

AVIATION WEATHER PRODUCTS

Grid-Point Wind and Temperature Forecasts

Bureau of Meteorology › Aviation Meteorological Services



The Aviation Weather Centre Melbourne generates wind and temperature forecast charts using weather model data.

Grid-Point Wind and Temperature Forecasts

A grid-point wind and temperature (GPWT) forecast provides a text-based display of forecast wind speed and direction and temperature forecasts at specified heights above mean sea level, presented in a gridded format. These GPWT forecasts are displayed in charts for three different levels, known as High-level, Mid-level and Low-level Forecasts.

The Bureau's Aviation Weather Centre Melbourne generates these charts from data sourced from World Area Forecast Centre (WAFC) and the Bureau's Numerical Weather Prediction Model (ACCESS-R). Mid and High-level GPWT charts are produced with a 2.5 or 5 degree resolution from WAFC data. Low-level GPWT charts are produced with a 1.5 or 5 degree grid resolution from ACCESS-R data, hence the values may differ for the same location and height given that the data sources are different.

The charts are issued every six hours and valid every three hours (low-level) or six hours (mid and high level) for the next 24 hours and are valid for the time given on the chart. For operations between validity times users can extrapolate the data between charts. Receipt of a forecast for a particular validity time will automatically amend and supersede any prior issues for that time. Both issue time and validity time are given on the forecast.

High-level (FL180 – 450) charts are issued for the Australian and Tasman regions. Mid-level (5000ft – FL240) charts are issued for the Australian, Northeast, Southeast, West and Tasman regions. Low-level (1000ft – FL140) charts are issued for the Australian region and nine smaller areas. The following charts are produced:

HIGH LEVEL	MID LEVEL	LOW LEVEL
FL450 – 150hPa	FL240 – 400hPa	FL140 – 600hPa
FL390 – 200hPa	FL180 – 500hPa	10000ft – 700hPa
FL340 – 250hPa	FL140 – 600hPa	7000ft – 800hPa
FL300 – 300hPa	FL100 – 700hPa	5000ft – 850hPa
FL240 – 400hPa	FL050 – 850hPa	2000ft – 950hPa
FL180 – 500hPa		1000ft – 985hPa

The data is presented in latitude and longitude squares (either 5° by 5°, 2.5° by 2.5°, or 1.5° by 1.5°) overlaid on a geographic background.

The values given represent the wind and temperature at specific heights for the mid point of each square. They are given in the formats ddffTT, where:

dd	gives the wind direction in degrees true to the nearest ten degrees (the final zero is truncated)
fff	gives the wind speed in knots.
t	gives the sign of the temperature (+ or -).
TT	gives the temperature in whole degrees celsius.



Australian Government
Bureau of Meteorology

Example Charts

High Level (Australia)

34 004 -66	10 008 -67	16 012 -67	20 015 -67	20 022 -67	26 025 -67	27 040 -69	27 038 -69	30 029 -67	31 028 -67	32 018 -67	34 010 -67
13 001 -52	23 013 -52	18 017 -51	19 019 -51	21 024 -52	31 038 -53	30 042 -52	30 034 -52	33 036 -52	32 032 -52	36 031 -52	01 027 -52
03 017 -40	23 010 -40	21 026 -40	18 034 -39	29 029 -41	29 038 -40	30 035 -40	30 027 -40	31 032 -40	32 035 -39	34 025 -39	01 026 -39
04 017 -30	25 008 -29	19 021 -30	22 009 -30	28 020 -30	28 019 -30	28 028 -30	28 021 -30	30 031 -30	32 031 -30	33 013 -30	36 023 -29
09 012 -15	07 008 -14	16 006 -13	14 011 -15	18 012 -15	22 015 -15	24 016 -16	24 016 -16	27 020 -14	28 018 -16	31 013 -14	32 013 -15
08 018 -04	10 015 -05	06 009 -04	10 015 -03	14 016 -03	18 013 -03	24 010 -04	29 010 -05	34 008 -04	31 006 -04	34 004 -04	34 005 -04
26 038 -67	27 028 -68	26 026 -67	24 032 -67	23 034 -67	24 039 -67	26 042 -68	29 064 -70	27 063 -69	29 059 -69	30 054 -67	30 048 -68
28 037 -51	26 034 -51	24 040 -52	22 042 -52	22 035 -52	24 033 -52	28 059 -53	29 069 -52	30 058 -53	30 061 -53	31 051 -52	31 050 -51
29 038 -40	25 043 -40	23 048 -40	22 051 -40	22 036 -40	26 034 -40	28 067 -41	28 069 -40	30 060 -40	30 060 -40	31 056 -40	31 050 -40
29 036 -30	26 037 -30	23 035 -31	21 039 -32	22 027 -33	25 028 -32	28 042 -32	29 043 -31	28 048 -30	29 056 -30	30 056 -30	30 051 -29
31 018 -14	30 006 -15	01 002 -16	18 007 -16	18 016 -17	19 027 -17	23 021 -17	27 026 -17	29 037 -17	29 047 -17	29 044 -17	29 038 -16
26 012 -03	34 013 -03	05 015 -03	12 013 -04	17 014 -04	19 015 -05	23 014 -06	28 014 -06	29 030 -09	27 029 -08	29 029 -08	29 023 -06
26 075 -66	26 068 -66	26 056 -66	25 060 -65	24 077 -67	24 080 -67	26 078 -66	28 084 -68	29 096 -69	29 114 -69	29 106 -69	29 097 -69
27 077 -53	27 074 -53	25 073 -52	24 078 -54	23 074 -53	23 076 -54	27 077 -55	28 091 -54	29 101 -54	29 108 -54	30 106 -53	30 097 -53
28 070 -41	27 071 -42	25 070 -42	24 061 -42	23 062 -43	24 069 -45	27 070 -44	27 083 -43	27 088 -42	28 098 -41	29 108 -40	30 093 -40
29 060 -32	28 052 -32	26 043 -34	24 043 -35	24 045 -36	23 058 -37	25 049 -37	27 058 -35	27 070 -33	28 076 -33	29 092 -32	29 093 -31
30 030 -18	31 032 -17	29 021 -17	25 024 -18	23 029 -19	22 035 -20	23 038 -21	25 035 -22	28 044 -24	28 043 -22	29 050 -20	28 066 -18
27 020 -06	28 024 -05	30 025 -04	26 015 -04	23 021 -05	22 024 -06	22 022 -10	26 010 -11	27 015 -10	27 019 -11	27 029 -10	27 039 -09
28 117 -66	27 115 -67	26 107 -67	25 096 -67	24 087 -67	24 064 -64	24 064 -63	27 046 -63	27 051 -63	28 069 -62	29 107 -64	28 136 -66
28 121 -54	27 113 -54	26 109 -54	25 100 -54	24 100 -53	23 076 -56	25 052 -59	26 046 -58	27 058 -57	29 073 -57	29 117 -55	29 152 -53
29 101 -45	28 094 -46	27 086 -46	25 083 -46	24 090 -47	24 064 -51	25 038 -51	26 038 -49	27 063 -47	28 081 -47	28 098 -44	28 124 -42
29 090 -37	28 078 -37	27 072 -38	26 067 -38	25 067 -40	24 056 -41	24 043 -42	25 039 -40	26 029 -43	27 059 -43	28 081 -40	28 115 -38
29 062 -22	28 058 -21	27 057 -20	26 048 -21	25 044 -22	25 034 -24	22 028 -25	23 021 -28	26 016 -29	25 023 -29	25 037 -29	26 065 -27
29 036 -11	28 034 -10	27 029 -09	27 023 -08	26 020 -11	25 015 -10	23 005 -15	21 011 -16	18 004 -16	23 010 -16	22 032 -16	25 042 -16
27 099 -59	28 090 -60	27 088 -62	26 076 -62	25 066 -62	24 049 -61	24 024 -62	24 018 -64	23 029 -61	25 037 -58	26 051 -57	26 060 -55
28 092 -58	28 102 -56	27 100 -56	26 088 -57	25 067 -57	25 045 -57	24 022 -61	20 026 -57	19 011 -58	20 027 -59	26 051 -56	27 075 -52
28 080 -50	28 075 -50	27 078 -48	27 066 -48	26 056 -50	25 043 -52	25 013 -53	20 025 -51	17 012 -55	22 028 -54	25 045 -53	26 075 -50
28 071 -42	28 064 -42	28 070 -41	27 073 -42	26 053 -43	25 027 -45	25 017 -43	17 016 -44	15 011 -47	21 036 -47	23 045 -46	24 072 -46
28 057 -28	28 045 -27	28 055 -26	27 047 -26	28 030 -27	27 022 -28	25 016 -28	18 004 -30	28 004 -30	22 039 -31	21 038 -31	23 053 -35
28 043 -16	28 039 -16	28 036 -16	28 034 -15	29 019 -16	26 017 -15	25 008 -17	19 002 -18	20 018 -19	24 037 -19	24 036 -21	21 049 -22
28 092 -52	28 079 -53	28 074 -57	27 061 -59	27 044 -60	27 028 -60	24 016 -61	25 010 -64	20 030 -63	21 033 -59	21 033 -55	22 028 -51
28 108 -54	29 101 -57	29 071 -60	28 048 -60	27 036 -60	28 029 -61	30 025 -62	26 011 -62	19 021 -61	17 050 -61	20 047 -58	20 035 -50
28 114 -55	29 100 -55	30 063 -54	29 041 -52	28 030 -54	28 025 -53	32 029 -53	22 002 -52	16 018 -53	17 050 -53	19 050 -55	19 039 -50
28 101 -49	30 086 -47	30 060 -45	29 045 -45	29 027 -45	28 022 -44	30 024 -44	25 011 -43	18 016 -43	18 045 -45	19 045 -47	19 052 -48
28 086 -34	29 078 -31	30 056 -29	29 044 -28	29 028 -28	29 020 -29	27 017 -29	27 017 -29	22 026 -30	20 034 -33	19 047 -34	20 068 -37
27 084 -20	29 062 -19	29 048 -17	29 035 -17	29 021 -17	29 035 -17	29 016 -18	28 017 -19	22 017 -20	21 032 -21	19 038 -22	19 054 -26
29 074 -45	30 077 -49	30 075 -52	29 065 -56	30 050 -59	29 037 -58	27 039 -59	25 029 -60	24 030 -62	21 032 -61	20 042 -67	19 030 -53
29 088 -45	30 092 -50	30 093 -57	30 073 -63	30 051 -63	27 031 -62	29 049 -61	28 041 -62	26 029 -64	20 043 -64	18 059 -59	17 045 -57
GRID POINT FORECASTS (FL180 - 450) PROVIDED BY AUSTRALIAN BUREAU OF METEOROLOGY DATA FROM WAFAC LONDON FL hPa ISA T VALID: 0000 UTC 02 Jun 2017 ISSUED: 2139 UTC 01 Jun 2017 DATA FORMAT: ddd fff ttt fff: WIND DIRECTION IN DEGREES TRUE TO NEAREST 10 ttt: WIND SPEED IN KNOTS SIGN: +/- AND TEMPERATURE IN WHOLE DEGREES CELSIUS											

Mid Level (South-East)

23 037 -20	23 033 -21	23 040 -21	23 036 -22	23 037 -22	24 036 -23	26 031 -24	26 030 -26	27 034 -26	28 036 -24	27 038 -24	27 043 -23	27 047 -23	27 054 -22	27 061 -21
24 023 -06	22 020 -09	21 020 -09	21 020 -10	23 015 -12	23 009 -13	26 008 -13	28 010 -12	27 014 -12	27 018 -12	27 018 -12	27 024 -12	27 029 -12	27 034 -11	28 039 -11
02 003 +01	001 +00	003 +00	016 +00	011 +00	008 -01	014 +00	012 +02	012 +02	011 -02	013 +01	012 -02	012 -04	013 +00	014 +00
08 014 +06	08 014 +06	08 014 +06	08 014 +06	08 014 +06	08 014 +06	08 014 +06	08 014 +06	08 014 +06	08 014 +06	08 014 +06	08 014 +06	08 014 +06	08 014 +06	08 014 +06
07 013 +10	09 018 +11	08 024 +12	09 022 +11	09 026 +10	10 023 +10	10 021 +10	09 021 +10	09 021 +10	09 021 +10	09 021 +10	09 021 +10	09 021 +10	09 021 +10	09 021 +10
25 038 -21	24 037 -22	23 037 -23	23 032 -24	22 033 -24	24 022 -27	25 022 -28	25 024 -28	25 020 -29	26 026 -28	26 037 -27	26 044 -27	26 056 -26	26 065 -25	27 075 -24
25 024 -09	24 020 -09	24 015 -11	21 011 -13	20 009 -15	20 010 -15	21 011 -15	24 007 -15	20 015 -15	21 011 -15	24 007 -15	20 015 -15	23 012 -15	25 035 -16	25 043 -15
18 002 -05	34 007 -04	33 004 -04	01 005 -04	03 006 -05	09 004 -05	012 -06	11 012 -06	11 012 -06	11 012 -06	11 012 -06	11 012 -06	11 012 -06	11 012 -06	11 012 -06
13 009 -00	05 014 +01	005 005 +01	02 009 +02	012 +02	010 +02	012 +02	012 +02	012 +02	012 +02	012 +02	012 +02	012 +02	012 +02	012 +02
11 013 +10	11 013 +10	04 006 +12	03 005 +12	03 005 +12	03 005 +12	03 005 +12	03 005 +12	03 005 +12	03 005 +12	03 005 +12	03 005 +12	03 005 +12	03 005 +12	03 005 +12
27 032 -27	27 025 -28	25 019 -27	25 017 -27	22 014 -29	20 019 -29	10 005 -32	18 004 -31	14 003 -31	21 033 -31	22 017 -30	22 039 -31	22 045 -31	23 044 -31	23 045 -32
28 020 -15	27 015 -14	25 012 -15	28 010 -15	26 004 -16	22 011 -16	11 002 -18	21 003 -18	19 009 -18	20 016 -18	20 022 -17	21 034 -18	21 034 -18	22 037 -18	22 039 -18
27 009 -05	26 005 -06	28 006 -06	29 005 -05	00 004 -07	03 005 -07	08 005 -07	17 011 -07	11 008 -08	18 014 -08	19 029 -09	20 034 -10	20 037 -11	21 028 -12	22 040 -13
26 008 -01	14 005 -00	35 004 +01	008 -01	001 +02	014 003 +02	011 002 +02	002 +01	005 000 +1	008 000 +1	011 001 +01	18 025 -02	20 027 -02	20 026 -04	20 029 -04
34 012 +13	10 004 +12	08 006 +11	02 006 +10	006 +09	003 +09	003 +09	003 +09	003 +09	003 +09	003 +09	010 +08	018 +07	021 +08	030 +08
29 021 -28	28 020 -29	27 018 -28	26 016 -28	25 011 -29	24 007 -29	00 004 -30	26 008 -30	24 022 -30	22 036 -31	21 036 -32	20 038 -32	21 043 -33	21 051 -33	21 059 -38
30 027 -17	28 019 -16	27 014 -16	28 013 -17	28 008 -18	33 007 -18	28 006 -18	22 015 -19	21 017 -19	21 026 -19	20 030 -20	21 037 -21	21 040 -21	21 044 -22	22 049 -24
29 017 -07	28 010 -06	29 008 -07	28 006 -06	31 000 -07	008 -07	008 -07	008 -07	008 -07	008 -07	008 -07	008 -07	008 -07	008 -07	008 -07
31 022 00	17 013 -01	25 007 -01	28 005 +01	010 +01	003 +02	005 +02	010 +01	011 +01	011 +01	011 +01	011 +01	011 +01	011 +01	011 +01
31 020 +15	012 +13	024 002 +11	035 008 +09	009 +08	003 +08	003 +08	005 +08	005 +08	005 +08	010 +08	010 +08	010 +08	010 +08	010 +08
29 022 -28	29 025 -29	28 025 -29	27 018 -29	28 018 -29	27 012 -29	26 014 -30	24 019 -30	22 027 -30	21 034 -31	21 035 -33	19 044 -34	19 047 -34	19 060 -37	22 053 -39
29 026 -16	29 024 -17	27 017 -17	28 014 -18	28 011 -19	31 016 -19	28 011 -19	22 018 -19	22 020 -20	21 024 -21	21 031 -21	20 042 -21	20 039 -23	20 057 -24	22 046 -26
30 020 -06	31 004 -06	30 016 -07	30 014 -07	28 010 -08	29 010 -08	25 014 -08	22 014 -08	21 016 -08	21 025 -09	21 027 -10	19 035 -12	19 039 -14	20 053 -14	22 039 -15
31 041 00	29 036 -01	28 021 -02	31 014 -01	32 016 00	30 007 00	24 007 00	25 010 -01	23 015 -01	21 022 -01	20 016 -03	20 024 -04	20 033 -05	20 049 -06	22 035 -07
35 017 +12	34 024 +12	31 021 +10	19 010 +09	033 016 +09	028 007 +07	31 005 +07	28 008 +06	21 011 +06	22 012 +05	19 019 -01	18 025 +02	19 035 +04	20 045 +02	21 030 +02
29 028 -29	28 028 -29	29 023 -29	29 034 -30	27 025 -30	27 027 -30	26 023 -29	24 025 -30	22 029 -31	21 033 -32	20 034 -33	19 042 -34	18 045 -35	17 056 -37	10 029 -38
29 024 -17	28 026 -18	29 024 -18	30 026 -19	29 004 -19	19 028 01	20 010 -20	14 018 -20	12 023 -20	13 030 -21					

