

# Royal Meteorological Society Student Conference

## on Atmospheric and Oceanic Sciences

### 8 - 10 July 2010

#### Thursday 8 July

- 1400 Registration open (2<sup>nd</sup> floor of the building outside the conference rooms) and optional tour of the Met Office – tea and coffee
- 1530 **Session 1: Welcome and Keynote talks (Chair: Dann Mitchell)**  
**Professor Brian Golding, Met Office**  
Future developments in weather forecasting  
**Dr Chris Gordon, Met Office Hadley Centre**  
The changing climate research agenda  
**Jonathan Wilkinson, Met Office**  
So, What's Life Like as a Met Office Scientist
- 1700 **Coach to University (Holland Hall) and Check in** for delegates staying at Holland Hall
- 1900 **Ice Breaker Meal** – With guest after dinner speaker John Hirst
- 2030 **Ice Breaker in Holland Hall** – All delegates are encouraged to attend

#### Friday 9 July

- 0730 **Breakfast** for delegates staying at Holland Hall (Holland Hall dining room)
- 0845 **Coach to Met Office** for delegates staying at Holland Hall
- 0930 **Session 2: Data Assimilation and Observations (Chair: Fiona Hilton)**  
0930 **Tomas Holderness**  
Assessing the suitability of the Urban Heat Island Intensity metric for quantifying urban temperature change during extreme heat events
- 0940 **Ian Simpson**  
Observed and Projected Precipitation Extremes in the UK
- 0950 **Melanie Ades**  
Data Assimilation in highly nonlinear large scale systems
- 1000 **Katie Lean**  
Validation of the ATSR Re-processing for Climate dataset using drifting buoy data and a three-way error analysis

- 1010 **Gemma Bennitt**  
A New Observation Operator for Zenith Total Delay Observations from Ground-based GPS
- 1020 **Stephen Haben**  
Conditioning of the Variational Data Assimilation Problem
- 1030 **Tom Emery**  
Atmospheric Sounding of the troposphere using IASI
- 1040 **Marco Galli**  
The improvement of the analysis production in COSMO model by 2m temperature assimilation
- 1100 **Tea and coffee break**
- 1130 **Session 3: Oceanography and Hydrology (Chair: Flora MacTavish)**
- 1130 **Flora MacTavish**  
The restratification phase of open ocean deep convection
- 1140 **Matthew Menary**  
A multimodel comparison of the mechanism of centennial variability of the meridional overturning circulation
- 1150 **Jason Webster**  
Indo-Pacific Decadal Variability
- 1200 **Alex West**  
Recent changes in Arctic sea ice thickness and their implications for the future
- 1210 **David Tupman**  
Air-Sea Fluxes of CO<sub>2</sub>
- 1230 **Buffet lunch**
- 1330 **Session 4: Upscaling and Downscaling Models and High Resolution Modelling (Chair: Junella Tam)**
- 1330 **Luke Smallman**  
Atmospheric profiles of CO<sub>2</sub> as integrators of landscape exchange at the meso scale
- 1340 **Tobias Gerken**  
Surface - atmosphere interactions: Turbulent fluxes and small scale atmospheric features on the Tibetan Plateau
- 1350 **Alex Hoffmann**  
On the influence of mesoscale and microscale diabatic processes and their representation in a cloud resolving model on atmospheric deep convection triggering, organisation and intensity

- 1400 **Emilie Carter**  
Investigations of the 500m resolution model representing convection in the UK.
- 1410 **Heather Ashton**  
Work on the use of new high resolution soil properties in the Met Office's UK land surface scheme
- 1420 **Jessica Standen**  
Wind Climatologies for the UK from downscaled ERA-Interim Data and archived Met Office High Resolution UK Forecasts
- 1430 **Vera Surtia Bachtiar**  
Prediction of the boundary layer height in an urban area using a dispersion model and lidar
- 1440 **Loris Foresti**  
Analysis of orographic precipitation patterns with unsupervised machine learning methods
- 1500: **Poster session 1** –All poster presenters will stand by their boards with the opportunity for delegates to interact with presenters and ask questions on their work. **Tea and coffee.**
- 1600 **Session 5: Atmospheric Chemistry and Composition**  
**(Chair: Vivien Bright)**
- 1600 **Vivien Bright**  
Street Canyon Atmospheric Composition: Coupling Dynamics and Chemistry
- 1610 **Kirsti Ashworth**  
Atmospheric Impacts of Biofuels
- 1620 **Lucy Davis**  
Development and application of a 3-level nested Lagrangian air quality model
- 1630 **Jim Walker**  
Hygroscopic studies of single aqueous aerosol droplets over a range of relative humidity
- 1640 **Natalie Moore**  
Air pollution transport by boundary layer mixing
- 1650 **Daniel Peake**  
Coastal outflow of pollution across a coastline
- 1700 **Discussion session - Climate Geo-engineering –**  
**Joe Daron and Dann Mitchell.**
- 1800 **Coach to University** for delegates staying at Holland Hall
- 1930 **Gala Dinner- Holland Hall-** With after dinner debate

## **Saturday 10 July**

- 0730           **Breakfast** for delegates staying at Holland Hall (Holland Hall dining room)
- 0845           **Coach to Met Office** for delegates staying at Holland Hall
- 0930           Session 6: Climate Variability (Chair: Joe Daron)**
- 0930           **Juuso Suomi**  
The impact of environmental factors on urban temperature variability in the coastal city of Turku, SW Finland
- 0940           **Ross Maidment**  
Analysing recent climate trends in African rainfall using satellite data
- 0950           **Alex Jarman**  
Quantitative Information on Climate Change for the Insurance Industry
- 1000           **Deepthi Marathayil**  
Understanding of the Indian Ocean Dipole- its evolution and interaction with the Indian Ocean mean climate in the HiGEM high resolution coupled climate model
- 1010           **Alexandra Gormally**  
Upland renewable energy developments – what are the possibilities for an ‘energy mix’ and how resilient are these developments to climate change?
- 1020           **Marco Galli**  
An analysis of the effects of climate change in the hydrologic and energy balance in Northern Italy
- 1030           **Ben Webber**  
A dynamical ocean feedback mechanism for the Madden-Julian Oscillation
- 1040           **Niel Bowerman**  
Does climate uncertainty mean we will need large-scale air capture?
- 1100           **Tea and coffee break**
- 1140           Session 7: Climate Dynamics (Chair: Dann Mitchell)**
- 1140           **Claudio Sanchez**  
Development of a traceable climate model hierarchy
- 1150           **Andrew Dawson**  
Sensitivity of planetary Rossby wave propagation to SST biases in coupled GCMs
- 1200           **Jennifer Graham**  
Climate Responses to Perturbations in Antarctic Intermediate Water
- 1210           **Jamie Jackson**  
Initialisation of a simple ENSO model

- 1220           **Catherine Luke**  
The compost bomb: thermal instability in peatland soils
- 1230           **Buffet lunch**
- 1330           Session 8: Weather and Small Scale Features (Chair: Laura Baker)**
- 1330           **Laura Baker**  
Idealised simulations of sting jet cyclones
- 1340           **Bradley Jemmett-Smith**  
COLPEX; Cold air pooling over Complex terrain.
- 1350           **Kirsty McBeath**  
Liquid water path retrievals using data from the MARSS radiometer
- 1400           **Paul Barrett**  
Observations of decoupled boundary layers in the South Eastern Pacific during VOCALS using aircraft, ship and model data
- 1410           **Peter Hill**  
Improving the representation of clouds in the radiative transfer scheme of the Met Office Unified Model.
- 1420           **Erica Thompson**  
Extreme weather, seasonal forecasts and risk management implications
- 1430           **Jean Claus**  
Wind direction effects on flow in and above urban canopies
- 1440           **Tom Philp**  
Analysis of Five Types of Dropwindsonde Dynamic and Thermodynamic Profiles in Tropical Cyclones
- 1500:           **Poster session 2** – All poster presenters will stand by their boards with the opportunity for delegates to interact with presenters and ask questions on their work. **Tea and coffee.**
- 1600           Session 9: Forecastability and Ensemble Prediction**  
**(Chairs: Robert Neal and Emma Ferranti)**
- 1600           **Joanne Camp**  
Predictions of tropical storm activity using the Met Office seasonal forecasting system
- 1610           **Sana Mahmood**  
Impact of the representation of the stratosphere on tropospheric weather forecasts
- 1620           **Lars Wiegand**  
An unusual Saharan dust outbreak into central Europe and heavy precipitation at the southern side of the Alps in May 2008: A TIGGE case study

- 1630 **Peter Fitzgerald**  
Quantifying Uncertainty in the response of the Greenland Ice Sheet to future climate
- 1640 **Christopher Steele**  
Wind Power Meteorology in Complex Coastal Environments
- 1650 **Nick Earl**  
Towards a better understanding of extra-tropical windstorms for the insurance industry
- 1700 **CLOSE**
- 1730 **Coach to Station and University** for those staying at Holland Hall
- 1830 **Optional evening in Exeter**