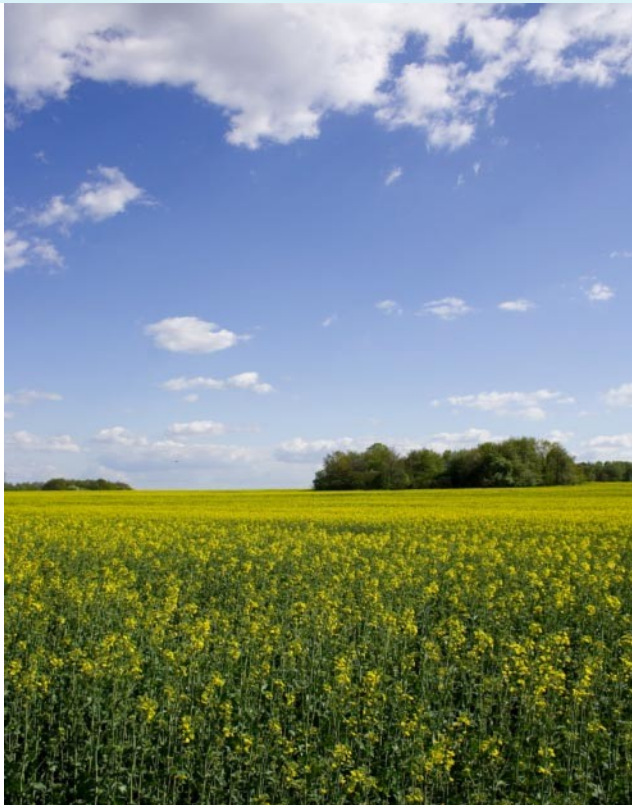
Australian Government
Bureau of Meteorology

AWAP (AGCD): netcdf conversion, metadata, versioning and future work





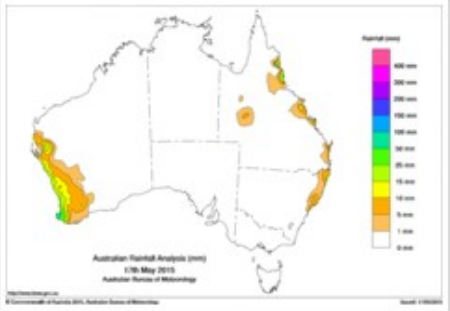
Australian Government
Bureau of Meteorology

AWAP Products (AGCD)

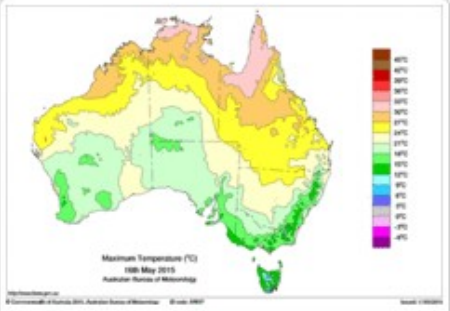
Maps of recent and past conditions

Maps | About maps and data

High resolution maps and data, ranging from the most recent day, back to 1900 for rainfall and 1910 for temperature.



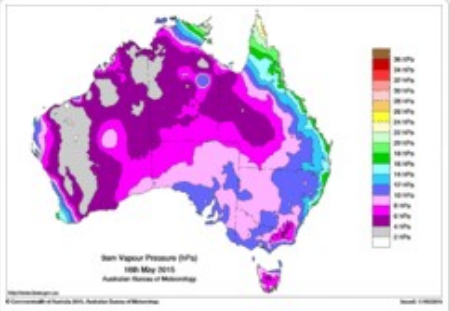
▸ Rainfall



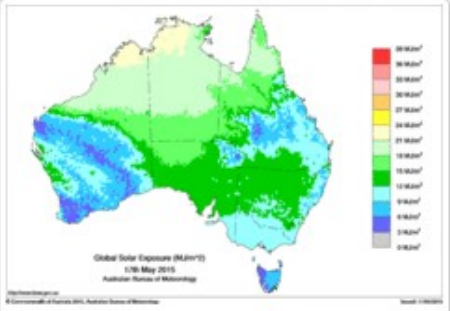
▸ Temperature

Grids

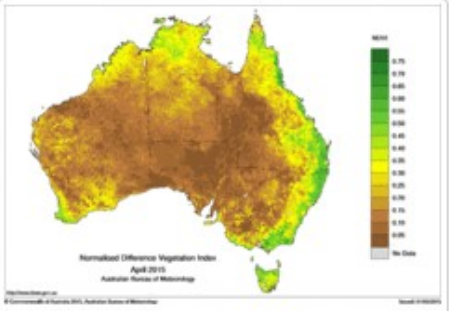
Grids can be downloaded for many of the map selections. In each map page, links to grids and archives are located above the maps, on the right hand side. Below the page titles, 'About this map' links provide details about each dataset.



▸ Humidity (Vapour pressure)



▸ Solar exposure



▸ Vegetation greenness (NDVI)

Australian Government
Bureau of Meteorology

AGCD Scientific Data Management

Scientific data management practices

- Traceability
  - Data production needs to capture
    - Software configuration information
    - Application meta-data for self-describing data (CF1.6 compliant)
    - Provenance information of the workflow
    - Unique identifiers
    - revision control information
- Reproducibility
  - Data changes do not alter previous data states
    - old scripts and programs can reproduce previous results

Automated Update Schedule

Daily grids and maps

	Update description	Completion time (AEST)
Rainfall Recalibrated rainfall	The current day becomes the latest Past 10, 20, 30, 40, 180, 360, 720 days are updated Daily maps for a month are updated in sync with monthly rainfall updates	13:30 04:30 see tables below
Maximum and minimum temperature 9am-3pm maximum temperature	The previous day becomes the latest Past 20 and 90 days are updated The current day becomes the latest	13:30 04:30 15:45-20:45
9 am and 3 pm vapour pressure	The previous day becomes the latest Past 90 days are updated	14:00
Solar radiation	The previous day becomes the latest	01:30

Latest monthly grids and maps

	Last day	1st day	3rd day	21st day	Completion time (AEST)
Rainfall	Current month		Previous month	Previous month	14:30
Maximum and minimum temperature		Previous month	Previous month	Previous month	14:30
9 am and 3 pm vapour pressure		Previous month	Previous month		15:00
Solar radiation		Previous month			04:00
NDVI		Previous month			11:30

Older monthly grids and maps

	Update description	Completion time (AEST)
Rainfall	Third-last day of the month: 24 months ago	10:00
	Second-last day of the month: 12 months ago	10:00
	Last day of the month: past 6 months	10:00
Maximum and minimum temperature	Past 6 months	12:00
9 am and 3 pm vapour pressure	Past 6 months	12:00

Australian Government
Bureau of Meteorology

File and directory naming conventions

agcd/ %VARIABLE%/ %SPATIAL RESOLUTION% / %TEMPORAL RESOLUTION% / %AGGREGATION OR SUB-VARIABLE% / %YEAR% / %VARIABLE%_%SUB-VARIABLE%_%DATE%.nc

e.g:

- agcd/precip/0.05/daily/total/1979/precip_total_19790103.nc
- agcd/precip/0.05/daily/rmse/2013/precip_rmse_20130111.nc
- agcd/tmax/0.05/daily/value/1985/tmax_value_19850108.nc
- agcd/vapourpres/0.05/daily/0900anom/2015/vapourpres_0900anom_20150429.nc
- agcd/tmin/0.05/monthly/value/2005/tmin_value_20050201_20050228.nc (needs to be improved – this implies a minimum not a mean)

Australian Government
Bureau of Meteorology

Metadata Conventions

- CF 1.6 Compliance
- Targeting other standards such as Open Geospatial Consortium (OGC) and Integrated Marine Observing System (IMOS) where relevant
- Looking at integration with other, external metadata catalogues, ANZLIC (Australian and New Zealand Land Information Council)
- Includes creation date, software version and licence information

Australian Government
Bureau of Meteorology

Service Access – OpenDAP, OGC

Testing / Development internal OpenDAP server:

http://opendap-dev.bom.gov.au:8080/thredds/catalog/awap_test/20150430_pattern/agcd/catalog.html
(email me for link)

OpenDAP access through NCI is possible, but there are a few hurdles with data access and licencing.

- How important is service access for the community?
- What kind of data access is important?
  - For example, are long time series for a single grid point important? Would you usually consider downloading a full archive?