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**PRIMAVERA Third General Assembly (GA3)
and CLIVAR Dynamics Panel**

**21-23 November 2017**

 **PROGRAMME v6**

Hosted by: ISAC-CNR, Istituto di Scienze dell'Atmosfera e del Clima,

Consiglio Nazionale delle Ricerche

Via Gobetti 101, I-40129 Bologna, Italy

 <http://www.bo.cnr.it/congressi/homepage-eng.html>

**CLIVAR ONLY
Monday 20 November**09:00 to 17:00 CLIVAR programme meeting (Room 214)

 **Tuesday 21 November**

09:00 - 10:00 Registration and put up posters

 Plenary session (Room 215)

10:00 - 12:00 Welcome from CNR and PRIMAVERA science coordinators [5 minutes]
 **Stream 1 and PRIMAVERA results..** *and introductions to posters***Biases**

* + Presentation 1: Overview of model biases - all to contribute
	+ Presentation 2: Precipitation biases and model resolution - Benoit Vanniere, (UREAD)
	+ Presentation 2: [Coupled model biases in UK model](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PRIMAVERA_ppt_GA3_roberts_biases.pptx) - Malcolm Roberts, (MetO) UK modellers
	+ Presentation 3a: [ECMWF Stream 1 simulations](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/cdr_primavera_GA3_2017_stream1.pdf) - Chris Roberts (ECMWF)
	+ Presentation 3b: Atmospheric biases in ECMWF Stream 1 simulations - Retish Senan (ECMWF)
	+ Presentation 4: Deep ocean bias in our PRIMAVERA-HighResMIP simulations compared to PRIMAVERA prototype simulations - Tido Semmler, AWI
	+ Poster 1: [Impact of stochastic physics on the mean state of EC-Earth](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/primavera_ga2017_poster_summary.pdf) – K. Strommen (Oxford)
	+ Poster 2: [Energy exchange across scales in the free troposphere in EC-Earth](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/finalposterKlaver171024.pdf) – R. Klaver (KNMI)

**Heat and freshwater transports**

* + Presentation 1: [Northward ocean heat transport in UK coupled models](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PRIMAVERA_ppt_GA3_roberts_heattransport.pptx) - Malcolm Roberts
	+ Presentation 2: [Changes in mean Atlantic heat transport and surface heat fluxes associated with increasing Climate Model resolution](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PRIMAVERA_GA3_Grist.pptx) - Jeremy Grist (NERC)
	+ Presentation 3: [Fresh water and ice transports from the Arctic ocean towards the North Atlantic and their relationship with atmospheric dynamics](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/fuentesfranco_koenigk_GA3.pptx)[​](http://proj.badc.rl.ac.uk/primavera-private/raw-attachment/wiki/ga3presentations/fuentesfranco_koenigk_GA3.pptx) – R. Fuentes Franco & Torben Koegnigk
	+ Poster 1 [Impact of increased atmospheric resolution on ocean heat content and its relation to SST trends](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PRIMAVERA_poster_GA3_eexarchou_heattransport.pdf) - Eleftheria Exarchou

**Mid-latitude jet and storm track**

* + Presentation 1: [Blocking assessment in Stream 1 simulations](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PrimaveraGA3preview_blocking_athanasiadis_schiemann.pptx) R. Schiemann (UREAD) and P. Athanasiadis (CMCC)
	+ Presentation 2: The dependence of the North Atlantic eddy-driven jet variability and E-vectors on model resolution - P. Athanasiadis (CMCC) with UREAD - results from Stream-1 simulations.
	+ Presentation 3: [Multi-model mid-latitude cyclone tracking (Malcolm Roberts)](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PRIMAVERA_ppt_GA3_roberts_MLstorms.pptx) -
	+ Presentation 4: [Eddy-zonal flow feedbacks in PRIMAVERA simulations](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PRIMAVERA_ppt_terray_GA3.pptx) Laurent Terray (Cerfacs)
	+ Presentation 5: [Resolution-dependent improvements of winter Euro-Atlantic atmospheric blocking simulation with EC-Earth](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/Davini_EcEarthBlocking_GA3.pptx) P. Davini, S. Corti, J. von Hardenberg (CNR-ISAC)
	+ Presentation 6: [​The resolution sensitivity of Northern Hemisphere blocking in four 25-km AGCMs](http://journals.ametsoc.org/doi/abs/10.1175/JCLI-D-16-0100.1) R. Schiemann et al. (UREAD) (optional pre-PRIMAVERA presentation, but multi-model on the role of resolution)
	+ Poster 1: [Generalised extreme value analysis of daily precipitation in Stream1 simulations](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/AJB_GA3_GEV_poster_intro.png) - Alexander Baker (UREAD)
	+ Poster 2: Influence of changes in large-scale circulation on wind projections over Europe – Paula Gonzalez (UREAD)
	+ Poster 3: Comparison of North Atlantic winter storm track in PRIMAVERA and CMIP5 simulations Julia Lockwood (Met Office)

12:00 - 13:00 Lunch

13:00 - 14:30 continues

**Cyclones**

* + Presentation 1: [Tropical cyclone multi-model assessment](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PRIMAVERA_ppt_GA3_roberts_TCs.pptx), Malcolm Roberts (Met Office)
	+ Presentation 2: Extratropical transition of Tropical Cyclones: are we able to represent the associated water transport? - E. Scoccimarro, A. Bellucci, D. Peano, A. D'Anca, F. Antonio, S. Fiore and S. Gualdi (CMCC)
	+ Presentation 3: Stochastic physics and impact on TCs in HadGEM3-GC3.1 - PL Vidale, UREAD
	+ Poster 1: Extra-tropical cyclones and model biases. Pier Luigi Vidale, (UREAD)

**Air sea coupling**

* + Presentation 1: [Ocean eddies in Western boundary currents modulate midlatitude interannual variability](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/Ocean_eddies_midlatitude_variability.pptx)[​](http://proj.badc.rl.ac.uk/primavera-private/raw-attachment/wiki/ga3presentations/Ocean_eddies_midlatitude_variability.pptx) Rein Haarsma (KNMI), Javi Garcia-Serrano (BSC)
	+ Presentation 2: [Air-sea interactions on coupled models](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PRIMAVERA_ppt_GA3_roberts_air-sea.pptx) - (Malcolm Roberts)
	+ Presentation 3: [EC-Earth ORCA12-T1279](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PRIMAVERA_WP4_BSC_RBilbao.pdf%E2%80%8B) - Roberto Bilbao (BSC)

**Hydrological cycle**

* + Presentation 1: [Metrics of soil-atmosphere interactions in summer over Europe](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PRIMAVERA_ppt_GA3_boe.pdf). J. Boé (Cerfacs).
	+ Presentation 2: [Global hydrological cycle and energy budget in pre-PRIMAVERA simulations.](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/Energy%26WaterBudgets_Vanniere_PRIMAVERA_GA3.pptx) Benoit Vanniere (UREAD)

14:30 - 15:00 Refreshments and posters

15:00 - 16:00 CLIVAR areas of interest, presentations and discussion

* + [Local atmospheric response to WBCs](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/CLIVAR_Minobe_proposal1.pptx) - Shoshiro Minobe
	+ [Role of mixed layer depth in surface frontogenesis](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/CLIVAR_Tozuka_proposal.pptx) - Tomoki Tozuka
	+ [Agulhas Current and South African climate/North Atlantic SST and Eurasian blocking](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/CLIVAR_Keenlyside_proposal_Agulhas_EurasianBlocking.ppt) - Noel Keenlyside
	+ [Ocean-atmos interactions at ocean mesoscale](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/CLIVAR_Speichetal.pptx) - Sabrina Speich
	+ [Effect of ocean mesoscale eddy atmosphere interaction on eddy energetics](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/CLIVAR_Chang_etal.pptx) - Ping Chang
	+ [Storm track interactions with stationary waves in Northern Hemisphere](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/CLIVAR_Robinson1.pptx) - Walt Robinson

16:00 - 17:00 EEAB Feedback and discussion
Graeme Stephens, Christiane Jablonowski

17:00 End of meeting day 1

19:30 Conference dinner at the *Cantina Bentivoglio* restaurant

**Wednesday 22 November**

09:00 - 10:30 Plenary session (Room 215)
 **Stream 1 and PRIMAVERA results...** *and introductions to posters*(continues)

**Gulf stream and SST gradients**

* + Presentation 1: [Influence of ocean and atmospheric models resolution on the Gulf Stream and AMOC in AWI-CM](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/amoc_primavera.pdf), Dmitry Sein (AWI)

**Deep water formation**

* + Presentation 1: [Monitoring deep convection in the North Atlantic](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/GA3_DMV_Stream1_nov2017_koenigkfuentesfranco.pdf) - Torben Koenigk and Ramon Fuentes Franco (SMHI)
	+ Poster 1: Improving vertical mixing representation in the ocean component of MPI-ESM, Johann Jungclaus and Oliver Gutjahr (MPI)

**AMO / AMOC**

* + Presentation 1: [State of North Atlantic in high-resolution 1950-control simulation with MPI-ESM](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PRIMAVERA_GA2017_MPI-M_XRamoc.pptx), Dian Putrasahan / Katja Lohmann (MPI)
	+ Presentation 2: [Mechanical control of winds on AMOC](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PRIMAVERA_GA2017_MPI-M_MechanicalControl.pptx), Katja Lohmann / Dian Putrasahan (MPI)
	+ Presentation 3: [Volume, heat, and freshwater transports at 26N and AMOC in UK simulations](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/cdr_primavera_GA3_2017.pdf) -Chris Roberts (ECMWF) and Malcolm Roberts (Met O)
	+ Poster 1: [EC-Earth Flagship simulations](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PRIMAVERA_ppt_GA3_Bilbao_WP6.pdf) Roberto Bilbao (BSC)

10:30 - 11:00 Refreshments and posters

11:00 - 12:00 continues

**Mixed layer depth**

* + Presentation 1: [The OSMOSIS OBL model](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PRIMAVERA_GA3_Nurser.pptx) - George Nurser (NERC)
	+ Poster 1: [Improving vertical mixing representation in the ocean component of MPI-ESM](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PRIMAVERA_GA3_Poster_Gutjahr.pdf) - Oliver Gutjahr (MPI)

**Teleconnections and modes of variability AMO / AMV**

* + Presentation 1: First results from snow sensitivity experiments, Klaus Wyser (SMHI)
	+ Presentation 2: Preliminary results on the AMO impact with MetUm-goml, Paul-Arthur Monerie (UREAD)
	+ Presentation 3: Climate impacts of the Atlantic Multidecadal Variability, Yohan Ruprich-Robert (BSC)
	+ Presentation 4: Late winter ENSO teleconnections to Europe, Sarah Ineson (Met Office)
	+ Presentation 5: ENSO variability and teleconnections in the ECMWF Stream 1 simulations; F. Molteni, C. Roberts, R. Senan (ECMWF)

12:00 - 13:00 Lunch

13:00 - 14:30 Continues

**Complexity (microphysics results)**

* + Presentation 1: [Insights into cyclone behaviour from convection-permitting global aquaplanet simulations](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/McCoy_PRIMAVERA_BOLOGNA.pdf), Daniel McCoy (Leeds University)
	+ Poster 1: [A statistical and process oriented evaluation of the TOA cloud radiative effects](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/poster_WP3a_MT.pdf)[​](http://proj.badc.rl.ac.uk/primavera-private/raw-attachment/wiki/ga3presentations/poster_WP3a_MT.pdf), Manu Thomas (SMHI)

**Arctic snow and sea ice**

* + Presentation 1: [Arctic snowfall in EC-Earth, high vs. low resolution](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PRIMAVERA_GA3_Bintanja.pptx) - Phillipe Le Sager (KNMI)
	+ Presentation 2: Developing sea-ice physics (across models), Dorotea Iovino (CMCC)
	+ Presentation 3: [Arctic sea ice (thermo-)dynamics](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/Docquier_PRIMAVERA_GA3_SeaIce.pdf)[​](http://proj.badc.rl.ac.uk/primavera-private/raw-attachment/wiki/ga3presentations/Docquier_PRIMAVERA_GA3_SeaIce.pdf), David Docquier (UCL)
	+ Presentation 4: Regional sea-ice and snow metrics, Klaus Zimmermann (SMHI)

**Other topics**

* + Presentation 1: [Adding PRIMAVERA metrics to ESMValTool](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PRIMAVERA_GA3_Javier_Vegas.pptx)[​](http://proj.badc.rl.ac.uk/primavera-private/raw-attachment/wiki/ga3presentations/PRIMAVERA_GA3_Javier_Vegas.pptx), Javier Vegas (BSC)

14:30 - 15:00 Refreshments and posters

15:00 - 16:00 Continues

**Climate risk assessment**

* + Presentation 1: Influence of changes in large-scale circulation on wind projections over Europe – Paula Gonzalez (UREAD)
	+ Poster: Importance of resolution on some hydrology relevant indices, Gustav Strandberg (SMHI)

**Stakeholder engagement**

* + User engagement in PRIMAVERA: progress and next steps Erika Palin / Galia Guentchev (Met O)
	+ PRIMAVERA User Interface Platform (UIP) Markel Garcia (Predictia)
	+ Poster: [Graphical presentation of the PRIMAVERA user engagement activities](http://proj.badc.rl.ac.uk/primavera-private/attachment/wiki/ga3presentations/PRIMAVERA_poster_GA3_bojovic_graphical_presentation_UG.pptx)[​](http://proj.badc.rl.ac.uk/primavera-private/raw-attachment/wiki/ga3presentations/PRIMAVERA_poster_GA3_bojovic_graphical_presentation_UG.pptx), Dragana Bojovic

16:00 - 17:00 EEAB Feedback and discussion
Masahide Kimoto

17:00 End of meeting day 2

**Thursday 23 November**

09:00 - 09:30 Plenary session on Data
09:30 - 10:30 Five Break Out Groups meeting in parallel (note: some WPs are in >1 BOG)
 1. WP1, WP2, WP4
 2. WP3, WP4
 3. WP3, WP6
 4. WP5, WP6
 5. WP5, WP9, WP10, WP11

BOGs to discuss *inter alia*:

 - stream 1 results

 - exploitation of stream 1 inc. CMIP/IPCC

 - plans for stream 2

 - other (e.g. data, papers, meetings, ...)

10:30 - 11:00 Refreshments and posters

11:00 - 12:00 Break Out Groups continue

12:00 - 13:00 Lunch

13:00 - 14:00 PRIMAVERA Plenary session (Room 215)
Feedback from BOGs

14:00 - 15:00 PRIMAVERA Plenary session (Room 215)
Stream 2

15:00 – 15:30 Refreshments

15:30 – 16:30 PRIMAVERA Plenary session (Room 215) EEAB and CLIVAR perspectives, EC questions
 Next steps [Science coordinators]

16:30 End of day 3 and close of meeting

**Friday 24 November – only WP Leads to attend**

09:00 - 12:00 PRIMAVERA EMB (Room 214)

**Attendees**

EC Technical Officer, EASME:

 Fabio Dalan

EC Reviewer

 James Kinter, Center for Ocean-Land-Atmosphere Studies (COLA) George Mason University

PRIMAVERA (all WP leads, researchers, representatives from all partners)

PRIMAVERA EEAB:

Graeme Stephens                remote participation

Marta Bruno Soares         remote participation

Christiane Jablonowski

Masahide Kimoto

Shoshiro Minobe

CLIVAR Dynamics Panel

Shoshiro Minobe

 Mat Collins

Noel Keenlyside

Olga Zolina

Simona Bordoni

Elisa Manzini

 Nico Caltabiano

CLIVAR collaborators

 Ping Chang remote participation

Eric Chassignet remote participation

Young-Oh Kwon remote participation

Walter Robinson remote participation

Sabrina Speich remote participation

Thomas Spengler remote participation

CORDEX

 Filippo Giorgi

**Rooms**

 2 large rooms (hosting up to 85 people)

2 smaller rooms (hosting up to 35 and 20 people respectively)

CNR meeting room (30 people)