

# Hydrometeorological Applications of Weather and Climate Modelling

**The 17<sup>th</sup> BMRC Modelling Workshop, 3 - 6 October 2005**

700 Collins Street, Melbourne

<b>Monday 3 October</b>		
<b>Session 1 CHAIR: Oscar Alves</b>		
9:00-9:15	WELCOME – Neville Smith, a/Chief, BMRC	
9:15-10:00	<b>Keynote:</b> Soroosh Sorooshian, GEWEX, SSG	"Role of advanced observational and information technologies for addressing hydrometeorological issues"
<b><u>SEASONAL TO INTERANNUAL</u></b>		
10:05-10:25	Shahbaz Khan, Charles Sturt University	"Seasonal forecasting of water allocations in irrigated catchments"
<b>10:30 COFFEE</b>		
11:00-11:20	Huqiang Zhang, BMRC	"Observational and modelling analysis of land-surface processes on influencing Australian climate variations"
11:30-11:50	Jozef Syktus, Qld Dept of Natural Resources & Mines	"What is causing the decline in coastal rainfall in eastern Australia?"
12:00-12:20	Guomin Wang, BMRC	"Nonlinear Australian rainfall response to ENSO"
<b>12:30-14:00 LUNCH</b>		
<b><u>GLOBAL CLIMATE CHANGE</u></b>		
<b>Session 2 CHAIR: Bryant McAvaney</b>		
14:00-14:40	<b>Keynote:</b> Katia Laval, LMD	"Variations of land water storage over the last half century"
14:50-15:10	Kamal Puri, ACCESS Science Leader	"The Australian Community Climate Earth System Simulator (ACCESS): plans and current status"
15:15-15:35	Bertrand Timbal, BMRC	"What has happened with the winter rainfall in southern Australia?"
<b>15:40 COFFEE</b>		
16:10-16:30	Leon Rotstayn, CMAR	"Pan evaporation in 20th Century global climate simulations: model implementation & results for Australia"
16:35-17:00	Bryson Bates, CSIRO Climate Program	"Climate variability and change: insights from stochastic downscaling of atmospheric fields"

17:05-17:25	Ian Simmonds, Uni of Melbourne	"Stable water isotope modelling for weather and climate studies"
<b>17:30 ICE BREAKER</b>		

<b>Tuesday 4 October</b>		
<b>Session 3 CHAIR: Huqiang Zhang</b>		
9:00-9:20	Lisa Alexander, Hadley Centre & BMRC	"Mechanisms for changes in severe storms over the United Kingdom"
9:30-9:50	Qiang Zhang, Institute of Arid Meteorology, CMA	"Characteristics of hydrometeorology and its simulation over desert in the arid region of northwest China"
9:55-10:15	Yaohui Li, Institute of Arid Meteorology, CMA	"Studies on arid meteorology in northwest China"
<b>10:20 COFFEE</b>		
<b><u>APPLICATIONS</u></b>		
<b>Session 4 CHAIR: Alan Seed</b>		
10:50-11:30	<b>Keynote:</b> Bruce Rhodes, Melbourne Water	"Climate, weather and water: a water management perspective"
11:40-12:00	Julie Evans, NSW/RO	"Rainfall forecasting services - the user perspective"
12:05-12:25	Junichi Ishida, JMA	"Development of an operational JMANHM"
<b>12:30-14:00 LUNCH</b>		
14:00-14:40	<b>Keynote:</b> Ken Matthews, National Water Commission	"Climate and weather forecasting needs for national water management purposes"
14:45-15:05	Duncan Gray, Geoscience Australia	"Hydrodynamic inundation modelling for disaster risk management"
15:10-15:30	Adrian Hitchman, Geoscience Australia	"Numerical simulation of coastal inundation"
<b>15:30 COFFEE</b>		
16:00-16:20	Doerte Jakob, BMRC	"Revision of Design Rainfalls for Australia: a Pilot Study - Part 1"
16:25-16:45	Karin Xuereb, Hydrology	"Revision of Design Rainfalls for Australia: A Pilot Study - Part 2"
16:50-17:10	Soori Sooriyakumaran, VRO Hydrology	"From research to operations - a case study based on the provision of the Bureau's flood warning service"

## Wednesday 5 October

### OPERATIONAL FORECASTING

#### Session 5 CHAIR: Lawrie Rikus

9:00-9:20	Beth Ebert, BMRC	"Ensemble forecasts of heavy rain"
9:30-9:50	Gordon McKay, Flood Warning Office, NSW/RO	"Practical application of Quantitative Precipitation Forecasts in flood warnings"
10:00-10:20	Chermelle Engel, BMRC	"Operational Consensus Forecasting: from sites to grids"

**10:30**

**COFFEE**

### NUMERICAL WEATHER PREDICTION

#### Session 6 CHAIR: Beth Ebert

11:00-11:20	Clara Draper, BMRC	"The atmospheric water balance of the Murray-Darling Basin, based on LAPS output"
11:25-11:45	Noel Davidson, BMRC	"Initialisation for mesoscale prediction"
11:50-12:10	Lawrie Rikus, BMRC	"Comparing model output location time series data with in-situ data"

**12:20-14:00**

**LUNCH**

14:00-14:40	<b>Keynote:</b> Peter Bauer, ECMWF	"The assimilation of satellite rainfall observations in NWP models"
14:50-15:10	Christian Jakob, BMRC	"The GEWEX Cloud System Study - improving the representation of clouds in models"

**15:20**

**COFFEE**

15:50-16:10	Peter May, BMRC	"The Tropical Warm Pool International Cloud Experiment - implications and opportunities for hydrometeorology"
16:20-16:40	Jeff Walker, University of Melbourne	"Land surface model data assimilation for atmospheric prediction"
16:50-17:10	Masayuki Nakagawa, JMA	"Precipitation forecasts by a high resolution global model at JMA"

**19:00**

**WORKSHOP DINNER**

**Thursday 6 October**

**NOWCASTING**

**Session 7 CHAIR: Peter May**

9:00-9:40	<b>Keynote:</b> Alan Seed, BMRC	"STEPS: an empirical treatment of forecast uncertainty"
9:45-10:05	Harvey Stern, VRO	"Generating quantitative precipitation forecasts using a knowledge-based system"
<b>10:15</b>	<b>COFFEE</b>	
10:45-11:05	Tony Bannister, BMRC	"An end-to-end severe thunderstorm forecasting system in Australia: overview and training issues"
11:10-11:30	Rod Potts, BMRC	"The application of TITAN for thunderstorm nowcast operations"
11:40-12:40	<b><u>PLENARY DISCUSSION</u> - CHAIR: ALAN SEED</b>	
12:40	CLOSE – Neville Smith, Chief, BMRC	