

## WGNE 34

DWD, OFFENBACH, SEP 24<sup>TH</sup>-27<sup>TH</sup>, 2019

This session is being held in the context of a recently approved WMO Constituent Body Reform and a recently approved new WCRP Strategic plan, offering WGNE a great opportunity to contribute to broader and more integrated Earth system numerical model developments around the weather-climate enterprise. The agenda of the meeting is currently being designed to tackle these important challenges across our WCRP, WWRP and GAW research programmes.

The expected outcomes of the meeting will be:

- to develop a roadmap for an expanded WGNE;
- to develop a 'Fast-Track' initiative in the context of the WCRP Implementation Plan;
- to propose concrete projects to bridge to new partners outside the typical WGNE remit;
- to discuss governance options in light of the new WMO Research Board.

### TUESDAY SEPTEMBER 24<sup>TH</sup>

TUESDAY SEPTEMBER 24 <sup>TH</sup>		
0900-1030	Welcome, adoption of the agenda & local arrangements. (10 min)	Co-chairs, Gunther Zangl
	Welcome by DWD (10 min)	Sarah Jones
	WWRP overview (strategy and implementation) (15 min)	Sarah Jones
	GAW overview (strategy and implementation) (15 min)	Greg Carmichael
	WCRP overview (strategy and implementation) (15 min)	Detlef Stammer
	The role of WGNE in light of WMO reforms (10min)	Michel Rixen
1030-1100	<b>Coffee</b>	
1100-1230	Summary of systematic errors survey and development of WGNE priorities in light of WMO reforms (30 min)	WGNE co-chairs
	<b>Updates on WGNE projects &amp; related work aligned with strategic priorities</b>	

	Surface fluxes project (20 min)	Carolyn Reynolds / Francois Bouyssel
	WGNE-S2S-GAW Aerosols project (20 min)	Ariane Frassoni / Francois Engelbrecht
1230-1330	<b>Lunch</b>	
1330-1500	GASS report incl. joint WGNE-GASS drag and grey-zone projects (30 min)	Daniel Klocke
	GLASS report (20 min)	Mike Ek
	Stochastic physics project (15 min)	Keith Williams (for Hannah Christensen)
	Initial tendency project (15 min)	Keith Williams
1500-1530	<b>Coffee</b>	
1530-1700	<b>Other WGNE activities and collaborations</b>	
	Report from DAOS including coupled NWP initialisation and discussion on TC intensity initialisation (20 min)	Daryl Kleist or Ulrich Loehnert (by VC)
	<b>Updates on WGNE projects &amp; related work aligned with strategic priorities cont.</b>	
	Machine learning (invited talk) (25 min)	Peter Dueben (by VC?)
	MJO-TF report incl. progress with YMC exploitation (25 min)	Daehyun Kim (by VC)

**WEDNESDAY SEPTEMBER 25<sup>TH</sup>**

0900-1030	<p>WMO reform and the Research Board (10 min)</p> <p><b>Updates on WGNE projects &amp; related work aligned with strategic priorities cont.</b></p> <p>Exascale review update (atmosphere and ocean model scalability &amp; dwarf components) (25 min)</p> <p>Report on reduced precision tests (20 min)</p> <p>Reduced precision tests at DWD (15 min)</p>	<p>Gerhard Adrian</p> <p>Nils Wedi</p> <p>Nils Wedi</p> <p>Gunther Zangl</p>
1030-1100	<b>Coffee</b>	
1100-1230	<p>Review of machine learning activities in centres (20 min)</p> <p><b>Knowledge expansion areas for WGNE</b></p> <p>Longer timescale ESM components (carbon cycle, chemistry, etc.) (25 min)</p> <p>Hydrology modelling (invited talk) (25 min)</p>	<p>Keith Williams</p> <p>Tatiana Ilyina</p> <p>Simon Dadson (by VC)</p>
1230-1330	<b>Lunch</b>	
1330-1500	<p><b>Other WGNE activities and collaborations</b></p> <p>YOPP and the Polar Prediction Project (20 min)</p> <p>HIWeather Project (20 min)</p> <p>Nowcasting and Mesoscale WG (20 min)</p> <p>WGNE computing table (15 min)</p>	<p>Gunilla Svensson</p> <p>Michael Riemer</p> <p>Peter Steinle</p> <p>Gunther Zangl</p>
1500-1530	<b>Coffee</b>	
1530-1700	<p>Developments in numerical methods (45 min)</p> <p>Report from SPARC focus on errors in the representation of the stratosphere and coupling with predictability of the troposphere (20 min)</p>	<p>Michael Baldauf / Nils Wedi</p> <p>John McCormack (by VC)</p>
18:30	<b>Conference dinner (invited)</b>	

**THURSDAY SEPTEMBER 26<sup>TH</sup>**

0900-1030	<p><b>Other WGNE activities and collaborations cont.</b></p> <p>CMIP6 (incl. HighResMIP and systematic errors) status (20 min)</p> <p>WGCM report (with particular focus on climate change related analysis of relevance for model development) + discussion on future interaction between the groups (20 min)</p> <p>Timescales on which systematic errors develop (20 min)</p> <p>WGNE Blue book (15 min)</p>	<p>Cath Senior (by VC)</p> <p>Cath Senior (by VC)</p> <p>Julio Bacmeister</p> <p>Elena Astakhova</p>
1030-1100	<b>Coffee</b>	
1100-1230	<p><b>WGNE member presentations</b> (focus on fixing model deficiencies and/or coupling to other ESM components)</p> <p>Reducing systematic biases with improved physics in NOAA's next generation global prediction system (25 min)</p> <p>Climate sensitivity in CESM (25 min)</p> <p>Reducing systematic errors in DWD models (25 min)</p>	<p>Fanglin Yang</p> <p>Julio Bacmeister</p> <p>Gunther Zangl</p>
1230-1330	<b>Lunch</b>	
1330-1500	<p><b>WGNE member presentations cont.</b></p> <p>Commodore Ocean (25 min)</p> <p>Ocean numerics on the Uniform Jacobian cubed sphere</p> <p>Research in numerical modelling at the Hydrometcenter of Russia (25 min)</p>	<p>Nils Wedi</p> <p>Francois Engelbrecht</p> <p>Elena Astakhova</p>

	Addressing the cause of large-scale circulation errors in the Met Office global model (25 min)	Keith Williams
1500-1530	<b>Coffee</b>	
1530-1730	<p><b>Verification</b></p> <p>Tropical cyclone verification (20 min)</p> <p>JWGFVR report including progress with process-orientated and surface verification (25 min)</p> <p>CMDP – Climate precipitation panel report (25 min)</p> <p>Discussion of progress with joint JWGFVR-CMDP activities (15min)</p>	<p>Masashi Ujiie</p> <p>Marion Mittermaier</p> <p>Peter Gleckler (by VC)</p>

**FRIDAY SEPTEMBER 27<sup>TH</sup>**

0900-1030	<p><b>Discussion:</b></p> <ol style="list-style-type: none"> <li>1) Gaps to address high ranking systematic errors and projects required to address these</li> <li>2) Challenges and opportunities on Exascale/stochastic physics/machine learning and WGNE role</li> <li>3) Ideas for “Fast Track” initiative(s) on model development</li> <li>4) Roadmap for a WGNE evolution on Earth system modelling</li> <li>5) WGNE role in promoting large international modelling efforts and associated partnerships</li> <li>6) Governance options in light of new WMO Research Board</li> <li>7) WGNE’s role in developing seamless GDPFS</li> </ol>	Co-chairs to lead
1030-1100	<b>Coffee</b>	
1100-1230	<p>Summarise actions from the meeting, including any outstanding actions from WGNE-33.</p> <p>Date and location of next meeting and close</p>	Co-chairs
1230	<b>Close</b>	