



Australian Government  
Bureau of Meteorology

The Centre for Australian Weather and Climate Research  
A partnership between CSIRO and the Bureau of Meteorology



## VicCI Science Day

**Date** 12<sup>th</sup> February 2015, 9.30am to 5.30pm

**Location** BoM Docklands, 700 Collins street, 6<sup>th</sup> Floor, Meeting room 1-2

### Agenda

Time	Presenter and content
9.00-9.30:	Coffee on arrival (provided)
9.30-9.50: Meeting introduction  Chair: B. Timbal	<a href="#">Graham Hawke</a> (Bureau of Meteorology, Deputy Director Environment and Research Division)  <a href="#">Geoff Steendam</a> (Department of Environment, Land, Water and Planning – DELWP, Victoria)
9.50 – 12.00  <b>Theme 2</b>	<b>Richard Seager</b> (LDEO, USA, recorded presentation)  <b><i>Cause and Predictability of the 2011-14 California Drought</i></b> <ol style="list-style-type: none"> <li>1) Methodology: ensemble of SST forced simulation</li> <li>2) Results and relevance to water manager in California</li> <li>3) Discussion: lesson for South-Eastern Australia &amp; avenue for future collaboration</li> </ol> <p style="text-align: right;">9.50-10.20</p>
<b>Improved understanding of past climate variability and change</b>	<b>Hanh Nguyen</b> (Bureau of Meteorology, E&R Division, VicCI)  <b><i>Longitudinal computation of indices of the Mean Meridional Circulation: particularities of the Australian sector</i></b> <ol style="list-style-type: none"> <li>1) Outlining newly developed methods: streamfunction and other indices</li> <li>2) Results for different longitude bands</li> <li>3) Implications and future work</li> </ol> <p style="text-align: right;">10.20-10.40</p>
Chair:  B. Timbal	<b>Benjamin Henley</b> (Melbourne University, Australia)  <b><i>Utilising palaeoclimate data in water resource planning</i></b> <ol style="list-style-type: none"> <li>1) Extending the observed record with rainfall and streamflow reconstructions</li> <li>2) Tracking and reconstructing the Interdecadal Pacific Oscillation</li> <li>3) Proposed ARC Linkage Project incorporating palaeoclimate and climate model data into water supply</li> </ol> <p style="text-align: right;">10.40-11.00</p>



	<p><b>Chris Lucas</b> (Bureau of Meteorology, E&amp;R Division, VicCI)</p> <p><u><a href="#">Attribution of observed tropical expansion</a></u></p> <ol style="list-style-type: none"> <li>1) Review of evidence s of tropical expansion</li> <li>2) Investigations of likely forcings</li> <li>3) Implications and future work</li> </ol> <p style="text-align: right;">11.00-11.20</p>
	<p><b>Matt England</b> (UNSW, Sydney, Australia)</p> <p><u><a href="#">Oceanic circulation role in the ongoing warming hiatus</a></u></p> <ol style="list-style-type: none"> <li>1) Decadal variability of wind driven ocean circulation</li> <li>2) Impact on global temperature, implication for the decades ahead</li> <li>3) Implications (if any) for on-going tropical expansion</li> </ol> <p style="text-align: right;">11.20-11.40</p>
	<p><b>Open discussion: Improved understanding of past climate variability and change</b></p> <ol style="list-style-type: none"> <li>1) What have we learnt?</li> <li>2) Where are the key scientific issues?</li> <li>3) What are the implications for VicCI workplans?</li> </ol> <p style="text-align: right;">11.40-12.00</p>
12.00-13.00:	Lunch
13.00– 15.00	<p><b>Marie Ekström</b> (CSIRO, Land and Water flagship, VicCI)</p> <p><u><a href="#">Moving to very fine resolution downscaling, motivation and hesitation.</a></u></p> <ol style="list-style-type: none"> <li>1) Why pursue fine resolution models –what added information is gained?</li> <li>2) What are the main challenges going to fine resolution?</li> <li>3) Relevance of findings in a climate change context?</li> </ol> <p style="text-align: right;">13.00-13.20</p>
<b>Theme 3</b>	
<b>Improved understanding of future climate and associated risks to water resources</b>	<p><b>Aurora Bell</b> (Bureau of Meteorology, Services branch)</p> <p><u><a href="#">High resolution modelling: insight from the forecast demonstration project</a></u></p> <ol style="list-style-type: none"> <li>1) Convective rainfall event in high resolution models –what does it looks like?</li> <li>2) Verification, validation of these events</li> <li>3) Relevance of findings in a climate change context?</li> </ol> <p style="text-align: right;">13.20-13.40</p>
Chair:	
M. Ekström	<p><b>Nick Potter</b> (CSIRO, Land and Water flagship, VicCI)</p> <p><u><a href="#">Using information about climate change in real word applications</a></u></p> <ol style="list-style-type: none"> <li>1) The downscaling concept</li> <li>2) Bias correction</li> <li>3) Case study – first results</li> </ol> <p style="text-align: right;">13.40-14.00</p>
	<p><b>Bertrand Timbal</b> (Bureau of Meteorology, E&amp;R Division, VicCI)</p> <p><u><a href="#">Can we circumnavigate the hydrological model for stream flow projections?</a></u></p> <ol style="list-style-type: none"> <li>1) Outlining method concept and demonstrate skill</li> <li>2) Strength/weaknesses of method in a climate change context</li> <li>3) Main purpose (added value to existing resources)</li> </ol> <p style="text-align: right;">14.00-14.20</p>
	<p><b>Jai Vaze</b> (CSIRO, Land and Water flagship)</p> <p><u><a href="#">Introducing the AWRA model – a method for regional streamflow projections?</a></u></p> <ol style="list-style-type: none"> <li>1) What is AWRA (purpose)?</li> <li>2) Strength/weaknesses versus other hydrological models</li> <li>3) Can AWRA be used in a climate change context?</li> </ol>



		14.20-14.40
	<p><b>Open discussion: Improved understanding of future climate and associated risks to water resources</b></p> <ol style="list-style-type: none"> <li>1) What have we learnt?</li> <li>2) Where are the key scientific issues?</li> <li>3) What are the implications for VicCI workplans?</li> </ol>	14.40-15.00
15.00-15.30:	Coffee break (provided)	
15.30– 17.30	<p><b>Christine Chung</b> (Bureau of Meteorology, E&amp;R Division)</p> <p><u><b>ENSO and climate change: what to expect?</b></u></p> <ol style="list-style-type: none"> <li>1) CMIP5 projections of ENSO</li> <li>2) ENSO impact on Australia: how does it work?</li> <li>3) Shall we expect ENSO impact to Australia to change?</li> </ol>	15.30-15.50
<b>Theme 1</b>		
<b>Improved seasonal prediction</b>	<p><b>Eun-Pa Lim</b> (Bureau of Meteorology, E&amp;R Division, VicCI)</p> <p><u><b>Disentangling inter-annual variability and global warming: the case of La Nina of 2010-11</b></u></p> <ol style="list-style-type: none"> <li>1) Interplay between different modes of climate variability</li> <li>2) Role of background SST trends</li> <li>3) Lesson learn and way forward</li> </ol>	15.50-16.10
Chair:		
H. Hendon	<p><b>Jing-Jia Luo</b> (Bureau of Meteorology, E&amp;R Division, VicCI)</p> <p><u><b>Multi-year predictions:</b></u></p> <ol style="list-style-type: none"> <li>1) Existing methodology and modelling tool</li> <li>2) Results and implications for water management</li> <li>3) Lesson learn and way forward</li> </ol>	16.10-16.30
	<p><b>Harry Hendon</b> (Bureau of Meteorology, E&amp;R Division, VicCI)</p> <p><u><b>Decadal variability of Predictability: a curse or a blessing?</b></u></p> <ol style="list-style-type: none"> <li>1) Validation of POAMA</li> <li>2) Results and understanding</li> <li>3) Lesson learn and way forward</li> </ol>	16.30-16.50
	<p><b>Scott Power</b> (Bureau of Meteorology, E&amp;R Division)</p> <p><u><b>Decadal variability: understanding and physical mechanisms</b></u></p> <ol style="list-style-type: none"> <li>1) What do we know of the climate system on decadal timescale</li> <li>2) What are the oceanic processes driving decadal variability</li> <li>3) Are decadal predictions are dream?</li> </ol>	16.50-17.10
	<p><b>Open discussion: Improved understanding of future climate and associated risks to water resources</b></p> <ol style="list-style-type: none"> <li>1) What have we learnt?</li> <li>2) Where are the key scientific issues?</li> <li>3) What are the implications for VicCI workplans?</li> </ol>	17.10-17.30

