



# 4th International Meeting on Meteorology and Climatology of the Mediterranean

Organization *Associació Catalana de Meteorologia (ACAM) and Network of Meteorology of the Mediterranean with support from Spanish Ministry of Economy and Competitiveness and Météo-France*  
**Programme**

Banyuls, 27th February - 1st March 2013

## Wednesday, 27th

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**9:00** : Conference Registration + Light Ice-Break  
**10:00-10:30** : Welcome

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### Block 0: MISTRALS Session

Chairmen: *J. L. Roujean, K. Horvath (4 invited lectures)*

**10:30-11:00** **F. Dulac**, the ChArMEX Team: *An overview of ChArMEX (the Chemistry-Aerosol Mediterranean Experiment)*

**11:00-11:30** **I. Pairaud**, C. Guieu, X. Durrieu de Madron, R. Sempéré: *Presentation of the MER-MEX program: Marine Ecosystems Response in the Mediterranean Experiment*

**11:30-12:00** **V. Ducrocq**: *HyMeX, a 10-year multidisciplinary project on the Mediterranean water cycle*

**12:00-12:30** C. Leduc, **W. Ludwig**, M. Thibon, M. Voltz: *Surfaces and interfaces of coastal Mediterranean areas: an overview of SICMED*

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**12:30 to 14:00** : Lunch Break

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### Block 1: Climatology

Chairmen: *José A. Guijarro, Josep Calbò*

**14:00-14:30** **S. M. Vicente**, (Invited talk): *Climate change evidences and associated impacts in Spain*

**14:30-14:50** **A. M. S. Delitala**, P. Boi, C. Bruno, J. P. Giorgetti, V. Bonati G. Agrillo: *Historical archive of meteorological information in Italy since the end of 19th century*

**14:50-15:10** **J. A. Guijarro**: *Automatic benchmarking of series homogenization packages*

**15:10-15:30** **K. Zaninovic**, C. Brosky, A. Matzarakis: *The bioclimate potential of tourism in Croatia in 21st century*

**15:30-15:50** **T. Sanjuan Olleta**: *Climate change effect on sustainable development of the Tigris-Euphrates basin in Turkey by using the WEAP Model*

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**15:50 to 16:50** : Coffee-break and Climatology Poster Session (including short poster presentations)

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**16:50-17:10** **K. Horvath**, A. Bajic, S. Ivatek-Sahdan: *Dynamical downscaling of wind speed over the Adriatic region*

**17:10-17:30** **A. Di Luca**, E. Flaounas, P. Drobinski: *Evaporation and precipitation over the Mediterranean Sea in a WRF physics ensemble*

**17:30-17:50** M. Tous, **R. Romero**, C. Ramis: *Medicanes and climate change: analysis with two different methods*

**17:50-18:10** A. Monti, N. Devineni, **F. Cioffi**, U. Lall: *Future hydroclimatic changes and their impact on the Pontinia plain*

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## Thursday, 28th

### Block 2: Processes and Applications

Chairmen: *J. L. Palau, J. Cuxart, D. Zardi*

**8:30-9:00** **A. Jericevic**, (Invited talk): *Boundary layer processes and air pollution modelling in coastal areas*

**9:00-9:20** **J. Cuxart**, J. Dünnermann, B. Wrenger, M. A. Jiménez, J. L. Palau: *Nighttime surface inversions under thermally-driven low-level jets*

**9:20-9:40** **P. Le Moigne**, D. Legain, F. Lagarde, R. Salgado, D. Tzanos, E. Moulin, J. Barrié, M. Potes, G. Messiaen, A. Fiandrino, S. Donier, Traullé, D. Suquia: *Evaluation of a lake model over a Mediterranean coastal lagoon: THAUMEX field campaign*

**9:40-10:00** **M. Telšman Prtenjak**, M. Kvakić, G. Poljak: *Effects of the large-scale wind on the*

sea breeze and cumulonimbus cloud interaction over Istria

**10:00-10:20 A. Shayia**, H. H. Salman, B. Y. Humood: *A model for modification of air in a small town by using the evaporative cooling method*

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**10:20 to 11:20** : *Coffee-break and Proc. & Appl. Poster Session (including short poster presentations)*

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**11:20-11:40 C. Hernández**, P. Drobinski, S. Turquety: *Impact of wildfire-induced land cover modification on local meteorology: a study of the 2003 wildfires in Portugal*

**11:40-12:00 M. Udina Sistach**, M. R. Soler, J. Sun, B. Kosovic: *Large-eddy simulation of wave-turbulence interaction in the stable boundary layer*

**12:00-12:20 P. Nabat**, S. Somot, M. Mallet: *Aerosol radiative impact on the Mediterranean climate in coupled atmosphere-ocean regional climate simulations*

**12:20-12:40 J. M. Baldasano**, M. T. Pay, G. Arévalo, S. Gassó: *the CALIOPE air quality forecast system for year 2011*

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**12:40 to 14:00** : *Lunch Break*

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### Block 3: Remote and in situ measurements

Chairmen: *J. Bech, G. Scavone*

**14:00-14:30 M. Berenguer**, (Invited talk): *On the performance of rainfall nowcasting using Continental radar mosaics*

**14:30-14:50 F. Dulac**, B.Sarrand, N.Hamdi, Z. Bargaoui, M.Baldi, K.Cindrić, C.Dubois, V.Ducrocq, S.Somot, M.Labiadh, J.Schiavone, L.deSilvestri, A.Tovar-Sánchez: *A decade of precipitation in the Mediterranean basin as seen from the TRMM-3B42 satellite product*

**14:50-15:10 J. L. Roujean**, : *Land surface albedo and downwelling shortwave radiation from MSG geostationary satellite: method for retrieval, validation, and impact assessment in NWP and LSM Models*

**15:10-15:30 X. Ceamanos**, D. Carrer, J. L. Roujean: *Detection and retrieval of dust storm episodes in Mediterranean region in combining visible and thermal infrared MSG/SEVIRI bands*

**15:30-15:50 J. M. Sánchez**, C. Doña, J. Cuxart, V. Caselles, M. Bisquert: *Looking into the surface energy balance of a Mediterranean vineyard through its thermal characterization*

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**15:50 to 16:50** : *Coffee-break and Rem. & Meas. Poster Session (including short poster presentations)*

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**16:50-17:10 M. Pagès Secall**, N. Pepin, J. R. Miró: *Study of temperature and humidity vertical profiles: Cerdagne transects*

**17:10-17:30 D. Martínez-Villagrasa**, N., Wildmann, J. Bange: *Measuring the atmospheric boundary layer with the unmanned aerial vehicle 'MASC': features and applications*

**17:30-17:50 L. Laiti**, **D. Zardi**, M. de Franceschi, G. Rampanelli: *An investigation of the Ora del Garda wind in the Alps by means of Kriging of airborne and surface measurements*

**17:50-18:10 J. Bech**, Y. Sola, A. Ossó, J. Lorente: *Analysis of long-term solar ultraviolet index observations in Catalonia (Northeastern Spain)*

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**19:00** : *Social Dinner*

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## Friday, 1st

### Block 4: Numerical Modelling

Chairmen: *Bernat Codina, E. Tan*

**8:30-9:00 L. Garcies**, **Víctor Homar**, (Invited talk): *Can we target observations betting on forecast sensitivity fields for the Mediterranean high impact weather?*

**9:00-9:20 G. Gangoiti**, E. Sáez de Cámara, I. Gómez-Domenech, L. Alonso, M. Navazo, J. Iza, J. A. García, J. L. Ilardia : *Mapping evaporative moisture sources for two extreme rainfall episodes in the Alpine region: setting up a new mesoscale system*

**9:20-9:40 F. Duffourg**, O. Thevenot: *Assessment of the contribution of the Mediterranean Sea to the moisture supply to 04/11/2011 Heavy Precipitating Event over Genoa: sensitivity to the sea surface representation*

**9:40-10:00 J. Mazón**, D. Pino: *Frontogenesis in the meso- $\alpha$  and meso- $\beta$  scales in the Mediterranean basin: From cloud arch to cloud cells*

**10:00-10:20 M. M. Vich**, M. Tous, R. Romero: *The 8 November 2011 medicane event: the roles of model physical parameterizations and upper-level dynamical forcing*

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**10:20 to 11:20** : *Coffee-break and Num. Model. Poster Session (including short poster presentations)*

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**11:20-11:40 E. Flaounas**, P. Drobinski, S. Bastin: *Dynamical downscaling of IPSL-CM5 CMIP5 historical simulations over the Mediterranean: Benefits on the representation of regional surface winds and cyclogenesis*

**11:40-12:00 M. Gonçalves**, A. Barrera-Escoda, L. Guerreiro, J. Cunillera, J. M. Baldasano: *Temperature and precipitation trends for Catalonia as*

derived from dynamical downscaling of climate scenarios

**12:00-12:20 M. A. Jiménez**, J. Cuxart: *Study of the nocturnal flows generated in the Northern Central Pyrenees through a high-resolution mesoscale simulation*

**12:20-12:40 S. Basart**, E. Terradellas, N. Huneus, J. M. Baldasano, J.-J. Morcrette, J. Mulcahy, G. Pejanovic, A. da Silva, S. Lu, F. Benincasa: *Intercomparison and evaluation of dust prediction models*

**12:40 End of the Meeting**

## Poster Program

### Block 1: Climatology

**PB1.1** Alarcón, J. Belmonte, R. Izquierdo: *Influence of the WeMO and NAO decadal trends on the airborne pollen levels recorded in Catalonia (NW Mediterranean)*

**PB1.2** Berthou, Lebeaupin-Brossier, Mailler, Drobinski, Béranger, Bastin, Orain: *Effect of the ocean/atmosphere coupling and of the SST resolution on the location of heavy precipitation events in southern France*

**PB1.3** A. M. S. Delitala, P. Boi, C. Bruno, J. P. Giorgetti, V. Bonati, G. Agrillo: *Intense precipitation event affecting maritime regions across Italy and France*

**PB1.4** A. Enríquez, J. Calbó, J. A. González: *Assessment of climate models with ISCCP over the Mediterranean Sea*

**PB1.5** S. Gandia, M. P. Utrillas, V. Estellés, J. L. Gomez-Amo, D. Serrano, F. Tena, J. M. Nuñez, J. A. Martínez-Lozano: *Statistical study of UVB and Global solar radiation from ten years of data of the Spanish Radiometric Network*

**PB1.6** L. Giovannini, L. Laiti, D. Zardi, M. de Franceschi: *Climatological characterization of the Ora del Garda wind in the Alps*

**PB1.7** R. Izquierdo, M. Alarcón, A. Avila: *Does the WeMO index affect the precipitation amount and chemistry in the north-eastern Iberian Peninsula?*

**PB1.8** A. López-Bustins, D. Pascual, E. Pla, J. Retana: *Future variability of droughts in Catalonia, northwestern Mediterranean Basin*

**PB1.9** L. Marotta, F. Castellví, V. Telesca: *A stochastic Weather Generator for daily precipitation generation: a study case for Policoro Basilicata Region (IT)*

**PB1.10** M. Patarčić, M. Gajić-Čapka, K. Cindrić, Č Branković: *Changes in indices of precipitation extremes over the Croatian Adriatic in the near-future climate*

**PB1.11** M. Rodrigo, J. A. López: *An improvement of AEMET operational methodology for the estimation of high wind gust areas for insurance applica-*

*tions of the CCS*

**PB1.12** P. Rodríguez-Ros, J. P. Montávez, P. Jiménez-Guerrero: *Establishing the drought trends in the Northern Africa by using dynamical downscaling*

**PB1.13** A. Sanchez-Romero, J. Calbó, J.A. González: *Variability of turbidity level in Girona, Spain*

**PB1.14** C. Serra, de Larrocha, X. Lana, A. Burguño, M. D. Martínez: *Dry spell length distributions in the Mediterranean*

**PB1.15** D. Serrano Alcañiz, M. J. Marín, M. P. Utrillas, M. Nuñez, J. A. Martínez-Lozano: *Comparison between the cloud optical depth from the UV erythemal radiation and from the broadband solar radiation, during year 2011 in Valencia, Spain*

**PB1.16** M. A. Sicre, Gogou, Parinos, Triantaphyllou, Kallel, Jalali, Ezat, Dimiza, Bouloubassi, Bassetti: *Climate variability in the Mediterranean Sea over the last two millennia: of contribution PaleoMex/MISTRALS*

### Block 2: Processes and Applications

**PB2.1** R. Arasa Agudo, J. M. Solé, M. Picanyol, I. Porras, O. de Tera, M. de Piquer: *Integrated environmental and Meteorological forecasting and Alert System (SIAM). Air quality, Meteorological and Oceanic applications.*

**PB2.2** B. Duguy Pedra, J. L. Palau, S. Herrera, J. Bedia, I. Gómez, F. Rovira, D. Corell: *Sensitivity of a spatially-explicit fire model to wind data: a comparison of two downscaling methods in a Mediterranean fire-prone landscape (Valencia, Eastern Spain)*

**PB2.3** R. García, R. Lorente, P. Jiménez-Guerrero: *Assessing the air quality impact of harbor emissions in a Mediterranean coastal city*

**PB2.4** K. Horvath, B. Ivancan-Picek, N. Strelec Mahovic, M. Gajic-Capk: *Formation and development of a heavy precipitation event in the Southern Adriatic area*

**PB2.5** K. Horvath, Z. Vecenaj, B. Grisogono: *The bora flow over the complex orography of the Mid-Adriatic region*

**PB2.6** M. A. Jiménez, J. Cuxart: *Characterization of the sea-breeze in the island of Mallorca*

**PB2.7** P. Navarro, R. Baró, S. Jerez, P. Jiménez-Guerrero: *Characterizing the sources of future air pollution over the Mediterranean basin through sensitivity analysis*

**PB2.8** F. Rovira Lluch, J. L. Palau, M. J. Sales: *Spatial patterns of water vapor variability on the Mediterranean Sea*

**PB2.9** M. J. Sales Montoliu, J. L. Palau: *Average spatial distribution and temporal variability of NO<sub>2</sub> on the Valencia area (Spain)*

**PB2.10** L. Trapero, F. Duffourg, V. Ducrocq, J. Bech, J. Lorente: *Fine-scale numerical study of the*

27/10/2011 and the 03/11/2011 Heavy Precipitating Events over Catalonia and Andorra

**PB2.11** Vázquez, : *Influence of winter and summer meteorological conditions on chemical reaction mechanisms and generation of secondary products: simulations at the EUPHORE chamber*

**PB2.12** M. Vázquez, F. Alacreu, E. Borrás, T. Gómez, A. Muñoz, M. Ródenas, N. Roselló, P. Sánchez, T. Vera, J. L. Palau: *Field measurements of volatile organic compounds in the Mediterranean side of the Iberian Peninsula under winter and summer meteorological conditions*

**PB2.13** T. Vera, A. Muñoz, J. L. Palau, F. Rovira, P. Sánchez, M. Vázquez: *Pesticides dispersion: a case study in the Valencian region*

### Block 3: Remote and in situ measurements

**PB3.1** V. A. Copertino, R. Palumbo, G. Scavone, V. Telesca: *Realistic climate phenomena*

**PB3.2** M. Di Piero, G. Scavone, V. Telesca: *Comparative performance analysis of surface energy balance residual models*

**PB3.3** V. García-Santos, E. Valor, V. Caselles, M. A. Burgos, C. Coll, J. M. Sánchez: *Effect of the soil emissivity anisotropy on the surface temperature and energy balance from remote sensing under different moisture conditions*

**PB3.4** J. Quereda Sala, E. Montón Chiva, B. Mollà Cantavella, V. Quereda Vázquez: *Atmospheric scenarios of acid rain on the Mediterranean slope of the Iberian System*

**PB3.5** G. Roberts, T. Bourriane, J. F. Leon, V. Pont, M. Mallet, P. Augustin, F. Dulac, S. Ioannou, S. Keleshis, W. Junkermann: *Vertical Structure and Sources of AERosols in the Mediterranean Region (VESSAER)*

**PB3.6** J. A. Valiente, R. Niclós, D. Corell, M. J. Estrela: *Development of an autonomous device for the continuous acquisition of angular thermal-infrared measurements for remote sensing applications*

**PB3.7** K. M. Yao, O. Marcou, C. Goyet, V. Guglielmi, J. P. Savy, F. Touratier: *Temporal evolution of total and anthropogenic CO<sub>2</sub> and pH in the Mediterranean Sea for the 1995-2011 period*

### Block 4: Numerical Modelling

**PB4.1** E. Abellán, A. Callado, P. Escribà: *Ensemble prediction systems applied to aeronautics*

**PB4.2** A. Garrido, N. Ratola, P. Jiménez-Guerrero: *Evaluating the patterns of air pollution by PAHs over Europe by modeling techniques*

**PB4.3** L. Giovannini, D. Zardi, M. de Franceschi, F. Chen: *Boundary-layer processes and local circulation systems in the valleys around the city of Trento: a numerical study*

**PB4.4** V. Homar Santaner, L. Garcies: *Applica-*

*tion of EnKF for the mesoscale forecast of a severe weather event in the western Mediterranean*

**PB4.5** O. Jorba, C. Pérez, A. Badia, M. Spada, Z. Janjic, J. M. Baldasano, D. Dabdub: *The NMMB/BSC Chemical Transport model air quality results from global to regional scales*

**PB4.6** M. Mallet, P. Formenti, D. Tanre, G. Roberts, J. F. Leon, V. Pont, P. Nabat, S. Somot, F. Solmon, J. Nicolas, J. Sciar, F. Dulac: *he Aerosol Direct Radiative Impact in the MEDiterranean (ADRMED) project*

**PB4.7** J. Mazón, D. Pino: *Nocturnal offshore precipitation near the coastline in the Mediterranean basin*

**PB4.8** A. Montornés, B. Codina, J. Zack: *An analysis of the performance of WRF shortwave radiation schemes in the prediction of the surface irradiance using idealized and measured 1-D atmospheric profiles*

**PB4.9** I. Pairaud, N. Bensoussan, P. Garreau, S. Somot, J. Garrabou: *Impact of climate change on coastal benthic ecosystems from a modelling study of the NW Mediterranean Sea*

**PB4.10** A. M. Palomares, J. Navarro, P. A. Jimenez: *Offshore wind simulations near the Catalan coast using the WRF model*

**PB4.11** F. Pastor, M. J. Estrela Navarro: *Heavy rains and sea surface temperature in the Mediterranean: Modelling of recharge areas*

**PB4.12** J. Rodríguez Martín, J. Sanz, P. Salvador, J. L. Casanova: *Evaluating the impact of different PBL, MC and Radiance Data assimilation schemes on DANA forecast with WRF in Spanish Mediterranean Coast*

**PB4.13** J. Sáenz, G. Ibarra-Berastegi, A. Ezcurra, J. Diaz de Argandoña: *Seasonal cycle of temperature and precipitation over the Iberian Peninsula as represented by a simulation using WRF and 3DVAR data assimilation*

**PB4.14** Md. M. A. Sarker, M. K. Das: *Severe Thunderstorms during SAARC Storm Programm 2009: Observations and WRF model Simulations*

**PB4.15** M. Stéfanon, P. Drobinski, F. D'Andrea, C. Lebeau-pin-Brossier, S. Bastin: *Soil moisture-temperature feedbacks at meso-scale during heat waves over Western Europe*

**PB4.16** E. Tan: *An Improvement in Flash Flood Prediction by using 3DVAR Analysis with the WRF Model for Turkey*

**PB4.17** G. Zodiatis, G. Galanis, D. Hayes, A. Nikolaidis, G. Georgiou, S. Stylianou, G. Kallos, C. Kalogeri, P. C. Chu, A. Charalambous, K. Savvidou, Z. Kountouriotis, S. Michaelides: *Estimation and monitoring of the wave energy potential in Cyprus*