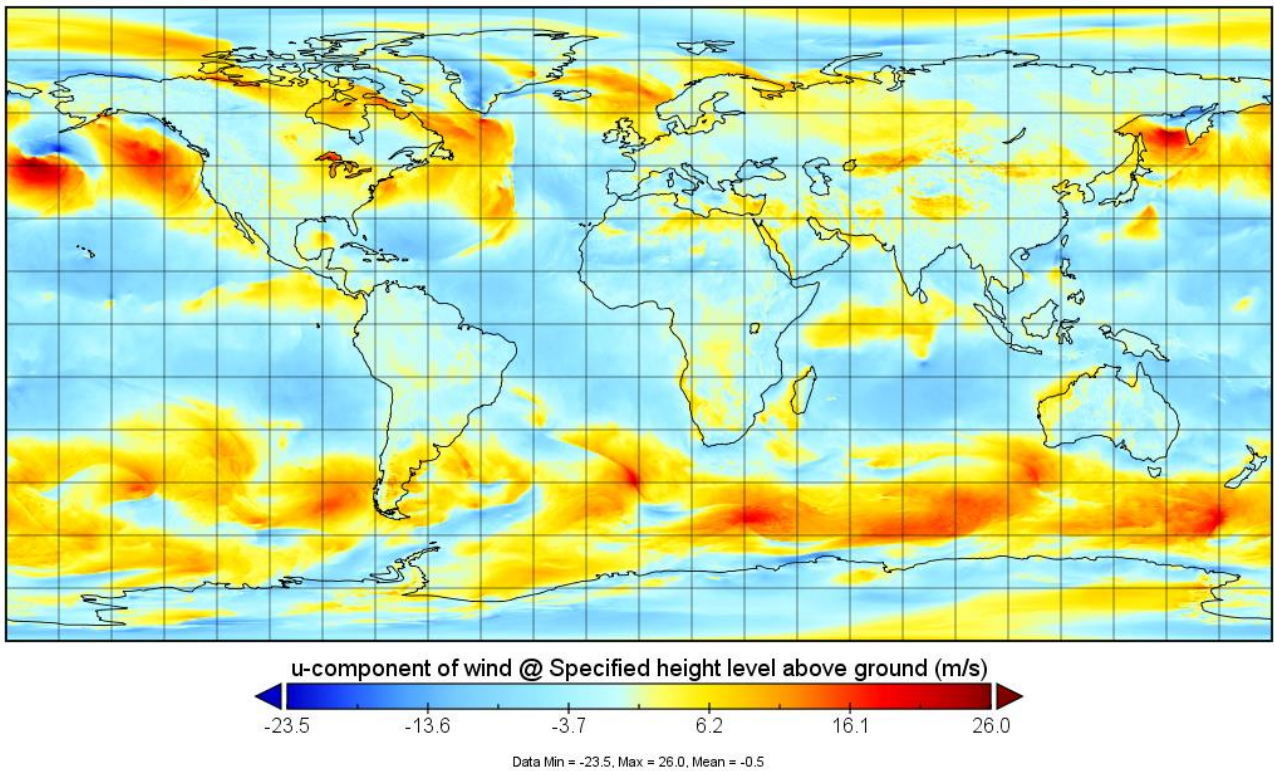


ACCESS-G NWP Data

User Guide - Version 2.1 – updated 1 July 2025

u-component of wind @ Specified height level above ground



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-G (Global) model available to Registered Users via cloud FTP and SFTP.

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Data Product Overview

The ACCESS-G 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).

ACCESS-G Mean Sea Level Pressure (MSLP) and Surface Wind data are also available as time-enabled WMS layers via the Bureau of Meteorology's [GIS2Web](#) Service.

Model Domains

ACCESS-G data is available for the global domain and two sub-domains (Regional and Australian) pictured in Figure 1 and defined in Table 1.

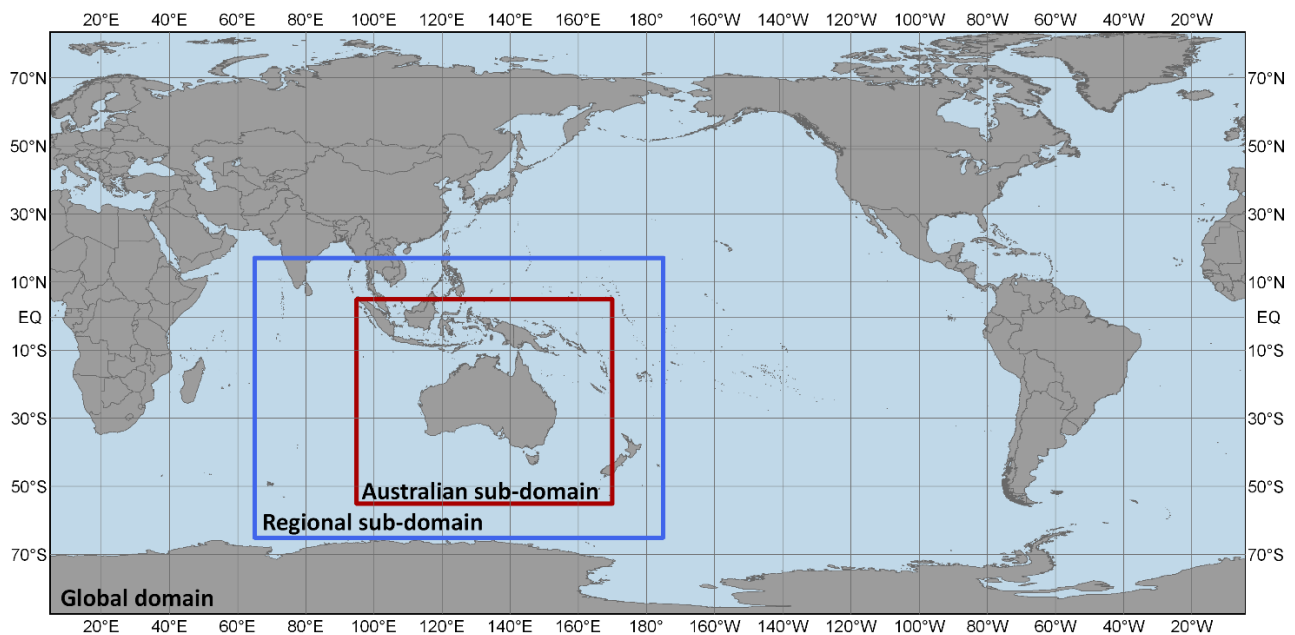


Figure 1 - ACCESS-G global domain (entire map), regional sub-domain (blue) and Australian sub-domain (red)

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

Name	Domain limits [W to E, S to N]	Sub-domain limits
ACCESS-G	Full globe	Australian 95.010° to 169.893°, -54.902° to 4.980° Regional 64.951° to 184.482°; -64.980° to 16.934°

Table 1 Domain and sub-domain limits of the ACCESS-G model

Model Summary

Table 2 Provides a model summary for the operational ACCESS-G model.

Operational Model Version	Name	Domain	Resolution	Runs per day	Forecast Range	Time Steps
APS4	ACCESS-G4	Global; Regional sub-domain; Australian sub-domain	~13km	4	<u>00 and 12Z Runs</u> Up to +240 hours <u>06 and 18Z Runs</u> Up to +84 hours	<u>Single Level Fields</u> 1 hour to 240 hours <u>Hybrid & Pressure Level Fields</u> 3 hours to 72 hours, 6 hours thereafter

Table 2 Model summary for the operational ACCESS-G model

Product Bundles

Table 3 lists the available ACCESS-G product bundles and included products. Please see our [Product Catalogue](#) for current prices.

Bundle Code	Bundle Description	Product Codes included in Bundle
IDBY0001	ACCESS-G - full domain (global) bundle	IDY25000 - ACCESS-G Grid Files - full (global) domain IDY25006 - ACCESS-G Grid Files - regional sub-domain IDY26001 - ACCESS-G Pre-genesis TC Forecast Tracks IDY26000 - ACCESS-G TC Forecast Tracks IDY26051 - ACCESS-GE Pre-genesis TC Forecast Tracks IDY26050 - ACCESS-GE TC Forecast Tracks
IDBY0002	ACCESS-G - Australian sub-domain bundle	IDY25001 - ACCESS-G Grid Files - Australian sub-domain IDY26001 - ACCESS-G Pre-genesis TC Forecast Tracks IDY26000 - ACCESS-G TC Forecast Tracks IDY26051 - ACCESS-GE Pre-genesis TC Forecast Tracks IDY26050 - ACCESS-GE TC Forecast Tracks
IDBY0021	ACCESS-G - full domain (global) – surface only bundle	IDY25020 ACCESS-G Grid Files - full (global) domain - surface IDY25026 ACCESS-G Grid Files - regional sub-domain - surface IDY26001 - ACCESS-G Pre-genesis TC Forecast Tracks IDY26000 - ACCESS-G TC Forecast Tracks IDY26051 - ACCESS-GE Pre-genesis TC Forecast Tracks IDY26050 - ACCESS-GE TC Forecast Tracks
IDBY0022	ACCESS-G - Australian sub-domain – surface only bundle	IDY25021 ACCESS-G Grid Files - Australian sub-domain - surface IDY26001 - ACCESS-G Pre-genesis TC Forecast Tracks IDY26000 - ACCESS-G TC Forecast Tracks IDY26051 - ACCESS-GE Pre-genesis TC Forecast Tracks IDY26050 - ACCESS-GE TC Forecast Tracks

Table 3 ACCESS-G product bundles and included product codes

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>.

Product	File Format	Sub-directory
ACCESS-G Grids	NetCDF4	/access_g3_nwp4
	GRIB2	/access_g3_grib2
ACCESS-G and -GE tropical cyclone forecast tracks	html, txt, xml, gif	/fwo

Table 4 File locations

File Naming Conventions

Please see separate information about formats of [ACCESS-G TC Forecast Track files](#).

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

IDY25NNN.version.fields.levels.base-time.forecast-hour.grid-coords.ext

File-name key	
IDY25NNN	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. 2024111012)
<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, 048, 240), 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 (grb2 or nc4)

Parameters

Table 5 lists the parameters available as single level fields.

Parameters	
10m wind gust	Horizontal visibility (including precipitation)
10m wind u component	Land mask
10m wind v component	Low cloud cover

Parameters	
Accumulated convective rainfall	Mean sea level pressure
Accumulated convective snowfall	Meridional wind at the 50m rho level
Accumulated evaporation	Middle cloud cover
Accumulated large scale rainfall	Planetary boundary layer height
Accumulated large scale snowfall	Precipitable water
Accumulated precipitation	Probability of horizontal visibility less than 5 km (including precipitation)
Average downwards longwave radiation at surface	Screen level dewpoint temperature
Average downwards shortwave radiation at surface	Screen level max temperature
Average incoming shortwave radiation flux	Screen level min temperature
Average mean sea level pressure	Screen level relative humidity with respect to water
Average meridional wind at 10m	Screen level specific humidity
Average net longwave radiation at surface	Screen level temperature
Average net shortwave radiation at surface	Soil moisture available for transpiration
Average outgoing longwave radiation	Soil moisture content in a layer
Average rate of evaporation over open sea	Soil moisture content layer 2
Average screen level air temperature	Soil moisture content layer 3
Average screen level specific humidity	Soil moisture content layer 4
Average surface latent heat flux	Soil temperature in a layer
Average surface meridional wind stress	Soil temperature layer 2
Average surface sensible heat flux	Soil temperature layer 3
Average surface shortwave diffuse radiation flux	Soil temperature layer 4
Average surface shortwave direct radiation flux	Surface latent heat flux
Average surface zonal wind stress	Surface meridional wind stress

Parameters	
Average total cloud coverage	Surface pressure
Average total surface moisture flux	Surface roughness length for momentum
Average zonal wind at 10m	Surface sensible heat flux
Canopy water content	Surface temperature
Convective cloud-base pressure	Surface zonal wind stress
Convective cloud-top pressure	Synthetic infrared and water vapour satellite imagery (GRIB2 only)
Fog fraction	Topography height
High cloud cover	Total cloud cover
	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
Cloud specific liquid water content	Specific humidity
Dew point	Temperature
Geopotential height	Vertical velocity
Meridional wind	Zonal wind

Table 6 Parameters available as model and pressure level fields

ACCESS-G and -GE Tropical Cyclone (TC) Forecast Tracks

ACCESS-G and -GE provide tropical cyclone forecast track information for cyclones originating in the [Darwin RSMC domain](#) in [CXML format](#).

It is critical to note that ACCESS-G and -GE tropical cyclone forecast tracks are **model data only**. The Bureau of Meteorology also produces CXML format messages of its official tropical cyclone warnings. See [this guide](#) for more information on the official tracks.

ACCESS-G and -GE TC Forecast Track files conform to the following naming convention:

IDY260N0.tc*n*-track.all.xml

IDY260N0.YYYYMMDDHH00.tar

File-name key

IDY260N0	Product Code as listed in Table 3, where <i>N</i> is 0 for ACCESS-G and 5 for ACCESS-GE
<i>n</i>	System number (1, 2 or 3)
YYYYMMDDHH	model base time
ext	File-type extension (xml, txt or html)

ACCESS-G and -GE Pre-genesis TC Forecast Track files conform to the following naming convention:

IDY260N1.tc*n*-track.all.xml

IDY260N1.YYYYMMDDHH00.tar

File-name key

IDY260N1	Product Code as listed in Table 3, where <i>N</i> is 0 for ACCESS-G and 5 for ACCESS-GE
<i>n</i>	System number (1, 2 or 3)
YYYYMMDDHH	model base time
ext	File-type extension (xml, txt or html)

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-G APS4 model.

Model	00 UTC run		06 UTC run		12 UTC run		18 UTC run	
	UTC	AEST	UTC	AEST	UTC	AEST	UTC	AEST
ACCESS-G APS4 +000 timestep	0600	4:00 PM	1200	10:00 PM	1800	4:00 AM	0000	10:00 AM
ACCESS-G APS4 complete	0800	6:00 PM	1245	10:45 PM	2000	6:00 AM	0045	10:45 AM

Table 7 Data availability times

Sample Files

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

<ftp://ftp.bom.gov.au/register/sample/access/netcdf4/G3/>

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

<ftp://ftp.bom.gov.au/register/sample/access/grib2/ACCESS-G3/>

Sample ACCESS-G TC Forecast Track files are available via:

<ftp://ftp.bom.gov.au/anon/sample/catalogue/ACCESS/>

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/anon/sample/catalogue/ACCESS/>)

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 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