

**Resent-From:** <jkenyon@ALBANY.EDU>  
**From:** "Bosart, Lance F" <lbosart@ALBANY.EDU>  
**Subject:** **Fwd: Sydney hottest day in city's history**  
**Date:** 18 January 2013 6:07:57 PM EST  
**To:** <MAP@listserv.albany.edu>  
**Reply-To:** "Bosart, Lance F" <lbosart@ALBANY.EDU>  
▶ 6 Attachments, 246 KB

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Hi Everyone,

I am forwarding a post to the tropical storms listserv from "Down Under" by David Jones (Davy Jones' Locker?) that deals with what he calls "the most significant heat wave in Australia's history in terms of extent, intensity and duration." Maximum temperatures have reached as high as 49.6 C (just missing the big "50") in this heat wave. There is something rather "special" about temperatures that are half way between freezing and boiling.

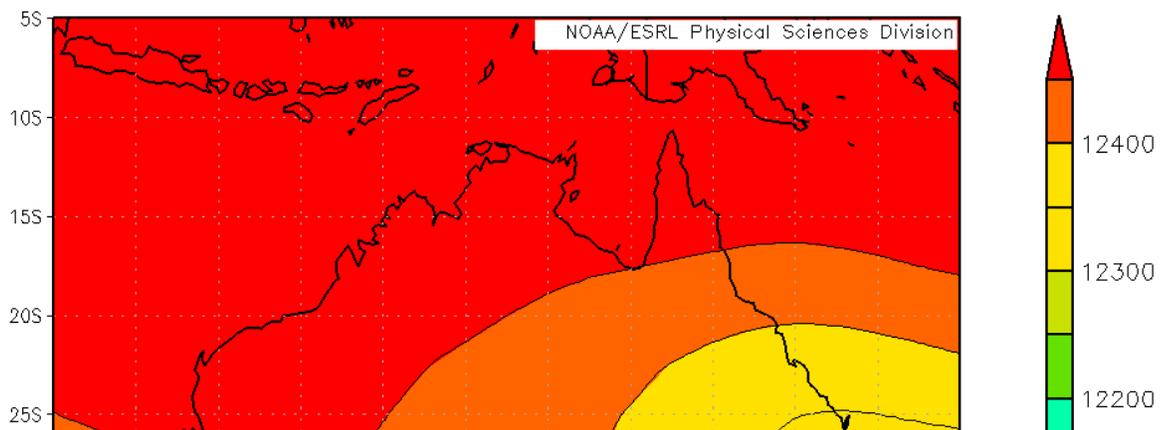
To help put the Australian heat wave into perspective and complement the information in the Bureau of meteorology report prepared by Daid Jones, I have computed and attached mean and anomaly maps for 200 hPa geopotential heights, 850 hPa air temperatures, and 1000 hPa geopotential heights for 27 Dec 2012 to 16 Jan 2013 (source: NOAA/ESR/PSD).

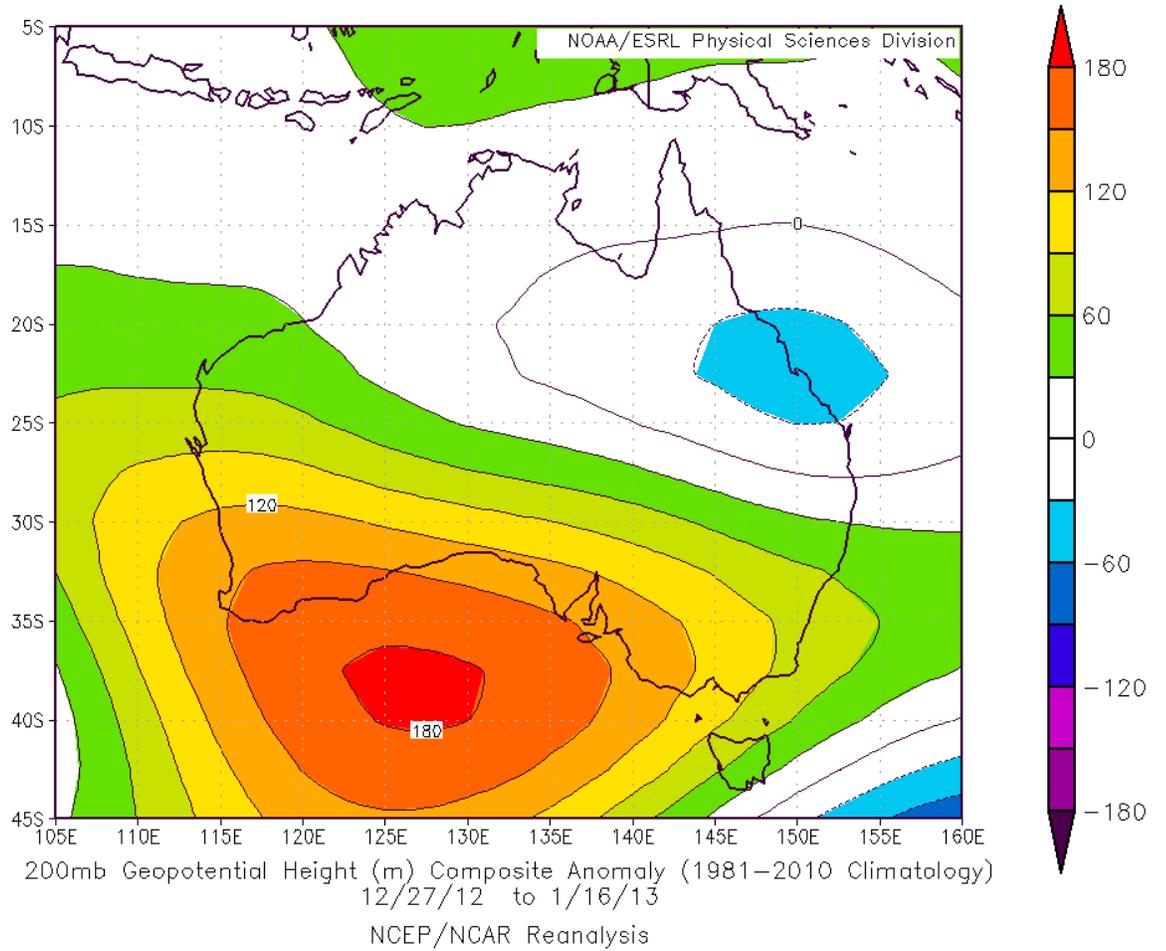
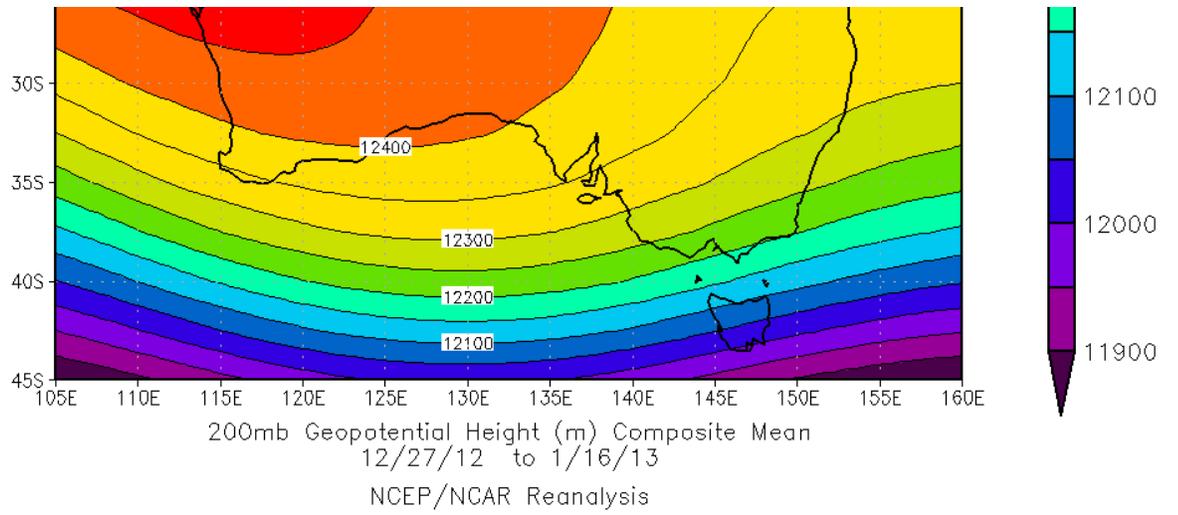
The 850 hPa mean temperature map nicely shows how a continent located in subtropical latitudes surrounded by ocean stands out from its surroundings (you can identify the shape of Australia without the geography on the basis of the 850 hPa isotherms alone) with peak temperatures > 27 C in western Australia with a > 5 C anomaly over southwestern Australia during the 20-day period. Slightly below normal 850 hPa temperatures are noted over coastal northwestern and northeastern Australia where monsoon-related convection is active.

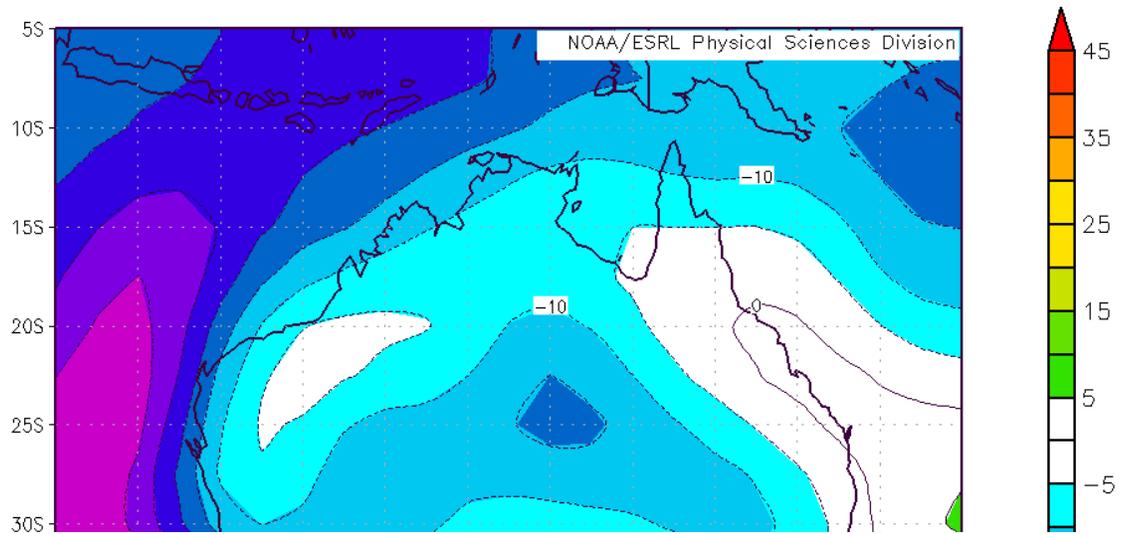
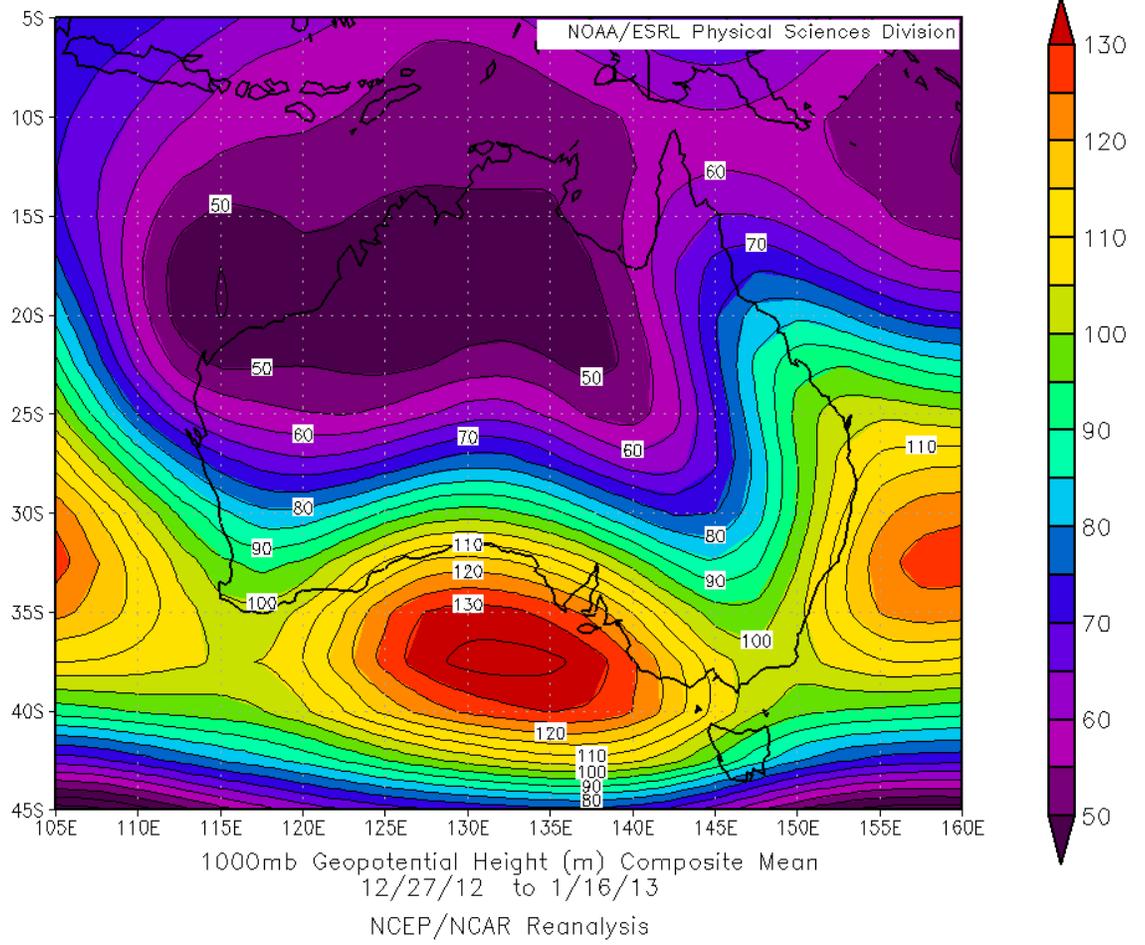
At 200 hPa, western and central Australia is dominated by large-scale subtropical anticyclone while a weak trough is present over eastern Australia. The core of the 200 hPa geopotential height anomaly (> 180 m) is situated over the Southern Ocean just south of western Australia, a pattern that supports anomalous easterly flow at 200 hPa over almost all of the continent.

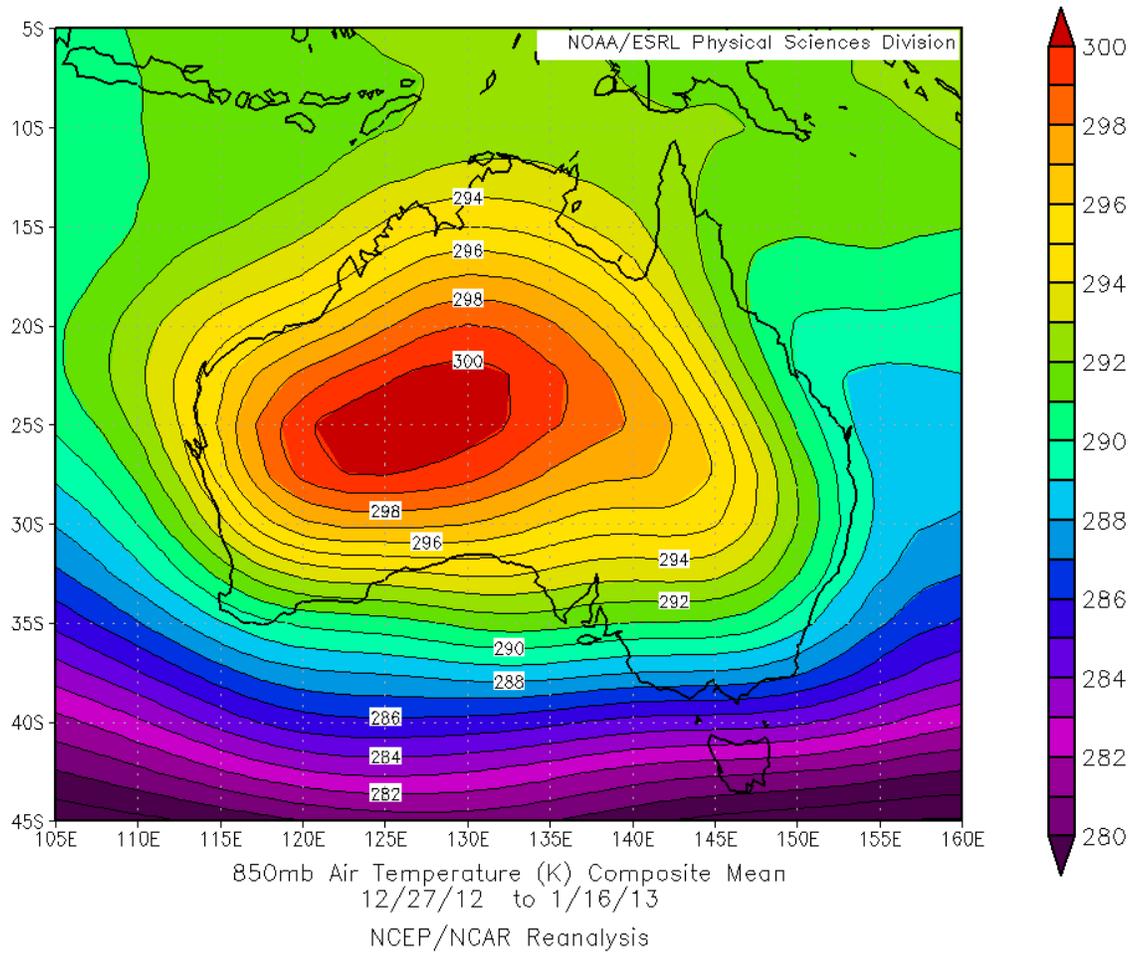
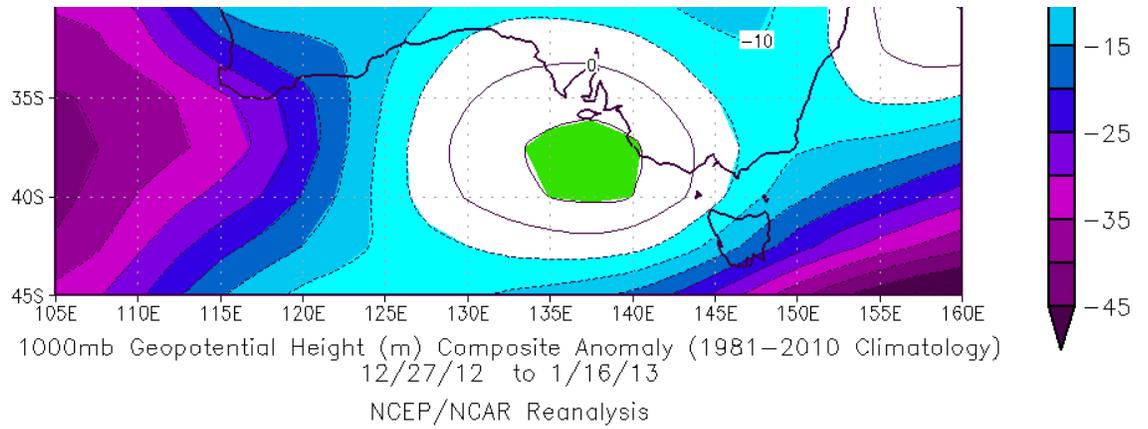
At 1000 hPa, a strong subtropical high pressure axis was located to the south of Australia beneath the 200 hPa anticyclone, a broad monsoon-related cyclonic circulation was evident over interior far northwestern and north-central Australia, and a trough was situated near the east coast of Australia. These features combined to drive a near-surface hot and dry easterly and northeasterly flow from the continental interior toward coastal regions of southwestern and south-central Australia. [Note: A look at, say, the 7-9 Jan 2013 period (not shown) would reveal the presence of an anomalous strong hot and dry northwesterly flow over the coast of eastern Australia (deep cyclone southeast of Tasmania and an anticyclone over the southern Coral Sea to the north) during which time Sydney was setting maximum temperature records as the 200 hPa anticyclone shifted eastward slightly in conjunction with modest flow amplification.]

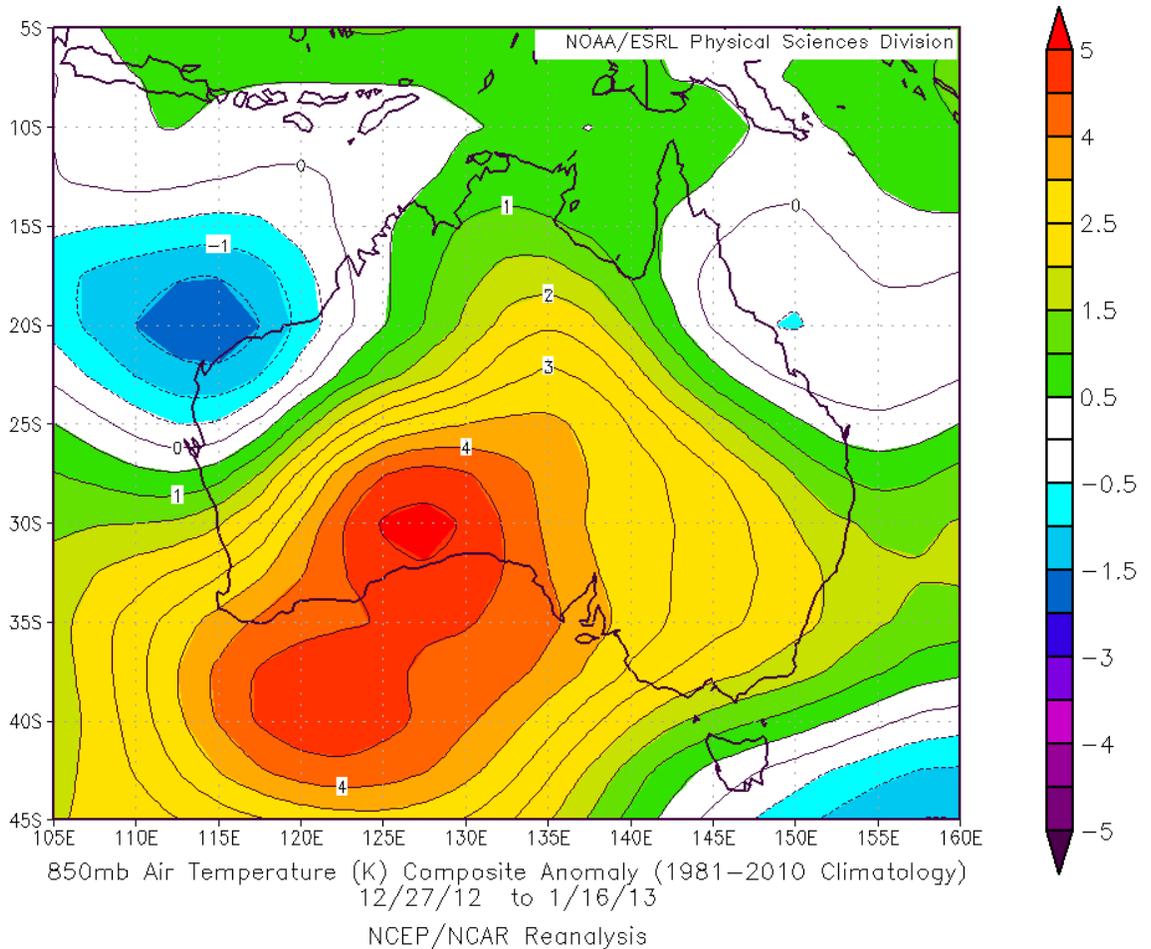
Lance











Begin forwarded message:

Resent-From: <[lbosart@albany.edu](mailto:lbosart@albany.edu)>  
 From: David Jones <[D.Jones@bom.gov.au](mailto:D.Jones@bom.gov.au)>  
 Subject: Re: [Tropical-storms] Sydney hottest day in city's history [SEC=UNCLASSIFIED]  
 Date: 18 January, 2013 20:11:22 GMT  
 To: Richard Henning - NOAA Federal <[richard.henning@noaa.gov](mailto:richard.henning@noaa.gov)>, "[tropical-storms@tstorms.org](mailto:tropical-storms@tstorms.org)" <[tropical-storms@tstorms.org](mailto:tropical-storms@tstorms.org)>

Warning - off topic.

This caps off the most significant heatwave event in Australia's history in terms of extent, intensity and duration. We are still crunching the numbers but an interim report can be seen at <http://www.bom.gov.au/climate/current/special-statements.shtml>.

The quirk of having a long south facing coastline with deserts to the north means that the very hottest temperatures are often experienced at fairly high latitudes. Across the capital cities the current hottest temperature on record sits with Melbourne at 46.4C (record set in February 2009). During this same event Avalon Airport (to the southwest of Melbourne) saw 47.9C.

Regards,

David Jones  
[d.jones@bom.gov.au](mailto:d.jones@bom.gov.au)

Manager of Climate Monitoring and Prediction  
Bureau of Meteorology

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From: tropical-storms-bounces@tstorms.org [tropical-storms-bounces@tstorms.org] On Behalf Of Richard Henning - NOAA  
Federal [richard.henning@noaa.gov]  
Sent: Saturday, 19 January 2013 6:19 AM  
To: tropical-storms@tstorms.org  
Subject: [Tropical-storms] Sydney hottest day in city's history

45.8C (114.4F) recorded at 0155 UTC (with Penrith...at the foot of the Blue Mountains 47 km WNW of the Harbour...hitting 46.5C or 115.7F)

As the 1980s band Midnight Oil might say: So its not just the Western Desert that lives and breaths in 45 degrees

Wow....that's pretty darn warm for a temperate climate at nearly 34 degrees latitude....Rich

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