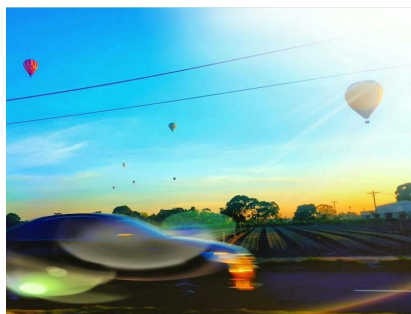


AVIATION WEATHER PACKAGES

Balloon Weather Package

Bureau of Meteorology > Aviation Meteorological Services



The Bureau of Meteorology's Balloon Weather packages offer standardised and automated weather information for balloonists across the county.

Balloon Weather Package

The Balloon Weather package page offers standardised and automated weather information for Balloonists. Users of the site will be able to select a location from a menu and view location specific weather information from a single web page to assist with planning and decision making.

Balloonists can source key weather observations and forecasts via the Aviation Weather web page: www.bom.gov.au/aviation/weather-packages/

Information includes model time series forecasts (Meteograms), upper temperature and wind data (F160s) for a specific location, surface observations at the location and/or nearby, and forecasts and warnings. Links to other applications such as radar and the satellite viewer are also provided on the page.

Overview of Balloon Weather Information

Model data available for all listed locations:

- Meteograms – model (forecast) time series of weather elements
- F160's

Official Aviation Forecasts, Warning and Advisories for nearby locations where available

- Aerodrome and Wind Shear Warnings
- Area QNH
- Australian SIGMET
- Australian AIRMET
- GAF's
- Grid point Winds and Temperature charts
- Significant weather charts
- State Warnings

Observations

- METAR/SPECI
- Aerological diagrams
- Profiler Winds
- Local Public Weather observations

Charts and other information

- MSLP Analysis chart
- 4 day MSLP outlook chart
- Radar links
- Satellite imagery
- State Fire Danger ratings



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Model Meteograms and F160's

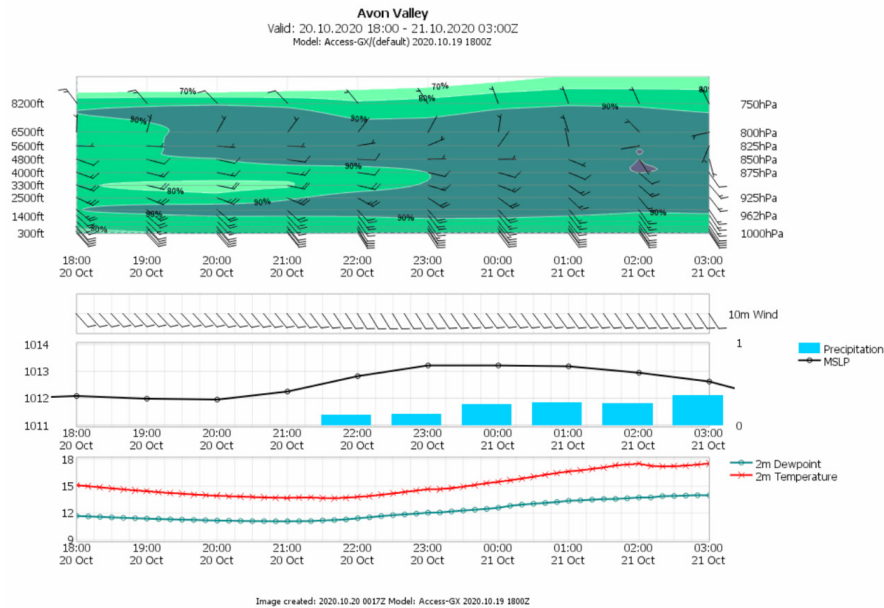
Model data display times

The model meteogram and F160 will display the forecast data from the early morning to late morning (approximately 01UTC) to aid in decision making for that day's flight. Subsequent forecast information is also displayed in order to plan the next morning's flight. Users are advised to check the model validity day and time prior to use.

The model data meteogram displayed on the page focuses on the Balloon operating hours between 18UTC to 03UTC. The time series axis is fixed to the same 9-hour period.

The model F160 forecast data is displayed in 5-time steps: 18Z, 20Z, 22Z, 00Z and 02Z to cover the usual flight period.




Use of model meteograms



The model meteograms are comprised of two main sections. The top section shows winds and relative humidity throughout the forecast period through the lower 10,000ft of the atmosphere.

Wind barbs are used to represent the wind at that height and time and have two parts: the staff and the feathers or barbs on the staff.

Winds are indicated by arrows, where the arrow alignment gives the direction from which the wind is blowing, and the barb gives the speed, where:

- a pennant barb () represents 50 knots
- a feather barb () represents 10 knots
- a half feather barb () represents 5 knots

A sharp change in wind direction and strength with time can represent a number of things, such as a trough or front moving through the forecast location or the onset of a sea breeze.

For greater detail on trough movement and location please review the MSLP charts included in the package.

The green and blue shading represents relative humidity, with higher levels of relative humidity often, but not always, corresponding to an increase in cloud at that level. It is important to recognise that this meteogram is a forecast only, based on numerical model output from the ACCESS G model. Other weather models may show different solutions. If you're unsure about interpreting the meteogram, please contact the Aviation forecasting centre relevant to the area of interest.

In the middle section of the meteogram, the blue bar represents forecast precipitation in mm in the previous hour. (Note that the scale for the axis will change depending on the magnitude of the rainfall forecast.) The black line represents the forecast Mean Sea Level Pressure (MSLP). A 10m wind forecast is also plotted.

In the lower section, forecast temperature (the red line) and dewpoint (blue line) are represented. These are for at 2m above the surface. (Note that 2 metres is the upper value of the agreed standard height for thermometers, according to the World Meteorological Organization.)

Use of model f160's

The model F160s shows the forecast temperature and moisture through the troposphere and the variation/change with height. An F160 is also known as an Aerological or Skew T diagram, usually when displaying actual observations from a sonde flight. Reference notes on Skew T- Log P Aerological diagrams can be found in the Knowledge Centre. (See <http://www.bom.gov.au/aviation/knowledge-centre/>.) Note that Aerological diagrams contain actual observations for the time of flight, whilst the model F160 forecast is derived from NWP data and may not reflect actual conditions at the time.

Use of Aviation Forecasts, Warning and Advisories

The provision of observations, forecasts, warnings and advisories is provided within the technical and regulatory framework of the International Civil Aviation Organization (ICAO) and the World Meteorological Organization (WMO). Further information on the use of official Aviation Forecasts, Warning and Advisories products such as TAF, METAR/SPECI, AIRMET, SIGMET, GAFS, Grid Point Winds and Significant Weather Charts are produced by the Bureau of Meteorology's Aviation, Land and Maritime Transport program and can be found at www.bom.gov.au/aviation/knowledge-centre



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Airservices Australia is the official distributor of aviation forecasts, warnings and observations issued by the Bureau of Meteorology. Airservices' flight briefing services are available at www.airservicesaustralia.com. Telephone contact details for elaborative briefings are contained in Airservices' Aeronautical Information Publication Australia (AIP), which is available online through their website.

Other brochures produced by the Bureau of Meteorology's Aviation, Land and Maritime Transport program can be found at www.bom.gov.au/aviation/knowledge-centre.

A vertical line in the margin indicates a text amendment since last update.