Monday 26 November (Day 1)		
8:30	Registration	
Workshop opening Chair: Michael Naughton		
9:00	Aunty Julieanne Axford	Welcome to Country
	Peter May (BoM)	Introduction
Ensemble Methods for Weather Prediction Modelling Organiser: Michael Naughton Chair: Peter Steinle		
9:15	Tim Palmer (Oxford University)	History of ensemble prediction
9:45	Roberto Buizza (ECMWF)	ECMWF ensembles of analyses and forecasts
10:15	Morning Tea (30 mins)	
10:45	Warren Tennant (UKMO)	Met Office global ensemble prediction developments
11:15	Michael Naughton (BoM)	Bureau ACCESS-GE global ensemble prediction system
11:30	Abhijit Sarkar (NCMRWF)	NCMRWF 12 km resolution global ensemble prediction system
11:45	Parthasarathi Mukhopadhyay (IITM)	IITM 12 km resolution (12 km) global ensemble prediction system based on GEFS: Evaluation of extreme precipitation events over Indian region
12:00	Jim Fraser (BoM)	Ideas for ensemble TC prediction
12:15	Ilene Carpenter (CRAY)	Cray's vision for data centric computing for earth science
12:30	Lunch (75 mins)	
13.45	Aurore Porson (UKMO)	Met Office convective scale NWP
14:15	Shaun Cooper (BoM)	Bureau ACCESS-CE convective-scale ensembles
14:30	Dragana Zovko Rajak (BoM)	High-resolution ensemble prediction of the east coast low of April 2015
14:45	Craig Bishop (University of Melbourne)	Issues in ensemble data assimilation
15:15	Monika Krysta (BoM)	Bureau ensemble DA activities
15:30	Phil Andrews (NIWA)	Does the Met Office Consortium Need to Develop an Ensemble for Forecasting?
15.45	Afternoon Tea (30 mins)	
Ensemble Weather Forecasting Applications Chair: Carlos Velasco		
16.15	Alan Seed (BoM)	STEPS radar rainfall nowcasting
16.30	Luigi Renzullo (Australian National University)	Continental rainfall ensembles derived from multi-source merged analysis
16.45	QJ Wang (University of Melbourne)	Seasonally Coherent Calibration for calibrating forecasts from NWP models
17:00	Justin Robinson (BoM)	Rainfall ensembles for operational flood forecasting
17:15	End of day 1	

Tuesday 27 November (Day 2)		
Bureau National Forecast Services and Business Sectors Chair: Simon McCulloch & Carlos Velasco		
9:00	Gary Weymouth (BoM)	Plans for Ensemble Services in the Bureau (Ensemble Working Group)
9:20	Tim Pugh (BoM)	Delivery of the next Bureau NWP products and benefits in 2019
9:35	Dean Sgarbossa (BoM)	Extreme Weather Desk - practices with ensembles
9:50	Simon Heemstra (NSW RFS)	Utilising research to improve bushfire management
10:10	Andrew Bishop (MDBA)	Developing a source river operations tool – Murray Darling Basin Authority
10:30	**Morning Tea (30 mins)**	
11:00	David Guppy (AEMO)	The value of Ensembles on AEMO objectives
11:30	Matthew Boterhoven (BoM)	Use of Ensembles in Tropical Cyclone Forecasting
11:45	Brad Hall (BoM)	Use of Ensembles in the Energy and Resource sector forecasts
12:00	James Taylor (BoM)	Just how good can weather forecasts be these days?
12.15	Alasdair Hainsworth (ex-WMO)	Disaster risk management – A (meteorological) outcome of ensemble modelling
12.30	Shoni Maguire (BoM)	Advances in the Bureau's Disaster Mitigation Policy
12:45	**Lunch (75 mins)**	
Ensemble Weather Forecasting Applications Organiser: Meelis Zidikheri **Chair: Beth Ebert**		
14.00	Jonathan Flowerdew (UKMO)	IMPROVER – The new Met Office integrated post-processing and verification system
14:30	Gary Weymouth (BoM)	Plans for using IMPROVER in the Bureau
14.45	Scott Carpentier (BoM)	Use of ensembles and probabilistic forecasts in Antarctic weather
15.00	Harald Richter (BoM)	Use of convection-allowing models in forecasting severe convective hazards
15.15	Chris Lucas (BoM)	Incorporating satellite observations into a volcanic ash dispersion ensemble prediction system
15.30	Sophie Zhang (BoM)	Evaluation of NWP model rainfall forecasts for the 7-day ensemble streamflow forecasting service
15.45	**Afternoon Tea (30 mins)**	
16.15	Michael Foley (BoM)	Single-valued forecasts in an ensemble world
16.40	Chris Bridge (BoM)	NWP ensemble verification
16:55	Deryn Griffiths (BoM)	Verification of probabilistic rainfall forecasts
17:15	End of day 2	

Wednesday 28 November (Day 3)		
Ocean and Storm Surge Modelling Chair: Saima Aijaz		
9:00	Øyvind Breivik (Norwegian Meteorological Institute)	The Copernicus Arctic Marine Forecasting Center
9:30	Justin Freeman (BoM)	A Data Content Search Method
9.45	Diana Greenslade and Stewart Allen (BoM)	Ensemble forecast system for TC storm surge
10.00	Ian Young (University of Melbourne)	Ensemble estimates of extreme values using ECMWF Integrated Forecast System
10.15	Gary Brassington (BoM)	Bluelink ocean forecasting developments - OceanMAPS, ADEPT and ensemble forecasting
10:30	Morning Tea (30 mins)	
11.00	Pat Hogan (US Naval Research Laboratory)	US Navy ocean forecasting developments - 1/25 degree HYCOM and ensemble forecasting
11.30	Alberto Meucci (University of Melbourne)	Ensemble estimates of future climate from the COWCLIP dataset
11.45	Saima Aijaz (BoM)	Bias correction of tropical cyclone structure in ECMWF Ensemble Prediction system for NW Australia
12.00	Stefan Zieger (BoM)	Wave ensemble forecast system for tropical cyclones in the Australian region
12.15	Frank Colberg (BoM)	The eReefs operational coastal ocean prediction system of the Bureau of Meteorology
12.30	Helen Beggs (BoM)	Ensemble Optimal Interpolation SST Analysis System based on EnKF-C system.
12:45	Lunch (75 mins)	
Seasonal Prediction Chair: Grant Smith		
13.45	Magdalena Balmaseda (ECMWF)	Ensembles in the ocean: an ECMWF perspective
14.15	Terry O'Kane (CSIRO)	Coupled data assimilation and ensemble initialization with application to ENSO prediction
14.30	Debbie Hudson (BoM)	Ensemble forecast products for user decisions on multi-week to seasonal timescales
14.45	Cat de Burgh-Day (BoM)	An assessment of ACCESS-S1 ocean forecast skill around New Zealand for marine industry applications
15.00	Andrew Marshall (BoM)	MJO Prediction
15.15	Afternoon Tea (30 mins)	
15.45	Tim Palmer (Oxford	Stochastic physics and seasonal prediction

	University)	
16.15	William Wang (BoM)	Ensemble verification
16.30	Richard Eckard (University of Melbourne)	Using climate projections to understand impacts and inform agricultural adaptation
16.45	Pandora Hope (BoM)	Seasonal prediction framework for attribution of extreme events in a changing climate
17.00	Paul Gregory (BoM)	Long range cyclone forecasting using ACCESS-GE and S
17.15	End of day 3	

Thursday 29 November (Day 4)		
Climate and Water Projections Organizer: Surendra Rauniyar **Chair: Scott Power**		
9:00	Reto Knutti (ETH Zurich)	The value and purpose of the next generation of climate models and ensembles
9:45	Michael Grose (CSIRO)	Ensemble methods for NextGen projections
10:00	Josephine Brown (BoM)	Ensemble methods in northern Australian monsoon projections
10:15	Mitchell Black (BoM)	The weather@home regional climate modelling project for Australia and New Zealand
10.30	**Morning Tea (30 mins)**	
Chair: Michael Grose		
11:00	Gab Abramowitz (University of NSW)	Model dependence in climate ensembles
11:45	Aurel Moise (BoM)	Objective methods for ensemble reducing
12:00	Andrew Dowdy (BoM)	Climate hazards and extreme weather projections for Australia
12:15	Pandora Hope (BoM)	Ensemble selection for hydrological projections – preliminary steps
12:30	**Lunch (75 mins)**	
Chair: Pandora Hope		
13:45	Berit Arheimer (SMHI)	Experience from using ensemble methods in climate and water services
14:30	Chantal Donnelly (BoM)	Using the EUROCORDEX ensemble to examine the impacts of 1.5, 2 and 3 °C global warming on European hydrology
14:45	Francis Chiew (CSIRO)	Cascading ensemble of uncertainties in climate and hydrological modelling to predict future water availability and river flow characteristics
15:00	Jason Evans (University of NSW)	Ensemble methods in downscaling projections
15.15	**Afternoon Tea (30 mins)**	
Chair: Aurel Moise		
15:45	Dewi Kirono (CSIRO)	Ensemble methods in drought projections
16:00	Surendra Rauniyar (BoM)	Using ensemble in deriving baselines for Victorian water assessment
16:15	Christine Chung (BoM)	Impact of global warming on ENSO-driven rainfall variability in the pacific
16:30	Scott Power (BoM)	Impact of global warming on ENSO precipitation teleconnections
16:45	Rob Colman (BoM)	Using ensembles to investigate climate sensitivity and feedbacks
17.00	End of day 4	

Friday 30 November (Day 5)
A DAY WITH OUR INTERNATIONAL GUESTS

The general gist of this day is for the international speakers to give present seminars that either expand upon on their keynote speeches or discuss other topics outside their scope. There should be plenty of time for audience interaction. There will also be space available for more informal side meetings and casual conversations. Four sessions are planned:

- Weather Prediction – Level 6, Room 6.3
- Climate and Water Projections – Level 6, Room 6.1 & 6.2
- Ocean and Storm Surge – Level 7, Room 7W
- Seasonal Forecasting – Level 9, 9E Conference and Meeting Rooms

Schedules for the Weather and Climate sessions are in the table below. The Ocean and Seasonal sessions schedule are still to be worked out in detail; more details will be provided at the workshop.

Time	Room 1 (L6.3) *Weather*	Room 2 (L6.1-2) *Climate and Water*
0930	Roberto Buizza *Forecast skill horizon*	Gab Abramowitz & Aurel Moise *Uncertainties in multi-model climate change ensemble*
1000	James Taylor *Highlights of November Extreme Weather Desk Forecast Demonstration Project*	
1030	MORNING TEA	
1100	Jonathan Flowerdew *Ensemble post-processing and products*	Berit Arheimer & Chantal Donnelly *Experiences Developing Copernicus Climate Change Services*
1130	Aurore Porson *Ensemble spread*	
1200	Peter Steinle *Take-home messages for BoM*	
1230	FINISH	