

AWAP Data Announcement – March 21, 2014

Summary:

- Important recent bias correction to Bureau of Meteorology solar radiation data affects AWAP Historical Run 26h (1900-2011) and operational data (November 2010 to December 2013).
- Bias error unlikely to significantly affect existing research findings using Run 26h.
- Distribution of AWAP Historical Run 26h and operational data by ftp is suspended.
- New historical run with corrected data and update to Feb 2014, and remodelling of operational data to follow shortly.
- Information from the Bureau of Meteorology attached.
- Recommended actions below.

Detail:

Dear colleague, on behalf of the CSIRO AWAP team I am writing to advise you that we are suspending distribution of AWAP Historical Run 26h (1900-2011) following advice from the Bureau of Meteorology that a bias recorection of satellite data was required, which affected daily and monthly solar radiation data from November 2010. Near-real-time operational data from November 2010 to December 2013 are also affected. We apologise for any inconvenience this will cause.

Although the error before the recorection is confined to recent years, the entire AWAP 26h historical model run will be affected to some degree due to the incorporation of biased data as a small component of the 1990-2011 solar radiation climatology used to model the period 1900-1989.

The Bureau of Meteorology has supplied additional guidance, in the attached file, including monthly summary maps of the ratio of original solar radiation data to new data for November 2010 to December 2013.

Our initial assessment is that, with respect to AWAP Historical Run 26h, noticeable impacts on modelled soil moisture are likely to be confined to the last 6 months of 2011 due to significant systematic *overestimation* of solar radiation in most parts of the country during this period. Other things being equal, this will tend to result in an *underestimation* of soil moisture. Month-to-month, 2012 and 2013 include periods of both over and underestimation of solar radiation (see attachment).

We do not expect the bias error to have significant implications for existing research results using Run 26h (finishing in 2011). This will, however, depend on the specific application. We will endeavour to provide summary information comparing the new results to Run 26h as quickly as possible.

Operational monthly data used to supplement Run 26h should be discarded and replaced with new historical data when it is made available. Operational weekly data will be remodelled and made available as part of the correction process.

Operational data for 2013 downloaded after January 23, 2014 will be less affected, because the requirement for bias-correction of 2013 solar data was identified at an earlier stage and applied to the operational weekly and monthly data on that date. They should be replaced with new historical data (monthly) or new operational data (weekly) when they become available.

The AWAP website www.csiro.au/awap will remain active for information purposes, with an appropriate warning that the data are undergoing revision. As of 10 March 2014, the Bureau of Meteorology's AWAP solar data web page <http://www.bom.gov.au/jsp/awap/solar/index.jsp> has been displaying recorrected solar radiation data which are available for download.

Recommended actions:

Suspend any further use of AWAP Historical Run 26h 1900-2011 historical model results and supplementary operational results, including the accompanying solar radiation surfaces ('SolarMJ'). Precipitation and temperature surfaces are unaffected.

Monitor the CSIRO AWAP website for the announcement of a new historical run for 1900-2014, and the availability of remodelled (and continuing) operational data. We expect to complete this task in about 2 weeks.

Further information:

Information about the CSIRO AWAP modelling effort is available at www.csiro.au/awap, under the heading *Ancillary Information*. Questions regarding the CSIRO AWAP model products can be directed to Peter Briggs, preferably after the release of the corrected model run.

Information about the Bureau of Meteorology's AWAP gridded meteorology products, including solar radiation, is available at <http://www.bom.gov.au/jsp/awap/>. Questions about these products can be directed to the Bureau of Meteorology's contact for climate data: helpdesk.climate@bom.gov.au<<mailto:helpdesk.climate@bom.gov.au>>.