

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

SEPTEMBER 2016

Temperature (°C)		Anomaly	Rank in the past 135 years
Mean maximum	21.3	+1.9	9 th highest
Mean minimum	12.2	+2.2	2 nd highest
Daily mean	16.8	+2.1	4 th highest
Highest maximum	30.5	on 13 th	Lowest maximum 15.4 on 17 th
Highest minimum	17.5	on 7 th	Lowest minimum 6.5 on 23 rd
Mean grass minimum	9.3	+2.6	Lowest grass minimum 1.2 on 23 rd
Mean earth @30 cm	17.9	+1.5	Earth @100 cm 17.6
Frost duration (hrs)	0.0		Rain duration (hrs) 35.2
Rainfall total (mm)	98.3	183 %	15 th highest
Highest daily fall	66.8	on 15 th	2 nd highest on record
umber of: Dry days (<0.2mm)	17	Wet days (>0.9mm)	11 days ≥5mm 3
Sunshine total (hrs) 130.5	Daily mean 4.35	91 %	Sunniest day 11.8 on 14 th
N° days with: Air frost 0	Ground frost 0	Snow falling 0	Snow lying 0
Thunder 2	Hail ≥5mm 1	Small hail/ice 0	Fog @09 0 Nil sun 2
Pressure MSL : Mean @09 GMT, mbar 1017.3	+0.6	Highest 1025.8	on 23 rd Lowest 1007.1 on 8 th
Relative humidity : Mean (%) 80.1	Lowest 39	on 1 st	Water vapour (g/kg), mean at 09 and 15 GMT 9.7, 9.4
Overall mean wind speed (mph) 6.0	Windiest day 10.4	on 29 th	Max gust 32 on 9 th
Wind direction (days) N 2 NE 1 E 0 SE 1 S 10 SW 13 W 1 NW 2			
Least windy day (mph) 2.2	on 19 th	Calm; less than 0.5 mph (minutes)	737

Anomaly = departure from 1981 to 2010 average (degrees C, percent and mbar).

Notes:

Wet and Very Warm with Below Average Sunshine.

Temperature: This has been a very warm September, with the daily mean temperature 4th highest in 135 years, and highest since 2006. The mean minimum is also highest since 2006, and 2nd highest in 135 years, but it is 1.2° below the record. The mean maximum is lower down the ranking with both 2003 and 2006 having higher values. The highest max is 6.0° above the median and is 4th highest in 113 years, and highest since 1929. The temperature has exceeded 30° in only 5 Septembers since 1904. The lowest max is 1.5° above the median while the highest min is 2.3° above its median and is 5th highest in 104 years. The lowest min is 3.7° above the median and is highest since 1999. The mean grass min is highest since 2006 and the lowest grass min min is highest since 1999. Earth temperatures at both 30 cm and 1 m depth are slightly higher than in 2006 and are a new record. Daily anomalies for max were generally within +/- 4° except during a hot spell from the 13th to 15th, when the anomaly on the 13th exceeded +11°, and was over +9° on the 15th. The other exception was the 7th, anomaly +6°. Anomalies for daily min were generally positive, and were above +6° on the 7th, 10th and 14th. Only the 11th and 23rd were significantly below normal with anomalies of -3°. **Rainfall:** The total this September is highest since 1999, but the month's rainfall is dominated by the exceptional daily fall on the 15th, when 66.8 mm was recorded. This is the 2nd highest fall for any month since before 1904. Without this one extreme event the total for this September would have been only 59 % of average. This event contained two periods of heavy or torrential rain and thunder, the first around 1700 GMT on the 15th with hail up to 1.5 cm dia. and a rain rate that exceeded 500 mm/hr at times, gave 34.8 mm in 20 minutes. There were reports of local flooding and tree damage. The second period followed overnight, with further thunder and heavy rain between 0030 and 0830 GMT, giving a further 32.0 mm. For the rest of the month, rainfall was above normal up to the 4th, but in the following 10 days, 8 were dry, and rainfall accumulation compared with normal was 15 mm in deficit by the 14th. After the 15th there were also 8 dry days, the month ending with a surplus of 45 mm, entirely as a result of the exceptional fall on the 15th. **Sunshine:** The total this month is 10% below normal. Compared with recent years, it was duller than 2015, but sunnier than the previous 2 years. The month got off to a dull start, the accumulation was in deficit by 14 hours by the 6th. From then to the 15th there were a number of sunny days, the 3 days to the 15th having a mean of 10.6 hours per day, lifting the accumulation to a surplus of 8 hours. However, the period 16th to 20th was almost sunless, the deficit 15 hours on the 20th. From the 21st to the 30th some sunny days reduced the deficit to 11 hours by the end of the month. Overall there were 14 days with <3 hours, 10 with =>6 hours and 7 with =>9 hours. **Wind:** The mean speed this month is 0.2 mph above average, and highest since 2012, but the highest gust is 5 mph below average. The duration of calm is lowest also since 2012. Daily mean directions were mainly SW'ly to the 10th, S or SW to the 15th, but NE'ly on the 13th, becoming NW'ly on the 16th, then returning to S or SW from the 21st on. Speeds were light or moderate, temporarily increasing fresh on the 3rd, 9th and 29th. **Pressure:** This month's highest is lowest for September since 2000, and is 5.4 mbar below average. The total span of pressure was 18.7 mbar, compared with an average of 34.1 mbar, and is the lowest in the past 41 years.

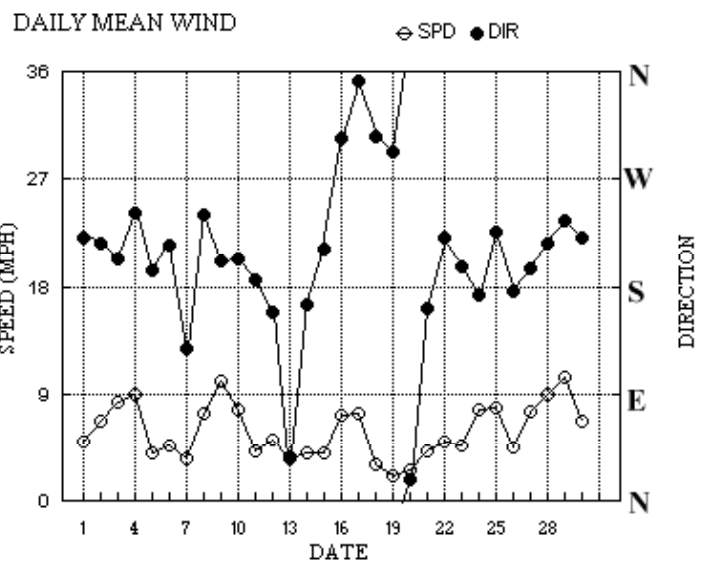
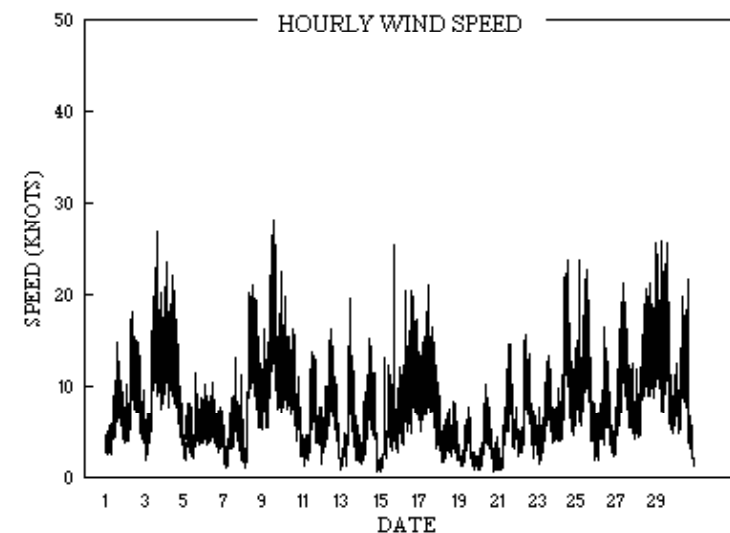
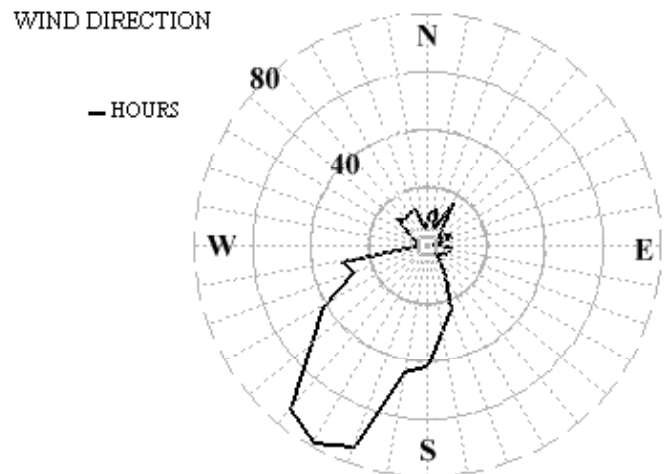
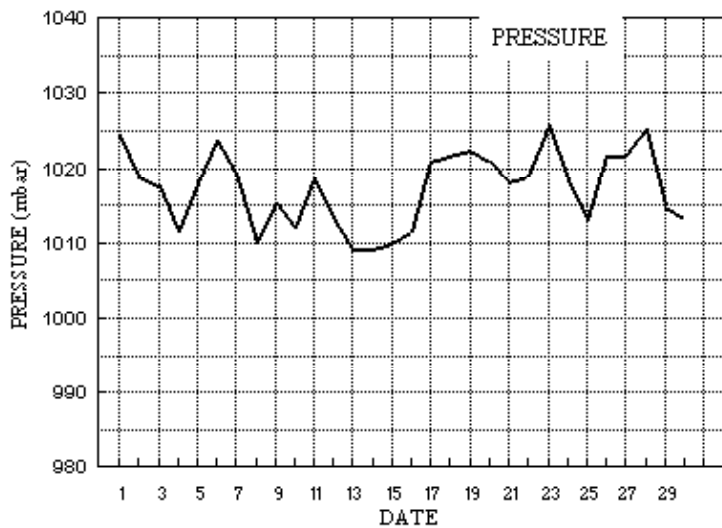
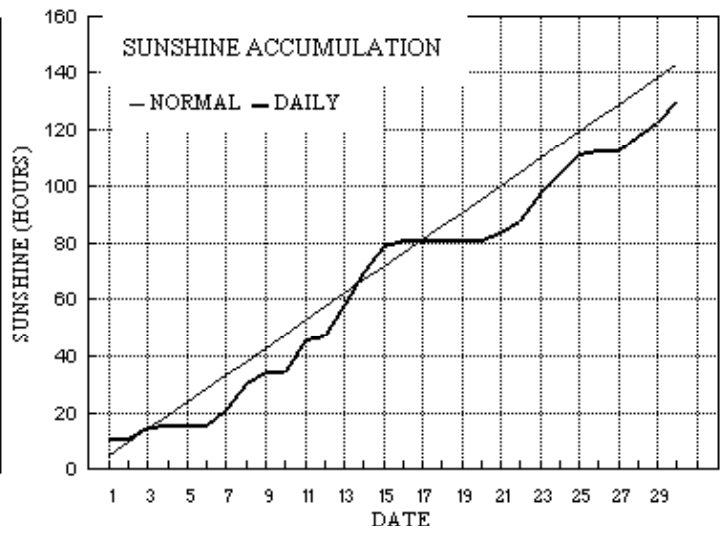
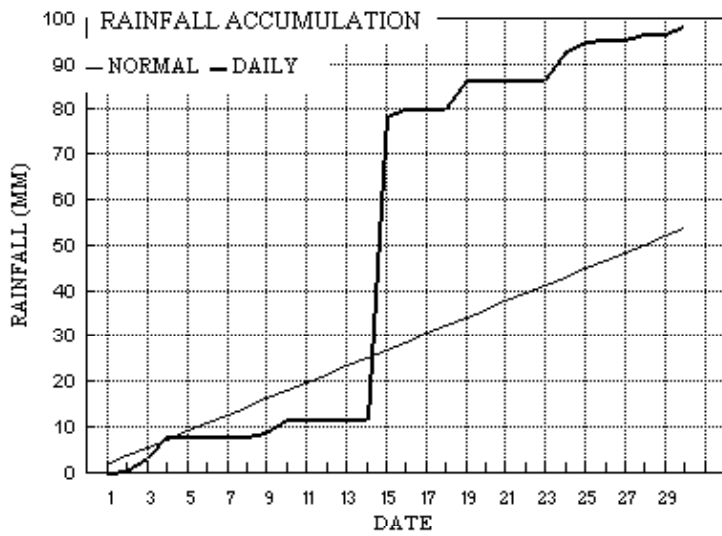
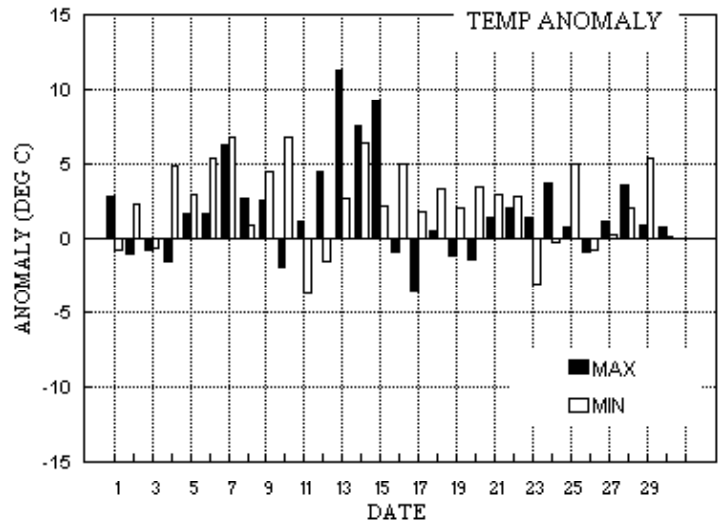
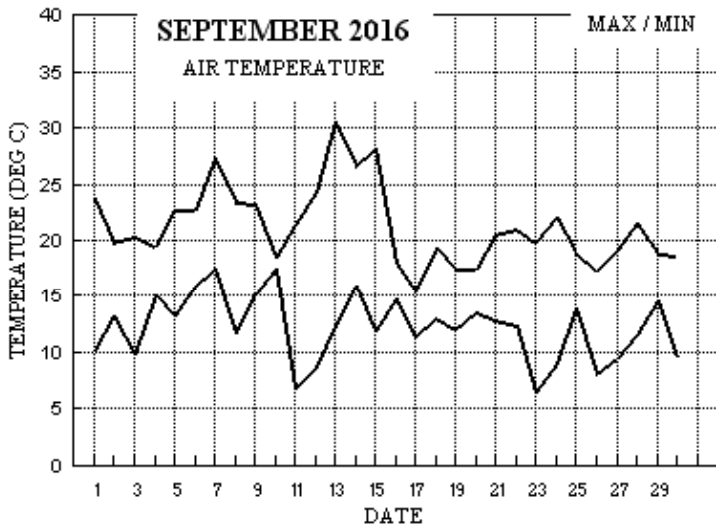
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 30 th			
+1.3°	+3.3°	67%	78%	+2.7°	+2.2°	419%	96%	+1.5°	+1.4°	67%	105%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

Wokingham climatological graphs for September 2016



Month: SEPTEMBER 2016

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 mean ddd ff sp	Max gust ddd gg HHhh	High hr ddd ff	Rain HH hrs							
1	23.7	10.1	tr	5.5	18.9	18.3	10.9	0.0	1024.4	0	0	0	0	220	4.1	4.3	238	15	1511	209	7	17	0.0	
2	19.9	13.2	0.4	9.9	19.0	18.2	0.2	0.0	1019.0	0	0	0	0	216	5.7	5.9	245	18	0832	227	9	08	0.5	
3	20.3	9.8	3.0	3.9	18.5	18.2	3.6	0.0	1017.5	0	0	0	0	204	7.3	7.3	213	27	1433	208	13	14	3.6	
4	19.5	15.1	4.3	12.5	18.4	18.1	0.9	0.0	1011.5	0	0	0	0	241	7.6	7.8	253	24	0249	238	11	03	4.7	
5	22.8	13.2	0.1	13.1	18.3	18.0	0.3	0.0	1017.8	0	0	0	0	194	2.6	3.5	230	12	1515	236	6	15	0.3	
6	22.8	16.0	tr	18.5	18.9	17.9	0.1	0.0	1023.8	0	0	0	0	214	3.8	4.0	201	11	1007	227	6	12	0.0	
7	27.3	17.5	tr	15.9	19.3	17.9	5.3	0.0	1019.5	0	0	0	0	128	2.4	3.1	130	13	1639	168	6	15	0.0	
8	23.4	11.7	tr	7.3	19.2	17.9	9.3	0.0	1010.0	0	0	0	0	240	5.2	6.5	243	21	1115	243	11	12	0.0	
9	23.2	15.1	1.1	13.0	18.9	18.0	4.2	0.0	1015.2	0	0	0	0	201	8.7	8.8	217	28	1338	206	13	14	1.9	
10	18.5	17.4	2.8	16.7	19.0	18.0	0.1	0.0	1012.0	0	0	0	0	204	6.3	6.7	200	23	0053	196	9	04	3.4	
11	21.4	6.8	0.0	1.3	18.3	18.0	11.1	0.0	1018.6	0	0	0	0	185	3.5	3.7	197	14	1341	198	7	16	0.0	
12	24.2	8.6	tr	3.8	17.8	18.0	1.6	0.0	1013.3	0	0	0	0	158	4.0	4.5	147	16	1217	180	8	12	0.0	
13	30.5	12.4	0.0	8.5	18.0	17.9	10.5	0.0	1009.2	0	0	0	0	37	1.4	3.2	212	20	1131	215	9	11	0.0	
14	26.6	15.9	0.0	11.4	18.6	17.8	11.8	0.0	1009.3	0	0	0	0	165	1.7	3.5	199	15	1122	191	8	11	0.0	
15	28.2	11.9	66.8	7.5	18.6	17.8	9.4	0.0	1009.9	0	0	1	1	211	1.1	3.5	331	26	1703	278	8	16	7.4	
16	18.0	14.8	1.6	14.5	18.4	17.8	1.5	0.0	1011.6	0	0	1	0	304	5.6	6.2	301	21	0855	308	8	19	1.2	
17	15.4	11.4	tr	9.1	17.7	17.7	0.0	0.0	1020.8	0	0	0	0	352	5.8	6.5	336	21	1105	345	9	10	0.0	
18	19.3	13.1	tr	11.6	17.3	17.6	0.1	0.0	1021.8	0	0	0	0	305	2.0	2.7	348	9	0013	350	4	00	0.0	
19	17.5	12.0	6.4	10.3	17.5	17.5	0.1	0.0	1022.4	0	0	0	0	292	1.3	1.9	340	8	1257	329	4	12	7.3	
20	17.5	13.5	0.1	12.7	17.4	17.4	0.0	0.0	1020.8	0	0	0	0	19	2.0	2.2	30	10	0827	19	5	08	0.1	
21	20.5	12.8	tr	9.0	17.5	17.3	2.7	0.0	1018.0	0	0	0	0	161	3.0	3.7	207	15	1521	174	7	14	0.0	
22	21.0	12.4	tr	9.7	17.5	17.3	4.3	0.0	1019.0	0	0	0	0	220	4.2	4.4	227	16	1007	219	8	10	0.0	
23	19.9	6.5	0.0	1.2	17.2	17.2	10.1	0.0	1025.7	0	0	0	0	196	3.9	4.1	191	14	1542	197	7	15	0.0	
24	22.0	9.0	6.2	4.2	16.8	17.2	6.3	0.0	1018.3	0	0	0	0	173	6.5	6.7	175	24	1353	189	11	13	1.5	
25	19.0	13.9	1.9	13.2	16.9	17.1	7.2	0.0	1013.1	0	0	0	0	225	6.3	6.9	223	24	0342	251	11	14	1.0	
26	17.3	8.2	0.6	3.0	16.7	17.1	1.1	0.0	1021.8	0	0	0	0	176	3.7	3.9	179	17	1106	194	7	13	0.4	
27	19.2	9.4	tr	4.2	16.3	17.0	0.1	0.0	1021.6	0	0	0	0	195	6.1	6.5	185	22	1004	192	11	10	0.0	
28	21.5	11.5	1.1	8.2	16.4	16.9	5.4	0.0	1025.3	0	0	0	0	216	7.7	7.8	191	21	1852	215	10	20	1.1	
29	18.8	14.6	tr	14.4	16.9	16.8	4.8	0.0	1014.7	0	0	0	0	235	8.8	9.0	253	26	0808	252	13	14	0.0	
30	18.6	9.4	1.9	4.8	16.7	16.8	7.5	0.0	1013.2	0	0	0	0	220	5.6	5.9	187	22	1644	228	10	11	0.8	
Total			98.3				130.5	0.0																35.2

Mean 21.3 12.2 9.3 17.9 17.6 4.35 0.0 1017.3
 Anom +1.9 +2.2 183% +2.6 +1.5 +0.8 91% +0.6

Daily mean 16.8 Pressure, abs highest = 1025.8 on 23
 Anom +2.1 Pressure, abs lowest = 1007.1 on 8

Number of days with:

Air frost = 0 Ground frost = 0 Nil sun = 2
 Snow falling = 0 Snow lying = 0 Thunder = 2
 Hail=>5mm = 1 Hail<5mm or ice = 0 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.

Anom = Departure from 1981-2010 climatological average.

All temperatures in degrees Celsius.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for SEPTEMBER 2016

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	shs	NCh	shs	NCh	shs	Date	Remarks
1	75	7	26	03	06	16.8	12.7	77	8.9	1024.4	1	010	03	2	2	1	1	5	0	1	81820	87075				1	COYRA Cu hum	
2	82	8	22	07	18	17.9	14.0	78	9.8	1019.0	8	004	03	2	2	6	8	4	7	/	82815	83630	88362			2	3Sc56 Cu hum	
3	68	6	21	09	13	18.4	13.1	71	9.3	1017.5	7	005	03	1	1	2	1	4	5	1	82815	83362	85075			3	1Ac65 COTRA Cu hum	
4	65	8	24	10	18	16.9	13.1	78	9.3	1011.5	2	013	15	6	2	7	8	4	/	8	83817	86640				4	/Cs72 jpN&NE	
5	58	8	17	02	07	16.0	15.2	95	10.6	1017.8	2	002	20	5	6	8	7	2	/	/	82704	87705	88707			5		
6	70	8	21	05	08	21.1	18.5	85	13.1	1023.8	2	002	15	5	2	8	5	4	/	/	87610	88615				6	jp N vv60k ex p	
7	65	8	12	02	07	19.5	17.6	89	12.4	1019.5	5	010	50	5	2	8	5	4	/	/	87618	88622				7		
8	88	1	25	09	20	19.6	13.6	68	9.6	1010.0	1	026	01	1	1	1	8	5	0	0	81820					8	1Sc50 Cu fra	
9	78	3	21	10	19	20.3	14.7	70	10.4	1015.2	2	002	03	1	1	2	8	4	0	1	82813					9	1Sc50 1Ci75 Cu med	
10	50	8	19	08	16	18.1	17.1	94	12.0	1012.0	7	001	21	6	5	8	5	3	/	/	85706	85618	88645			10		
11	70	5	23	02	05	15.1	11.3	78	8.1	1018.6	1	006	03	1	1	1	1	4	0	1	81818	85080				11	COTRA Cu hum	
12	65	7	15	06	10	17.9	15.5	86	10.9	1013.3	2	008	03	2	2	6	5	4	7	/	81710	86630	85362			12	/Ac67	
13	72	3	05	04	09	21.8	17.8	78	12.6	1009.2	8	006	02	0	0	1	0	9	8	1	81365	83075				13	COTRA Ac cas	
14	60	1	13	04	11	23.9	16.4	63	11.8	1009.3	3	013	05	0	0	1	0	9	4	0	81365					14		
15	60	2	33	03	05	20.6	16.4	77	11.7	1009.9	7	011	05	0	0	1	0	9	8	1	81358					15	2Ci80 COTRA Ac cas	
16	59	8	31	09	21	14.8	13.5	92	9.5	1011.6	1	013	61	6	6	4	5	4	7	/	82710	83650	86358			16	8As62	
17	62	7	33	07	18	13.4	9.7	78	7.4	1020.8	2	013	50	5	2	7	5	4	/	/	81715	83620	86635			17	7Sc50 vv50k W	
18	61	7	30	02	06	15.1	12.8	86	9.1	1021.8	4	000	02	2	2	7	5	4	/	/	81710	87622				18		
19	64	7	31	03	06	15.3	12.2	82	8.8	1022.4	3	009	21	6	2	3	5	6	7	/	83645	85363	87465			19		
20	50	8	03	04	10	14.3	13.7	96	9.6	1020.8	3	003	20	5	2	8	5	3	/	/	84705	88615				20		
21	61	7	11	03	07	17.4	14.3	82	10.0	1018.0	7	001	01	2	2	1	1	4	7	/	81812	87360				21	1Ac57 Cu fra	
22	80	6	20	05	10	16.4	12.9	80	9.2	1019.0	2	011	03	2	2	6	8	4	7	/	81815	83645	85656			22	1Sc35 2Ac62 Cu hum	
23	84	5	21	03	06	14.8	9.0	69	7.3	1025.7	2	013	03	1	1	1	5	7	0	4	81650	85080				23		
24	82	7	17	07	15	18.7	12.5	67	8.9	1018.3	8	007	02	2	2	1	0	9	4	1	81369	87078				24	2Ci72 COTRA	
25	70	6	22	07	14	15.9	12.7	81	8.9	1013.1	1	025	01	6	2	1	1	4	7	8	81815	83270	85075			25	2Ac64 Cu fra Halo 22° part	
26	62	8	15	03	09	13.0	12.1	94	8.7	1021.8	2	004	60	6	2	7	8	4	7	/	82815	83635	86656			26	/Ac60 8As62 Cu med	
27	82	7	18	09	19	16.3	13.8	85	9.7	1021.6	2	006	02	2	2	7	6	4	7	/	87710	87363				27		
28	62	4	23	09	15	15.7	11.5	76	8.4	1025.3	0	005	01	1	1	1	6	4	0	1	81712	84081				28	1Sc56 COTRA	
29	75	7	24	10	26	14.6	12.5	87	8.9	1014.7	5	001	60	6	2	3	5	6	2	/	81710	83635	87550			29	Clearance NW CF 0805	
30	81	2	22	08	14	14.9	9.9	72	7.5	1013.2	0	001	03	0	0	1	8	5	3	2	81820					30	1Sc50 1Ac62 1Ci72 Cu fra	

Mean vis = 21.6 km
 Mean cloud = 6.0 75%
 Mean wind speed = 5.8 kn
 Mean gust = 12 kn
 Mean TT = 17.2 °C
 Mean TdTd = 13.7 °C
 Mean RH = 80.5 %
 Mean r = 9.7 g/kg
 Mean PPP = 1017.3 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)
 N = Total cloud amount, oktas
 dd = Direction from which wind is blowing, tens of degrees true
 ff = 10 minute mean wind speed, knots
 gg = Highest gust in past hour, knots
 TT = Air temperature at 1.2 m, deg Celsius
 TdTd = Dew point temperature at 1.2 m, deg Celsius
 RH = Relative humidity at 1.2 m
 r = Humidity mixing ratio at 1.2 m, g/kg
 PPP = Air pressure reduced to sea level, mbar
 a = Characteristic of pressure tendency (Code FM12-0200)
 ppp = 3 hr pressure tendency, tenths of mbar
 ww = Present weather code (Code FM12-4677)
 W1, W2 = Past weather code (Code FM12-4561)-
 covers past 3 hours.
 Nh = Amount of low cloud present, oktas
 Cl = Type of low cloud (Code Fm12-0513)
 h = Height of low cloud (Code FM12-1600)
 Cm = Type of medium cloud (Code FM12-0515)
 Ch = Type of high cloud (Code FM12-0509)
 8 groups. 8 = indicator for cloud detail
 N = Amount of cloud, oktas
 C = Type of cloud (FM12-0500)
 hshs= Height of cloud (FM12-1677)
 Remarks : COTRA = persistent condensation
 trails present.

Wokingham	Hour	01-Sep	02-Sep	03-Sep	04-Sep	05-Sep	06-Sep	07-Sep	08-Sep	09-Sep	10-Sep	11-Sep	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep
Sunshine	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hourly analysis	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
2016	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	0.11	0.00	0.41	0.14	0.00	0.00	0.00	0.09	0.07	0.00	0.15	0.13	0.02	0.00	0.00	0.00
	6	0.81	0.01	1.00	0.63	0.00	0.00	0.00	0.78	0.27	0.00	1.00	0.22	0.41	0.82	0.67	0.00
	7	1.00	0.20	1.00	0.13	0.00	0.00	0.00	0.21	0.81	0.00	1.00	0.08	1.00	1.00	1.00	0.00
	8	1.00	0.00	0.96	0.00	0.00	0.00	0.00	1.00	0.60	0.00	1.00	0.05	1.00	1.00	1.00	0.00
	9	1.00	0.00	0.10	0.00	0.00	0.04	0.00	0.99	0.97	0.00	0.97	0.00	1.00	1.00	1.00	0.00
	10	0.90	0.00	0.06	0.00	0.00	0.00	0.00	0.99	0.58	0.00	0.90	0.08	1.00	1.00	1.00	0.00
	11	0.37	0.00	0.01	0.00	0.00	0.00	0.11	0.79	0.17	0.00	0.72	0.15	0.92	0.84	1.00	0.00
	12	1.00	0.00	0.01	0.00	0.00	0.00	0.22	0.90	0.05	0.00	0.61	0.55	0.90	1.00	1.00	0.00
	13	1.00	0.00	0.04	0.00	0.15	0.00	0.60	0.24	0.18	0.00	0.64	0.04	0.80	1.00	0.60	0.00
	14	1.00	0.00	0.00	0.00	0.02	0.00	0.97	0.56	0.26	0.00	0.92	0.12	0.96	1.00	0.93	0.44
	15	0.93	0.00	0.00	0.00	0.10	0.00	1.00	0.72	0.21	0.00	1.00	0.20	0.81	0.93	0.96	0.42
	16	0.56	0.00	0.00	0.00	0.00	0.00	1.00	0.98	0.00	0.00	1.00	0.00	1.00	1.00	0.22	0.60
	17	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.06	0.03	0.98	0.00	0.72	1.00	0.00	0.07
	18	0.22	0.00	0.00	0.00	0.00	0.00	0.35	0.05	0.00	0.00	0.19	0.00	0.00	0.16	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		10.90	0.21	3.59	0.90	0.26	0.04	5.25	9.30	4.23	0.03	11.09	1.60	10.54	11.76	9.38	1.54

	Hour	17-Sep	18-Sep	19-Sep	20-Sep	21-Sep	22-Sep	23-Sep	24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	29-Sep	30-Sep	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	0.04
	6	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.57	0.01	0.00	0.00	0.30	0.00	0.50	0.29
	7	0.00	0.00	0.00	0.00	0.36	0.15	1.00	0.84	0.00	0.00	0.00	1.00	0.00	1.00	0.39
	8	0.00	0.00	0.00	0.00	0.51	0.15	1.00	1.00	0.54	0.00	0.00	1.00	0.00	1.00	0.43
	9	0.00	0.00	0.08	0.00	0.02	0.20	1.00	1.00	0.65	0.00	0.01	1.00	0.00	0.89	0.40
	10	0.00	0.00	0.00	0.00	0.12	0.23	0.98	1.00	0.50	0.00	0.01	0.49	0.05	0.64	0.35
	11	0.00	0.00	0.00	0.00	0.05	0.21	1.00	0.49	0.77	0.00	0.00	0.04	0.65	0.86	0.30
	12	0.00	0.00	0.00	0.00	0.01	0.29	0.81	1.00	0.87	0.00	0.00	0.70	0.82	0.27	0.37
	13	0.00	0.12	0.00	0.00	0.01	0.84	0.99	0.36	0.65	0.05	0.00	0.84	0.58	0.93	0.36
	14	0.00	0.03	0.00	0.00	0.03	0.39	1.00	0.00	0.85	0.01	0.00	0.00	0.53	0.66	0.36
	15	0.00	0.00	0.00	0.00	0.55	0.66	0.67	0.00	0.84	0.11	0.00	0.00	0.65	0.73	0.38
	16	0.00	0.00	0.00	0.00	0.91	0.89	0.47	0.00	0.87	0.78	0.00	0.00	1.00	0.00	0.38
	17	0.00	0.00	0.00	0.00	0.16	0.33	0.52	0.00	0.62	0.18	0.00	0.00	0.54	0.06	0.28
	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	0.03
	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		0.00	0.15	0.08	0.00	2.73	4.35	10.12	6.27	7.18	1.13	0.02	5.36	4.82	7.54	130.38

September 2016	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
1	16.61	23.89	1456	10.04	321	72.8	95.4	600	39.37	1455	11.17	8.16	9.71	902	7.04	1455	1022.62	1024.6	928	1021.1	2358
2	16.27	19.98	1208	12.63	2347	85.1	93.5	1824	71.8	1209	13.73	9.71	11.18	1711	8.12	2349	1018.72	1021.3	10	1016.7	1517
3	15.88	20.41	1411	9.65	502	85.7	96	519	60.1	1430	13.38	9.58	11.81	2358	7.04	502	1014.92	1018.7	321	1009.6	2357
4	17.18	19.58	1414	14.26	2338	76.4	92.4	5	61.31	1416	12.93	9.26	11.86	6	7.88	323	1013.00	1017.4	2349	1008.7	128
5	18.15	22.99	1527	13.11	559	88.9	95.6	703	74.8	1347	16.26	11.51	14.06	1531	8.75	527	1019.10	1022.5	2323	1016.9	456
6	20.67	22.95	1138	17.66	2308	83.2	93.8	215	70.3	1502	17.67	12.41	13.8	1011	10.7	2355	1023.00	1024.0	1035	1021.7	2355
7	20.47	27.55	1517	15.06	2210	73.9	91.4	639	39.59	1624	15.19	10.71	14.2	1254	8.48	1641	1016.93	1021.9	2	1010.6	2359
8	17.36	23.46	1242	11.61	527	71.5	95.8	608	42.87	1624	11.68	8.54	10.44	743	6.872	1623	1011.54	1015.5	2244	1007.1	546
9	18.91	23.38	1048	15.11	33	77.2	92.4	404	56.75	1049	14.73	10.37	11.26	1031	8.97	33	1014.24	1015.3	853	1013.0	1808
10	17.06	18.78	119	10.14	2355	88.2	95	2347	78.6	2049	15.09	10.72	12.35	1259	7.19	2355	1012.47	1016.1	2358	1010.6	1526
11	13.64	21.47	1515	6.707	454	76.6	96.7	630	42.64	1636	9.01	7.12	9.18	926	5.803	454	1016.56	1018.8	811	1014.2	2352
12	17.37	24.47	1503	8.44	112	81.1	96.2	311	58.63	1504	13.88	9.94	12.21	1246	6.472	112	1012.50	1014.4	0	1010.9	2349
13	20.77	30.66	1601	12.3	436	76.9	96.6	657	40.24	1602	15.94	11.37	14.85	1428	8.49	437	1008.95	1011.1	0	1007.2	1453
14	20.31	26.7	1442	13.78	2351	75.4	94.8	247	46.53	1445	15.37	10.88	13.29	1136	9.16	2334	1010.05	1012.7	2037	1007.3	509
15	18.97	28.37	1407	11.81	537	81.3	96	548	47.35	1442	15.25	10.85	13.64	1626	8.21	538	1009.62	1012.1	12	1007.3	1514
16	15.7	18.29	0	12.1	2355	80.8	94.4	453	55.39	1454	12.25	8.97	11.71	55	6.663	1927	1013.15	1018.6	2355	1008.8	238
17	13.57	15.51	1519	11.29	255	81.6	88.4	2352	74.5	1608	10.47	7.81	8.95	2234	7.03	112	1020.79	1022.5	2021	1018.3	1
18	15.78	19.42	1403	13.15	2321	79.5	91.6	437	61.12	1403	12.14	8.7	9.83	1340	8.05	2209	1021.39	1022.7	200	1020.1	1616
19	14.31	17.63	1239	11.84	551	89.6	95.9	2126	73.3	1203	12.58	8.96	9.98	1244	8.03	320	1021.70	1022.5	919	1021.0	2349
20	14.79	17.53	1517	12.65	2242	89.3	96.2	208	69.37	1514	13	9.21	10.6	1153	8.34	1420	1020.06	1021.2	2	1019.0	1649
21	16.43	20.57	1558	13.22	2	82.2	95.4	19	61.08	1517	13.22	9.37	11.18	1032	8.78	1517	1017.67	1019.2	0	1016.1	1558
22	15.6	21.13	1344	10.98	2049	77	94.6	301	51.64	1520	11.37	8.33	10.53	1124	6.483	2347	1019.08	1022.3	2331	1017.5	330
23	12.88	19.99	1236	6.38	532	73.2	95.6	652	40.05	1348	7.69	6.448	8.18	940	5.476	1417	1023.92	1025.8	858	1021.8	2356
24	16.98	22.11	1106	9.79	30	71.6	93.7	629	49.49	1110	11.49	8.39	9.65	803	6.597	4	1015.95	1022.0	7	1009.2	2357
25	15.16	19.03	1306	8.8	2348	75.5	93.8	500	46.8	1343	10.59	8.01	10.91	342	5.91	1702	1014.90	1021.8	2357	1007.9	328
26	12.46	17.38	1311	8.05	302	85.9	95	308	60.97	1531	10.05	7.6	10.08	1311	6.248	302	1021.67	1022.4	2110	1020.7	1639
27	15.65	19.28	1341	9.33	14	86.1	94.8	30	78.8	1549	13.32	9.46	11.37	1331	6.775	14	1022.26	1024.9	2359	1020.6	443
28	16.09	21.6	1342	11.39	521	83.2	93.5	451	62.89	1218	13.13	9.33	11.09	1215	7.58	610	1023.51	1025.7	835	1018.6	2359
29	15.62	18.96	1132	10.9	2358	76.7	92.1	514	48.26	1524	11.33	8.45	10.93	134	5.947	1531	1014.91	1018.9	10	1013.4	1414
30	12.83	18.77	1127	7.39	2356	77.8	95.8	2359	43.55	1455	8.72	7	9.34	1147	5.736	1448	1012.03	1014.6	48	1009.0	2359
Total																					
Mean	16.45	21.39		11.32		80.1	94.41		56.94		12.75	9.24	11.27		7.43		1016.91	1019.72		1014.17	
Max	20.77	30.66		17.66		89.6	96.70		78.80		17.67	12.41	14.85		10.70		1023.92	1025.78		1021.83	
Min	12.46	15.51		6.38		71.5	88.40		39.37		7.69	6.45	8.18		5.48		1008.95	1011.07		1007.14	

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

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, 1st January to 31st December.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix 2.

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

VV : Visibility.

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

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

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

Code figure 89 = visibility above 70 km.

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

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

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

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

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

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

RH : Relative humidity at 1.2m, %.

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

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

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

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

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

1 = Increasing then steady or increasing more slowly

2 = Increasing steadily or unsteadily

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

4 = Steady, pressure the same as 3 hours ago

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

6 = Decreasing then steady or decreasing more slowly

7 = Decreasing steadily or unsteadily

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

ppp : 3 hour pressure tendency in tenths of a millibar

ww : Present weather code figures, 00 to 99.

Present weather decode:

00 = Cloud development not observed or not observable

01 = Clouds generally dissolving or becoming less developed

02 = State of sky on the whole unchanged

03 = Clouds generally increasing or becoming more developed

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Hail includes large hail, small hail and snow pellets.

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

Code figures:

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

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

Cl : Type of low cloud

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

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

Cm : Type of medium cloud.

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

Ch : Type of high cloud

0 = No high cloud

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

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

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

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

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

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

7 = Veil of Cirrostratus covering the celestial dome.

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

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

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

8 Groups

N = Amount of cloud reported by C, okta.

C = Type of cloud

0 = Cirrus (Ci)

1 = Cirrocumulus (Cc)

2 = Cirrostratus (Cs)

3 = Altocumulus (Ac)

4 = Altostratus (As)

5 = Nimbostratus (Ns)

6 = Stratocumulus (Sc)

7 = Stratus (St)

8 = Cumulus (Cu)

9 = Cumulonimbus (Cb)

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

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

00 to 50 = Height in hundreds of feet

51 to 55 Not used

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

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