



## 8th International Conference on Meteorology and Climatology of the Mediterranean (MetMed)

May, 25 - 27, 2021



Universitat  
de les Illes Balears

# Programme ( Central European Time zone)

**25th MAY 2021**

9h00–9h30 WELCOME

### **Climatology (Chair: J.A. Guijarro)**

9h30–9h45 Climate Risk Information for Supporting ADaptation Planning and operaTion (CRISI-ADAPT II): CMIP5–CMIP6 comparison

Robert Monjo et al.

9h45–10h00 Coastal impacts of Storm Gloria (January 2020) over the north–western Mediterranean  
Angel Amores et al.

10h00–10h15 Extreme precipitation evolution in the western Mediterranean under climate change  
Pau Benetó et al.

10h15–10h30 Identifying storm nests and most conflictive areas in Barcelona for 2013 – 2018 period  
Laura Esbrí et al.

10h30–10h45 Multi-ensemble and multi-scenario Mediterranean climate change projections  
Josep Cos et al.

10h45–11h00 BREAK

### **Climatology (Chair: J. Calbó)**

11h00–11h30 **Invited talk. The first assessment report on Mediterranean climate and environmental change**  
**Joël Guiot**

11h30–11h45 A method to validate temperature homogenization techniques: the Slovenian network case study  
Giulio N. Caroletti et al.

11h45–12h00 Surface urban heat islands of Zagreb and Split (Croatia) – local climate zone based definition  
Matej Žgela et al.

12h00–12h15 Uncertainties of observed surface temperature trends: the case of the Balearic Islands  
José A. Guijarro et al.

12h15–12h30 Urban Heat Island Effect on Convective Precipitation Event in Izmir, Turkey  
Fatma Başak Saka et al.

**POSTER PRESENTATIONS (Climatology and Interdisciplinary sessions)**

1P1: A single scaling parameter to describe a rainfall regime: application on Málaga (Andalusia, Spain)

Maria C. Casas et al.

1P2: Analysis of cloud cover from ERA5 reanalysis and visual observations in Barcelona

Yolanda Sola et al.

1P3: Catalogue of the flooding events on the Croatian part of the eastern Adriatic coast

Matea Martinkovic et al.

1P4: Climate predictions to forecast fire activity

Andrina Gincheva et al.

12h30–13h30 1P5: Supercell Pre-convective Environments in Spain: a dynamic downscaling of ERA-5 Reanalysis

Carlos Calvo et al.

5P1: Assessing the correlation between temporal trends of extreme winter rainfall indices and aerobiological variables in Catalonia (NE of the Iberian Peninsula)

Maria C. Casas et al.

5P2: Development of an integrated system to analyse interactions between climatic factors and the risk of potential exposure to Covid-19

Vito Telesca et al.

5P3: The influence of the local weather conditions on seed germination of *Hypericum balearicum* L.

Neus Seguí et al.

13h30–14h30 BREAK

**Climatology (Chair: P. Nastos)**

14h30–14h45 Analysis of snow and fog events affecting aviation operations in selected Airports of Turkey

Meryem Mutlu et al.

14h45–15h00 Characterization of the Iberian heat waves over the last 70 years

Laura Paredes et al.

15h00–15h15 Evolution of synoptic patterns associated with north wind episodes (tramuntana) in northeastern Catalonia throughout the 21st century

Marc Prohom et al.

- 15h15–15h30 Implementation of the standardized precipitation index (SPI) for regional drought assessment in a Mediterranean area  
Ouafik Boulariah et al.
- 15h30–15h45 Longitudinal differences in long-term changes of Quasibiennial Oscillation  
Rahan Ozturk et al.
- 15h45–16h00 Synoptic patterns and mesoscale precursors of Italian tornadoes  
Mario M. Miglietta et al.
- 16h00–16h15 BREAK

### **Interdisciplinary studies (Chair: J. Mazón, J.P. Montávez, V. Telesca)**

- 16h15–16h45 **Invited talk. Precision irrigation system for agricultural water management in changing climate**  
**M. Mancini et al.**
- 16h45–17h00 Assessment of the future climate potential for tourism over Spain using a combination of downscaling approaches and quantitative impact models  
Maria F. Cardell et al.
- 17h00–17h15 Atmospheric circulation patterns promoting the scarcity of near-natural Iberian hydrological resources since 1980s  
Amar Halifa-Marín et al.
- 17h15–17h30 Temperature and absolute humidity as early predictors of COVID-19 first wave severity and transmission intensity in Spain  
Beatriz Hervella et al.
- 17h30–17h45 Winds blowing across the Mediterranean: reanalysis vs reality  
Jaume Ramon et al.
- 17h45–18h00 Impacts of unpredictable climate variability on renewable energy deployment  
Aina Maimó et al.

**26th MAY 2021**

## **Processes and applications (Chair: J. Cuxart, P. Le Moigne)**

- 9h00–9h30 **Invited talk. High–precision weighable lysimeter – a holistic tool for quantifying and tracking water fluxes at the land surface and in the soil**  
**Jannis Groh**
- 9h30–9h45 Upper–level large–scale precursors for African dust outbreaks over the Iberian Peninsula and the western Mediterranean  
Jose A. Garcia et al.
- 9h45–10h00 Evaluation and calibration of Heat Ratio transpiration method using hand–made probes in a Mediterranean species under contrasted climatic conditions  
Ana M. Sabater et al.
- 10h00–10h15 Assessment of similarity theory error in a semi–arid environment  
Belen Marti et al.
- 10h15–10h30 Statistical analysis of the sea–breeze features in the island of Mallorca  
Antoni Grau et al.
- 10h30–10h45 Statistical analysis of meteorological drought in Antalya Basin, Turkey  
Muhammed H. Burgan et al.
- 10h45–11h00 BREAK

## **Processes and applications (Chair: A. Boone, M.A. Jiménez)**

- 11h00–11h15 Observed mesoscale patterns in the irrigated Eastern Ebro basin  
Joan Cuxart et al.
- 11h15–11h30 The role of storm motion in controlling hydrological response: the 28 September 2012 catastrophic flash flood in Murcia, south–eastern Spain  
Arnau Amengual et al.
- 11h30–11h45 50–year wind record and rissaga event associated with a winter squall line in the Balearics  
Agustí Jansà et al.

11h45–12h00 A neural network designed to predict meteotsunamis in Ciutadella harbour  
(Balearic Islands, Spain)  
Maria M. Vich et al.

12h00 – 12h15 The convective evolution of Mediterranean Tropical-Like Cyclones  
Stavros Dafis et al.

12h15–12h30 Meteorological and photochemical modeling analysis of extreme ozone episodes  
in Barcelona and surrounding region during summer 2019  
Mireia Udina et al.

### **POSTER PRESENTATIONS (Processes and modelling sessions)**

2P1: An approach to Storm Filomena severe snowfall and precipitation in Spain:  
preliminary results  
Carlos Calvo et al.

2P2: On the vertical distribution of African dust over the western Mediterranean  
José A. Garcia et al.

2P3: The influence of the summer tropospheric circulation on Ozone  
concentration levels over the Eastern Mediterranean  
Konstantinos Rizos et al.

2P4: Rainfall intensity change in Region of Murcia (Spain)  
David Espín et al.

12h30–13h30 4P1: WRF–LES long–term real case simulation during BLLAST campaign:  
strengths and weaknesses  
Mireia Udina et al.

4P2: Impact of the initial soil moisture content over two distinct vegetation  
covers using the Regional Atmospheric Modeling System (RAMS)  
Igor Gómez et al.

4P3: Supercell predictability on Iberian Peninsula using WRF–ARW model  
Roberto Granda et al.

4P4: Role of moist and dry advection in the development of Mediterranean  
tropical-like cyclones (Medicanes)  
Mario M. Miglietta et al.

13h30–14h30 BREAK

### **Numerical modelling (Chair: R. Romero)**

14h30–15h00 **What are the key elements to properly represent the surface and its  
processes in numerical models?**  
Patrick Le Moigne

- 15h00–15h15 Land surface Interactions with the Atmosphere over the Iberian Semi–arid Environment (LIAISE): 1st modelling intercomparison  
Maria A. Jimenez et al.
- 15h15–15h30 Evaluating the role of initial conditions and boundary layer parameterizations in the simulation of extreme heat events in the Valencia coastal region  
Igor Gómez et al.
- 15h30–15h45 The Sensitivity of WRF Parameterizations on Lightning Events in Istanbul  
Ilayda Kurşun et al.
- 15h45–16h00 Development of combined statistical downscaling and machine learning models for the estimation of precipitation extremes  
Francesco Cioffi et al.
- 16h00–16h15 Lightning Potential Index performance in convection–permitting simulations of hail events in Croatia – sensitivity to microphysics and PBL schemes  
Barbara Malecic et al.

## 27th MAY 2021

### Numerical modelling (Chair: E. Tan, K. Horvath)

- 9h00–9h15 Enhancement of orography–induced rainfall in presence of large–sized cloud condensation nuclei  
Enrique Pravia et al.
- 9h15–9h30 Performance Testing on Wind Forecasts of WRF Model with Analysis Data in Turkey  
Yiğitalp Kara et al.
- 9h30–9h45 WRF simulation of the atmospheric conditions of the sightings of the Balearic mountain range from the central Catalan mountain range  
Jordi Mazon et al.
- 9h45–10h00 Testing mesoscale ensemble generation strategies: Application to Mediterranean high–impact weather forecasting  
Alejandro Hermoso et al.

10h00–10h15 Coastal risks induced by Mediterranean hurricanes  
Tim Toomey et al.

10h15–10h30 TRAM with Physics: A New Numerical Model Suited for All Kinds of Atmospheric Applications  
Romualdo Romero et al.

10h30–10h45 BREAK

### **Remote and in-situ measurements (Chair: R. Niclòs)**

10h45–11h15 **Invited talk. The potential of Copernicus data for near-real-time monitoring of water and energy fluxes at continental, regional and local scales**  
**Héctor Nieto**

11h15–11h30 Necessity for high resolution LST in the Mediterranean Agroecosystems. Bridging the gap by merging Sentinel-2 and Sentinel-3  
Juan M. Sánchez et al.

11h30–11h45 Analysis of thermal disaggregation techniques: machine learning and deep learning model comparison  
Federico Piñuela et al.

11h45–12h00 Buoy sea-air temperature observations in the Balearic Sea  
Agustí Jansà et al.

12h00–12h15 Analysing trends in the Mediterranean sea surface temperature retrieved from Envisat-AATSR data  
Ludovico Buizza et al.



**POSTER PRESENTATIONS (Remote and in-situ measurements session)**

3P1: A high resolution satellite-derived Sea Surface Temperature (SST) climatological database for the operation of a real-time weather forecast system  
Igor Gómez et al.

3P2: Evaluating the VIIRS land surface temperature operational product over a shrubland site using ground and sky sweeping measurements  
Lluís Pérez-Planells et al.

3P3: Accurate ground measurements to calibrate Landsat-8 TIRS data for land surface temperature retrieval  
Raquel Niclòs et al.

3P4: Surface thermal heterogeneities in the eastern Ebro basin and their impact on regional circulations  
Aina Torres et al.

3P5: Characterizations of wind and temperature profiles in Cerdanya Valley (Pyrenees) using a Windrass profiler  
Josep R. Miró et al.

12h15-13h30

3P6: Evaluation of solar irradiance parameters retrieved from geostationary satellite data with ground measurements  
Jesús Puchades et al.

3P7: Cloud cover retrieval with four different techniques in a coastal site in Spain  
Maria J. Marín et al.

3P8: Study of cloud cover at different heights from measurements of a ceilometer  
Maria J. Marín et al.

3P9: Analysis of the ground level BC concentration at an urban coastal site in Valencia, Spain, and its relation to dominant air masses  
Violeta Matos et al.

3P10: First evaluations of satellite-based estimation techniques of PM<sub>x</sub> concentrations in the Valencia Region  
Héctor Cruañes et al.

3P11: Remote sensing data analysis as support in convective fires: assessing the Haines Index  
Maria J. Barberà et al.

13h30-14h30 BREAK

**Remote and in-situ measurements (Chair: M. Udina)**

14h30-14h45

Land surface Interactions with the Atmosphere over the Iberian Semi-arid Environment (LIAISE) Project: Field Campaign Update  
Aaron Boone et al.

- 14h45–15h00 An overview of the Analysis of Precipitation Processes in the Eastern Ebro Subbasin (WISE–PreP) Project  
Joan Bech et al.
- 15h00–15h15 Micro Rain Radar precipitation observations of cyclones Filomena and Hortense  
Albert Garcia et al.
- 15h15–15h30 Wind channeling along the largest Pyrenean valley and its impacts on the surface thermodynamic parameters  
Daniel Martínez–Villagrasa et al.
- 15h30–15h45 BREAK

### **Remote and in–situ measurements (Chair: J. Bech)**

- 15h45–16h00 Towards an enhanced extreme–wind observation capability over the Mediterranean  
Marcos Portabella et al.
- 16h00–16h15 Comparison of cloud base height from ceilometer and radiosonde data in Barcelona  
Yolanda Sola et al.
- 16h15–16h30 Longwave Radiative Effect of the Cloud–Aerosol Transition Zone Based on CERES Observations  
Babak Jahani et al.
- 16h30–16h45 Improvement in Air Quality Index values on pandemics related lockdown days in Istanbul  
Elçin Tan et al.
- 16h45–17h00 CLOSING