

# Aviation Weather Services

## 1. Introduction

MetService is certified to AS/NZ 9001:2008 standards and we are also certified by the New Zealand Civil Aviation Authority (CAA) in accordance with Civil Aviation Rule, Part 174 to provide the following Aviation Weather Services:

- A forecast service
- An information dissemination service
- A meteorological briefing service
- A meteorological reporting service
- A meteorological watch service

## 2. Disclaimer

MetService endeavours to obtain and supply the best available information but shall have no responsibility or liability for any consequential loss or any damage directly or indirectly suffered by the user or any third party as a result of the user or any third party placing reliance on information, services or advice supplied.

## 3. Interpretation and use of forecasts

However, users of forecasts should note that, owing to:

- The variability of these elements in time and space;
- Limitations caused by the definitions of some of the elements; and
- Limitations of current forecasting techniques,

...the specific value of any of the elements given in a forecast shall be the most probable value which the element is likely to have during the period of the forecast.

## 4. Height References

The heights in forecasts, warnings and observations are expressed as follows:

Type of Forecast	Height Reference
Aerodrome forecasts (TAFs)	100s of feet above aerodrome level
Area forecasts (ARFORs)	Feet above mean sea level
Aerodrome weather reports (METAR/SPECI)	100s of feet above aerodrome level
Warnings (SIGMETs)	Feet above mean sea level up to 10,000 feet and flight levels at and above FL100
Route forecasts (ROFORs)	Flight levels
Significant weather (SIGWX) charts	Flight levels
Wind and temperature (WITEM) charts	Flight levels
Freezing level (FZL) charts	Flight levels
Colour cloud top satellite pictures	Flight levels

## 5. Use of CB (Cumulonimbus) in forecasts

When the abbreviation CB (meaning cumulonimbus cloud) is used in forecasts (text and graphical form) this implies that there may also be associated thunderstorms and the occurrence of severe icing, severe turbulence and hail.

## 6. Types of products and services available

The following products and services are available from the Wellington Aviation Weather Centre (WAWC), located in Wellington, New Zealand

### **Aerodrome forecasts**

These are provided in the TAF (Terminal Aerodrome Forecast) code. All heights in TAFs are in feet above the aerodrome level.

### **Aerodrome reports**

These are provided in the METAR (Meteorological Aerodrome Report) and SPECI code. All heights in METAR and SPECI reports are in feet above the aerodrome level

### **Aerodrome QNH forecast**

This is a forecast of the maximum and minimum QNH value. This forecast is provided as a guide to the range of pressure expected during a specified validity period. The main purpose is as a check on the actual QNH passed to an aircraft, to ensure that any errors in transmission do not result in an incorrect altimeter setting. Aerodrome QNH forecasts should not be used as an altimeter setting.

### **Area Forecast (ARFOR)**

An ARFOR is a forecast for a specified area and is for planning domestic flights (VFR and IFR) up to 10,000 ft. All heights are in feet above mean sea level (MSL).

### **EDTOs Total Air Temperature (TAT) charts**

EDTO charts provide information intended to assist with determining the contingency fuel requirements for EDTO flights.

### **Freezing level (FZL) charts**

Freezing level charts show the height of the 0o isotherm (freezing level) over specific areas.

### **GRIB (Gridded Binary) data**

GRIB is computer processed meteorological data for a set of regularly spaced points. For aviation purposes the data typically includes forecasts of winds, temperatures, tropopause heights and humidity.

### **High Level Significant Weather (SIGWX) forecast**

This is a forecast for the airspace between FL250 and FL630. The forecasts are issued in chart form.

### **Medium Level SIGWX forecast**

This is a forecast for the airspace between FL100 and FL250. The forecasts are issued in chart form.

### **Route forecast (ROFOR)**

This is a forecast of wind and temperature for a specific route and levels.

### **Satellite pictures**

These are obtained from both geostationary and orbiting satellites and provide visible and infrared images of cloud tops.

### Radar imagery

Radar images are obtained from one of the six RADAR stations currently in operation around NZ and provide images indicating the intensity and location of precipitation.

### SIGMETs

SIGMETs provide information concerning the occurrence or expected occurrence of weather phenomena which may affect the safety of aircraft operations.

### Trend landing forecasts

A trend forecast consists of an aviation weather report (METAR or SPECI) to which is appended a concise statement of any significant changes (expressed as trend for the conditions described in the report) that are expected to occur during the following two hours. A trend forecast shall supersede, during its period of validity, the aerodrome forecast (TAF) for the aerodrome concerned.

### Volcanic Ash Advisories (VAA) and Volcanic Ash Graphics (VAG)

VAA and VAG provide information about volcanic ash in the atmosphere resulting from volcanic eruptions.

### Wind and temperature (WIND/TEMP) forecast

WIND/TEMP forecasts are issued in chart form for specific levels. Wind direction and speed are indicated at selected points by wind arrows with feathers and shaded pennants, and spot temperatures are shown circled.

## 7. Customised services

Packages of the products listed in section 6 above can be tailored, packaged and delivered to meet the requirements of individual aircraft operators.

## 8. Issue and Validity Times (UTC)

### ARFOR

Type of Forecast	Issue Number	Issue Times	Validity	Issue Frequency
ARFOR	1	1730	1730 – 0200	Daily
	2	2330	2330 – 1200	Daily

### GRIB

Type of Forecast	Issue Number	Issue Times	Validity	Issue Frequency
GRIB (a) (b)	1	0530	0600, 1200, 1800, 0000, 0600	Daily
	2	1130	1200, 1800, 0000, 0600, 1200	Daily
	3	1730	1800, 0000, 0600, 1200, 1800	Daily
	4	2330	0000, 0600, 1200, 1800, 0000	Daily

- (a) Wind and temperature forecasts available for FL050, 100, 140, 180, 240, 300, 340, 390, 450, 530, 600
- (b) Tropopause (height and temperature) and maximum wind (height, direction and speed) available.

## SIGWX Charts

Type of Forecast	Issue Number	Issue Times	Validity (a)	Issue Frequency
High Level (FL250-FL630) Medium Level (FL100-FL250)	1	0230 - 0430	1800	Daily
	2	0830 - 1030	0000	Daily
	3	1430 - 1630	0600	Daily
	4	2030 - 2230	1200	Daily

(a) All SIGWX charts have a validity of +/- 3 hours of the stated valid times.

## TAFs

Type of Forecast	Issue Number	Issue Times (a)	Validity	Issue Frequency
Domestic TAFs	1	1600	1600-0700	Daily
	2	2030 - 2200	2100 - 1200	Daily
	3 (b)	0300	0300 - 1900	Daily
International TAFs (c)	1	2300	0000 – 2400	Daily
	2	0500	0600 – 0600	Daily
	3	1100	1200 – 1200	Daily
	4	1700	1800 - 1800	Daily

- (a) Issue times for domestic TAFs are advanced by one hour during daylight savings,  
 (b) This issue is for a limited number of aerodromes. It is intended for overnight freight operations.  
 (c) TAFs are issued for Auckland, Wellington and Christchurch International Airports.

## WIND/TEMP Charts

Type of Forecast	Issue Number	Issue Times	Validity (a)	Issue Frequency
WIND/TEMP (b)	1	0530	0600, 1200, 1800, 0000, 0600	Daily
	2	1730	1800, 0000, 0600, 1200, 1800	Daily

- (a) The WIND/TEMP charts have a validity of +/- 3 hours of the stated valid times.  
 (b) Charts available for FL050, 100, 140, 180, 240, 300, 340, 390, 450

## 9. Delivery of meteorological information

Meteorological information can be delivered to commercial operators by commercial arrangement (except for MetFlight GA) through the following delivery channels:

### A) Internet based Self Management Systems

- **WeatherTrakII** – Designed primarily for use by medium to large airlines FOC's, providing automated delivery of pre-flight MET Packages initiated and generated by flight plan ingest and delivered via network printers, FTP directories, e-mail or facsimile.
- Customised **Airline web pages/FTP directories**.

- **MetJet** Commercial website - provides a basic packaging and scheduling facility to deliver pre-flight MET Packages via e-mail or facsimile. MetJet also provides real time OPMET and graphics.
- **MetFlight Commercial** website which provides real time OPMET, graphics and pre-flight MET that can be printed from the website. (Suitable for commercial air transport operations, and commercial flight training organisations for operations at or below 10,000ft within New Zealand)
- **MetFlight GA** website which provides real time OPMET, graphics and pre-flight MET that can be printed from the website (Suitable for recreational flights at or below 10,000ft in New Zealand)

**B) Limited email service for one-off ad hoc requests subject to at least 12 hours prior warning.**

## 10. Meteorological Observations and Reports

Automated METARs (METAR AUTO) have been introduced at 26 New Zealand domestic aerodromes, replacing existing manual METARs.

### MetService Observational Network

Location ID	Aerodrome	Visibility Range KM	Ceilometer range (cloud base) ft
NZDN	Dunedin	50	12,000
NZGS	Gisborne	20	25,000
NZHN	Hamilton	50	12,000
NZHK	Hokitika	20	25,000
NZNV	Invercargill	50	12,000
NZKK	Kerikeri ***	20	25,000
NZMO	Manapouri	30	25,000
NZMS	Masterton ***	30	25,000
NZNR	Napier	20	12,000
NZNS	Nelson	20	12,000
NZNP	New Plymouth	20	25,000
NZOU	Oamaru	30	25,000
NZPM	Palmerston North	50	12,000
NZPP	Paraparaumu	30	12,000
NZUK	Pukaki ***	20	25,000
NZQN	Queenstown	50	12,000
NZRO	Rotorua	50	12,000
NZAP	Taupo	20	25,000
NZTG	Tauranga	50	25,000
NZTU	Timaru	30	25,000
NZWF	Wanaka	30	25,000
NZWU	Wanganui	30	25,000
NZWS	Westport	30	25,000
NZWK	Whakatane	30	25,000
NZWR	Whangarei	20	25,000
NZWB	Woodbourne	20	12,000

#### Notes

1 \*\*\* Completely new station

**2** Wind sensors have also been installed at new stations at Sugarloaf near Christchurch and at Swampy Summit just north of Dunedin. Hourly reports from these two stations are being added to the remarks (RMK) section of the Christchurch and the Dunedin METARs respectively.

**3** Until the aerodromes are either fully automated, or existing AWS at these Aerodromes are upgraded, manual METARs and SPECIs will continue to be provided from locations where limited manual observations are provided such as Kaitaia, Milford and Chatham Islands.

### Points to note regarding the use of Automated METARS

Automated METARs are provided at 30 minute intervals and include wind (direction and speed), visibility (but without directional variations), cloud (amount and height of base, but not cloud type), present weather, temperature, dew point, QNH and recent weather (ie. precipitation observed since the last routine report).

In accordance with ICAO Standard and Recommended Practices, owing to the increased frequency of the METAR reports, with Automated METARs produced every 30 minutes, SPECIs will no longer be issued at METAR AUTO locations.

Lightning data from an independent lightning detection network is being used to provide additional observational data for the METAR AUTOs in conjunction with present weather sensors, to provide present weather and recent weather. Thunderstorms are included when lightning strikes are detected.

Users will note small differences in the format of METAR AUTO reports, compared with the manual METARs currently produced. These differences relate to the nature of the sensors used to determine visibility, present weather and the height of the cloud layers.

Because the sensors are unable to scan the horizon and sky in the way that a human observer does, METAR AUTO will not include directional visibility variations, "vicinity" (VC) present weather or cloud type (i.e. TCU and CB).

The exception to "vicinity" (VC) present weather is when the AWS does detect lightning between 8 to 16 km of the aerodrome, then "VCTS" is reported in the present weather field.

Users should also be aware that the observations of visibility and cloud give conditions at and above the AWS sensors and may not be representative of conditions over other parts of the aerodrome or within 8km of the aerodrome.

#### Also

- **when the AWS does not sense a reportable present weather condition**, rather than the field being left blank as it would be in a manual METAR, **two strokes (//)** are inserted in the present weather field.
- **when the AWS does not detect cloud**, **NCD (No Cloud Detected)** is used instead of the manual METAR code **SKC (sky clear)**.
- **when cloud is detected by the AWS**, **three strokes (///)** are placed at the end of each cloud layer group to indicate that the AWS could not identify TCU or CB.
- **NDV** will appear at the end of each METAR AUTO visibility group to indicate that directional visibility variations are not reported.
- **When the sky is obscured so that the clouds cannot be observed**, by dense fog for example, **vertical visibility** is reported instead. A group beginning **VV** is reported in place of the cloud groups with vertical visibility reported in hundreds of feet.

These codes are illustrated in the following METAR AUTO examples:

METAR NZXX 011400Z AUTO 35004KT 310V010 **29KMNDV**<sup>1</sup> -SHRA **OVC048**///<sup>2</sup> 19/16 Q1021

METAR NZYY 021930Z AUTO 10014KT **46KMNDV**<sup>1</sup> ///<sup>3</sup> **NCD**<sup>4</sup> 14/10 Q1015

METAR NZZZ 021400Z AUTO 13001KT **7000NDV**<sup>1</sup> DZ **FEW015**///<sup>2</sup> **BKN026**///<sup>2</sup> **BKN031**///<sup>2</sup> 16/15 Q1010 RERA

METAR NZWB 181700Z AUTO 32001KT 0400NDV FG **VV001**<sup>5</sup> 06/05 Q1016

#### NOTES:

- 1 NDV** will appear at the end of each METAR AUTO visibility group to indicate that directional visibility variations are not reported.
- 2 ///** at the end of the cloud group indicates that the AWS cannot determine CB or TCU cloud types.
- 3 //** is reported in place of present weather when the sensor is unable to detect weather, either because the weather is clear or because the current weather condition is not detectable by the sensor (some weather conditions, such as funnel clouds, cannot be detected by present weather sensors).
- 4 NCD** indicates No Cloud Detected.
- 5 VERTICAL VISIBILITY** of 100 feet is being reported instead of cloud, due to the sky being obscured by fog. (Vertical visibility is the maximum height at which an object can be identified).

MetService now has access to all the data available from the fully upgraded AWS at New Zealand Aerodromes at one minute intervals. It is this data which is being used to generate the hourly and half hourly METAR AUTO reports.

If required the one minute data can also be made available for use by Airline FOC's and or individual operators by commercial arrangement.

**Details of all of these changes have been published in the AIP New Zealand Volume 1 GEN 3.5.**

## METAR – INTERNATIONAL New Zealand Aerodromes

### Manual Observations

Aerodrome	Location Indicator	METAR	SPECI	TREND Validity period (hrs)
Auckland	NZAA	Hourly, on the hour, 24/7	Issued as required	2
Wellington	NZWN			
Christchurch	NZCH			

#### Note

- 1** Full Manual observations are still carried out at these aerodromes, FULL AWS reports are currently supplementary **but will not replace full manual observations** from the 3 ICAO designated New Zealand International Aerodromes: Auckland, Christchurch and Wellington.

### AWS Reports

Aerodrome	Location Indicator	METAR	SPECI	TREND Validity period (hrs)
Auckland	NZAAA	Half hourly, 24/7	None issued	None issued
Wellington	NZWNA			
Christchurch	NZCHA			

**Note**

- 1 The AWS reports can be identified by the **A** in the **FIVE** letter station identifier (eg NZAAA, NZWNA) and also the header '**Automatic Weather Station Report**' at the top of the METAR listing. The word **AUTO** will also be present after the **date and validity group**.
- 2 These stations lack present weather sensors so there are no present weather groups in the AUTO METARs

**NZAAA: (AUTOMATIC WEATHER STATION)**

**METAR 222300Z AUTO 11012KT 070V150 60KMNDV // BKN055/// 17/10 Q1024**

**EXAMPLE – Manual observations (NZAA) and AUTO METAR Reports (NZAAA)**

```
NZAA:  
METAR 222300Z 11011KT 070V150 CAVOK 16/09 Q1024 NOSIG  
  
NZAAA: (AUTOMATIC WEATHER STATION REPORT)  
METAR 222300Z AUTO 11012KT 070V150 60KMNDV // BKN055/// 17/10 Q1024
```

**METAR – DOMESTIC New Zealand Aerodromes**

**METAR – Attended Aerodromes still using MANUAL METARs**

Aerodrome	Location Indicator	METAR	SPECI	TREND Validity period (hrs)
Whenuapai	NZWP	Hourly, on the hour during ATS operational hours of coverage	Issued as required	Issued for WP and OH only
Ohakea	NZOH			
Milford Sound	NZMF			

**Note**

Kaitia Aerodrome (NZKX) also produces a manual METAR however this aerodrome is unattended by ATS.

**EXAMPLE – Manual Observation METAR for NZWP**

```
NZWP:  
METAR 112000Z 23012KT 30KM VCSH SCT026 BKN060 18/14 Q1016 NOSIG
```



**METAR – Aerodromes using METAR AUTO (excluding AA, WN, CH, OH, WP, KX)**

Aerodrome	Location Indicator	METAR	SPECI	TREND Validity period (hrs)
Alexandra <sup>3</sup>	NZLXA	Half hourly, 24/7	None issued	None issued
Ardmore	NZAR			
Ashburton	NZAS			
<b>Chatham Islands</b>	<b>NZCI*</b>			
Culverden	NZCU			
Dunedin	NZDN			
Gisborne	NZGS			
Hamilton	NZHN			
Hokitika	NZHK			
Invercargill	NZNV			
Kerikeri	NZKK			
Manapouri	NZMO			
Masterton	NZMS			
Milford Sound <sup>3</sup>	NZMFA			
Mt Cook <sup>3</sup>	NZMCA			
Napier	NZNR			
Nelson	NZNS			
New Plymouth	NZNP			
Oamaru	NZOU			
Palmerston North	NZPM			
Paraparaumu	NZPP			
Pukaki	NZUK			
Queenstown	NZQN			
Rotorua	NZRO			
Taupo	NZAP			
Tauranga	NZTG			
Timaru	NZTU			
Wairoa	NZWOA			
Wanaka	NZWF			
Wanganui	NZWU			
Westport	NZWS			
Whakatane	NZWK			
Whangarei	NZWR			
Woodbourne	NZWB			

**Note**

- 1 All aerodromes above use FULL AWS reports (with the exception of those indicated) – these are issued as AUTO METARs every 30 minutes with no manual observations. The report is produced by fully automated state of the art AWS’.
- 2 Identified by a **FOUR** or **FIVE** letter ICAO station identifier eg (NZGS) and contain the word **AUTO** after the **date and validity group** in the report.
- 3 Limited AWS Reports – basic observations only

**\*Note METARs are ONLY available for the Chatham Island Airport location NZCI**

**NZGS:**

**METAR 222300Z AUTO 18006KT 120V230 20KMNDV // BKN055/// 15/07 Q1027**

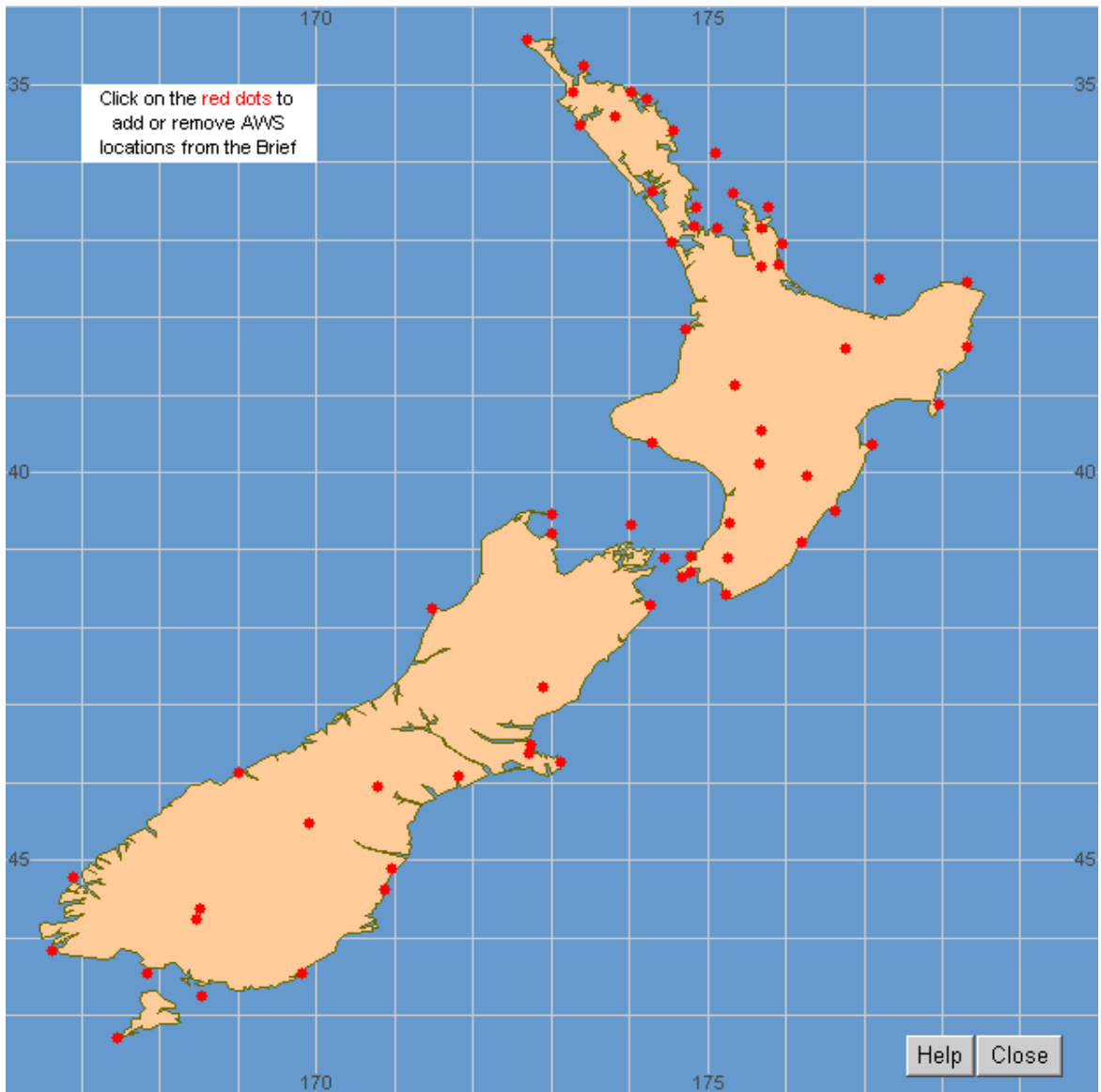
**EXAMPLE – AUTO METAR for NZGS**

**NZGS:**

METAR 222300Z AUTO 18006KT 120V230 20KMNDV // BKN055/// 15/07 Q1027

Location of AWS Reports taken from locations not at aerodromes - scattered all over NZ

EXAMPLE – Map taken from MetFlight Commercial indicating locations of AWS



Location	Location Indicator
Arthurs Pass	NZAUX
Ashburton	NZASA
Bean Rock	NZBNW
Birchwood	NZBWX
Brothers Island	NZBRX
Cape Campbell	NZCCX
Cape Foulwind	NZFWW
Cape Karikari	NZKAW
Cape Kidnappers	NZCKX
Cape Reinga	NZCRX
Cape Turnagain	NZCTX
Castlepoint	NZCPX
Centre Island	NZCNW
Channel Island	NZCLW
Culverden	NZCUA
East Rangataiki	NZERX
East Taratahi	NZMSX
Fairlie	NZFAX
Farewell Spit	NZFSX
Flat Hills	NZFHX
Franz Josef	NZFJX
Galatea	NZGAX
Golden Valley Wahi	NZGVX
Gore	NZGCE
Great Mercury Island	NZGMW
Haast	NZHDX
Hawera	NZHAX
Hicks Bay	NZHIX
Hokianga	NZHOX
Kaikohe	NZKOE
Kaipara Harbour	NZKHW
Kaitia Hospital	NZJKX
Kelburn	NZKLX
Koromiko	NZKXX
LeBons Bay	NZLBX
Levin	NZLNX
Lumsden	NZLUX
Lyttleton	NZLYX
Mahia	NZMHX
Mahia Radar	MZMAX
Mamaku Radar	NZMMX
Mana Island	NZMNX
Manakau Heads	NZMKW
Methven	NZMVX
Mid Dome	NZMDX
Moeraki	NZMXW
Mokohinau Island	NZMUX
New Brighton Pier	NZNBX
Ngawihi	NZNWX
Nugget Point	NZNGX
Oamaru	NZOUT

Okahu Island	NZOKW
Paeroa	NZPAX
Passage Rock	NZPRW
Port Taharoa	NZTRX
Porters Pass	NZPTX
Purerua	NZPEX
Puysegur Point	NZPYX
Rimutaka Hill Roadside	NZRIX
Roxburgh	NZRXX
Ruapuke Island	NZRPW
Secretary Island	NZSCX
Separation Point	NZSEW
Slipper Island	NZSLW
South West Cape	NZSIX
Springs Junction	NZSPX
Stephens Island	NZSPX
Takapau Plains	NZTKX
Tara Hills	NZTHE
Taumarunui	NZJTX
Tolaga Bay	NZTBX
Tongue Point	NZKRW
Tutukaka	NZTKW
Waiouru	NZRUA
Westport	NZWQX
Whangaparoa	NZWHX
White Island	NZWIX
Whitianga	NZWTA

#### Note

- 1 AWS from these locations are **ONLY** available via the MetFlight Commercial and MetJet websites
- 2 The observations are taken from locations **not usually** at aerodromes, which are scattered all over New Zealand and provide basic observations in METAR format for wind speed and direction, temperature, dew-point and pressure (QNH)
- 3 Observations from these locations in METAR format are clearly identified by a **FIVE letter location indicator** containing either an **A, X, W, E, or T** at the end

Eg. NZASA, NZCRX, NZSLW, NZKOE, NZOUT

- |          |   |  |
|----------|---|--|
| <b>A</b> | – | Based at an aerodrome (very basic observations only) |
| <b>X</b> | – | not at an aerodrome                                  |
| <b>W</b> | – | wind only  |
| <b>E</b> | – | no pressure given                                    |
| <b>T</b> | – | temperature only                                     |

## SUMMARY OF AERODROME AWS REPORTS

There are three distinct groups of AWS reports currently being provided. These are:

### FULL AWS Reports

These are 30 minute AUTO METARs with **no manual observations**. The reports are produced by fully automated state of the art AWS' at NZ Aerodromes.

Identified by:

- Station designator – FOUR letter ICAO station identifier eg NZGS
- The word **AUTO** after the **date and validity group** in the report

NZGS

METAR **222300Z** **AUTO** 18006KT 120V230 20KMNDV // BKN055// // 15/07 Q1027

#### EXAMPLE – AUTO METAR for NZGS

**NZGS:**

```
METAR 222300Z AUTO 18006KT 120V230 20KMNDV // BKN055// // 15/07 Q1027
```

#### Limited AWS Reports

##### *Domestic Aerodromes*

AWS reports which are supplementary to full or limited manual observations still provided for a few remaining NZ Domestic Aerodromes. These manual observations will continue to be provided until the remaining upgrades at these aerodromes are completed and the observations are fully automated.

Identified by:

- Station designator – FIVE letter station identifier e.g. **NZOHA**
- The header '**Automatic Weather Station Report**' at the top of the METAR listing
- The word **AUTO** included after the **date and validity group**

**Note:** Some stations may lack one or more sensors for cloud, visibility and/or present weather

**NZOHA:** (**AUTOMATIC WEATHER STATION REPORT**)

METAR **160300Z** **AUTO** 30023G35KT 23KMNDV // NCD 19/12 Q1009

**EXAMPLE – NZOHA (AUTO METAR) is provided supplementary to NZOH (Manual Observations)**

#### **METAR Listings**

**NZOHA:** (**AUTOMATIC WEATHER STATION REPORT**)

```
METAR 160300Z AUTO 30023G35KT 23KMNDV // NCD 19/12 Q1009
```

**NZOH:**

```
METAR 160300Z 30025G35KT 25KM FEW035 19/12 Q1009 NOSIG
```

##### *International Aerodromes*

These are supplementary to but **will not replace** full manual observations from the 3 ICAO Designated NZ International Aerodromes – Auckland, Christchurch and Wellington.

Identified by:

- Station designator – FIVE letter station identifier eg **NZAAA**
- The header '**Automatic Weather Station Report**' at the top of the METAR listing
- The word **AUTO** after the **date and validity group**
- These stations lack present weather sensors so there are no present weather groups in the AUTO METARs

NZAAA: (AUTOMATIC WEATHER STATION)

METAR 222300Z AUTO 11012KT 070V150 60KMNDV // BKN055/// 17/10 Q1024

EXAMPLE – NZAA (manual observations) and NZAAA (AUTO METAR)

**NZAA:**

METAR 222300Z 11011KT 070V150 CAVOK 16/09 Q1024 NOSIG

**NZAAA: (AUTOMATIC WEATHER STATION REPORT)**

METAR 222300Z AUTO 11012KT 070V150 60KMNDV // BKN055/// 17/10 Q1024

### Limited AWS Reports from other Locations

These limited observations originate from locations, which other than those at Whitianga, Ashburton, Waiouru and Culverden are sited primarily at non-aerodrome sites, scattered all over New Zealand which provide basic observations in METAR format for wind speed and direction, temperature, dew-point and pressure (QNH).

These reports are **ONLY** available via the MetFlight Commercial and MetJet Websites through the AWS selection map as part of the subscription service.

Observations from these locations in METAR format are clearly identified by a **FIVE letter location indicator** containing either an **A, X, W, E, or T** at the end

Eg. NZASA, NZCRX, NZSLW, NZKOE, NZOUT

- A** – based at an airport
- X** – not at an airport
- W** – wind only
- E** – no pressure given
- T** – temperature only

### EXAMPLE – AWS Reports from locations

**NZKRW: (AUTOMATIC WEATHER STATION REPORT)**

METAR 222300Z AUTO 11011KT //// // // // // //

**NZJKX: (AUTOMATIC WEATHER STATION REPORT)**

METAR 222300Z AUTO 09010KT 030V170 //// // FEW029/// BKN040///  
BKN050/// 17/12 Q1020

### NZ RADAR LOCATIONS

Location	Radar Availability	Image Availability	Range
Wellington	Current	7.5 minute	70km, 130km or 300km
Auckland	Current	7.5 minute	70km, 130km or 300km
Christchurch	Current	7.5 minute	70km, 130km or 300km
Invercargill *	Current	7.5 minute	70km, 130km or 300km
New Plymouth	Current	7.5 minute	70km, 130km or 300km
Mahia	Current	7.5 minute	70km, 130km or 300km
Bay of Plenty	Current	7.5 minute	70km, 130km or 300km
West Coast	Current	7.5 minute	70km, 130km or 300km
Northland	Mid 2013	7.5 minute	70km, 130km or 300km

**Note** \* Weather radar interruptions 10am–midday and 10pm–midnight due to upper air soundings

## 11. TAF Availability

Aerodrome	Location Indicator	TAF	Trend Forecast
Alexandra	NZLX	AVBL	
Auckland	NZAA	AVBL	AVBL
<b>Chatham Islands*</b>	<b>NZCI</b>	<b>AVBL</b>	
Christchurch	NZCH	AVBL	AVBL
Dunedin	NZDN	AVBL	
Gisborne	NZGS	AVBL	
Hamilton	NZHN	AVBL	
Hokitika	NZHK	AVBL	
Invercargill	NZNV	AVBL	
Kaitaia	NZKX	AVBL	
Kerikeri	NZKK	AVBL	
Manapouri	NZMO	AVBL	
Masterton	NZMS	AVBL	
Milford Sound <sup>1</sup>	NZMF	AVBL	
Mount Cook <sup>1 2</sup>	NZMC	AVBL	
Napier	NZNR	AVBL	
Nelson	NZNS	AVBL	
New Plymouth	NZNP	AVBL	
Ohakea	NZOH	AVBL	AVBL
Palmerston North	NZPM	AVBL	
Paraparaumu	NZPP	AVBL	
Queenstown	NZQN	AVBL	
Rotorua	NZRO	AVBL	
Taupo	NZAP	AVBL	
Tauranga	NZTG	AVBL	
Timaru	NZTU	AVBL	
Wanaka	NZWF	AVBL	
Wanganui	NZWU	AVBL	
Wellington	NZWN	AVBL	AVBL
Westport	NZWS	AVBL	
Whakatane	NZWK	AVBL	
Whangarei	NZWR	AVBL	
Whenuapai <sup>1</sup>	NZWP	AVBL	AVBL
Woodbourne	NZWB	AVBL	

- 1 There will be times when TAFs for some domestic aerodromes are not supported by METAR/SPECI or equivalent observations particularly at the beginning and end of the day. TAFs at these times may have a lower standard of accuracy than at times when observations are available.
- 2 TAF amendments are issued as required. However, amendments may not be made once three hours have elapsed since the last observation.

**\*Note only available for the Chatham Island Airport location NZCI**

## 12. Prices (Products and Services)

Prices for the products and services listed in the Aviation Weather Services section can be obtained from the General Manager Aviation Sales or Account Manager Aviation Services (refer to Section 15 “Contacting MetService” for contact details).

### 13. Ordering Products and Services

Products and Services can be ordered by contacting the General Manager Aviation Sales, Account Manager Aviation Services or the Service Desk (refer to Section 15, "Contacting MetService" for contact details).

### 14. Enquiries

Enquiries about the content of any of the products and services available from MetService can be obtained from the Account Manager Aviation Services, General Manager Aviation Sales, Manager Aviation Forecasting or the Service Desk (refer to Section 15, "Contacting MetService" for contact details).

### 15. Contacting MetService

#### Physical Address

30 Salamanca Road  
Kelburn  
Wellington  
NEW ZEALAND

#### Postal Address

PO Box 722  
Wellington 6140  
NEW ZEALAND

#### Telephone, Facsimile & E-mail

	Telephone	Fax	Email
General Manager Aviation Sales: Ray Thorpe	(04) 470 0739	(04) 470 0801	<a href="mailto:ray.thorpe@metservice.com">ray.thorpe@metservice.com</a>
Manager Aviation Forecasting: Marcel Roux	(04) 470 0731	(04) 470 0801	<a href="mailto:marcel.roux@metservice.com">marcel.roux@metservice.com</a>
Account Manager Aviation Services: Amy Dreverman	(04) 470 0751	(04) 470 0801	<a href="mailto:amy.dreverman@metservice.com">amy.dreverman@metservice.com</a>
Service Desk	(04) 470 0817	(04) 470 0801	<a href="mailto:servicedesk@metservice.com">servicedesk@metservice.com</a>
Duty Forecaster	(04) 470 0808	(04) 470 0801	<a href="mailto:duty.avfcstr@metservice.com">duty.avfcstr@metservice.com</a>

**AFTN:** NZKLYMYX

#### Websites:

MetService [www.metservice.com/business-services/aviation](http://www.metservice.com/business-services/aviation)

MetFlight <http://metflight.metra.co.nz>

MetJet <http://metjet.metra.co.nz>



# METSERVICE AVIATION SERVICES - Product Examples

## AREA FORECAST (ARFOR)

**Wind direction:** Degrees True  
**Wind speed:** Knots  
**Visibility:** Metres or Kilometres  
**Temperature:** Degrees Celsius  
**Height:** Feet AMSL

**FD** issued 03-21:50 UTC - VALID 2200 TO 1100 UTC

ARFOR FD VALID 2200 TO 1100 UTC

1000 29005

3000 28015

5000 27025 PS05

7000 26035 PS03

10000 25045 PS02

FZL 11000FT LOWERING TO 10000FT THIS EVENING.

VIS 30KM, REDUCING TO 15KM IN -SHRA, 5000M IN SHRA/RA.

CLD AREAS OF BKN CUSC 3000 TOPS UP TO 10000, BASE LOWERING TO 1400 IN RA/SHRA MAINLY ABT THE COAST.

AREAS SCT ACAS ABV 6000 OVER EASTERN FIORDS.

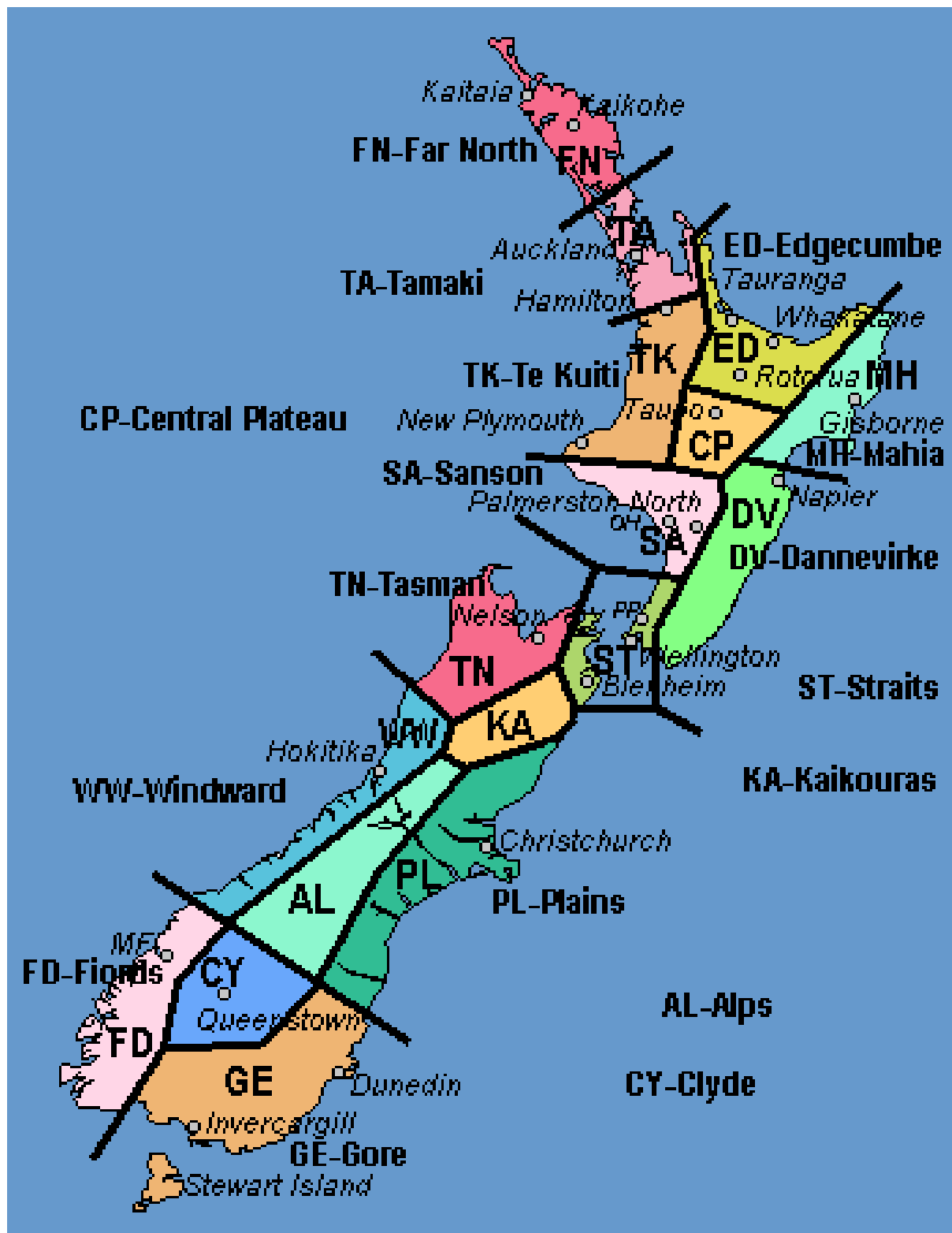
WX SCT -SHRA MAINLY ABT WESTERN FIORDS WITH ISOL SHRA/RA.

TURB OCNL MOD, SEVERE AS PER SIGMET, EASING IN N THIS AFTERNOON.

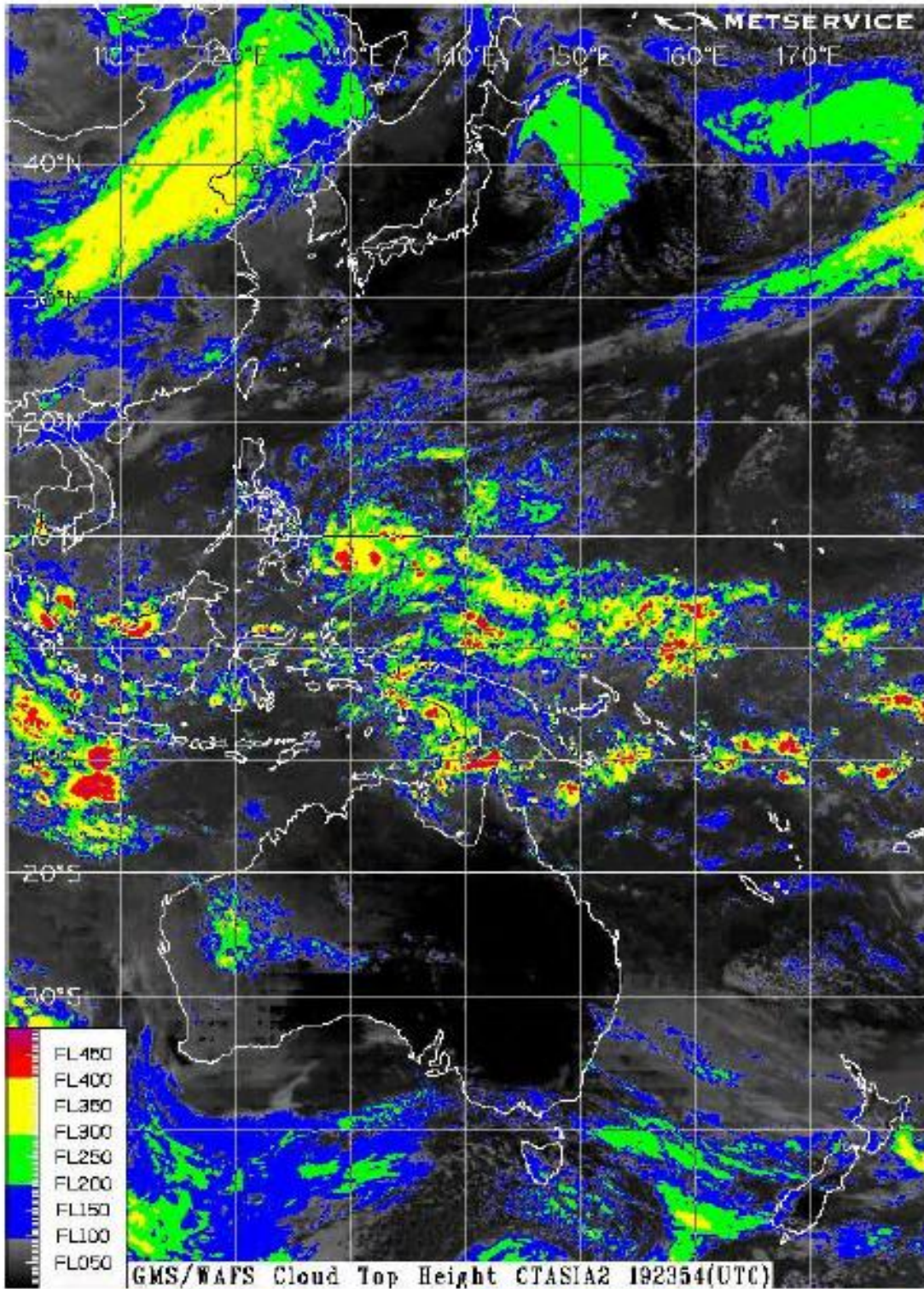
ICE OCNL MOD ABV 10000 DEVELOPING IN FAR SOUTH TONIGHT.

LOW LEVEL AREA FORECASTS (ARFORS)

Surface to 10,000ft



# SATELLITE IMAGERY



## **DOMESTIC AERODROME FORECAST (Terminal Aerodrome Forecast—TAF)**

**Wind direction:** Degrees True  
**Wind speed:** Knots  
**Visibility:** Metres or Kilometres  
**Height:** Feet above aerodrome level  
**Pressure:** Hectopascals (millibars)

TAF NZWS 032018Z 0320/0411  
24008KT 30KM SCT035  
BECMG 0322/0324 24018G30KT  
BECMG 0408/0410 24008KT  
2000FT WIND 23020KT  
QNH MNM 1009 MAX 1018

TAF NZHK 032018Z 0320/0411  
VRB02KT 20KM SCT025  
BECMG 0322/0324 26012KT  
BECMG 0408/0410 20005KT  
2000FT WIND 24015KT  
QNH MNM 1010 MAX 1019

TAF NZMF 032018Z 0320/0411  
12005KT 20KM -SHRA SCT030 BKN050  
BECMG 0322/0324 30010KT  
BECMG 0408/0410 13005KT  
2000FT WIND 28015KT  
QNH MNM 1009 MAX 1018

## **INTERNATIONAL AERODROME FORECAST (Terminal Aerodrome Forecast—TAF)**

**Wind direction:** Degrees true  
**Wind speed:** Knots  
**Visibility:** Metres or Kilometres  
**Height:** Feet above aerodrome level

TAF NZAA 032258Z 0400/0424 22015G25KT 9999 BKN035  
BECMG 0410/0412 18005KT

TAF NZWN 032258Z 0400/0424 01015KT 9999 FEW040  
BECMG 0406/0408 01008KT  
BECMG 0420/0422 18012KT

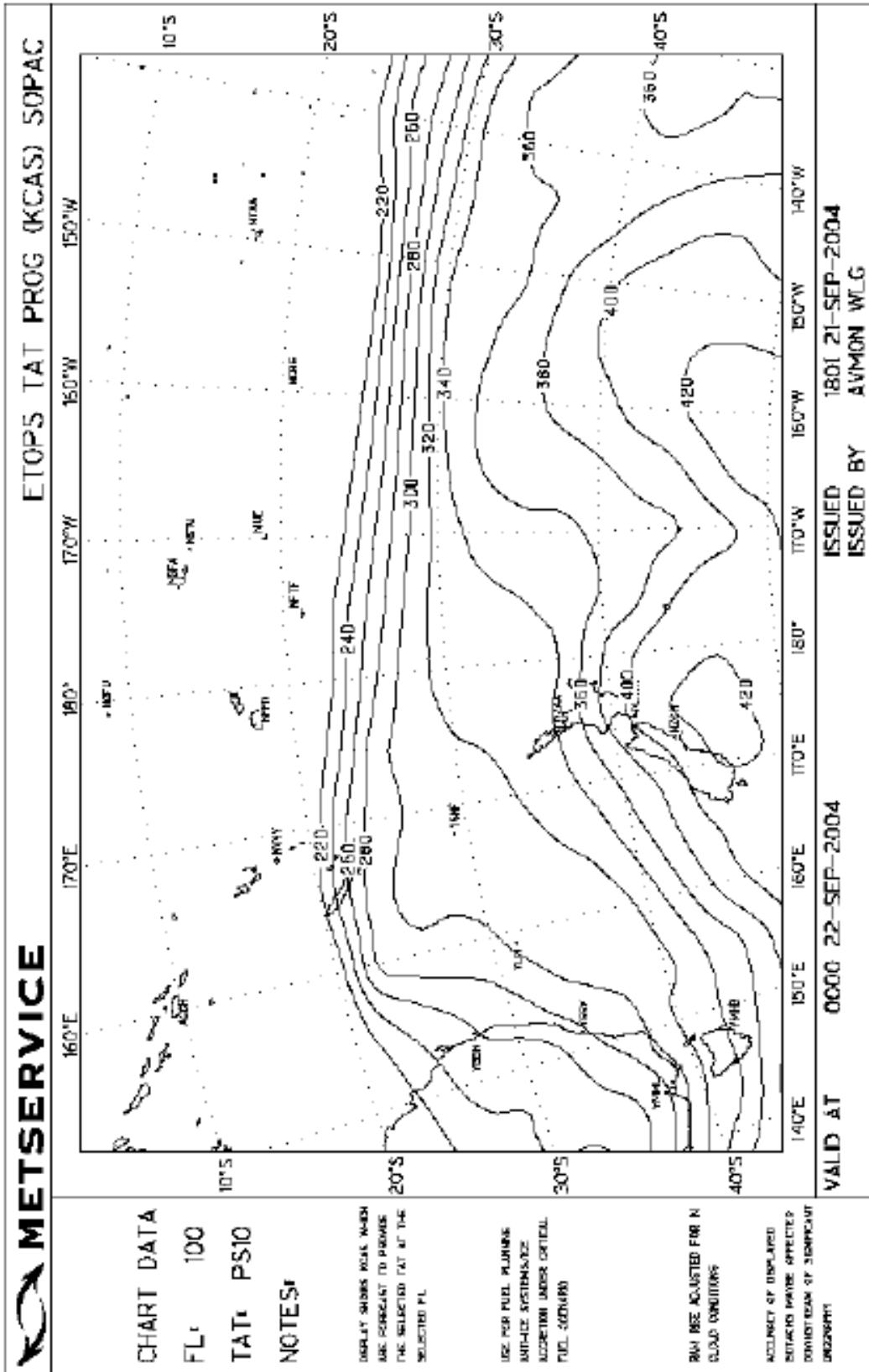
**TAF AMD NZCH 040143Z 0401/0424 06010KT 9999 FEW030**  
**BECMG 0409/0411 21005KT**  
**TEMPO 0412/0420 BKN009**  
**PROB30 0414/0419 0100 FG BKN001**  
**BECMG 0422/0424 10010KT**

## METEOROLOGICAL AERODROME REPORT (METAR)

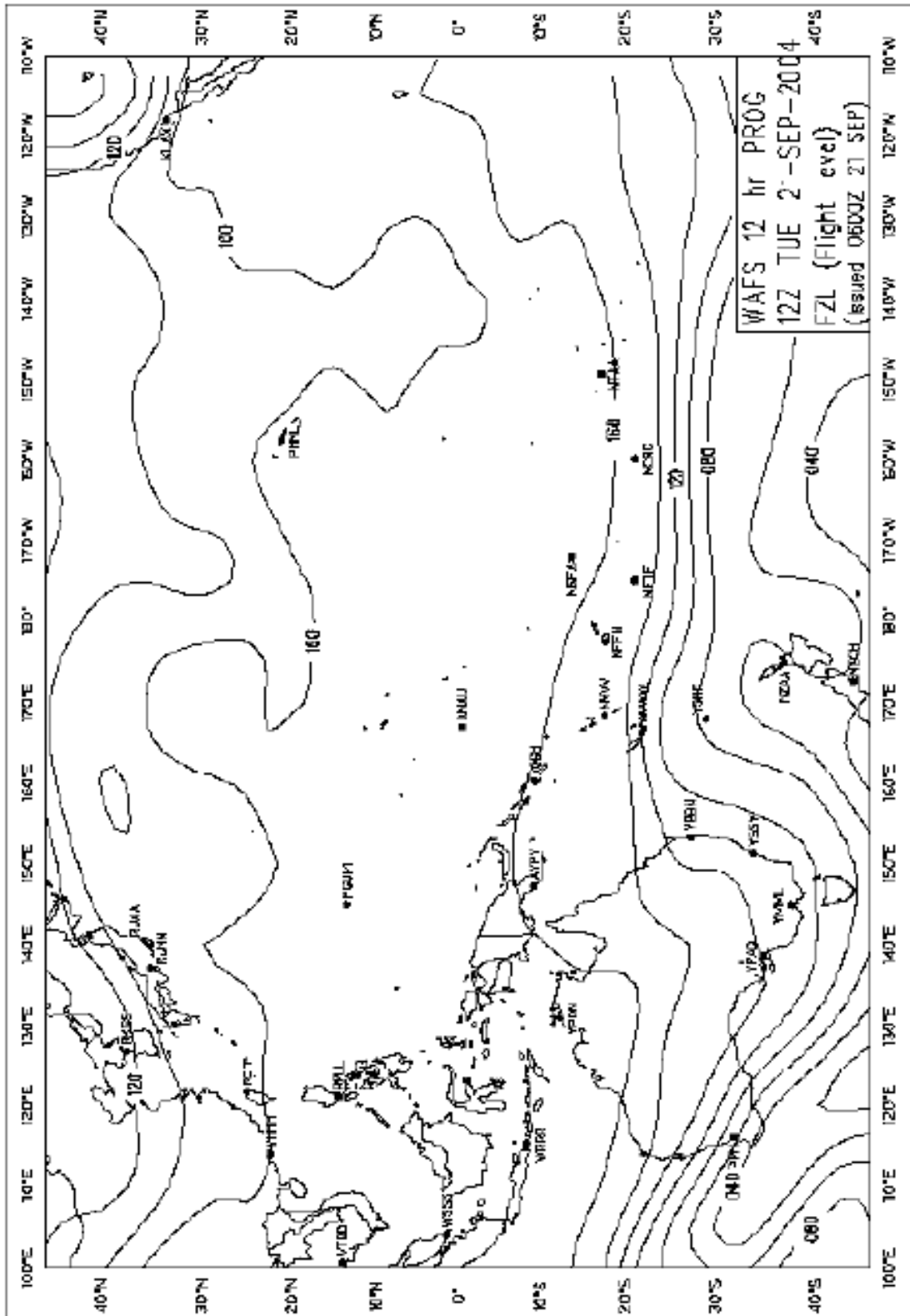
**Wind direction:** Degrees True  
**Wind speed:** Knots  
**Temperature:** Degrees Celsius  
**Visibility:** Metres or Kilometres  
**Height:** Feet above aerodrome level  
**Pressure:** Hectopascals (millibars)

METAR NZWN 281900Z 17013KT 1200 -DZ BKN002 OVC004 13/12 Q1022  
TEMPO 4000 RADZ BKN005 RMK KAUKAU 17023KT

EXTENDED TWIN OPERATIONS/EXTENDED DIVERSION TIME OPERATIONS CHARTS (ETOPS/EDTO)



# FREEZING LEVEL CHART (FZL)



## ROUTE FORECAST (ROFOR)

ROFOR supplied by METSERVICE. Times in UTC VALID 102000/110600

ROUTE NZRO/NZCH

ZONE	FL100	FL180	FL300	FL340	FL360	FL380
NZRO/TM	23006M03	25017M19	25054M45	25065M54	26062M56	26056M56
TM/MEVAX	24004M03	24017M19	25055M46	25065M54	26063M56	26058M57
MEVAX/NS	27003M03	24018M19	26060M46	26068M55	26063M57	26057M58
NS/PEAKS	26006M03	25016M20	26048M48	26062M56	26060M57	26053M58
PEAKS/YW	25008M03	24015M21	25040M49	26057M56	26055M57	26048M57
YW/NZCH	25009M04	24015M21	25037M49	26053M56	26052M57	26046M57

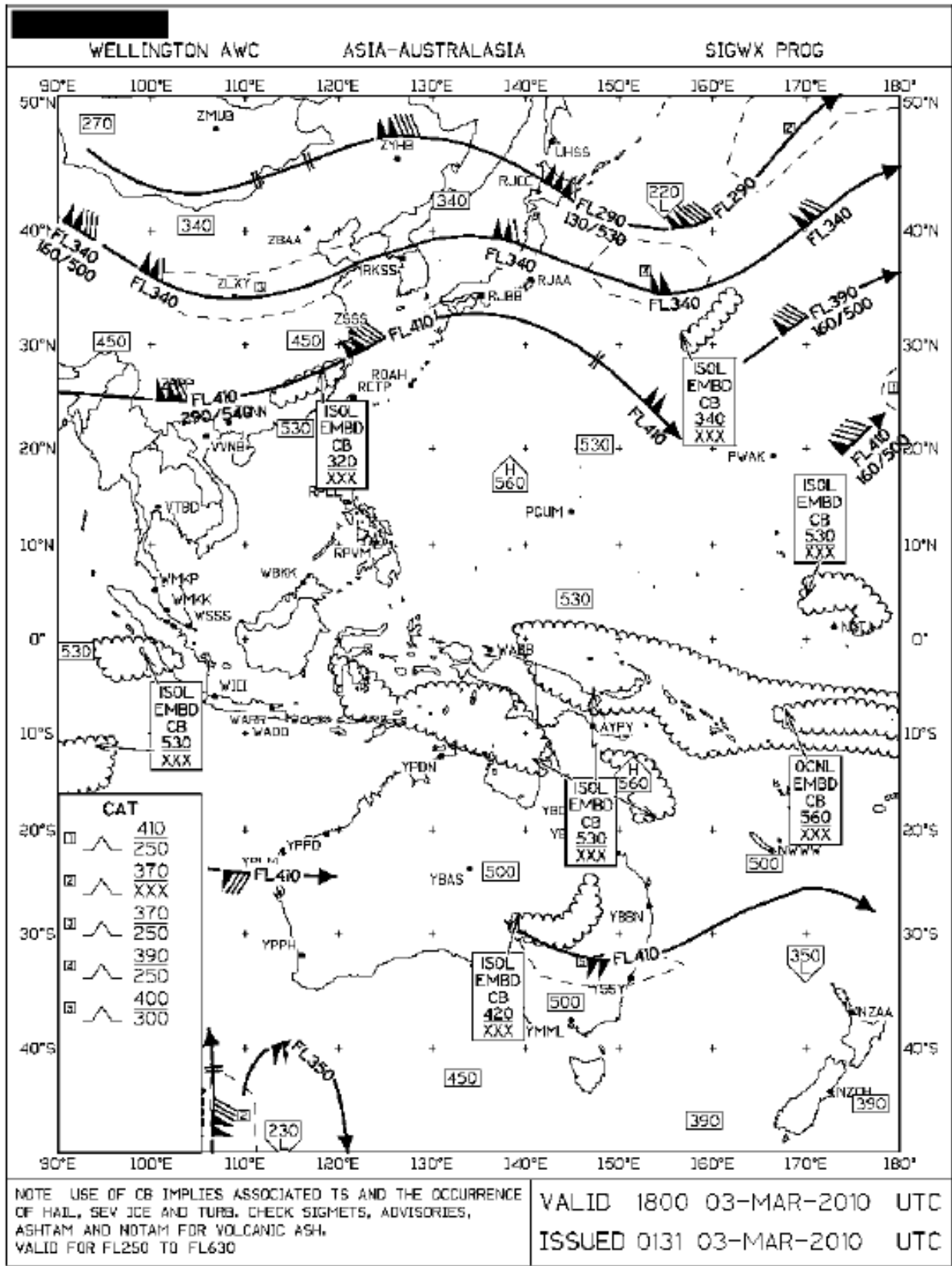


## SIGNIFICANT METEOROLOGICAL INFORMATION (SIGMET)

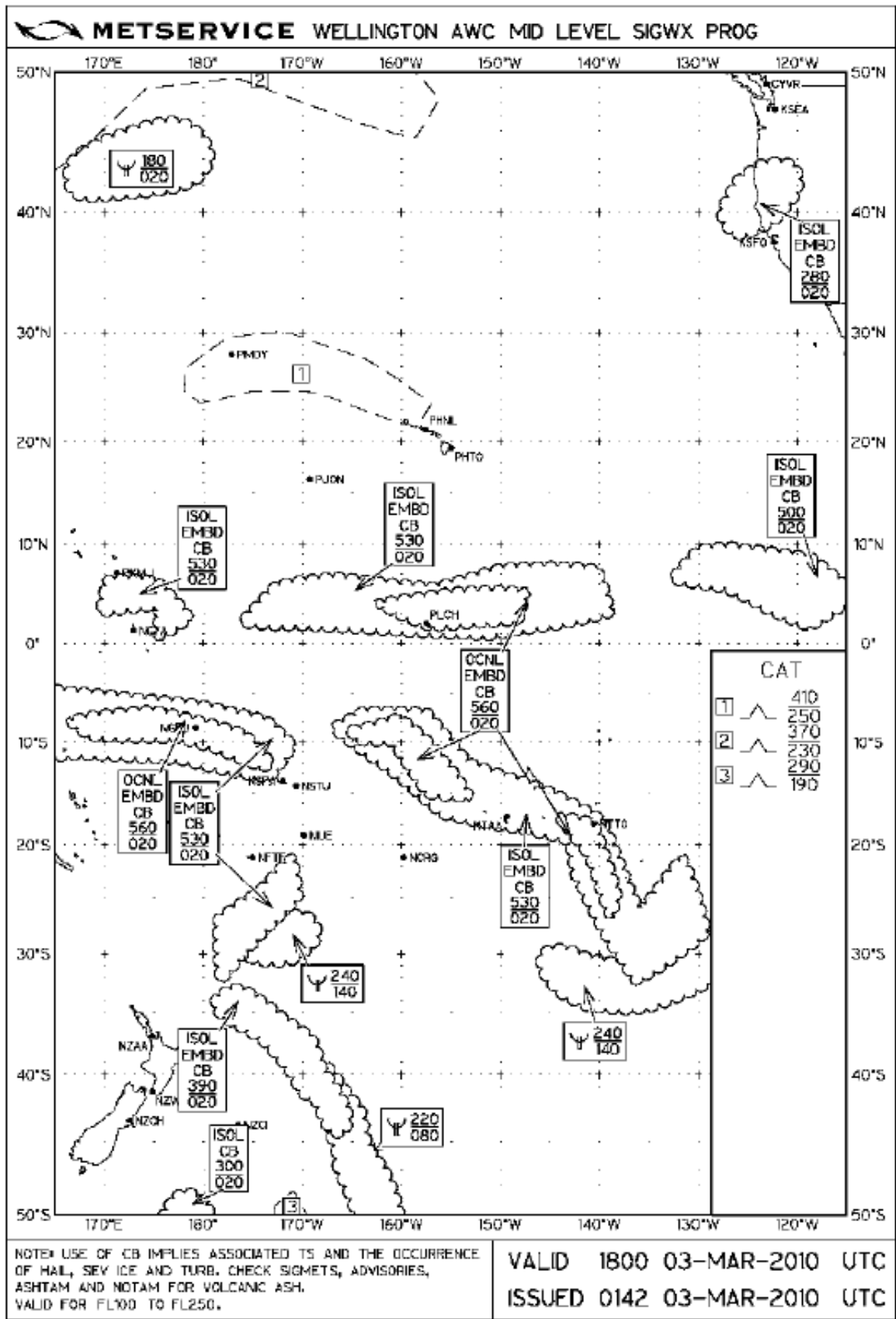
**Height:** Feet AMSL

NZZC SIGMET 5 VALID 140010/140410 NZKL  
NZZC NEW ZEALAND FIR SEV TURB OBS AT 2355Z 25NM S OF NZAA AT  
FL180 FCST SEV TURB FL130/300 N OF NZWS/NZKI S OF NZWP NC

**SIGNIFICANT WEATHER CHART — HIGH LEVEL**

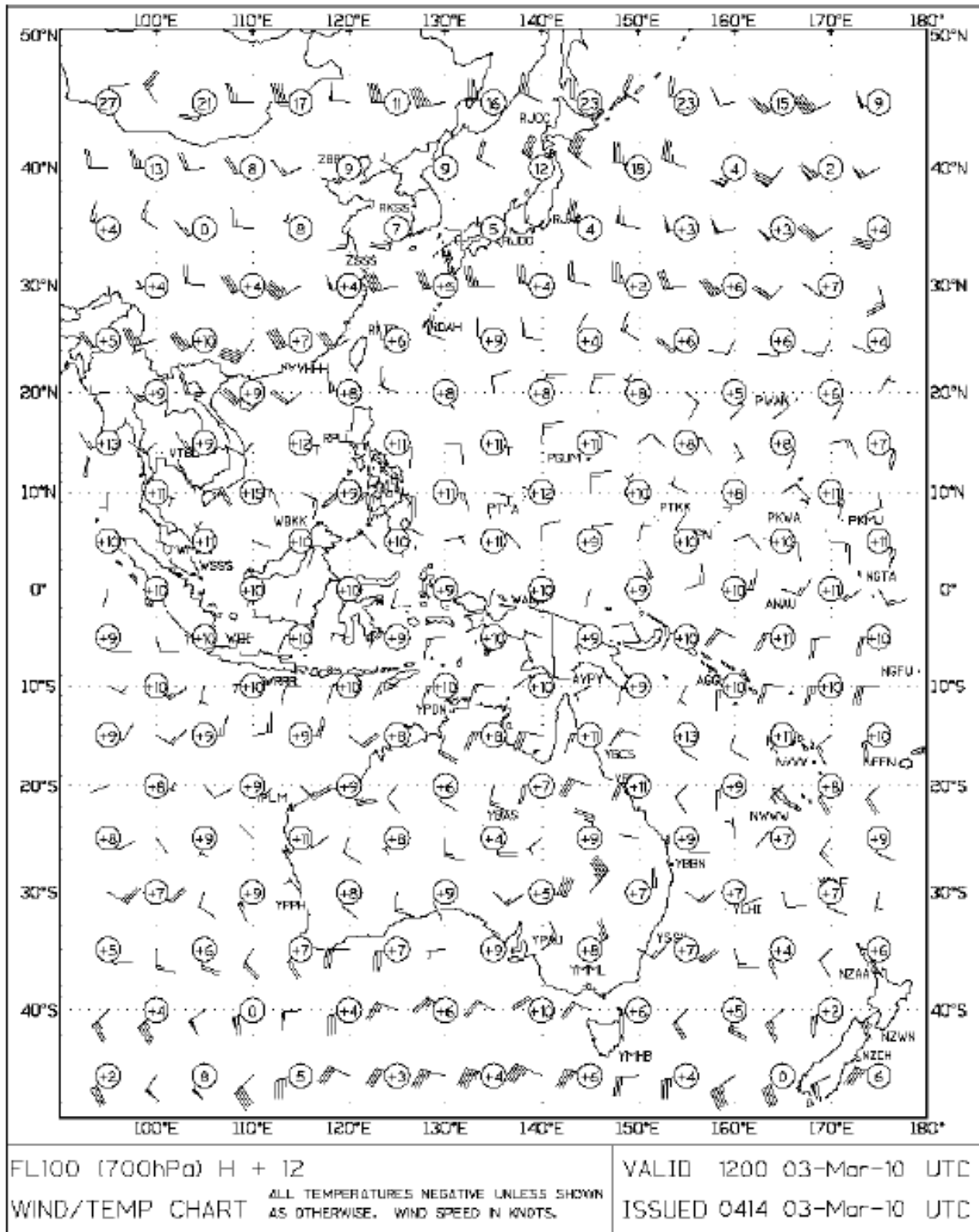


SIGNIFICANT WEATHER CHART — MEDIUM LEVEL



# WIND / TEMPERATURE CHART

Chart 1



# WIND / TEMPERATURE CHART

Chart 2

