

WEATHER AND CLIMATE MODELLING

A joint meeting of the North-West local centre of the Royal Meteorological Society
and the Manchester branch of The Institute of Mathematics and its Applications
Tuesday 30th October 2007

Dr. Sylvia Knight (RMets) – Introduction

Prof. Peter Lynch (University College Dublin)

"The emergence of weather and climate modelling: Richardson's dream"

The basic ideas of numerical forecasting and climate modeling were developed about century ago, long before the first electronic computer was constructed. However, there were several major practical obstacles to be overcome before numerical prediction could be put into practice. In this presentation, we will trace the history of numerical weather prediction from the work of the early pioneers, Abbe, Bjerknes and Richardson, to the first computer forecast on the ENIAC computer in 1950 by Jule Charney et al. and the first simulation of the general circulation by Norman Phillips. A reconstruction of the ENIAC forecasts will be described.

Dr. Richard Forbes (ECMWF, formerly JCMM, Met Office)

"Future global Numerical Weather Prediction"

The relentless increase in computing power over the last few decades has led to a corresponding increase in the resolution (and accuracy) of operational global Numerical Weather Prediction (NWP) models, with resolutions of around 10 km feasible within the next decade. Operational limited area models are already approaching kilometre scale resolutions and can provide an insight into the possible future of convective-scale global modelling if trends continue. But do we keep on and on increasing the resolution, from 10 km to 1 km, from 1 km to 100m? What about predictability? We will never get away from uncertainty in NWP and the time-scales and space-scales of predictability are intimately linked. A vital component of any future global NWP system will be an appropriate method to address the uncertainty in the prediction problem at all time and space scales. This talk will use examples from kilometre-scale limited area modelling to discuss some of the issues surrounding high resolution modelling and predictability for the future of global NWP.

Forthcoming NW RMets Events:

Transport, Weather and Climate

Date: Tuesday 4th December 2007

Time: 5.15pm (4.45pm for tea and coffee)

Venue: C16 Pariser Building, University of Manchester (North campus)

Extreme Events

Date: Tuesday 29th January 2008

Time: 5.15pm (4.45pm for tea and coffee)

Venue: C16 Pariser Building, University of Manchester (North campus)

Social event: Tour and tasting at the Storm Brewery, Macclesfield (£7.50 RMets members; £10 non-members) - 26/02/2008

UK Climate Impacts - 29/04/2008

Café Scientifique: Who pays for climate change? - 27/05/2008

More info: <http://www.rmets.org/groups/centres/detail.php?ID=16> or <http://tinyurl.com/2dbcr5>