

AERODROME WEATHER REPORT – METAR AND SPECI DECODE

ver. 0.98



IDENTIFICATION GROUPS	M E T A R or S P E C I	Aviation routine weather report code name Aviation special weather report code name				
	C O R	Code word used as appropriate				
	C C C C	ICAO four-letter location indicator				
	Y Y	In individual messages, day of the month and				
	G G	time of observation in hours and				
	g g	minutes of				
	Z	UTC				
	N I L	Code word used as appropriate				
	A U T O	Fully automated observation indicator				
SURFACE WIND	d d d	Mean wind direction in degrees true rounded off to nearest 10° (VRB = Variable when ff < 3 kt)	00000 = calm	P199 KMH (P99 KT, P49 MPS) mean ff or f _m f _m = 200 KMH (100 KT, 50 MPS) or more	S' STATE OF THE SEA	E _R Runway deposits (code t. 0919)
	G	Mean wind speed (10-min mean or since discontinuity)				
	f _m f _m	Indicator of Gust – if necessary				
	K M H or K T or M P S	Maximum wind speed (gust) – if necessary Wind speed units used: KMH - KiloMetres per Hour, KT - Knots, MPS - Metres Per Second				
	d _n d _n d _n	Other extreme direction of wind (measured clockwise)	Followed when there is a variation in wind direction of 60° or more but less than 180° and wind speed ≥ 3 KT			
	V	Indicator of Variability				
	d _x d _x d _x	Extreme direction of wind				
	PREVAILING VISIBILITY	V V V V	Prevailing or lowest visibility in metres if visibility is not the same and fluctuating and the prevailing visibility cannot be determined, 9999 ≥ 10 km	Followed when visibility is not the same and minimum visibility ≠ prevailing and visibility < 1 500 m or visibility < 50% of prevailing		
V _n V _n V _n V _n		Lowest visibility	General direction of lowest visibility or most operationally significant if minimum visibility observed in more than one direction (or NDV - No Directional Variations)			
D _v or NDV						
RUNWAY VISUAL RANGE (RVR) WHERE REQUIRED, UP TO FOUR ACTIVE RUNWAYS	R	Indicator of RVR	Followed when there are significant variations in RVR	Note: 25m STEP if RVR < 400m, 50m STEP if 400 ≤ RVR < 800m, 100m STEP if RVR ≥ 800m		
	D _R D _R /	Runway designator – for parallel runways may have LL, L, C, R or RR appended (L = left; C = centre; R = right)				
	V _R V _R V _R V _R	RVR (10-min mean) at the touchdown zone P2000 = more than 2 000 m, M0050 = less than 50 m				
	V	Indicator of significant Variation				
	V _R V _R V _R V _R	RVR in metres (1-min mean max. value during last 10 min)				
	i	RVR tendency indicator over past 10 min. U = upward; D = downward; N = no distinct change. Omitted if impossible to determine.				
PRESENT WEATHER	w' w'	Present weather (see table w'w')				
CLOUDS ^a	N _s N _s N _s	Cloud amount: FEW – FEW (1–2 oktas), SCT – Scattered (3–4 oktas), BKN – Broken (5–7 oktas), OVC – Overcast (8 oktas)	Replaced when sky is obscured and information on VV is available by: VV h _s h _s h _s	Vertical visibility in units of 30 m (100 ft) /// = VV unavailable Indicator of Vertical Visibility	Replaced when there are no such clouds, no restriction on vertical visibility and CAVOK is not appropriate by: NSC Nil Signif. Cloud Replaced when automatic system is used and no cloud detected by: NCD No Cloud Detected	
	h _s h _s h _s	Height of base of clouds in units of 30 m (100 ft)				
	(c c)	Cloud type – only CB (cumulonimbus) or TCU (Towering CUMulus) indicated or /// if it cannot be observed by automatic system				
CAVOK	CAVOK	Ceiling And Visibility OK. Replaces visibility RVR, present weather and cloud if: (1) Visibility is 10 km or more; (2) No cumulonimbus cloud and no cloud below 1 500 m (5 000 ft) or below the highest minimum sector altitude, whichever is greater; and (3) No significant present weather (see table w'w')				
TEMP. AND DEWPOINT	T' T' /	Temperature in whole degrees Celsius	if below 0°C preceded by M			
	T' _d T' _d	Dewpoint temperature in whole degrees Celsius				
PRESSURE	Q	Indicator of QNH in hectopascals. If Q = A then QNH is in inches				
	P _H P _H P _H P _H	QNH rounded down to the whole nearest hPa or to tenths and				
SUPPLEMENTARY INFORMATION	RECENT WEATHER	R E	Indicator of REcent weather	hundredths of an inch		
		w' w'	REcent weather since previous report (intensity NOT to be reported)			
	WIND SHEAR	W S	Wind Shear	Replaced when all runways are affected by wind shear by: WS ALL RWY		
		R W Y	RUNWAY			
	D _R D _R	Runway designator – for parallel runways may have LL, L, C, R or RR appended (L = left; C = centre; R = right)				
	STATE OF THE SEA / SURFACE TEMP.	(W	Group indicator letter			
		T _s T _s /	Temperature in whole degrees C°			
		S	Indicator of state of the sea			
		S')	Water surface state (see code S')			
	STATE OF THE RUNWAY ^b	(R _R R _R	Indicator of runway			
E _R		Runway deposits				
C _R		Extent of runway contamination				
e _R e _R		Depth of deposit				
TREND FORECAST (TWO HOURS FROM TIME OF OBSERVATION)	CHANGE INDICATORS	T T T T or N O S I G	BECMG = BECOMING or TEMPO = TEMPORARY NO SIG = NO significant change			
		T T	Can be AT or FM = From or TL = Till			
	CHANGE AND TIME	G G	Associated time group in hours and			
		g g	minutes UTC			
	FORECAST WIND	d d d d	Forecast mean wind direction in degrees			
		f f	Forecast mean wind speed			
		G	Indicator of Gust			
		f _m f _m	Forecast maximum wind speed (gust)			
	F. VISIBILITY	K M H or K T or M P S	Wind speed units used: KMH - KiloMetres per Hour, KT - Knots, MPS - Metres Per Second			
		V V V V	Forecast prevailing visibility in metres			
FORECAST WEATHER	w' w'	Forecast significant weather (see table)	Replaced by NSW when significant weather ends			
	N _s N _s N _s	Forecast cloud amount (see above)				
	h _s h _s h _s	Height of base of clouds (see above)				
	(c c)	Cloud type - only CB				
RMK	R M K	Information included by national decision but not disseminated internationally				

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C _R Extent of runway contamination (code table 0519)				
1	Less than 10 per cent of runway contaminated (covered)			
2	11 per cent to 25 per cent of runway contaminated (covered)			
5	26 per cent to 50 per cent of runway contaminated (covered)			
9	51 per cent to 100 per cent of runway contaminated (covered)			
/	Not reported (e.g. due to runway clearance in progress)			

0	Calm (glassy)
1	Calm (rippled)
2	Smooth
3	Slight
4	Moderate
5	Rough
6	Very rough
7	High
8	Very high
9	Phenomenal

0	Clear and dry
1	Damp
2	Wet and water patches
3	Rime and frost covered (depth normally < 1 mm)
4	Dry snow
5	Wet snow
6	Slush
7	Ice
8	Compacted or rolled snow
9	Frozen ruts or ridges
/	Type of deposit not reported (e.g. due to rwy clear. in prog.)

w'w' – SIGNIFICANT PRESENT, FORECAST AND RECENT WEATHER				
QUALIFIER		WEATHER PHENOMENA		
INTENSITY OR PROXIMITY	DESCRIPTOR	PRECIPITATION	OBSCURATION	OTHER
1	2	3	4	5
- Light Moderate (no qualifier)	MI Shallow BC Patches PR Partial	DZ Drizzle RA Rain SN Snow	BR Mist FG Fog FU Smoke	PO Dust/sand whirls (dust devils)
+ Heavy or well-developed in the case of PO and FC	DR Low drifting BL Blowing SH Shower(s) TS Thunderstorm FZ Freezing (supercooled)	SG Snow grains IC Ice crystals PL Ice pellets GR Hail GS Small hail UP Unknown precipitation	VA Volcanic ash DU Widespread dust SA Sand HZ Haze	SQ Squalls FC Funnel cloud(s) (tornado or waterspout) SS Sandstorm DS Duststorm
VC In the vicinity				

Notes:
1. The w'w' groups are constructed by considering columns 1 to 5 in the table above in sequence, that is intensity, followed by description, followed by weather phenomena. An example could be: +SHRA (heavy shower(s) of rain).
2. A precipitation combination has dominant type first.
3. DR (low drifting) less than 2 m above the ground; BL (blowing) 2 m or more above the ground.
4. GR is used when hailstone diameter is 5 mm or more. When less than 5 mm, GS is used.
5. BR: visibility at least 1 000 m but not more than 5 000 m. FG: visibility less than 1 000 m.
6. VC: within 8 km of the aerodrome perimeter, but not at the aerodrome.

B _R B _R Friction coefficient/braking action (code table 0366)	
00 - 90 Friction coefficient 0.00 - 0.90	
91	Braking action poor
92	Braking action medium/poor
93	Braking action medium
94	Braking action medium/good
95	Braking action good
99	Unreliable
// Braking conditions not reported and/or runway not operational	

e _R e _R Depth of deposit (code table 1079)	
00: Less than 1 mm	
01-90:	1-90 mm
92, 93, 94 - 97:	10, 15, 20 ... 35 cm
98:	40 cm or more
99:	Runway or runways non-operational due to snow, slush, ice, large drifts or runway clearance, but depth not reported
// - Depth of deposit operationally not significant or not measurable	

C _R Extent of runway contamination (code table 0519)	
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e _R e _R Depth of deposit (code table 1079)	94 Braking action medium/good
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- Light	MI Shallow	DZ Drizzle	BR Mist	PO Dust/sand
Moderate	BC Patches	RA Rain	FG Fog	whirls (dust devils)
(no qualifier)	PR Partial	SN Snow	FU Smoke	SQ Squalls
+ Heavy or well-developed in the case of PO and FC	DR Low drifting	SG Snow grains	VA Volcanic ash	FC Funnel cloud(s)
	BL Blowing	IC Ice crystals	DU Widespread dust	(tornado or waterspout)
	SH Shower(s)	PL Ice pellets	SA Sand	SS Sandstorm
	TS Thunderstorm	GR Hail	HZ Haze	DS Duststorm
VC In the vicinity	FZ Freezing (supercooled)	GS Small hail		
		UP Unknown precipitation		

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^a Clouds of operational significance (i.e. below 1 500 m (5 000 ft) or below the highest minimum sector altitude, whichever is greater, and CB or TCU)

^b State of the runway to be provided by appropriate airport authority