HyMex-Baltic Earth Workshop

Joint regional climate system modelling for the European sea regions

5-6 November 2015
ENEA, Rome, Italy

Programme

Day 1: Thursday 5 November	
9:00	Registration
10:00	Welcome and Opening
10:15	**Regional climate system modelling for European sea regions – Aims of the workshop** Meier H.E.M., Reckermann M., Rutgersson A., Sannino G. and Somot S.

Topic 1: Development and evaluation of regional climate system models	
10:30 – 10:50	**Evaluation of simulated decadal variability over the Euro-Mediterranean region from ENSEMBLES to Med-CORDEX** Dell'Aquila A. and Mariotti A.
10:50 – 11:10	**Improved Regional Climate Model Simulation of Precipitation by a Dynamical Coupling to a Hydrology Model** Larsen M. A. D., Drews M., Christensen J. H., Butts M. B. and Refsgaard J.C.
11:10 - 11:40	Coffee break
11:40 - 12:00	**Which complexity of regional climate system models is essential for downscaling of anthropogenic climate change for the North Sea?** Mikolajewiz U., Mathis M. and Elizalde A.
12:00 - 12:20	**On the resolution of inter-basin exchanges in numerical models: The example of Black Sea and Baltic Sea straits** Stanev E. V., Grashorn S., Grayek S. and Zhang Y.L.
12:20 - 12:40	**Mediterranean cyclone climatology: Assessment of an ensemble of coupled and uncoupled atmosphere-ocean regional climate models applying six cyclone tracking methods** Flaounas E., Gaertner M., Kelemen F., Lionello P., Sanchez E., Wernli H., Naveed A., Calmanti S., Conte D., Podrascanin Z., Reale M., Romera R. and Somot S.
12:40 - 13:10	**Topic 1 Open discussion**
13:10 – 14:10	Lunch

Topic 2: Regional process studies and studies on the added value of coupled models with high resolution	
14:10 – 14:30	**Low frequency salinity variations in the Baltic Sea** Schimanke S. and Meier H.E.M.
14:30 – 14:50	**Carbon and total alkalinity budgets for the Baltic Sea** Gustafsson G., Deutsch B., Gustafsson B.G., Humborg C., Mörth C.-M., Omstedt A. and Wällstedt T.
14:50 – 15:10	**A study of the heat budget of the Mediterranean Sea from MedCORDEX forced and coupled simulations** Harzallah A., Jordà G., Dubois C., Sannino G., Carillo A., Li L., Arsouze T., Cavicchia L., Beuvier J. and Akhtar N.
15:10 – 15:40	Coffee break
15:40 – 16:00	**The role of the ocean in the European climate dynamical downscaling** Sein D., Cabos W., Sidorenko D., Wang Q. and Jacob D.
16:00 – 16:20	**Impact of resolution and ocean-coupling on regional climate model simulations over the Mediterranean Sea** Akhtar N., Brauch J. and Ahrens B.
16:20 - 16.40	**Interannual variability of the deep water formation in the North-West Mediterranean Sea using a fully-coupled regional climate system model** Somot S., Houpert L., Sevault F., Testor P., Bosse A., Taupier-Letage I., Bouin M.-N., Waldman R., Cassou C., Durrieu de Madron X., Adloff F. and Herrmann M.

16:40 – 18:00	**Poster Discussions**
18:30	Ice Breaker and End of Day 1

Day 2: Friday 6. November	
9:00 – 9:20	**Results from simulations with a coupled regional atmospheric-ocean-ice model over the Baltic Sea** Christensen O. B., Tian T. and Boberg F.
9:20 – 9:40	**Direct and semi-direct aerosol radiative effect on the Mediterranean climate variability using a coupled regional climate system model** Nabat P., Somot S., Mallet M., Sevault F., Chiacchio M. and Wild M.
9:40 – 10:00	**Added value of interactive air-sea coupling assessed from hindcast simulations for the North and Baltic seas** Gröger M., Dieterich C., Schimanke S. and Meier H.E.M.
10:00 – 10:30	**Topic 2 Open Discussion**
10:30 – 11:00	Coffee break

Topic 3: Extreme and high impact events	
11:00 – 11:20	**Temperature-precipitation extremes relationship in the Mediterranean: past climate assessment and projection in anthropogenic scenarios** Drobinski P., Da Silva N., Panthou G., Bastin S., Muller C., Ahrens B., Borga M., Conte D., Fosser G., Giorgi F., Güttler I., Kotroni V., Li L., Morin E., Onol B., Quintana-Segui P., Romera R. and Zsolt T. C.
11:20 – 11:40	**Spatiotemporal characterization of very long dry spells in the Mediterranean region** Raymond F., Ullman A., Camberlin P. and Drobinski P.
11:40 – 12:10	**Analysis of atmospheric and coupled ocean-atmosphere regional climate models capability to simulate tropical-like cyclones over the Mediterranean Sea from MedCORDEX and EUROCORDEX multimodel simulations** Gaertner M. Á., Sánchez E., Domínguez M., Romera R., Gil V., Gallardo C., Miglietta M.M. and the Med-CORDEX and EURO-CORDEX teams
12:10 – 12:40	**Spatiotemporal characterization of Mediterranean extreme precipitation events: a multi-model assessment** Cavicchia L., Scoccimarro E., Gualdi S., Ahrens B., Berthou S., Conte D., Dell'Aquila A., Drobinski P., Djurdjevic V., Dubois C., Gallardo C., Sanna A. and Torma C.
12:40 – 13:10	**Topic 3 Open Discussion**
13:10 – 14:10	Lunch

Topic 4: Climate change impact studies and uncertainty assessments of projections using coupled model simulations	
14:10 – 14:30	**Climate change and anthropogenic impacts on Mediterranean Sea ecosystems for the end of the 21st century** Macias Moy D., Stips A. and Garcia-Gorriz E.
14:30 – 14:50	**Surface heat budget over the North Sea in climate change simulations** Dieterich C., Wang S., Schimanke S., Gröger M., Klein B., Hordoir R., Samuelsson P., Liu Y., Axell L., Höglund A. and Meier H.E.M.
14:50 – 15:10	**Three ocean scenarios of the 2006-2100 period for the Mediterranean Sea with the regional climate system model CNRM-RCSM4** Sevault F., Somot S., Alias A. and Dubois C.
15:10 – 15:30	**Projected acidification of the Mediterranean Sea** Le Vu B., Orr J. C., Palmier J., Dutay J.-C., Sevault F. and Somot S.
15:30 – 16:00	**Topic 4 Open Discussion**
16:00 – 16:30	Coffee break

16:30 – 18:30	**Overall workshop discussion and wrap-up**
18:30	End of workshop and discovering Rome at night…

Poster presentations

Topic 1: Development and evaluation of regional climate system models
On the representation of Mediterranean sea level in regional climate models Adloff F., Jorda G., Somot S., Sevault F., Meyssignac B., Arzouse T., Li L. and Planton S.
Heat and freshwater budgets over the Mediterranean area from a new 34-year MED-CORDEX hindcast Béranger, K., Anquetin S., Arsouze T., Bastin S., Bouin M-N., Berthou S., Boudevillain B., Claud C., Lebeaupin Brossier C., Delrieu G., Dubois C., Drobinski P., Froidurot S., Molinié G., Polcher J., Rysman J-F., Sevault F., Somot S. and Stéfanon M.
Coupling of COSMO-CLM and NEMO in two regions Brauch J., Früh B., Lenhardt J., Van Pham T., Akhtar N. and Ahrens B.
High-resolution downscaling of ERA40 for region of South East Europe with NMMB model Djurdjevic D. and Krzic A.
Application of the Weather Generator to Bias-correct the Regional Climate Model Output Dubrovsky M. and Duce P.
Arctic regional atmosphere-ocean-sea ice coupling, sensitivity to the domain geographical location Koldunov N.V., Sein D.V., Pinto J.G. and Cabos W.
Very High Resolution Observations of Regional Climate from Offshore Platforms near the German Coast Leiding T., Tinz B. and Gates L.
Heat and salt redistribution in the Mediterranean Sea. Insights from the MedCORDEX model ensemble Llasses J., Jordà G., Gomis D., Adloff F., Macías-Moy D., Harzallah A., Arzouse T., Ahrens B., Li L., Elizalde A. and Sannino G.
The Regional Earth System Model (RegESM) using RegCM4 coupled with the MITgcm ocean model: First assessments over the MED-CORDEX domain Mariotti L., Turuncoglu U., Farneti R., Sannino G., Dell'Aquila A., Sitz L., Fuentes RF. and Di Santi F.
Modeling of the marine ecosystem and the carbon cycle in the Barents Sea Martyanov S.
Mistral and Tramontane time series in (un)coupled regional climate simulations Obermann A. and Ahrens B.
Modeling the heat and the water balances including sea levels in the Mediterranean Sea Omstedt A. and Shaltout M.

Modelling the impacts of atmospheric dust deposition on the biogeochemical cycles in the Mediterranean Sea Richon C., Dutay J-C., Dulac F., Vincent J., Laurent B., Desboeufs K., Mallet M., Nabat P. and Palmieri J.
Impact of land surface coupling on the Mediterranean continental water cycle Stéfanon M. and Polcher J.
Flood zone modeling for a river system relying on the water spread over a terrain Volchek A., Kostiuk D. and Petrov D.

Topic 2: Regional process studies and studies on the added value of coupled models with high resolution
Quasi-biennial oscillation effect on Baltic Sea region climate indicators: Lithuania's case Bukantis A. and Akstinas V.
Response of the Black Sea's benthos ecological functions to an environmental gradient Grégoire A., Drion R., Gomoiu M., Todorova V., Velikova V. and Capet A.
Coupling of regional atmospheric-ocean models (WRF-ROMS) for climate applications in the Mediterranean basin Jiménez-Guerrero P. and Montávez J.P.
Feedback of Coastal Upwelling on the Near-Surface Wind Speed at the Baltic Sea Raub T., Lehmann A. and Jacob D.
Comparing on centennial time scale the deviation of sea level from the global mean of two marginal seas: Baltic and Adriatic Sea Scarascia L. and Lionello P.
Multimodel for sea level forecast by artificial neural network Sztobryn M.
The influence of vegetation feedbacks on recent sea ice dynamics – results from a regional Earth system model Zhang W., Döscher R., Koenigk T., Miller P.A., Smith B., Jansson C. and Samuelsson P.
Seasonality in Intraseasonal and Interannual Variability of Mediterranean SST and its Links to Regional Atmospheric Dynamics Zveryaev I.I.

Topic 3: Extreme and high impact events

Modulation of heavy precipitation in the region of Valencia (Spain) by Mistral-induced sea-surface cooling in the previous days

Berthou S., Mailler S., Drobinski P., Arsouze T., Bastin S., Béranger K. and Brossier C.L.

Generation of heavy rainfall during the Oder flood event in July 1997: On the role of soil moisture

Ho-Hagemann H.T.M., Hagemann S. and Rockel B.

The role of the atmospheric coupling in the ability of ORCHIDEE to simulate droughts

Polcher J. and Stéfanon M.

Topic 4: Climate change impact studies and uncertainty assessments of projections using coupled model simulations

A downscaling investigation of multi-model uncertainty of hindcasted and projected regional temperatures

MacKenzie B. and Meier H.E.M.

Evaluating the utility of dynamical regionalization of climate for predicting climate impacts on forests

Martin-St. Paul N., Stéfanon M., Guillemot J., Ruffault J., Francois C., Somot P., Dufrene E. and Leadley P.

Modelling climate change impact on hydroecological conditions of the Tyligulskyi Liman lagoon (north-western coast of the Black Sea)

Tuchkovenko Y. and Khokhlov V.