



Hellenic Meteorological
Society



COMECAP 2018

14th International Conference on Meteorology,
Climatology and Atmospheric Physics

October 15-17, 2018

Alexandroupolis, Greece

Programme

Organizing Committee

Chairman

Konstantinos Kourtidis, Professor, Democritus University of Thrace

Vice-Chairman

Panagiotis Nastos, Professor, University of Athens, President of the Hellenic Meteorological Society

Programme Committee

Konstantinos Kourtidis, Professor, Democritus University of Thrace

Panagiotis Nastos, Professor, University of Athens, President of the Hellenic Meteorological Society

Moustris Kostas, Assistant Professor, University of West Attica

Dimitra Founda, Senior Researcher, National Observatory of Athens

Anastasia Paschalidou, Assistant Professor, Democritus University of Thrace

Treasurer

Niki Bai, nb Events Conference Services

Anastasia Paschalidou, Assistant Professor, Democritus University of Thrace

Sunday 14/10/2018

17:30-20:30	The conference Secretariat will be open for registration of early arriving delegates
-------------	--

Monday 15/10/2018

8:00-9:30	Registration
9:30-10:00	Invited talk: Nikolaos Mihalopoulos, Atmospheric pollution in the Mediterranean: Sources and impact on air quality, health and climate
Atmospheric Physics and Chemistry (ROOM A) Chairpersons: Nikos Hatzianastassiou, Konstantinos Kourtidis	
10:00-10:15	Vasilis Mantzavinos and Dorotheos Evaggelos Aggelis. Near surface ozone seasonality and trends in Europe (1991-2015) 26
10:15-10:30	Elina Giannakaki, Stephanie Bohlmann, Xiaoxia Shang, Maria Filioglou and Mika Komppula. Characterization of atmospheric pollen with Raman lidar measurements 78
10:30-10:45	Dimitrios G. Amanatidis, Stelios Myriokefalitakis, Nikos Daskalakis and Maria Kanakidou. Mesoscale investigations of Bioaerosols in the Atmosphere of the Mediterranean region 121
Coffee break	
Meteorology/Extreme Weather Events/ Hydrometeorology and Hydrology (ROOM A) Chairpersons: Theodoros Karacostas, Silas Michaelides	
11:15-11:30	Nicholas Prezerakos and Dimitrios Brikas, D. Synoptic consideration of the Etesian winds outbursts 180
11:30-11:45	Paraskevi Roupa, Euripides Avgoustoglou, Theodore Karacostas, Haralambos Feidas and Ioannis Pytharoulis. A 10-year climatology of lightning for Thessaly, Greece 147
11:45-12:00	Nikolaos Papaevangelou, Ioannis Pytharoulis and Theodore Karacostas. Analysis of an explosive cyclone in the Ionian Sea in February 2012 197
12:00-12:15	Stella Dafka, Andrea Toreti, Luterbacher Juerg, Prodromos Zanis, Evangelos Tyrlis and Elena Xoplaki. Estimation of the mid and late century Extreme summer Winds over the Eastern Mediterranean from EURO-CORDEX models 38
12:15-12:30	Konstantinos Tsarpalis, Petros Katsafados, Anastasios Papadopoulos, Nikolaos Mihalopoulos and Christos Spyrou. The incorporation of a cloud nucleation scheme in WRF/Chem model for assessing the desert dust impact in cloud microphysics processes 30
12:30-12:45	Michalis Sioutas, Maria Christodoulou, Eleni Chatzi and Robert Doe. Significant tornado occurrences and their meteorological environments in Greece 81
12:45-13:00	Eleni Chatzi and Ioannis Tegoulis. Point rain estimation via weather radar data assessment the case of 15-17/11/2017 56
13:00-13:15	Maria Gavrouzou, Nikos Hatzianastassiou, Antonis Gkikas and Christos Papadimas. Impact of Saharan dust transport on the atmospheric lapse rates over the Mediterranean basin 27
Lunch break	
14:30-14:45	Ioannis Pytharoulis, Stergios Kartsios, Ioannis Tegoulis, Haralambos Feidas, Ioannis Matsangouras, Theodore Karacostas and Panagiotis Nastos. The impact of the model configuration on the simulation of a Mediterranean tropical-like cyclone 146
14:45-15:00	Dimitrios Kosmidis, Angeliki Marinaki, Ioannis Kouroutzoglou, Georgia Alexandropoulou and Antonios Lalos. Study of the synoptic environment and the mechanisms associated to high impact weather over the area of Athens during the cold period 2005-2015 9
15:00-15:15	Elissavet Feloni, Evangelos Baltas and Panagiotis Nastos. Synoptic features of rainfall induced floods. The case of Attica region, Greece 144
15:15-15:30	George Varlas, Anastasios Papadopoulos, Vera-Margarita Nomikou, Efthymios Karymbalis, Marios Anagnostou and Petros Katsafados. Assessing the interaction between the atmospheric and hydrological environments in the drainage basin of Spercheios River 62
Climate (ROOM B) Chairpersons: Helena Flocas, Prodromos Zanis	
15:00-15:15	Elena Xoplaki, Juerg Luterbacher, Sebastian Wagner, Eduardo Zorita, Dominik Fleitmann, Johannes Preiser-Kapeller, Abigail M. Sargent, Sam White, Andrea Toreti, John F. Haldon, Lee Mordechai, Deniz Bozkurt, Sena Akçer-Ön and Adam Izdebski. Modelling climate and societal resilience in the Eastern Mediterranean during the last millennium 177

15:15-15:30	Juerg Luterbacher and Elena Xoplaki. Palaeoclimatic conditions during the Hellenistic period in the Eastern Mediterranean 179
15:30-15:45	Marios Chatziparaschos, Stelios Myriokefalitakis, George Fanourgakis and Maria Kanakidou. Global atmospheric simulations of Ice Nuclei Particles from Marine Organic Aerosols and Dust 95
15:45-16:00	Eleni Katragkou. Temperature and precipitation trends over Greece using Euro-CORDEX ensembles under RCP8.5 55
Coffee break	
16:30-16:45	George Lazoglou, Ben Gräler, Christina Anagnostopoulou, Konstantia Tolika and Fotini Kolyva-Machera. Analysis of the dependence between climate variables using the Copula method 143
16:45-17:00	Geli Wang and Anastasios Tsonis. Ozone prediction combined with slow feature analysis 192
17:00-17:15	Kalliopi Artemis Voudouri, Eleni Giannakaki, Mika Komppula, Dimitrios Balis and Anne Hirsikko. Cirrus clouds properties over three different geographical regions using PollyXT measurements 24
17:15-	Opening ceremony
17:30-18:00	Invited speaker: Brigadier General Nikolaos Vogiatzis, HNMS General Director: South-East European Multi-Hazard Early Warning Advisory System
18:00-18:30	Invited speaker: Anastasios A. Tsonis, Dynamical evidence for causality between galactic cosmic rays and interannual variation in global temperature
19:30-	Opening reception and dinner

Poster display time is 10:00-20:00, author attendance time is 18:30-20:00.

Posters Atmospheric Chemistry and Physics

Ermioni Solomou, Anastasia Poupkou, Natalia Liora, Christos Giannaros, Serafim Kontos, Prodromos Zanis, Mihalios Lazaridis, Panagiotis Symeonidis, Athina Progiou, Anastasia Sitara, Dimitrios Economides, Ioannis Ziomas and Dimitrios Melas. Air quality high resolution modeling using CAMx-WRF over the Greek domain: A model performance evaluation 25

Pavlos Kalabokas, John Kapsomenakis, Nikos Mihalopoulos, Christos Repapis and Christos Zerefos. Synoptic meteorological conditions during high ozone episodes over the eastern Mediterranean 22

Angelina Metaxatou, Giorgos Kouvarakis, Christina Theodosi, Giorgos Maneas, Nikos Kalivitis, Iasonas Stavroulas, Eleni Liakakou, Evangelos Gerasopoulos and Nikos Mihalopoulos. Navarino Environmental Observatory: Part I Long-term variability of aerosol optical properties 36

Nikos Kordalis, Panagiotis T. Nastos and Konstantinos Karantzalos. Surface urban heat island in the greater Athens area using remote sensing products 141

Maria Tsagkaraki, Christina Theodosi, Angelina Metaxatos, Pavlos Zarmpas, Georgios Grivas, Eleni Liakakou, Evangelos Gerasopoulos and Nikolaos Mihalopoulos. Navarino Environmental Observatory: Part II Chemical composition and sources of aerosols 40

Eleni Tetoni, Vassilis Amiridis, Elina Giannakaki, Eleni Marinou, Michael Kottas, Anna Gialitaki, Emmanouil Proestakis, Stavros Solomos, Aristeidis Georgoulas, Iwona Stachlewska, Holger Baars, Ronny Engelmann and Julian Hofer. EARLINET validation of CALIPSO v4 product and comparisons with v3 88

Anna Gialitaki, Alexandra Tsekeri, Vassilis Amiridis, Eleni Marinou, Eleni Giannakaki, Stavros Solomos, Romain Ceolato, Michael Kottas, Eleni Tetoni, Emmanouil Proestakis, Ronny Engelmann and Holger Baars. Should we consider the non-sphericity of smoke particles for radiative transfer? 89

Dimitrios Balis, Maria Elissavet Koukouli, Katerina Garane, Irene Zyrichidou, Jean-Christopher Lambert, Tijn Verhoelst, Jose Granville, Andrea Pazmino, Ariane Bazureau, Florance Goutail, Jean-Pierre Pommereau, Klaus-Peter Heue, Diego Loyola, Christophe Lerot, Michel Van Roozendael and Christos Zerefos. Initial validation of TROPOMI/S5P total ozone columns 133

Pavlos Zarmpas, Vasiliki Vasilatou, Konstantinos Eleftheriadis and Nikolaos Mihalopoulos. Long term measurements of aerosol ionic composition over Athens Greece. Comparison and correlation between the wider urban area of Athens and the remote background region of Finokalia-Lasithi, Crete 142

Fani Gkertsis, Alkiviadis Bais, Natalia Kouremeti, Theano Drosoglou, Ilias Fountoulakis and Konstantinos Fragkos. Total ozone column retrieval from three Phaethon DOAS systems in Thessaloniki, Greece 163

Alexandros Pantazis, Alexandros Papayannis and Georgios Georgousis. LIDAR algorithms for atmospheric slant-range visibility, planetary boundary layer height, meteorological phenomena and atmospheric layering measurements 13

Maria Kezoudi, Matthias Tesche, Helen Smith, Alexandra Tsekeri, Michael Kottas, Nikos Siomos, Holger Baars and Bernadett Weinzierl. Profiling mineral dust size distributions obtained from balloon-borne optical particle counter and validation with aircraft and remote sensing measurements 3

Nikos Kalivitis, Vassilis Amiridis, Stavros Solomos, Alexandra Tsekeri, Kouvarakis Giorgos, Christodoulos Pilinis and Nikolaos Mihalopoulos. Size distributions of desert dust aerosols in the eastern Mediterranean marine boundary layer 63

Orestis Speyer, Eleni Athanasopoulou, Evangelos Gerasopoulos and Athanasios Nenes. Effect of increased domestic biomass burning on Cloud Condensation Nuclei (CCN) activity and microphysics in an urban environment 159

Posters Meteorology/Extreme Weather Events/ Hydrometeorology and Hydrology

Ioannis Matsangouras, Markos Mylonas, Ioannis Pytharoulis and Panagiotis Nastos. Subtropical and polar influence on tornado events over Greece 165

Panayiotis Mouskos and Theodore Karacostas. A classification of upper-air synoptic circulation types associated with precipitation over the Eastern Mediterranean 203

Ioannis Manthos, Ioanna Tasioula, Elias Houssos, Nikolaos Koutsias, Nikolaos Hatzianastassiou and Aggeliki Fotiadi. The regime of fires in southern Europe based on satellite data and the atmospheric conditions associated with severe events 34

Athanasios Tsikerdekis, Prodromos Zanis, Aristeidis Georgoulas, Georgia Alexandri, Eleni Katragkou and Fabien Solmon. Direct and semi-direct radiative effects of dust aerosols in regional climate simulations for present and future climate over North Africa and Mediterranean 119

Maria Christodoulou and Michalis Sioutas. Radar documentation of the 6-7 September 2016 thunderstorms activity producing destructive flash flood south of Thessaloniki 90

Theodore Giannaros, Vassiliki Kotroni, Konstantinos Lagouvardos, Elissavet Galanaki and Stavros Dafis. HERMES: An integrated severe and extreme weather forecasting system 107

Nadia Politi, Athanasios Sfetsos, Diamando Vlachogiannis, Panagiotis Nastos and John Kapsomenakis. Sensitivity of WRF model initialization for regional climate dynamical downscaling in the domain of Greece 4

Evangelos Stasinou and Nikolaos Bakas. An investigation of non-Boussinesq stratified shear instability 39

Charalampos Karvelis, Ioannis Samos, Flora Gofa, Ioannis Pytharoulis and Angelos Paralidis. Optimizing Rainfall Estimates from HNMS Weather Radar Data 45

Ioannis Samos, Ioannis Pytharoulis, Ioannis Kouroutzoglou, Helena Flocas, Flora Gofa and Antonis Emmanouil. Analysis of a high impact Mediterranean cyclone affecting Greece in November 2017 46

Eleftheria Tsiniari. The Mediterranean tropical-like cyclone of November 7, 2014 93

Dhruba Banerjee and Ramaprosad Bondyopadhaya. A study of tropical cyclones over India (Bay of Bengal and Arabian Sea) and solar influence on it 106

Eleftheria Tsiniari, Sotirios Tsioungkos, Anastasia Papakrivou, Kleoniki Tsioutra, Pavlos Senarelis and Panagiotis Skrimizeas. Study of the synoptic environment of the specific weather event on the 16th and the 17th July 2017 174

Anna Kampouri, Stergios Kartsios, Theodoros Karacostas, Ioannis Pytharoulis and Fotini Athanasiou. WRF sensitivity analysis in simulating a heavy rainfall event using different microphysics schemes 135

Dimitra Boucouvala, Flora Gofa and Ioannis Samos. Spatial verification techniques applied to high resolution models for an intense precipitation summer event in Greece 15

Tzeni Antoniou and Theodore Karacostas. Sensitivity and verification procedure of a predicting hailstorms model-algorithm 120

Sotirios Tsioungkos and Dimitrios Brikas. Calculation of dynamic and thermodynamic parameters from spatial data of high spatial resolution of a weather event's specific case study event that occurred on the 16th and 17th of July 2017 158

Silas Michaelides, Yiannis Proestos, Theodoros Christoudias, Panos Hadjinicolaou, Katiana Constantinidou and Filippos Tymvios. Forecasting Drought and Fire Risk in the Balkan-Med Region 170

Giorgos Sarailidis and Sotirios Tsioungkos. Rainfall frequency analysis using block maxima and peaks over threshold approaches 145

Panagiota Venetsanou, Christina Anagnostopoulou, Athanasios Loukas and Konstantinos Voudouris. Analysis of climate future projections by using the spatio-temporal Kriging method 58

Dimitrios Voulanas and Theodoros Mavromatis. Evaluation of ERA-Interim, E-OBS and MARS-STAT reanalysis products at reproducing the spatio-temporal characteristics of monthly precipitation over Greece 196

Konstantina Nakoudi, Christos Stathopoulos and George Kallos. Simulation of Wind and Wave Conditions during a Storm Surge Event 16

Efstathia Trigga and Efthimia Kostopoulou. An observational study of the relationships between extreme temperature and precipitation and the surface atmospheric circulation in Greece from December 2016 to January 2017 28

Eleftheria Tsiniari and Paul Senarelis. A case study of a Mesoscale Convective Complex over Northern Greece on July 16 and 17, 2017 91

Markos P. Mylonas, Kostas C. Douvis, Iliana D. Polychroni, Nadia Politi and Panagiotis T. Nastos. Sensitivity analysis on a Mediterranean tropical - like cyclone over southwestern Greece 139

Dionysia Kotta, Dimitra Kitsiou and Pavlos Kassomenos. Summer Rainfall Event: The Skill of Extreme Forecast Index and Effects on Marine Chlorophyll Concentrations 148

Aikaterini Drachaliva and Theodore Karacostas. Hailstorm prediction algorithm over Thessaly, Greece 140

Tuesday 16/10/2018

8:00-9:15	Registration
Climatology for natural resources management/Applied Meteorology and Climatology (ROOM A) Chairpersons: Panayiotis Nastos, Andreas Kazantzidis	
9:15-9:30	Georgios Fragkoulidis and Lolkmar Wirth. Synoptic circulation patterns during temperature extremes in southeastern Europe 97
9:30-9:45	Merja H. Tölle, Marcus Breil, Kai Radtke and Hans-Jürgen Panitz Sensitivity of mid-latitude temperature to albedo 2 parameterization in the regional climate model COSMO-CLM 3 linked to

	extreme land use changes 42
9:45-10:00	Fotini Dourou, Vassilis Papadopoulos, Christos Lolis and Aristides Bartzokas. Sea-surface response to atmospheric circulation anomalies in the Mediterranean and the Black Seas during winter; a 50-year climatology 61
10:00-10:15	Theodoros Nitis. Performance Assessment of High-Resolution WRF Model Physics Parameterizations over Aegean Sea 190
10:15-10:30	Ioannis Kioutsioukis and Nikolaos Stilianakis. Mathematical modelling of the temperature dependent WNV transmission: model evaluation and sensitivity analysis 162
10:30-10:45	Ioannis Logothetis, Kleareti Tourpali, Stergios Misios and Prodromos Zannis. The Etesian winds: Linkage between the Summer Circulation over East Mediterranean and west Indian Summer Monsoon in CMIP5 20
Coffee break	
Weather Analysis and Forecasting/Weather Modification (ROOM A) Chairpersons: Theodore Karacostas, I. Pytharoulis	
11:15-11:45	Invited speaker Nikolas Prezerakos: Weather Forecasting problems mainly in Greece
11:45-12:00	Stergios Kartsios, Ioannis Pytharoulis, Theodore Karacostas, Stylianos Kotsopoulos and Ioannis Tegoulas. Predictability of convective activity in Central Greece due to topography and land use spatial changes 160
12:00-12:15	Prezerakos N. , Nastos P. , Mylonas, M. Dynamics of the diurnal variation of the Etesian winds over the Aegean Sea 167
12:15-12:30	Petros Katsafados, Christos Spyrou, George Varlas, Anastasios Papadopoulos, Gerasimos Korres, Evangelia Papadopoulou and Vassilios Vervatis. Towards the incorporation of an ocean circulation model as an additional component in CHAOS modeling system 77
Observational Techniques from the ground and space/Satellite Meteorology and Climatology (ROOM A) Chairpersons: Nikos Hatzianastasiou, Dimitris Balis	
12:30-12:45	Dimitra Konsta, Ioannis Biniotoglou, Antonis Gkikas, Stavros Solomos, Eleni Marinou, Emmanouil Proestakis, Sara Basart, Carlos Perez Garcia-Pando and Vassilis Amiridis. Dust Model Evaluation Using the 3D LIVAS-CALIPSO Pure Dust Product 10
12:45-13:00	Stavros Kolios and Nikos Hatzianastasiou. Automated algorithm for dust monitoring based on Meteosat imagery and Neural Networks 21
Lunch break	
14:30-14:45	Vasileios Tzallas, Nikolaos Hatzianastasiou, Nikolaos Benas, Jan Fokke Meirink, Christos Matsoukas, Martin Wild and Ilias Vardavas. Global shortwave radiation budget using CM SAF CLARA-A2 global cloud cover data 68
14:45-15:00	Ioannis Vamvakas, Vasileios Salamalikis, Daniel Benitez, Ahmed Al-Salaymeh, Sofiane Bouaichaoui, Amenallah Guizani and Andreas Kazantzidis. Solar resource for combined CSP-PV plants across the MENA region 76
Atmospheric electricity, ions and lightning (ROOM A) Chairpersons: Konstantinos Kourtidis, Vassilis Amiridis	
15:00-15:30	Special talk: V. Amoiridis (ERC grant): Does dust triboelectrification affect our climate?
15:15-15:30	Stavros Solomos, Vassilis Amiridis, Alexandra Tsekeri, Nikos Kalivitis, Eleni Marinou, Vasiliki Daskalopoulou and Christos Spyrou. Revisiting the desert dust sedimentation mechanisms 23
Coffee break	
16:00-16:15	Vasiliki Daskalopoulou, Zbigniew Ulanowski, Nikos Kalivitis, George Hloupis, Stavros Solomos, Alexandra Tsekeri and Vassilis Amiridis. Monitoring of Saharan dust electrification using a ground-based electrometer in Crete 80
16:15-16:30	Konstantinos Kourtidis. Atmospheric Electricity coupling with the Earth System, climate and biological systems: A review 2
16:30-16:45	Kostas Florios, Christos Repapis and Vasilis Tritakis. Electromagnetic Emissions of Possible Lithospheric Origin Before two Earthquakes in North Greece 193
16:45-18:30	Young Scientists meeting Chairpersons: Stergios Missios, Konstantinos Kourtidis
18:15-19:45	Hellenic Meteorological Society meeting

Poster display time is 10:00-20:00, author attendance time is 18:30-20:00.

Posters Climatology for natural resources management/Applied Meteorology and Climatology

Dimitrios Bentis, Christos Sarras and Dimitrios Brikas. A contribution to the study of the wind field in Thessaloniki's airport "Macedonia" 202

Panagiotis Skrimizeas, George Varlas, Flora Gofa and Petros Katsafados. Quality assessment of wave predictions performed by the Hellenic National Meteorological Service 149

Konstantinos Kolokythas and Athanassios Argiriou. Investigating the impact of the length of the input datasets in wind speed time series forecasting 12

Kyriaki Psistaki, Anastasia Paschalidou, Pavlos Kassomenos and Glenn McGregor. Studying the association between Lamb weather types and mortality in London, UK 44

Vasileios Salamalikis, Athanassios Argiriou and Elissavet Dotsika. From atmosphere to cave: A simplified isotope-stalagmite model for climate reconstruction applications 43

Euripides Avgoustoglou, Edoardo Bucchignani, Antigoni Voudouri, George Varlas, Paola Mercogliano, Petros Katsafados and Panagiotis Skrimizeas. Installation and Testing of the Regional Climatic Model COSMO-CLM (CCLM) at the Hellenic National Meteorological Service 47

Maria Chara Karypidou, Eleni Katragkou, Vasiliki Almpantidou, Antonios Mazaris, Spyridon Mourelatos and Sandra Gewehr. Climate-induced changes on the spatial distribution of *Anopheles sacharovi*: An investigation for current and future climate under RCP8.5 over Greece 57

Manolis Anadranistakis and Anna Mamara. Greece Map of the Köppen-Geiger Climate Classification 60

John Stergiou, Efthimios Tagaris and Rafaella-Eleni Sotiropoulou. Optimizing WRF model for surface temperature assessments over Europe 74

Athanasia Kapsali, Helena Flokas and Anastasios Mavrakis. A climatological analysis of tropopause over Greater Athens Area for 1979 – 2017 time period 86

Dimitris - Andreas Nikolaou, Helena Flokas and Anastasios Mavrakis. A climatological analysis of ozone mixing ratio over Greater Athens Area for 1979 – 2017 time period 87

Nikolaos Stathopoulos, Panagiotis Skrimizeas, Kleomenis Kalogeropoulos, Panagiota Louka and Alexandra Tragaki. Statistical analysis and Spatial correlation of rainfall in Greece for a 20-year time period 92

Konstantinos Moustris, Kosmas Kavadias, Dimitris Zafirakis, John Kaldellis and Effrosyni Zafeiraki. Medium and short term prognosis of load demand for the Greek Island of Tilos using artificial neural networks and human thermal comfort-discomfort biometeorological data 102

Christina Patsika and Theodore Karacostas. An estimation of daily precipitation amounts over Thessaly 110

Konstantinos Philippopoulos, Despina Deligiorgi, Christos Tzanis, Nikolaos Kalamaras and Amalia Perdikouri. The impact of atmospheric circulation on wind resource over Heraklion, Crete, Greece 114

Maria Douka and Petroula Karacosta. On the relation of extreme hourly precipitation with surface air temperature over the region of Thessaloniki 150

Elham Ghasemifar and Manuchehr Farajzadeh. On the relationship between clouds cover fraction and Temperature Using Stations and Remote Sensing Data over Iran 191

Posters Climate

Nikolaos Siomos, Ilias Fountoulakis, Athanasios Natsis, Dimitrios Karagiozidis, Theano Drosoglou, Kalliopi Artemis Voudouri, Alkiviadis Bais and Dimitris Balis. Aerosol classification based on the synergy of Brewer spectrophotometer and sunphotometer measurements 99

Panayiotis Mouskos and Theodoros Karacostas. A classification of upper-air synoptic circulation types over the Eastern Mediterranean 122

Eleftherios Ioannidis, Nikolaos Hatzianastassiou, Christos D. Papadimas, Nikolaos Benas, Aggeliki Fotiadi, Christos Matsoukas, Martin Wild and Ilias M. Vardavas. Global downward surface solar radiation tendencies in the first decade of 2000s 79

Konstantia Tolika. On the ability of an updated RCM to capture the temporal precipitation distribution over Greece 19

Prodromos Zanis, Athanasios Tsikerdekis and Dimitris Akritidis. DEAR-Clima: A Data Extraction Application tool for Regional Climate 117

Konstantinos Tsioumitas, Nikolaos Hatzianastassiou, Nikolaos Benas, Daniela Meloni, Giandomenico Pace, Alcide Giorgio di Sarra, Christos Matsoukas, Ioannis Vardavas and Stavros Dafis. Modeling 15-year surface solar radiation fluxes in central Mediterranean (Lampedusa island) using MODIS satellite and local cloud optical thickness data 172

Alexandros Filidis and Christina Anagnostopoulou. Study of the European surface temperatures over the last millennium 155

Kondylia Velikou, Konstantia Tolika, Christina Anagnostopoulou and Prodromos Zanis. Changes in physics parameterization schemes: Evaluation of RegCM4 performance over the Mediterranean region with the use of ERA-Interim data 35

Rafaella-Eleni Sotiropoulou, John Stergiou and Efthimios Tagaris. High-resolution downscaling of climate projections for temperature and precipitation over the Mediterranean Region 73

Nikolaos Kalamaras, Despina Deligiorgi, Konstantinos Plilippopoulos and Christos Tzanis. Seasonal variation of multifractal spectrum parameters for air temperature 113

Christina Anagnostopoulou, Konstantia Tolika, Ioannis Tegoulas and Panagiotis Maheras. Links between the circulation types in different levels, a case study for Thessaloniki, Greece 115

Costas Philandras, John Kapsomenakis, Pavlos Kalabokas, Christos Zerefos and Christos Repapis. Climatology of upper air temperature in the wider Greek region 124

Theodoros Katopodis, Nadia Politi, Nikos Gounaris, Stelios Karozis, Thanasis Sfetsos, John Kaldellis and Diamanto Vlachogiannis. Developing a wind atlas for Greece under future climate scenarios 125

Giorgos Ntagkounakis, Sotiria Philandra, Ioannis Kapsomenakis, Costas Philandras, Panagiotis Nastos and Christos Zerefos. Climatology of upper air temperature in the wider European and Mediterranean region 128

George Zittis. Observational uncertainty of gridded precipitation datasets in the broader region of the Mediterranean, Middle East and North Africa 134

Theodoros Kalyvas, Stavros Pouloupoulos and Efthimios Zervas. World trend of the scientific production on climate change 188

Vasileios Pavlidis, Eleni Katragkou, Prodromos Zanis and Theodoros Karacostas. The direct effect of aerosol on shortwave radiation at the surface in regional climate model simulations over Europe 126

Konstantinos Angelou, Aikaterini Kanioura, Vassilios Kolovos, Vassilios Giannousis, Nikolaos Vogiatzis and Dimitris Brikas. North-Central Greek synoptic weather system classification according to frontal type 181

Karyofyllidi Sophia, Fotiadi Angeliki and Nikolaos Bakas. Climatology of the boundary layer over Greece 37

Theodoros Kalyvas, Stavros Pouloupoulos and Efthimios Zervas. Temperature variability in selected Greek locations 186

Theodoros Kalyvas, Efi Drimili, Stavros Pouloupoulos and Efthimios Zervas. PCA analysis of temperature variability in 11 meteorological stations in Greece 187

Peyman Mahmoudi. Synoptic Anomalies Resulting in Pervasive Frosts in Iran 199

Posters Observational Techniques from the ground and space/Satellite Meteorology and Climatology

Maria Elissavet Koukouli, Aristeidis K. Georgoulas, Jieying Ding, Fei Liu, Dimitris Balis, Konstantinos Kourtidis and Ronald van der A. Evaluating satellite-based SO₂ emission inventories 132

Mika Komppula, Konstantina Nakoudi, Elina Giannakaki, Aggeliki Dandou and Maria Tombrou. Boundary Layer height determination with Lidar– Case Studies and comparison with Atmospheric Models 75

Theano Drosoglou, Nikolaos Siomos, Ilias Fountoulakis, Kalliopi Artemis Voudouri, Dimitrios Karagkiozidis, Athanasios Natsis, Francois Hendrick, Dimitrios Balis, Alkiviadis F. Bais, Eleni Marinou, Vassilis Amiridis and Michel Van Roozendael. Aerosol profile retrievals from O₄ MAX-DOAS observations in Thessaloniki, Greece, and comparison with data from co-located lidar, Brewer and CIMEL 136

Stavros Stathopoulos, Konstantinos Kourtidis and Aristeidis Georgoulas. Space-borne observations of aerosol-cloud relations over the Eastern Mediterranean 48

Vasileios Tzallas, Nikolaos Hatzianastassiou, Nikolaos Benas, Jan Fokke Meirink, Christos Matsoukas and Ilias Vardavas. CM SAF CLARA-A2 global cloud cover climatology and comparison with ISCCP and ECA&D 65

Maria Chara Karypidou and Eleni Katragkou. From ECMWF ERA Interim to ERA5 global reanalysis: precipitation and temperature over Africa 69

Panagiotis Kosmopoulos, Stelios Kazadzis, Charalampos Kontoes, Ioannis Papoutsis, Anestis Trypitsidis, Alexia Tsouni and Dimitris Vallianatos. Solar energy related EO data for Greece through the GEOSS portal 18

Antonis Gkikas, Emmanouil Proestakis, Eleni Marinou, Vassilis Amiridis, Stelios Kazadzis and Nikos Hatzianastassiou. A synergistic use of passive and active satellite retrievals for dust identification at global scale 98

Haralambos Feidas and Stavros Kormalos. Association between features in satellite water vapour imagery and convection 108

Fani Alexandri, Irene Zyrichidou, Dimitris Balis, Anastasia Poupkou and Dimitris Melas. Inference of surface nitrogen dioxide concentrations from Ozone Monitoring Instrument (OMI) tropospheric NO₂ column observations over South-Eastern Europe 151

Anastasios-Petros Kazamias, Marios Sapountzis and Kostas Lagouvardos. Evaluation of GPM-IMERG satellite-based precipitation products for extreme rainfall events over Greece 176

Nektarios Chrysoulakis, Sue Grimmond, Christian Feigenwinter, Fredrik Lindberg, Jean-Philippe Gastellu-Etchegorry, Mattia Marconcini, Fabio Del Frate, Judith Klostermann, Zina Mitraka, Stavros Stagakis, Frans Olofson, Lucas Landier, Ben Crawford, Will Morrison, Ting Sun, Thomas Esch and Eberhard Parlow. Urban Energy Balance from Space: the URBANFLUXES Project 183

Wednesday 17/10/2018

8:00-9:15	Registration
Biometeorology, Bioclimatology and urban climate (ROOM A) Chairpersons: Anastasia Paschalidou, Athanassios Argyriou	
9:15-9:30	Athanassios Argiriou and Orestis Panagopoulos. Urban Heat Island Effect in Patras, Greece. Preliminary Results 96
9:30-9:45	George Katavoutas and Dimitra Founda. Thermal comfort and heat stress in Athens City, Greece: trends of rational and simplified human thermal indices 70
9:45-10:00	Panagiotis T. Nastos, Konstantinos Moustris, Marina-Panagiota P. Nastos and Ioannis Charalampopoulos. Urban green spaces versus built environment from the perspective of human thermal sensation 169
10:00-10:15	Ioannis Sofiadis. Investigating the influence of an extreme land cover change scenario on the European climate 118
10:15-10:30	Panayiotis Kouis, Konstantinos Ziogas, Maria G. Kakkoura, Anastasia K. Paschalidou and Stefania I. Papatheodorou. Cardiovascular mortality in Thessaloniki, Greece: The role of ambient temperature 14
10:30-10:45	Christos Giannakopoulos, Konstantinos V. Varotsos, Anna Karali, Giannis Lemesios, Mirto Gratsea and Vasilis Tenentes. LIFE UrbanProof: current and future climate trends in Mediterranean cities 104
Climate (ROOM B) Chairpersons: Dimitra Founda, Eleni Katragkou	
9:15-9:30	Dimitris Akritidis, Eleni Katragkou, Prodromos Zanis, Ioannis Pytharoulis, Dimitris Melas, Johannes Flemming, Antje Inness, Hannah Clark, Matthieu Plu and Henk Eskes. Stratospheric intrusions over Europe during the cold wave of January 2017 in CAMS forecast systems 53
9:30-9:45	Iliana D. Polychroni, Panagiotis T. Nastos and John Kapsomenakis. Combined extreme climate indices over the Mediterranean region. Variability and trends analysis 130
9:45-10:00	Katiana Constantinidou, Panos Hadjinicolaou, George Zittis, Silas Michaelides and Jos Lelieveld. Uncertainty of modelled climate related indices over the Middle East and North Africa (MENA) region due to land surface schemes 161
10:00-10:15	Flora Gofa, Anna Mamara, Manolis Anadranistakis and Helena A. Flocas. Using climate statistical properties to generate realistic interpolated precipitation fields 11
10:15-10:30	Platon Patlakas, Christos Stathopoulos, Christina Kalogeri, Helena Flocas, Jumaan Al Qahtani, Ioannis Alexiou and George Kallos. Regional Climatology of the Arabian Peninsula based on a state of the art atmospheric model 71
Coffee break	
Meteorology/Agricultural meteorology (ROOM A) Chairpersons: Silas Michaelides, Aristides Bartzokas	
11:00-11:30	Invited speaker Tsiafaki Despina: Boreas – A Thracian wind through the eyes of ancient Greek art
11:30-11:45	Antigoni Voudouri, Izthak Catmona, Avgoustoglou Euripides, Yoav Levi and Jean-Marie Bettems. Optimization of COSMO model interannual variability 29
11:45-12:00	Silas Michaelides. Atmospheric energetics components over the Mediterranean, Middle East and North Africa for the period 1979-2017 164
12:00-12:15	Nikolaos Bakas and Petros Ioannou. An investigation of barotropization in baroclinic turbulence 41
12:15-12:30	Giorgos Kotsias, Christos Lolis, Nikolaos Hatzianastassiou and Aristides Bartzokas. On the connection between the large-scale atmospheric circulation and the winter GPCP precipitation over the Mediterranean region for the period 1979-2017 32
12:30-12:45	Erik Kovács, János Puskás and Katalin Kozma. Early Phenological Responses of Grapevine to Climate Change in West Hungary 1
12:45-13:00	Effie Kostopoulou, Athanasios Kizos, Giorgos Katsikogiannis, Valasia Moskiou, Dimitris Kavroudakis and Thomas Tscheulin. Potential effects of climate change on olive fruit fly: a case of study in Samos, Greece 54
Lunch break	
Air Quality (Indoor and Outdoor)/ Stratospheric ozone, UV radiation (ROOM A) Chairpersons: Alkiviadis Bais, Konstantinos Moustris	
14:30-14:45	Athanasios Natsis, Ilias Fountoulakis, Nikolaos Siomos, Theano Drosoglou and Alkiviadis Bais. Twenty years of UV aerosol optical depth measurements by a Brewer spectrophotometer over Thessaloniki,

	Greece 103
14:45-15:00	John Christodoulakis, Giorgos Kouremadas and Costas Varotsos. Trend and statistical analysis of very short-lived halogenated substances 116
15:00-15:15	Eleni Liakakou, Basil Psiloglou, Nikolaos Roukounakis, Nikolaos Kappos, Thalia Valkouma and Evangelos Gerasopoulos. Air Quality measurements along Egnatia Odos, in Northern Greece: Levels, diurnal patterns and contribution of sources for selected locations of open motorway, tolls and tunnels 109
15:15-15:30	Konstantinos Moustris, Angelos Kladakis, Kleopatra Ntourou, Panagiotis Nastos. Estimation of adverse health effects attributed to PM10, CO, NO2, O3 and SO2 exposure within the greater Athens area, Greece 101
15:30-15:45	Dimitra Karali, Maria Dalatsi, Chrysoula Varvatou, Maria-Eleni Spathara and Spyridon Rapsomanikis. Fine particulate matter (PM2.5) in ambient air of Xanthi, Greece 137
15:45-16:00	Ilias Petrou, Pavlos Kassomenos and Anastasia Paschalidou. Extreme meteorological conditions in the vicinity of airports 5
17:00 ADJOURN	

Poster display time is 10:00-18:00, author attendance time is during the coffee break 10:30-11:00 and 16:00-17:00.

Posters Biometeorology, Bioclimatology and urban climate

Chrysa Papalexi, Maria Hatzaki, Iphigenia Keramitsoglou, Panagiotis Sismanidis, Emmanuel Vassilakis and Ioannis A. Daglis. The effect of urban landscape on land surface temperature: study of the Athens metropolitan area using very high spatial resolution data 171

Christos Giannaros, Dimitrios Melas and Theodore Giannaros. Land Use influence on the simulation of the Urban Heat Island effect under Heat Waves using the WRF model 105

Posters Air Quality (Indoor and Outdoor)/ Stratospheric ozone, UV radiation

Georgios Kosmopoulos, Vasileios Salamalikis, Panagiotis Tzoumanikas, Konstantinos Katsidimas and Andreas Kazantzidis. Spatio-temporal variability of PM concentration across the city of Patras 64

Georgios Spyropoulos, Panagiotis Nastos, Konstantinos Moustris, Theodoros Katopodis and Kleopatra Ntourou. The use of low-cost sensing for air pollution measurements in urban outdoor environments 100

Panayiotis Kalkavouras, Aikaterini Bougiatioti, Jason Stavroulas, Christodoulos Pilinis, Athanasios Nenes and Nikolaos Mihalopoulos. Aerosol submicrometer size distribution in the urban environment of Athens 67

Georgia Alexandri, Aristeidis Georgoulis, Irene Zyrichidou, Dimitris Balis and Konstantinos Kourtidis. The effect of NO2 on surface solar radiation over urban areas in Greece 175

Kleareti Tourpali and Stergios Misios. Evolution of pre- and post 2000 changes and trends in the vertical distribution of ozone from CCMI models 154

Ilias Fountoulakis, Athanasios Natsis, Nikolaos Siomos, Theano Drosoglou, Alkiviadis Bais, Dimitrios Balis and Stelios Kazadzis. Measurements of the aerosol single scattering albedo in the UV over Thessaloniki, Greece 123

Stylianos Garas, Athanassios Triantafyllou, Evagelos Tolis, Christos Diamantopoylos, Argyro Asvesta, Athanassios Dounavis and John Bartzis. Some first results on the PM10-bound polycyclic aromatic hydrocarbons in urban, industrial and rural area in Western Macedonia, Greece 201

Alexandros Emmanouilidis, Ilias Fountoulakis, Kleareti Tourpali, Athanasios Natsis, Ioannis Logothetis and Alkiviadis Bais. Global Projections of the solar erythemal UV radiation in the 21st century 131

Aristedes Bloutsos and Panayotis Yannopoulos. Nitrogen Oxides and Carbon Monoxide Air Pollution at the Major Patras Area, Greece 51

Elisa Lopez, Natalia Liora, Carlos Ortiz, Marina Almedia-Silva, Francesca Liguori and Joana Ferreira. Integrated modelling tool for the analysis of traffic-congested roads in urban centers 166

Aristeidis Georgoulas, Ronald van der A and Piet Stammes. Two decades of continuous tropospheric NO₂ recording from satellites: long term trends and trend reversal detection 49

Ariadni Gavriil, Paraskevi Georgakaki, Konstantinos Granakis, Konstantinos Lalos, Stavroula Lamprinidou, Maria Mylonaki, Christina Anna Papanikolaou, Ioanna Tsikoudi, Romanos Foskinis and Eleni Giannakaki. Study of the air quality levels for a 10-year-period in the greater Athens area 83

Nikolaos Toumasis, Sevasti Gkiouzel, Anastasia Paschalidou and Pavlos Kassomenos. Comparison of vehicle emissions from various types of fuel, emissions standards and driving cycles in Athens, Greece 7

Evagelia Ladia, Fotios Kyriopoulos, Anastasia Paschalidou, Pavlos Kassomenos. Studuing the dispersion of a heavy gas in a venue 6

Paraskevi Begou, Anastasia Paschalidou, Pavlos Kassomenos and Costas Vogiatzis. Air Quality Levels in a Greek Highway 8

Nikolaos Mihalopoulos. Atmospheric pollution in the Mediterranean: Sources and impact on air quality, health and climate 17

Anastasia Poupkou, Stergiani Zounza, Katerina Chrysostomou, Apostolos Kelessis, Athina Yiannakou, Natalia Liora, Serafim Kontos, Konstantinos Rizos, Spiros Dimopoulos, Christos Giannaros, Paraskevi Tzoumaka, Georgia Aifadopoulou, Chrysostomos Kalogirou, Charikleia Meleti and Dimitrios Melas. Environmental assessment of low carbon mobility solutions with the use of an Integrated Modeling Tool 82

Despina Deligiorgi, Konstantinos Philippopoulos and Anastasia Diamanti. Modeling the relationship of surface meteorological parameters and air pollution at Athens, Greece 111

Serafim Kontos, Konstantinos Kakosimos, Natalia Liora, Christos Giannaros, Anastasia Poupkou and Dimitrios Melas. Investigating a Shamal event in Middle East 152

Elena Xoplaki, Wolfgang Cramer and Medecc Network Members. MedECC, Mediterranean Experts on Climate and environmental Change: from science to policy making 178

Antonia Varvitsioti, Sarafianos Alegras, Dimitra Mikeli, Stavros Pouloupoulos and Efthimios Zervas. Development of an Index of Air Quality in Athens 189

Irene Zyrichidou, Dimitris Balis, Kleareti Tourpali, Kostas Eleftheratos, Christos Zerefos and Ronald van der A. Monitoring of long-term total ozone characteristics from space at the Northern polar and middle latitudes for the winter-spring period 1979-2018 157

Georgios Proias, Panagiotis Nastos and Konstantinos Moustris. Temporal evolution of PM₁₀ concentrations in the city of Volos, Greece 94

Posters Meteorology/Agricultural Meteorology

Panayiotis Mouskos and Theodore Karacostas. A classification of upper-air synoptic circulation types associated with precipitation over the Eastern Mediterranean 195

Kontogiannis G. N. and Bakas N. A. A geometric representation of the effect of small scale eddies on jet emergence in barotropic turbulence 33

Basil Psiloglou, Harry Kambezidis, Dimitris Kaskaoutis and Dimitris Karagiannis. The Meteorological Radiation Model: estimating global solar radiation under clear-sky conditions in Greece 52

Tanmay Dhar On changing Mediterranean effect to Himalayan winter-time precipitation 184

Mary Vlachou, Ioannis Tegoulas and Dimitris Brikas. Synoptic weather pattern based compositing of hail-storm characteristics with emphasis to the ambient air flow 182

Fotini Athanasiou, Stergios Kartsios, Theodoros Karacostas, Ioannis Pytharoulis and Kampouri Anna. Representation of the Atmospheric Boundary Layer's processes in a Numerical Weather Forecasting model during an extreme precipitation event 127

Konstantinos Georgopoulos and Aristides Bartzokas. A study on soil temperature in Ioannina, NW Greece; relation with other meteorological parameters and atmospheric circulation 66

Harry Kambezidis, Basil Psiloglou and Nikolaos Kappos. Month-hour climatology for solar radiation and illuminance in Athens for 1992-2016 72

Theodore Karacostas, Ioannis Pytharoulis, Ioannis Tegoulas, Stergios Kartsios, Dimitris Bampzelis and Konstantinos Tympanidis. Near-present and future precipitation characteristics in Thessaly area, being related to the upper-air synoptic circulation types 156

Posters Weather Modification – Weather analysis and Forecasting

Dimitrios Foris. Climatological features of severe storms – potential supercells in Northern and Central Greece 31

Evangelia Papadopoulou, George Varlas, Petros Katsafados, Elias Mavromatides and Anastasios Papadopoulos. Assessing the predictability of seasonal weather forecast 59

Konstantinos Kourtidis and Angeliki Andrikopoulou. Impact of sound on atmospheric particulates 153

Christos Lamaris, Anastasia Papakrivou, Vasileios Gerogiannis, Sotirios Tsiougkos and Panagiotis Skrimizeas. The case of severe weather in Greece on 16 and 17 July 2017 - Evaluation of the prognostic guidance provided by ECMWF and COSMO numerical weather models 173

Ioannis Tegoulas and Michael Sioutas. Predicting storm motion: Well established methods and new approaches 50

NOTE1: The numbers at the end of each talk/poster above are the paper numbers.