



Annual Seminar 2016

Earth system modelling for seamless prediction: On which processes should we focus to further improve atmospheric predictive skill?

5–8 September 2016

Monday 5 September		
12:00-13:00	Registration	
Introduction		
13:00-13:15	Welcome and opening	Erland Källén (ECMWF)
Session 1: Does predictability require complexity?		
13:15-14:15	1.1 Do we need an Earth-system model for 1-day to 1-year weather prediction?	Andy Brown (UK Met Office)
14:15-15:15	1.2 Complexity in sub-seasonal prediction	Frederic Vitart (ECMWF)
15:15-15:45	<i>Coffee break</i>	
15:45-16:45	1.3 How much complexity is needed for seasonal to inter-annual prediction?	Benjamin Kirtman (RMAS/MPO, University of Miami)
16:45-17:45	1.4 Trading complexity for resolution	Tim Palmer (Oxford University and ECMWF Fellow)
18.00-19:30	<i>Drinks Reception</i>	
Tuesday 6 September		
Session 2: Atmospheric processes in Earth-system modelling		
09:30-10:30	2.1 Advanced numerical methods for Earth-System Modelling	Nils Wedi (ECMWF)
10:30-11:00	<i>Coffee break</i>	
11:00-12:00	2.2 How much do cloud errors matter in coupled modelling?	Brian Medeiros (NCAR)
12:00-13:00	2.3 Tropical variability and links with predictability	Steve Woolnough (University of Reading)
13:00-14:15	<i>Lunch break</i>	
14:15-15:15	2.4 Atmospheric resolution and scales' interactions	Franco Molteni (ECMWF)
15:15-15:45	<i>Coffee break</i>	

15:45-16:45	2.5 The role of stratospheric processes in large-scale tele-connections	Judith Perlwitz (CIRES/NOAA)
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Session 3: Ocean, waves and sea-ice in Earth-system models

16:45-17:45	3.1 The role of the ocean on predictability of weather and climate	David Ferreira (University of Reading)
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Wednesday 7 September

09:30-10:30	3.2 Ocean resolution: how coarse can it be?	Helene Hewitt (UK Met Office)
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10:30-11:00 *Coffee break*

11:00-12:00	3.3 Air-sea interactions in Earth-system modelling	Jean Bidlot (ECMWF)
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12:00-13:00	3.4 Sea-ice role in Earth-system models	Sylvain Bouillon (NERSC)
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13:00-14:15 *Lunch break*

13:30-14:15 *Optional Computer Hall tour*

Session 4: Continental surface processes in Earth-system models

14:15-15:15	4.1 On the relative impact of continental surfaces in coupled Earth System Modelling	Gianpaolo Balsamo (ECMWF)
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15:15-15:45 *Coffee break*

15:45-16:45	4.2 Contribution of land surface states to sub-seasonal predictability	Randal Koster (NASA)
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16:45-17:45	4.3 Carbon cycle	Anna Agusti-Panareda (ECMWF)
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19:00-21:30 *Seminar dinner*

Thursday 8 September

Session 5: Aerosols, GHG and chemical components in Earth-system models

09:30-10:30	5.1 The role of atmospheric composition in earth system modelling for NWP	Daniel Jacob (Harvard University and ECMWF Fellow)
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10:30-11:00 *Coffee break*

11:00-12:00	5.2 Aerosol model complexity and its implications for predictability and short-term forecasting	Peter Colarco (NASA)
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12:00-13:00	5.3 Ozone: do we need to simulate it?	Johannes Flemming (ECMWF)
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13:00-14:15 *Lunch break*

13:30-14:15 *Optional Computer Hall tour*

Session 6: Implementation strategies of Earth-system modelling and assimilation

14:15-15:15	6.1 Earth-system modelling and assimilation at ECMWF	Patrick Laloyaux (ECMWF)
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15:15-15:45 *Coffee break*

15:45-16:45	6.2 The NCEP experience in Earth-system modelling	Hendrik Tolman (NWS)
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16:45-17:45	6.3 Environmental Prediction at CCMEP	Gregory Smith (CCMEP)
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17:45-18:00 **Closure** Erland Källén (ECMWF)