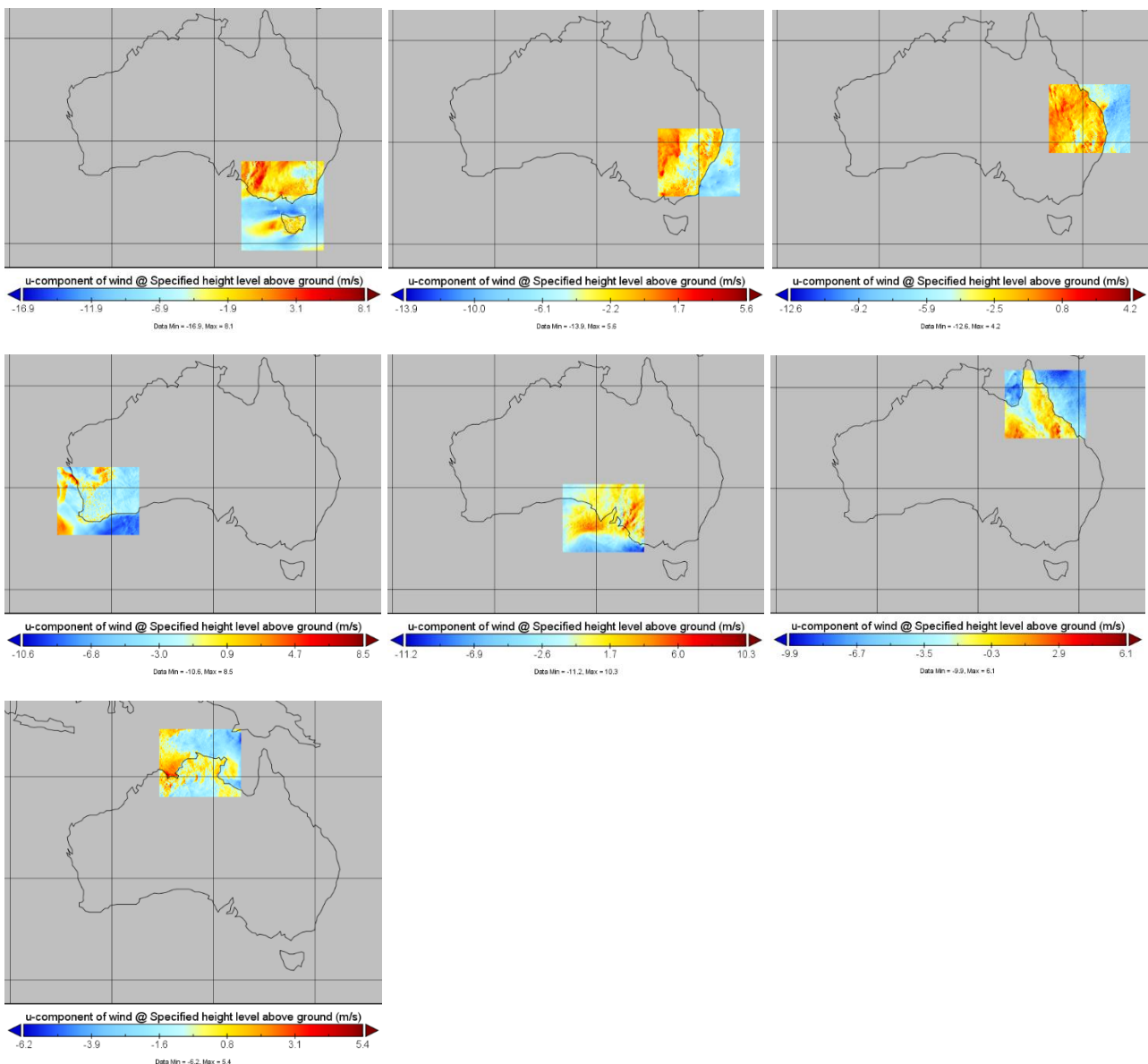


ACCESS-C NWP Data

User Guide - Version 2.0 – updated 1 July 2025



This user guide provides a summary of the Australian Community Climate and Earth-System Simulator (ACCESS) Numerical Weather Prediction (NWP) data products from the ACCESS-C (City) model available to Registered Users via cloud FTP and SFTP.

Table of Contents

Data Product Overview	3
Model Domains	3
Model Summary	4
Product Subscription Options.....	4
File Locations	5
File Naming Conventions	5
Parameters	5
Data Availability Times	8
Sample Files.....	9
Additional Information.....	9
Contact Us.....	9

Data Product Overview

The ACCESS-C model outputs meteorological parameters defined on three-dimensional grids for each forecast time-step. The grid structure is evenly spaced latitude/longitude in the horizontal and hybrid-height based in the vertical. As such the NetCDF4 and GRIB2 file products contain a range of gridded field values valid for a particular model time-step.

In addition to the native ACCESS model hybrid-height coordinates, data on pressure-levels (levels of constant atmospheric pressure) is also available. Note that data on this level type is derived entirely from the hybrid-height coordinate data via interpolation (or where necessary, extrapolation).

Model Domains

ACCESS-C data is available for domains around Sydney, Brisbane, Darwin, Perth, Adelaide, Victoria, Tasmania and Northern Queensland, as pictured in Figure 1 and defined in Table 1.

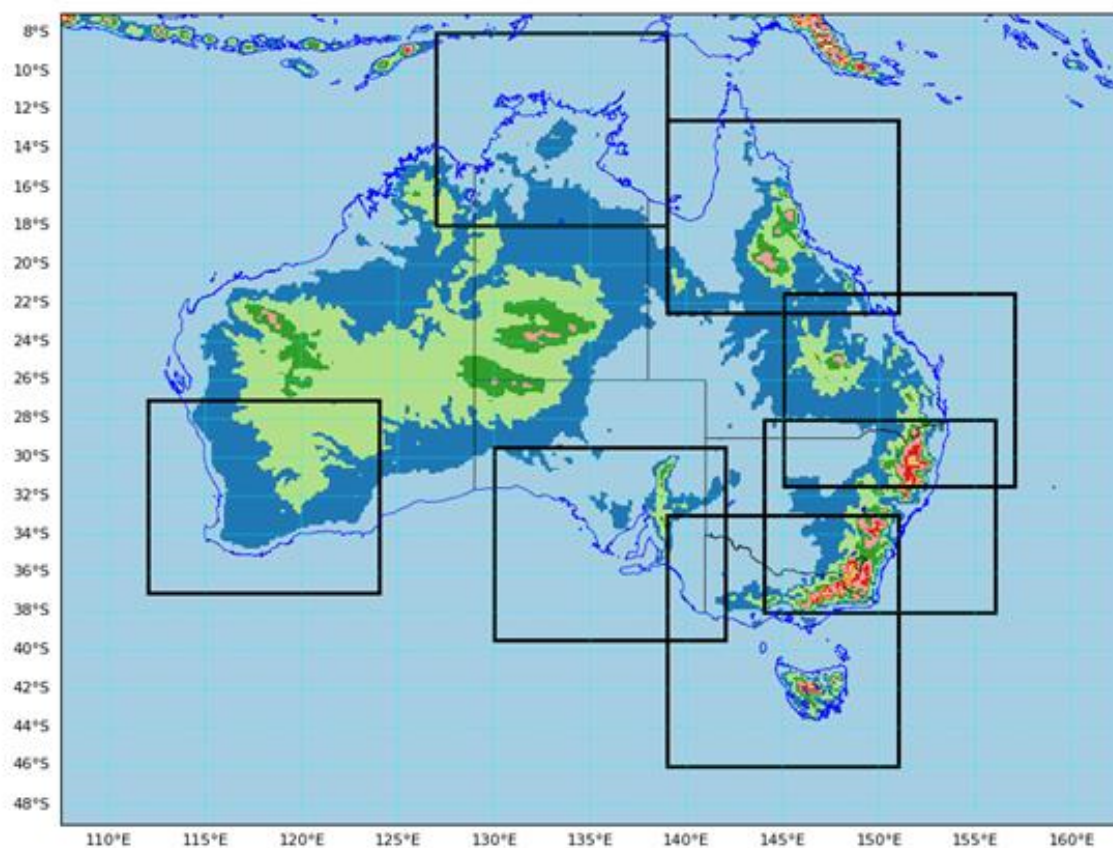


Figure 1 - ACCESS-C domains

Table 1 lists the coordinates of the domain limits pictured in Figure 1.

Name	Domain limits [W to E, S to N]
ACCESS-C (Sydney)	144.000° to 156.029°; -38.000° to -27.970°
ACCESS-C (Brisbane)	145.000° to 157.029°; -31.500° to -21.470°
ACCESS-C (North Queensland)	139.000° to 151.029°; -22.500° to -12.470°
ACCESS-C (Vic/Tas)	139.000° to 151.001°; -46.000° to -32.999°
ACCESS-C (Perth)	112.000° to 124.028°; -37.000° to -26.970°
ACCESS-C (Adelaide)	130.000° to 142.029°; -39.500° to -29.470°
ACCESS-C (Darwin)	127.000° to 139.029°; -18.000° to -7.970°

Model Summary

Table 2 provides a model summary for the operational ACCESS-C model.

Operational Model Version	Name	Domains	Resolution	Runs per day	Forecast Range	Time Steps
APS4	ACCESS-C4	Brisbane North Qld Sydney Adelaide Perth Darwin Vic/Tas	~1.5km	4	<u>00, 06, 12Z Runs</u> Up to +36 hours <u>18Z Runs</u> Up to +42 hours	1 hour

Table 2 Model summary for the operational ACCESS-C model

Product Subscription Options

Table 3 lists the available ACCESS-C product subscription options. Please see our [Product Catalogue](#) for current prices.

Product/Bundle Code	Product/Bundle Description	Product Codes included
IDBY0003	ACCESS-C - all domains – all levels	IDY2540 n
IDBY0023	ACCESS-C - all domains – surface only	IDY2542 n
IDY2540 n	ACCESS-C – single domain – all levels	
IDY2542 n	ACCESS-C – single domain – surface only	

Table 3 List of available ACCESS-C product subscription options (where $n=0$ for Vic/Tas, 1 for Sydney, 2 for Brisbane, 3 for Perth, 4 for Adelaide, 5 for Darwin and 6 for North Queensland)

File Locations

Table 4 lists the sub-directories of Registered Users' directories in which files are available. Please note that products are only available via cloud FTP (<ftp-reg.cloud.bom.gov.au>) and SFTP (<sftp-reg.cloud.bom.gov.au>) and not via <ftp.bom.gov.au>.

Model	File Format	Sub-directory
ACCESS-C	NetCDF4	/access_c3_nwp4
ACCESS-C	GRIB2	/access_c3_grib2

Table 4 File locations

File Naming Conventions

Product files in [NetCDF4](#) and [GRIB2](#) format conform to the following naming convention:

IDY254NN.version.fields.levels.base-time.forecast-hour.grid-coords.ext

File-name key	
<i>IDY254NN</i>	Product Code as listed in Table 3
<i>version</i>	Model version (fixed for all current products)
<i>fields</i>	Alphanumeric descriptor of fields (e.g. all-flds, pop-flds)
<i>levels</i>	Alphanumeric descriptor of levels (e.g. all-lvls, slv)
<i>base-time</i>	Model run's UTC base time in the format YYYYMMDDHH, where YYYY = year, MM = month, DD = day, HH = hour (e.g. 2025062518)
<i>forecast-hour</i>	Product's validity time (model time-step) as hours after base-time in the format <i>hhh</i> (e.g. 000, 024), note an <i>hhh</i> of 000 is the analysis time-step.
<i>grid-coords</i>	Descriptor of model grid co-ordinate level-type (surface, model or pressure)
<i>ext</i>	File-type extension (grib2 or nc4)

Parameters

Table 5 lists the parameters available as single level fields.

Parameters	
10m wind gust	Maximum updraft helicity (GRIB2 only)
10m wind u component	Maximum derived radar reflectivity at 1km above ground level (GRIB2 only)
10m wind v component	Mean sea level pressure
Accumulated evaporation from land soil surface	Meridional wind at the 50m rho level

Parameters	
Accumulated precipitation	Middle cloud cover
Accumulated rainfall	Minimum updraft helicity (GRIB2 only)
Accumulated snowfall	Planetary boundary layer height
Average downwards longwave radiation at the surface	Precipitable water
Average downwards shortwave radiation at the surface	Probability of horizontal visibility less than 5 km (including precipitation)
Average incoming shortwave radiation flux	Screen level dewpoint temperature
Average mean sea level pressure	Screen level maximum temperature
Average meridional wind at 10m	Screen level minimum temperature
Average net longwave radiation at surface	Screen level relative humidity with respect to water
Average net shortwave radiation at surface	Screen level specific humidity
Average outgoing longwave radiation	Screen level temperature
Average rate of evaporation over open sea	Soil moisture available for transpiration
Average screen level air temperature	Soil moisture content in a layer
Average screen level specific humidity	Soil moisture content layer 2
Average surface latent heat flux	Soil moisture content layer 3
Average surface meridional wind stress	Soil moisture content layer 4
Average surface sensible heat flux	Soil temperature in a layer
Average surface shortwave diffuse radiation flux	Soil temperature layer 2
Average surface shortwave direct radiation flux	Soil temperature layer 3
Average surface zonal wind stress	Soil temperature layer 4
Average total cloud coverage	Surface latent heat flux
Average total surface moisture flux	Surface meridional wind stress
Average zonal wind at 10m	Surface pressure

Parameters	
Canopy water content	Surface roughness length for momentum
Fog fraction	Surface sensible heat flux
High cloud cover	Surface temperature
Horizontal visibility (including precipitation)	Surface zonal wind stress
Land mask	Topography height above mean sea level
Low cloud cover	Total cloud cover
Maximum derived composite radar reflectivity (GRIB2 only)	Zonal wind at the 50m rho level

Table 5 Parameters available as single level fields

Table 6 lists the parameters available as model and pressure level fields.

Parameters	
Cloud specific ice water content	Relative humidity with respect to water
Cloud specific liquid water content	Specific humidity
Dew point	Temperature
Geopotential height above mean sea level	Vertical velocity
Meridional wind	Zonal wind
Pressure (t/q or theta surface) – model level field only	

Table 6 Parameters available as model and pressure level fields

Data Availability Times

Table 7 lists the expected approximate times for data files for the analysis timestep (+000) and all files for the full-model run (complete) to be available on cloud (S)FTP for the ACCESS-C APS4 model.

Model Domain (<i>n</i> from table 3)	00 UTC run		06 UTC run		12 UTC run		18 UTC run	
	UTC	AEST	UTC	AEST	UTC	AEST	UTC	AEST
North Queensland (6) and Sydney (1) +000	0130	11:30 AM	0740	5:40 PM	1330	11:30 PM	1940	5:40 AM
North Queensland (6) and Sydney (1) complete	0210	12:10 PM	0815	6:15 PM	1410	12:10 AM	2020	6:20 AM
Brisbane (2) and Vic/Tas (0) +000	0150	11:50 AM	0750	5:50 PM	1350	11:50 PM	1950	5:50 AM
Brisbane (2) and Vic/Tas (0) complete	0225	12:25 PM	0825	6:25 PM	1425	12:25 AM	2025	6:30 AM
Adelaide (4) +000	0230	12:30 PM	0825	6:25 PM	1430	12:30 AM	2025	6:25 AM
Adelaide (4) complete	0300	1:00 PM	0900	7:00 PM	1500	1:00 AM	2100	7:00 AM
Darwin (5) +000	0100	1:00 PM	0900	7:00 PM	1500	1:00 AM	2100	7:00 AM
Darwin (5) complete	0330	1:30 PM	0930	7:30 PM	1530	1:30 AM	2130	7:30 AM
Perth (3) +000	0330	1:30 PM	0930	7:30 PM	1530	1:30 AM	2130	7:30 AM
Perth (3) complete	0400	2:00 PM	1000	8:00 PM	1600	2:00 AM	2200	8:00 AM

Table 7 Data availability times

Sample Files

Sample ACCESS-C files in NetCDF4 format are available via:

<ftp://ftp.bom.gov.au/register/sample/access/netcdf4/>

Sample ACCESS-C files in GRIB2 format are available via:

<ftp://ftp.bom.gov.au/register/sample/access/grib2/>

Please note that due to most browsers no longer supporting FTP, it is generally necessary to use an FTP client such as Filezilla to retrieve the sample files. Alternatively, they can be accessed via Windows File Explorer by pasting the link into the address bar (e.g.

<ftp://ftp.bom.gov.au/register/sample/access/netcdf4/>)

Additional Information

Detailed information on ACCESS model data is provided on the Bureau's website in the following location: <http://www.bom.gov.au/nwp/doc/access/NWPData.shtml>

A Technical Report on the APS4 Global System Upgrade (including ACCESS-C) is available on the Bureau's website in the following location: [ACCESSG4GE4.pdf](#)

Contact Us

For enquiries about real-time data please email webreg@bom.gov.au