

## UTC calculation table

UTC	NZST	NZDT
0000	1200	1300
0100	1300	1400
0200	1400	1500
0300	1500	1600
0400	1600	1700
0500	1700	1800
0600	1800	1900
0700	1900	2000
0800	2000	2100
0900	2100	2200
1000	2200	2300
1100	2300	0000
1200	0000	0100
1300	0100	0200
1400	0200	0300
1500	0300	0400
1600	0400	0500
1700	0500	0600
1800	0600	0700
1900	0700	0800
2000	0800	0900
2100	0900	1000
2200	1000	1100
2300	1100	1200

GRAFOR		
Graphical Aviation Forecast chart provides forecast weather information for low-level flights (SFC to FL100). All times UTC.		
Issue times	1100 and 2100	
Valid times	1100 issue - 1800, 0000, and 0600 2100 issue - 0000, 0600, and 1200 Each chart is valid for +/- three hours of the stated valid time, e.g., a chart valid at 1800 is valid for use between 1500 and 2100	
No of charts	Three charts at each issue time	
Heights	Hundreds of feet AMSL	
Area	New Zealand with a 15NM envelope extending seaward from the coastline, and adjusted over the Southern Taranaki Bight. The 15NM envelope is marked on the charts	
Fronts	Cold, Warm, Occluded, Stationary	
Visibility	Metres (M) or Kilometres (KM)	
Phenomena	SH, TS, DZ, RA, GS, GR, SN, SG, BR, FG, HZ, FU, VA, DU, SA, SQ, PO, FC, SS, DS	
Deep convective cloud	Type	TCU, CB
	Coverage	ISOL, OCNL, FRQ, EMBD
Non deep convective cloud	Coverage	OVC, BKN, SCT, NSC
Freezing level	Spot values depicted in a box. 0° means 0°C and three figures indicate the height in hundreds of feet AMSL, e.g., 085 = 8500ft; 115 = 11,500ft 0° : 085	

AAW		
Aviation Area Winds. All times UTC.		
Issue times	1100 and 2100	
Validity	1200 to 0600 and 2100 to 1200. Each of these may be split into smaller periods within the overall validity	
Heights	Winds	1000, 3000, 5000, 7000, and 10,000ft AMSL
	Temperatures	5000, 7000, and 10,000ft AMSL
Wind	Speed	Knots
	Direction	Degrees true
Temperature	Degrees Celsius	
Areas	17 areas* (the previous ARFOR areas)	

\* Found in AIPNZ Figure GEN 3.5-1.

GNZSIGWX		
Graphical New Zealand Significant Weather chart provides forecast information on the horizontal and vertical extent of turbulence, mountain waves, cumulonimbus clouds (CB), icing for flights within the New Zealand FIR (NZZC), and awareness information for volcanic activity and radioactive cloud. All times UTC.		
Issue times	0200, 0800, 1400, and 2000	
Validity	2100 to 0300, 0300 to 0900, 0900 to 1500, and 1500 to 2100	
No of charts	Three	SFC to FL100, SFC to FL250, and SFC to FL410
Heights	Flight levels (FLs) unless otherwise specified	
Area	New Zealand FIR (NZZC)	
Phenomena	MOD ICE, MOD TURB, MOD CAT, MTW, VA, RDOACT, Volcanic Alert Level when ≥ 2	
Cloud	Type	Cumulonimbus (CB), which also implies SEV ICE and SEV TURB
	Coverage	ISOL EMBD, OCNL/OCNL EMBD, FRQ/FRQ EMBD

SIGMET (Textual)*		
SIGMETs provide information on observed or forecast hazardous weather conditions.		
Issue times	As required. May be issued up to four hours in advance (or up to twelve hours for volcanic ash and tropical cyclones)	
Validity	Four hours (six hours for volcanic ash and tropical cyclones), reviewed near end of validity period or when further information is available	
Heights	Feet above mean sea level up to 10,000 feet, flight levels from FL100	
Area	New Zealand FIR (NZZC) and Auckland Oceanic FIR (NZZO)	

\* A graphical depiction of SIGMETs (GSM - Graphical SIGMET Monitor) is also available.

TAF		
A TAF is an aerodrome forecast provided for a specific aerodrome presented in code.		
Issue times	All TAFs are issued within one hour before validity start Note: Issue times are one hour earlier during NZDT	
Validity	1921/2012 = valid from 2100 UTC on the 19th to 1200 UTC on the 20th	
Heights	Feet above aerodrome level	
Area	Within 8KM of the aerodrome reference point	
Wind	Speed	Knots
	Direction	Degrees true
Visibility	Up to 9999 metres - in metres, e.g. 7000 Above 9999 metres - in kilometres, e.g. 20KM CAVOK and 9999 used at Auckland, Wellington, and Christchurch only	
Cloud	Type	CB, TCU
	Amount	NSC, SKC, FEW, SCT, BKN, OVC

METAR, METAR AUTO, and SPECI		
A METAR is a routine meteorological report, compiled manually, provided for a specific aerodrome, and presented in code. A METAR AUTO is a routine meteorological report provided by an automatic weather station (AWS) for a specific aerodrome, also presented in code. A SPECI is a METAR issued outside of the routine issue time of a METAR (NZWP, NZOH, and NZMF only).		
Issue times	METARs issued hourly, on the hour METAR AUTOs issued every half hour, 24 hours a day SPECIs issued when required and will have issue time other than on the hour SPECIs not issued at METAR AUTO aerodrome	
Heights	Feet above aerodrome level	
Area	Within 8KM of the aerodrome reference point When the term VC is used this applies to the area between 8 and 16KM from the aerodrome reference point	
Wind	Speed	Knots
	Direction	Degrees true. When direction varies by 60 degrees or more, the extreme directions are given, separated by the letter V, e.g. 260V330
Visibility	Up to 9999 metres - in metres, e.g. 7000 Above 9999 metres - in kilometres, e.g. 20KM Visibility variation shown by adding the direction, e.g. 2000SW - visibility variation not reported in METAR AUTO CAVOK and 9999 (10KM or more) used at Auckland, Wellington and Christchurch only	
Cloud	Type	CB, TCU (not provided in METAR-AUTO, except for NZAA, NZWN and NZCH)
	Amount	NSC, SKC, FEW, SCT, BKN, OVC
Temperature/dew point	Degrees Celsius	
Pressure (QNH)	Hectopascals (hPa)	

RVR		
Runway Visual Range for the touchdown zone is reported in a METAR for aerodromes with RVR instrumentation* whenever the RVR or the visibility are less than 1500 metres.		
RVR	Visibility at threshold less than 1500m eg R23L/1200 R05R/P1500 Visibility > 2000m reported as P2000 Visibility < 50m report as M0050 Tendency - U - Upward; D - downward; N - cannot determine tendency Example: METAR NZAA 010000Z AUTO 03022G34KT 010V080 <b>2000 R05/1300D</b> -DZRA FEW003/// BKN006/// 22/21	

\* Only available for NZAA (RWY 05R/23L) and NZCH (RWY 02/20).

SWX	
Space weather advisories provide information on solar disturbances that may impact one or more of aviation communications, navigation, surveillance, radiation-sensitive electronics, or cause increased human radiation exposure.	
Issue times	As required. Issued by one of four space weather centres
Validity	Out to 24 hours with six hourly forecast timesteps
Area	Global

ATIS		
The ATIS is a continuous plain language broadcast of the current conditions at an aerodrome, on a discrete frequency.		
Issue times	Irregularly, when conditions change or deteriorate	
Heights	Feet above aerodrome level	
Wind	Speed	Knots
	Direction	Degrees magnetic
Visibility	Less than 5000 metres - in metres, e.g. 3000 5000 metres or more - in kilometres, e.g. 5KM	
Cloud	Type	CB, TCU
	Amount	SKC, FEW, SCT, BKN, OVC
Temperature/dew point	Degrees Celsius	
Pressure (QNH for ATIS only)	Hectopascals (hPa)	

When Cumulonimbus cloud (CB) is included in meteorological information this implies that there may be associated thunderstorms and the occurrence of severe icing, turbulence and hail.

# MET abbreviations

/// <sup>1</sup>	Weather not detected due sensor temporarily inoperative	AWS	Automatic weather station (produces METAR AUTO)	EQN	Equatorial latitudes northern hemisphere	HSH	High latitudes southern hemisphere	MTW	Mountain waves	RDOACT	Radioactive cloud	TAF	Aerodrome forecast
//// <sup>1</sup>	Cloud is detected (unable to determine TCU/CB)	BASE	Cloud base	EQS	Equatorial latitudes southern hemisphere	HVY	Heavy	NC	No change	RE	Recent	TC	Tropical cyclone
///// <sup>1</sup>	Visibility not reported due faulty sensor	BC	Patches	EST	Estimated	HZ	Haze (visibility less than 5000 m)	NCD <sup>1</sup>	No cloud detected below 10,000 ft	RMK	Remark	TCU	Towering cumulus
//////// <sup>1</sup>	Cloud not reported due faulty sensor	BDRY	Boundary	EXC	Except	ICAO	International Civil Aviation Organization	NM	Nautical miles	ROFOR	Route forecast	TEMPO	Temporarily
-	Light	BECMG	Becoming	EXTD	Extended or extending	ICE	Icing	NOSIG	No significant change	RVR	Runway visual range	TL	Till
(blank space)	Moderate (when included before a weather phenomenon)	BFR	Before	FC	Funnel cloud	IFR	Instrument flight rules	NOTAM	Notice to airmen	SA	Sand	TS	Thunderstorm
+	Heavy	BKN	Broken (5-7 oktas)	FCST	Forecast	IMC	Instrument meteorological conditions	NS	Nimbostratus	SATCOM	Communications via satellite	TURB	Turbulence
9999	Visibility 10KM or more	BL	Blowing	FEW	Few (1-2 oktas)	IMPR	Improving	NSC <sup>2</sup>	No significant cloud	SC	Stratocumulus	UP	Unidentified precipitation
AAW	Aviation Area Winds	BLDG	Building	FG	Fog (visibility less than 1000 m)	INTSF	Intensifying	NSW	Nil significant weather	SCT	Scattered (3-4 oktas)	UTC	Coordinated Universal Time
ABT	About	BLW	Below	FIR	Flight information region	ISOL	Isolated	NXT	Next	SECT	Sector	V	Variations from mean wind direction
ABV	Above	BR	Mist (1000-5000 M vis)	FISB	Flight information service broadcast	KM	Kilometres	NZZC	New Zealand FIR	SEV	Severe	VA	Volcanic ash
AC	Altostratus	BTN	Between	FL	Flight level	KT	Knots	NZZO	Auckland Oceanic FIR	SFC	Surface	VAA	Volcanic Ash Advisory
AD QNH	Aerodrome QNH forecast	BWR	Basic weather report	FM	From	LAN	Inland	OBS	Observed	SG	Snow grains	VAAC	Volcanic Ash Advisory Centre
AFT	After	CAT	Clear air turbulence	FRQ	Frequent	LCA	Local/locally/location/located	OBSC	Obscured	SH	Shower	VAG	Volcanic Ash Graphic
AGL	Above ground level	CAVOK <sup>2</sup>	Cloud and visibility OK	FU	Smoke	LYR	Layer	OCNL	Occasional	SIG	Significant	VAL	In valleys
AIP	Aeronautical Information Publication	CB	Cumulonimbus	FZ	Freezing	M	Metres	OPMET	Operational meteorological information	SIGMET	Significant meteorological information	VC	Vicinity of the aerodrome
AIREP	Routine air report from aircraft in flight	CLD	Cloud	FZL	Freezing level	MAX	Maximum	OVC	Overcast (8 oktas)	SIGWX	Significant weather forecast	VCY	Vicinity
AIREP SPECIAL	Special (non-routine) air report from aircraft in flight	CLR	Clear	G	Gusts	METAR	Aerodrome routine meteorological report	PIREP	Pilot report (AIREP)	SKC <sup>3</sup>	Sky clear (no cloud at all)	VFR	Visual flight rules
AMD	Amended	CNL	Cancel	GNSS	Global navigation satellite system based navigation and surveillance	METAR AUTO	Automatic aerodrome routine meteorological report	PL	Ice pellets	SN	Snow	VIS	Visibility
AMSL	Above mean sea level	CONS	Continuous	GNZSIGWX	Graphical NZ significant weather	MI	Shallow	PO	Dust/sand whirls	SPECI	Aerodrome special meteorological report	VMC	Visual meteorological conditions
APRX	Approximate	COR	Corrected	GR	Hail (5 mm or more)	MNH	Middle latitudes northern hemisphere	PR	Partial	SQ	Squall	VRB	Variable
AS	Altostratus	COT	At the coast	GRAFOR	Graphical aviation forecast	MOD	Moderate	PROB	Probability	SQL	Squall line	VV	Vertical visibility
AT	At	CU	Cumulus	GS	Small hail (smaller than 5 mm)	MOV	Moving	PS	Plus	SS	Sandstorm	WI	Within
ATIS	Automatic terminal information service	DP	Dew point temperature	GSM	Graphical SIGMET Monitor	MS	Minus	PSN	Position	ST	Stratus	WKN	Weakening
ATS	Air traffic services	DR	Low drifting	HF COM	High frequency communications	MSH	Middle latitudes southern hemisphere	Q	QNH	STNR	Stationary	WDSPR	Widespread
AWIB	Aerodrome and weather information broadcast	DS	Dust storm	HNH	High latitudes northern hemisphere	MT	Mountain	QNH	Altimeter sub-scale setting	SWX	Space weather	WS	Windshear
		DTG	Date time group					R	Runway	SWXA	Space weather advisory	WX	Weather
		DTRT	Deteriorating/deteriorate					RA	Rain	SWXC	Space weather centre	Z	Coordinated Universal Time
		DU	Dust					RADIATION	Radiation at flight levels	T	Temperature, in degrees Celsius		
		DZ	Drizzle					RDOACT	Radioactive				
		EMBD	Embedded										

<sup>1</sup> used in METAR AUTO only  
<sup>2</sup> only used in TAF for NZAA, NZWN, NZCH  
<sup>3</sup> not used in METAR AUTO or TAF for NZAA, NZWN, NZCH