	02	05	4.7	4.1	96	5.0	1021.7	2	002	10	2	2	8	6	2	/	/	88703	29	29		
30	63	6	04	02	05	8.1	5.6	84	5.6	1025.9	1	002	02	2	2	5	8	5	0	4	81820	85630	30	3Ci80 COTRA Cu med	

Mean vis = 32.0 km

Mean cloud = 4.9 61%

Mean wind speed = 6.7 kn

Mean gust = 16 kn

Mean TT = 11.3 °C

Mean TdTd = 8.3 °C

Mean RH = 81.8 %

Mean r = 6.9 g/kg

Mean PPP = 1007.0 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 2022	Hour	01-Nov	02-Nov	03-Nov	04-Nov	05-Nov	06-Nov	07-Nov	08-Nov	09-Nov	10-Nov	11-Nov	12-Nov	13-Nov	14-Nov	15-Nov	16-Nov
	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	0.00	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	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	0.00
	7	0.00	0.50	0.00	0.33	0.00	0.00	0.00	0.02	0.10	0.00	0.00	0.26	0.00	0.00	0.00	0.00
	8	0.08	1.00	0.00	1.00	0.00	0.00	0.00	0.03	0.84	0.00	0.00	0.31	0.00	0.00	0.00	0.08
	9	0.04	0.49	0.00	1.00	0.00	0.00	0.00	0.18	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
	10	0.87	0.58	0.00	1.00	0.02	0.00	0.00	0.46	0.68	0.00	0.00	0.00	0.00	0.00	0.00	1.00
	11	0.20	0.70	0.00	1.00	0.00	0.00	0.00	0.42	0.99	0.00	0.00	0.01	0.22	0.00	0.00	1.00
	12	0.18	0.00	0.00	1.00	0.00	0.00	0.00	0.65	0.71	0.00	0.00	0.85	1.00	0.00	0.07	0.25
	13	0.81	0.00	0.59	0.79	0.00	0.00	0.00	0.22	0.62	0.00	0.05	1.00	1.00	0.00	0.36	0.09
	14	1.00	0.00	1.00	0.41	0.00	0.64	0.00	0.54	0.93	0.00	0.88	1.00	1.00	0.27	0.58	0.00
	15	0.74	0.00	0.83	0.44	0.00	0.56	0.00	0.89	0.99	0.00	0.10	1.00	0.96	0.00	0.34	0.00
	16	0.00	0.00	0.00	0.24	0.00	0.22	0.00	0.00	0.13	0.00	0.00	0.12	0.00	0.00	0.00	0.00
	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	0.00	0.00	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	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	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		3.92	3.28	2.42	7.22	0.02	1.41	0.00	3.40	6.98	0.00	1.02	4.54	4.18	0.27	1.34	3.41

Hour	17-Nov	18-Nov	19-Nov	20-Nov	21-Nov	22-Nov	23-Nov	24-Nov	25-Nov	26-Nov	27-Nov	28-Nov	29-Nov	30-Nov	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	0.00	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	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.05
8	0.14	1.00	0.00	0.77	0.00	0.72	0.00	0.12	1.00	0.69	0.00	0.10	0.00	0.00	0.26
9	0.90	1.00	0.00	0.92	0.00	1.00	0.47	0.11	1.00	1.00	0.00	0.37	0.00	0.00	0.35
10	0.45	1.00	0.00	1.00	0.00	1.00	0.97	0.65	1.00	0.08	0.00	1.00	0.00	0.00	0.39
11	0.73	1.00	0.81	1.00	0.00	0.43	1.00	0.35	1.00	0.37	0.00	0.96	0.00	0.80	0.43
12	0.92	0.53	0.53	0.93	0.00	0.64	1.00	0.16	1.00	0.12	0.00	0.00	0.00	0.09	0.35
13	0.95	0.02	0.75	0.13	0.00	0.49	0.90	0.00	1.00	0.00	0.00	0.20	0.00	0.11	0.34
14	0.55	0.00	1.00	0.15	0.00	1.00	0.58	0.00	1.00	0.00	0.00	0.47	0.00	0.17	0.44
15	0.00	0.01	0.36	0.78	0.00	0.71	0.82	0.00	0.78	0.00	0.00	0.00	0.00	0.00	0.34
16	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	0.02
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	0.00	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	4.64	4.69	3.45	5.67	0.00	5.98	5.73	1.38	7.80	2.26	0.00	3.11	0.00	1.17	89.33

NOVEMBER 2022	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	11.74	16.4	1202	8.7	1800	83.0	92.8	123	69.6	1205	8.9	7.2	8.6	1022	6.0	2000	1005.84	1011.8	2359	996.4	124	4.3
2	11.44	14.5	1715	7.5	700	81.6	94.6	2159	63.3	1352	8.3	6.8	8.6	2003	5.5	551	1012.36	1016.8	830	1006.0	2330	14.6
3	9.51	11.8	136	7.0	1915	94.3	97.6	2349	77.2	1430	8.6	7.0	8.2	338	6.0	1915	1000.68	1006.5	0	998.3	2056	13
4	7.87	12.5	1257	4.8	725	86.3	98.0	218	62.9	1258	5.6	5.6	6.4	43	5.0	2211	1011.40	1017.7	2237	999.4	1	1.1
5	10.17	13.2	2215	5.3	228	93.1	96.3	1956	89.3	707	9.1	7.3	9.0	2024	5.1	228	1013.06	1017.5	41	1008.2	2357	2.2
6	11.39	13.6	253	9.3	1828	92.8	97.7	743	85.1	2353	10.3	7.9	9.4	256	6.5	1747	1002.92	1008.4	1	999.4	1303	8
7	12.98	14.6	2223	10.4	27	86.8	95.3	1148	70.9	2355	10.8	8.1	9.4	1214	6.8	25	1002.77	1004.3	1058	998.5	2358	3.8
8	12.40	15.0	1240	10.3	1411	82.6	91.4	1416	68.0	1303	9.5	7.5	8.4	1115	6.9	1609	997.16	999.7	2357	995.5	1334	5
9	10.83	15.2	1304	8.3	2244	84.2	94.7	558	63.2	1305	8.2	6.8	7.3	142	6.1	2238	1007.25	1015.9	2341	999.5	0	1.5
10	12.90	15.0	2325	9.7	1	82.8	92.7	528	74.2	1227	10.0	7.6	8.1	2226	6.6	0	1020.03	1023.6	2124	1015.7	7	0.2
11	14.00	15.8	1235	9.6	2136	82.1	93.3	2309	75.9	18	11.0	8.0	8.7	1252	6.7	2133	1025.58	1028.2	2222	1023.0	259	0
12	11.55	16.5	1451	7.2	432	92.5	98.5	821	74.8	1517	10.3	7.7	9.0	1223	6.0	437	1026.04	1028.0	905	1023.6	2358	0
13	11.39	14.0	1241	8.7	2300	95.7	99.2	2321	84.0	1243	10.7	7.9	8.6	1239	6.8	2300	1018.82	1023.9	9	1013.1	2337	0
14	11.35	14.1	1243	8.3	2354	97.9	99.8	1047	93.9	2145	11.0	8.2	9.7	1116	6.6	2354	1008.07	1013.1	0	1004.0	2357	0.7
15	10.80	14.5	1307	8.2	2235	91.4	95.9	848	84.1	1324	8.7	7.5	9.2	1305	6.2	2127	995.01	1004.1	1	990.9	1311	13.9
16	9.50	12.4	1147	7.4	316	92.0	97.8	2359	74.4	1144	7.7	6.7	7.2	2300	6.0	111	987.38	993.5	48	974.8	2324	11.1
17	9.50	12.1	1348	8.3	300	84.7	97.8	0	66.8	1355	6.5	6.2	7.2	14	5.5	2348	985.04	992.7	2359	974.8	3	2.3
18	8.73	11.9	1210	5.9	721	77.8	91.4	810	66.8	1215	5.0	5.5	6.1	1036	4.9	2001	1001.88	1010.8	2358	992.5	1	0
19	7.10	10.6	1151	3.0	2025	83.2	97.4	2221	69.9	1152	4.4	5.2	5.8	904	4.5	2025	1012.81	1014.0	1018	1010.7	0	0
20	6.68	10.6	1251	3.2	2123	89.8	98.3	757	69.8	1253	5.1	5.5	6.3	1029	4.5	2123	1008.60	1011.7	0	1006.9	646	4.3
21	5.09	7.9	1226	2.0	443	93.2	98.8	749	80.5	1909	4.1	5.2	6.5	1208	4.3	429	993.33	1008.7	22	982.3	1538	8.7
22	5.62	10.2	1256	2.3	2126	88.4	98.9	2209	73.8	1502	3.8	5.1	6.2	1115	4.4	2118	989.32	993.7	2327	986.4	348	0
23	8.21	12.0	1410	3.0	418	84.3	98.7	420	64.7	1412	5.6	5.8	7.5	844	4.7	418	992.02	999.7	2357	985.0	835	3.7
24	8.96	13.3	1213	5.6	630	83.4	90.8	809	72.3	1213	6.3	6.0	7.6	1504	5.0	515	1002.30	1004.7	744	999.3	1444	1.2
25	8.52	12.1	1235	5.8	742	83.2	93.6	2319	66.4	1252	5.8	5.7	6.0	1206	5.1	742	1015.79	1025.0	2326	1003.9	12	0.1
26	10.14	12.1	1229	7.1	22	86.6	93.9	505	76.5	1237	8.0	6.6	7.3	2207	5.7	22	1021.94	1025.2	302	1015.0	2359	1.1
27	10.71	12.3	1104	5.6	2352	96.4	98.4	2356	92.1	1407	10.2	7.7	8.5	1104	5.5	2352	1011.85	1015.3	4	1008.5	2358	3
28	5.15	10.2	1338	1.8	622	96.3	99.7	635	79.7	1429	4.6	5.3	6.8	1103	4.2	2133	1009.76	1015.2	2319	1007.5	636	0.1
29	5.10	5.7	321	4.4	1409	96.1	99.0	8	94.0	2024	4.5	5.2	5.6	238	4.9	1409	1020.49	1023.4	2350	1015.1	0	0
30	5.08	8.9	1145	0.8	2140	94.2	99.1	2355	81.1	1348	4.2	5.1	6.1	1121	3.9	2140	1025.79	1029.5	2221	1023.0	117	0

Total																						103.9
Mean	9.48	12.62		6.30		88.6	96.38		75.51		7.55	6.59	7.64		5.54		1007.51	1012.75		1001.90		
Max	14.00	16.50		10.35		97.9	99.80		94.00		11.03	8.25	9.66		6.93		1026.04	1029.49		1023.61		
Min	5.08	5.73		0.77		77.8	90.80		62.90		3.81	5.07	5.57		3.88		985.04	992.66		974.78		

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

AUTUMN 2022

Temperature (°C)		Rank in the past 141 years	
Mean maximum	16.9 (+1.4)	3rd highest	
Mean minimum	8.7 (+1.4)	2nd highest	
Daily mean	12.8 (+1.4)	3rd highest	
Rainfall total (mm)	278.2 (138 %)	9th highest	
Sunshine total (hours)	384.5 (110 %)		
N° of: Dry days	42 (-6)	Wet days	40 (+9)
Days with: Air frost	0 (-7)	Ground frost	11 (-10)
		Snow falling	0 (-1)
		Snow lying	0 (0)
Thunder	4 (+1)	Hail ≥5mm	0 (0)
		Small hail/ice	1 (0)
		Fog @09 GMT	3 (0)
		Nil sun	8 (-5)
Air pressure MSL : Mean @09 GMT (mbar)	1012.3 (-2.6)		

Departure from 1991 to 2020 average shown in brackets.

Notes: **Temperature, Rainfall and Sunshine, All Well Above Average.**

Temperature: This has been one of the mildest autumns on record, after 2006 and 2011. It is noteworthy that 8 of the 10 mildest autumns have occurred since 2005, the two earlier ones being 1995 and 1949. The mean maximum ranks 3rd highest since before 1882, and is 0.8° below the record set in 2006. The mean minimum is 2nd highest in the same period, and is 0.7° below the record, also set in 2006. Compared to average, October and November were jointly mildest, anomaly for mean temperature +2.0°, while September was relatively cool with an anomaly of +0.2°. The 12th September had the highest max, 26.7°, 2.1° above the long-term median, while the 29th November had the lowest max, 6.5°, 1.8° above its median. The highest min of 15.6° was on the 4th September, 0.2° above the median, while the lowest min of 0.9° was on the 11th October, 4.6° above its median and a new autumn record for the past 119 years. It is notable that this is only the 2nd autumn in the past 66 years to have no air frost, the other being 1986. The medium number is 7, and in 1988 there were 20. The mean grass min was 6.0°, 2.0° above average and highest since 2006. The lowest grass min of -2.0° is 6.0° above average and a new record high since before 1980. The mean earth temperature at 30cm depth was 14.2°, anomaly +1.0°, and at 1m depth was 15.1°, anomaly +0.6°. **Rainfall:** This autumn has seen plenty of welcome rain after a very dry summer, indeed this is the wettest autumn since 2000. It ranks 9th highest in 141 years, thus is firmly in the very wet category of the wettest 10%. The wettest day was the 2nd November with 29.2 mm, 4.5 mm above the median. November was the wettest month with 118.3 mm, 159% of average, with September 4 next, 87.7 mm, 164% of average, then October the driest with 72.2 mm, 99% of average. Despite the wet nature of the season, the number of dry days was only 7 fewer than average, and there was an 8 day dry spell ending on the 21st September and a 5 day one ending on the 13th November. There were 4 notable wet spells, 5 days to 8th September with 51.2 mm, 3 days to 23rd October with 36.2 mm, 8 days to the 8th November with 59.7 mm and 3 days to the 16th November with 33.1 mm. Interestingly, the duration of measurable rain, 145.9 hours, is almost exactly average, compared with 138 % for the rainfall total, attesting to the showery nature of much of this autumn's rain. High rainfall rates were recorded in each month, the highest being 200 mm/hr on 8th September, then 140 mm/hr on 2nd November, 134 mm/hr on 23rd October and 106 mm/hr on the 7th September. Thunder occurred on the 2nd, 4th and 8th September and the 23rd October. Ice pellets fell on 1st November. Estimated soil moisture deficit indicated that stress for shallow rooted plants ended in October, and stress was not severe after early September. **Sunshine:** Above average sunshine this autumn, the 3rd sunniest in this millennium after 2018 and 2003, the latter holding the record for the sunniest autumn. Surprisingly, September was not the sunniest month, this accolade fell to October, which had a daily mean of 5.32 hours, 144 % of average, compared with September's 4.34 hours, 84 % of average. November was the least sunny month with 2.98 hours but this was still 113 % of average. The 17th September was the sunniest day, 11.7 hours. Overall there were 8 days with nil sun, (-7), 30 days with <3 hours (-15) and 26 with =>6 hours (+2). **Wind:** The mean speed this autumn was 6.0 mph, close to average. The 1st November was the windiest day, mean 13.0 mph, and the season's highest gust of 47 mph was also on that day. The 10th November was the least windy day, mean 1.7 mph, and there were 2770 minutes of calm throughout the season. Daily mean direction/number of days: N,5 NE,5 E,2 SE,6 S,33 SW,22 W,9 NW,9. Compared with average, S winds were 19% more frequent at the expense of all other directions except NW and SE, with SW winds 8% down, and NE and E combined 9% down. The 33 days with S wind is the most for any autumn in the past 35 years. **Humidity:** The overall mean relative humidity was 84.9%, and the lowest value was 37% on the 16th September. The mean water vapour content per kg of air was 8.0 g at 0900 GMT and 7.8 g at 1500 GMT, both 0.6 g above average. **Pressure:** The highest MSL pressure was 1029.5 mbar on the 6th October, and the lowest was 974.8 mbar on 16th November, a span of 54.7 mbar, average 55.5 mbar. **September:** Wet with near average temperature and below average sunshine. 2nd wettest this millennium. Dullest since 2014. Lowest mean wind speed since 2014. **October:** Very mild and very sunny with average rainfall. Mean max highest since 1921 and 2nd highest in 141 years. Daily mean 4th highest. Lowest max a new record high. Sunniest since 1999. First October in past 43 years to have no days with nil sun. **November:** Very mild and very wet but with above average sunshine. Mean temperature 4th highest and mean min 3rd highest in 141 years. Lowest min a new record high in 119 years. Lowest grass min highest in past 44 years. Only the 5th November in the past 67 years without an air frost.

Month	Mean Max	Anom	Mean Min	Anom	Rain mm	Anom	Sun hrs	Anom	Mean Wind mph	Max gust	Mean pressure	Anom
September	20.0°	+0.3°	10.2°	+0.2°	87.7	164%	130.3	84%	4.7	31	1013.9	-2.8
October	18.0°	+2.5°	8.9°	+1.4°	72.2	99%	164.9	144%	6.1	38	1014.9	+0.4
November	12.7°	+1.6°	6.9°	+2.5°	118.3	159%	89.3	113%	7.1	47	1007.9	-5.6

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 of 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.