

# International Mistrals workshop

## Climate Change impacts in the Mediterranean region

16|17|18  
October  
2017  
Agropolis  
International  
Montpellier - France

### WORKSHOP PROGRAM

#### MONDAY 16 OCTOBER 2017

10h30: Goal of the workshop, Introduction (Y. Tramblay)

10h45: The Montpellier Institute for Water and Environment (IM2E): An initiative to promote interdisciplinary research (E. Servat)

11h00: Presentation of the MISTRALS program (V. Ducrocq)

11h30: Presentation of the MedECC initiative (W. Cramer)

*12h00-14h00: Lunch break*

#### **SESSION 1 - Interaction between climate and impact models (conveners: F. Guilhaumon, F. Mouillot, N. Martin, L. Jarlan)**

14h00: Investigating uncertainties in zooplankton composition shifts under climate change scenarios in the Mediterranean Sea (F. Benedetti) - *solicited*

14h30: Uncertainty propagation in the assessment of climate change impact on runoff (D. Ruelland) – *solicited*

15h00: Climate change impact on wildfire danger indices: where do the greatest uncertainties lie? (H. Fargeon)

15h15: Robustness of conceptual rainfall-runoff models to high-resolution climate projections in northern Tunisia (H. Dakhlaoui)

*15h30-16h30: Coffee break and poster session*

16h30: Challenges and future avenues when reconstructing the past and predicting the future geographic distribution of rare plants in the Mediterranean Alps under changing climates (C. Randin) - *solicited*

17h00: Likelihood of changes in forest species suitability, distribution and diversity under future climate: the case of Southern Europe (S. Noce)

17h15: Towards the prediction of large wildfire occurrence from synoptic circulation patterns (J. Ruffault)

17h30: Effect of future rainfall changes on faecal indicator bacteria inputs to Mediterranean coastal waters: case study of the bay of Aigues-Mortes, France (M. Rio)

17h45: Mediterranean biogeochemistry evolution under the A2 climate change scenario simulated with the coupled NEMOMED8/PISCES model (C. Richon)

18h00: Challenges in simulating the impact of climate change on snow cover in Mediterranean mountain regions (S. Gascoin)

18h15: Climate change impacts on groundwater resources in South France (Y. Caballero)

*19h: Ice breaker*

## TUESDAY 17 OCTOBER 2017

### **SESSION 2 - Climate change modelling (conveners: S. Somot, R. Cheddadi, E. Coppola, L. Li, F. Solmon)**

9h00: Convection-permitting Med-CORDEX regional climate model simulation (E. Brisson)

9h15: Temporal and spatial aspects of 20th and 21st century warming in the Mediterranean (P. Hadjinicolaou)

9h30: Regional climate chemistry interactions and modelling in the Mediterranean region (F. Solmon)

9h45: Climate sensitivity of different organic aerosol schemes over the Mediterranean basin (A. Cholakian)

*10h00-11h00: Coffee break and poster session*

11h00: Overview of future climate change over Mediterranean land area and future challenges (F. Giorgi) - *solicited*

11h30: Climate change on the Mediterranean Sea: from physical changes to ecosystems' consequences. Applicability and limitations of current-generation numerical models (D. Macias-Moy) – *solicited*

12h00: Robust assessment of the Mediterranean Sea future evolution using the Med-CORDEX RCM multi-model ensemble: illustration for the Marine Heat Waves (S. Somot)

12h15: The climate change signal in the Mediterranean Sea in a regionally coupled ocean-atmosphere model (I. Parras Berrocal)

*12h30-14h00 Lunch break*

14h00: Overview of paleo-climate modelling for the Mediterranean climate and future challenges (J. Guiot) - *solicited*

14h30: Moroccan hydroclimate variability during the last Millennium, inferred from instrumental data and Speleothems  $\delta^{18}O$  records (Y. Ait Brahim)

14h45: Modelling lake level and isotopic composition variations over the last century in the Moroccan Middle Atlas (C. Vallet-Coulomb)

### **SESSION 3 - Downscaling approaches (conveners: J. Carreau, B. Hingray, M. Turco, J-P. Vidal)**

15h00: Statistical downscaling and bias correction of climate simulations: Main findings of the StaRMIP project (M. Vrac) - *solicited*

*15h30-16h30: Coffee break and poster session*

16h30: An assessment of daily topo-climatic air temperatures for climate downscaling and impact studies on forest functioning: example in Northern Tunisia and Cevennes, France (F. Mouillot)

16h45: Transferability of an ensemble downscaling method across time periods and predictor datasets (J-P. Vidal)

17h00: A non-stationary spatial weather generator for statistical downscaling of precipitation (P. Vaittinada Ayar)

17h15: Statistical Downscaling of EURO-CORDEX future climate scenarios: Projections of droughts, heavy precipitation, heat waves and cold spells (M.F. Cardell)

17h30: Meteoland: An R package to estimate daily meteorological data over landscapes (M. De Cáceres)

17h45-18h30: **Round table 1**

## WEDNESDAY 18 OCTOBER 2017

9h00: Using empirical-statistical downscaling to quantify climate change impacts (R. Benestad) – *solicited*

9h30: Advances in multivariate bias correction of climate model projections (C. Piani) – *solicited*

### **SESSION 4 - Pluridisciplinary approaches for impact assessment (conveners: M. Zribi, M. Montginoul, Y. Shin)**

10h00: Network integration of renewable power generation: How much weather variability influence the electrical consumption-production? (P. Drobinky) – *solicited*

*10h30-11h00: Coffee break and poster session*

11h00: Impacts of aerosols in photovoltaic energy production in the Mediterranean area for climate time scales (C. Gutiérrez)

11h15: Warming trends and extreme events analysis from high resolution observations in Mediterranean coastal areas: insights for the assessment of coastal ecosystems vulnerability to climate change (N. Bensoussan)

11h30: Climatic and socio economic fire drivers in the Mediterranean basin at a century scale: Analysis and modelling based on historical fire statistics (N. Koutsias)

11h45: Impacts of recurring extreme climatic events on societies and landscapes in Provence and Southern French Alps in the 18th century: a comparative analysis (N. Maughan)

12h00: Human-environment relationships in the Strymon Valley (Northern Greece). Coupling palynological and geomorphological approach in a long terrestrial record (A. Glais)

12h15: Catch the big picture of the Mediterranean Sea with the End-to-End NEMOMED12/Eco3M-S - OSMOSE model (F. Moullec)

*12h30-14h00 Lunch break*

14h00: The governance of groundwater resources in Tunisia facing the challenge of decentralization (M. Elloumi) – *solicited*

14h30: Modeling and scenaring fragilized agrosystems in the south-Mediterranean area. The example of the Tensift (Morocco) and Merguellil (Tunisia) watersheds (M. Le Page) – *solicited*

15h00-16h30: **Round table 2**