ECMWF
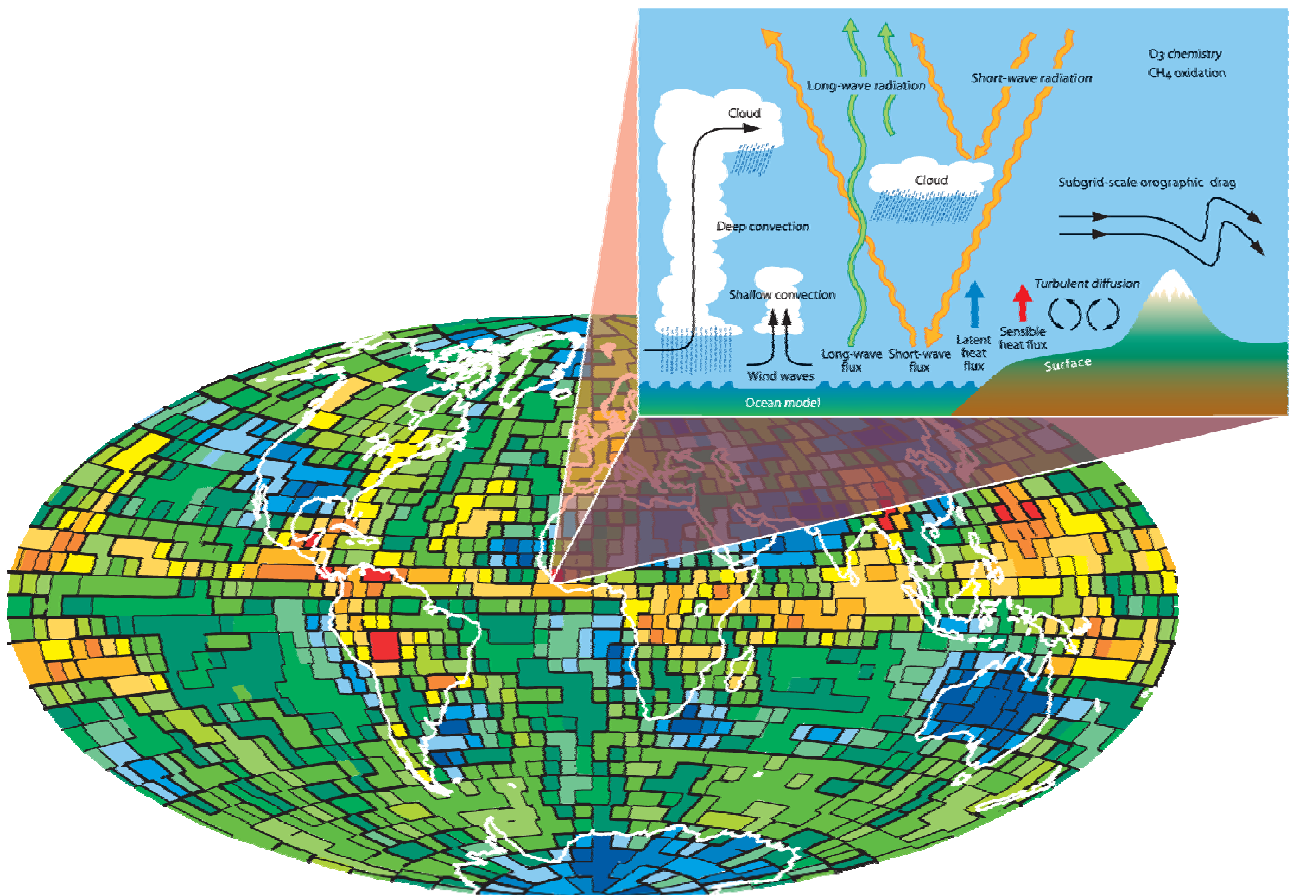
Thirteenth Workshop on Use of High Performance Computing in Meteorology

3 – 7 November 2008

Programme

Programme (updated 31 October)

Monday 3 November

8.30   REGISTRATION AND COFFEE

09.15   WELCOME AND OPENING

            Dominique Marbouty, Director and Isabella Weger, Head of Computer Division

SESSION 1   Chair: Isabella Weger

09:30   **Jean-Noel Thepaut**, ECMWF   Development of the ECMWF forecasting system

10:00   **Deborah Salmond**, ECMWF   IFS performance on the new IBM Power6 systems at ECMWF

10:30   **Coffee**

SESSION 2   Chair: George Mozdzynski

11:00   **Mats Hamrud**, ECMWF   Preparing for future HPC systems - scalability of the ECMWF data assimilation system

11:20   **Tim F Pugh**, Australian Bureau of Meteorology   From climate to weather coupled modelling, challenges for ACCESS

11:55   **Michel Desgagné**, Environment Canada   High Performance Computing at the Canadian Meteorological Centres (CMC)

12:30   **Lunch**

SESSION 3   Chair: Lars Isaksen

14:00   **Joachim Biercamp**, Deutsches Klimarechenzentrum GmbH   The new HPC facility at DKRZ: Computing and data handling

14:35   **Ryo Onishi**, Earth Simulator Center   Seamless simulations with Multi-Scale Simulator for the Geoenvironment (MSSG)

15:10   **Coffee**

SESSION 4   Chair: Yannick Tremolet

15:40   **Hann-Ming Henry Juang**, NOAA / NWS / NCEP / EMC   Mass conserving positive definite semi-Lagrangian advection in NCEP GFS: decomposition of massively parallel computing without halo

16:15   **Lars Nerger**, Alfred Wegener Institute   Sequential data assimilation on high-performance computers with the parallel data assimilation framework

16:50   CLOSE

17:00   **COCKTAILS**

Tuesday 4 November 2008

SESSION 5   Chair: Walter Zwieflhofer

09:00	**Kathy Yelick**, EECS / NERSC	Multicore meets Petascale: Opportunities and challenges
10:00	**Don Grice**, IBM Corporation	Cell and climate modeling
10:30	**Coffee**	

SESSION 6   Chair: Ulrich Schaettler

11:00	**Per Nyberg**, Cray Inc	Update on Cray Activities in the Earth Sciences
11:30	**Akira Mantani**, Fujitsu Ltd	Toward practical Petascale computing
12:00	**Thomas Schönemeyer**, NEC Deutschland GmbH	The NEC SX-9: The next step forward in computational meteorology
12:30	**Lunch**	

SESSION 7   Chair: Deborah Salmond

14:00	**David Barkai**, Intel Corp	HPC technologies for weather and climate simulations
14:30	**Hans Joraandstad**, Sun Microsystems	Profiling and optimization of climate, ocean and weather codes on large clusters
15:00	**Eng Lim Goh**, Silicon Graphics Inc	Scalability of weather and climate codes: managing computational overheads in the many-core era
15:30	**Coffee**	

SESSION 8   Chair: Luis Kornblueh

16:00	**Dave Norton**, The Portland Group	The Portland Group - Premier services success stories
16:30	**Peter Towers**, ECMWF	IFS in the DEISA benchmark
17:00	CLOSE	

Programme (updated 31 October)

Wednesday 5 November 2008

09:00 **George Mozdzynski**, RAPS Chairman — Welcome

SESSION 9   Chair: George Mozdzynski

09:20 **John Reid**, JKR Associates   Parallel programming in Fortran with Coarrays

09:55 **Robert Numrich,** University of Minnesota   Combining object-oriented techniques with co-arrays in Fortran 2008

10:30 **Coffee**

SESSION 10   Chair: Mats Hamrud

11:00 **George Mozdzynski**, ECMWF   IFS scaling

11:30 **Mike Ashworth**, STFC Daresbury Laboratory   Exploring extreme scalability in scientific applications

12:00 **John Hague**, IBM   Switch jitter

12:30 **Lunch**

SESSION 11   Chair: Paul Burton

14:00 **Ulrich Schättler**, Deutscher Wetterdienst (DWD)   Further COSMO-model development or: Is it dangerous to buy a vector computer?

14:30 **Paul Selwood**, Met Office   Results from the UK Met Office HPC procurement

15:00 **Luis Kornblueh**, Max Planck Institute for Meteorology   Porting and optimizing the cosmos coupled model on Power 6

15:30 **Coffee**

SESSION 12   Chair: Paul Dando

16:00 **David Lecomber**, Allinea Software   Simplifying complex software development environments at scale with Allinea tools

16:30 **Brian Bonenfant and Jim Pioche**, TotalView Technologies   Improved SW troubleshooting with TotalView and ReplayEngine

17:00 MEETING OF RAPS CONSORTIUM (mainly to appoint new Chair and host of next RAPS meeting in 2009)

All are welcome to attend (meeting should take no more than 10-15 mins)

17:30 **RECEPTION, FOLLOWED BY WORKSHOP DINNER**

Thursday 6 November 2008

SESSION 13   Chair: Umberto Modigliani

09:00	**Geerd-Ruediger Hoffmann**, Deutscher Wetterdienst (DWD)	The petaflops challenge for NWP and climate research
	Ulrich Trottenberg, Fraunhofer-Institut SCAI	
09:45	**George VandenBerghe**, NOAA/NCEP	Mass storage and archive challenges at NCEP
10:15	**Coffee**	

SESSION 14   Chair: Paul Selwood

10:45	**Jeff Smith**, Earth System Research Lab/NOAA	NOAA Modeling Portal
11:20	**Roger Stocker**, FNMOC	Running operational weather models on FNMOC's Linux Networx Custom Supersystem
11:55	**Al Kellie,** NCAR	An update of activities at NCAR's Computational and Information Systems laboratory
12:30	**Lunch**	

SESSION 5   Chair: Mike Fisher

14:00	**Hara Tabito**, Japan Meteorological Agency	Performance of the JMA NWP models on the PC cluster TSUBAME
14:30	**Tuomo Kauranne**, Lappeenranta University of Technology	Variational ensemble kalman filtering on parallel computers
15:00	**Petra Baumann**, Federal Office of Meteorology and Climatology MeteoSwiss	What can a small country do? The MeteoSwiss implementation of the COSMO suite on the Cray XT4
15:30	**Coffee**	

| 16.00 | PANEL ON EXPERIENCE OF USING HPC IN METEOROLOGY |
| | Chair: **Isabella Weger**, ECMWF, Head, Computer Division |

| 17:30 | CLOSE |

Friday 7 November 2008

At the moment Friday is reserved for additional talks and/or the PANEL ON EXPERIENCE OF USING HPC IN METEOROLOGY (which will be moved from Thursday if needed)

SESSION 16

09:30	**TBD**	TBD
10:00	**TBD**	TBD
10:30	**Coffee**	

SESSION 17

11:00	**TBD**	TBD
11:30	**TBD**	TBD
12:00	CLOSE	