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Studies

- **PhD in Meteorology and Environmental Physics**, *Department of Physics, National and Kapodistrian University of Athens, 2003*
- **MSc in Environmental Physics**, *Department of Physics, National and Kapodistrian University of Athens, Greece, 1986*
- **BSc. in Physics**, *Department of Physics, University of Ioannina, Greece, 1982*

Research Interests

- *Dynamic meteorology and climatology*
- *Numerical weather prediction and data assimilation systems*
- *Integrated systems for the production and dissemination of environmental and climatic information-Geographical applications*
- *Renewable energy-wind and solar energy*
- *Use of new technologies and the internet in educational applications*
- *Experimental teaching of natural sciences*

Text Books

Katsafados P. and E. Mavromatidis, 2015: "An Introduction to the Atmospheric Physics and the Climate Change". Digital textbook in the framework of the funded action "Kallipos" pp. 350 (in greek).

Publications in International and Greek peer review journals

- **Mavromatidis E**. *and G. Kallos, 2003: "An Investigation of Cold Cloud Formation with a 3-D Model with Explicit Microphysics", Journal of Geophysical Research, 108 (D14), 4420-4441.*
- *Lekas Th.,* **E. Mavromatidis** *and G. Kallos, 2006: "Some Considerations on the Airborne Cloud Microphysical Probing", Meteorology and Atmospheric Physics, 92 (3-4), 217-230.*
- **Mavromatidis E.,** *Theodoros I. Lekas and G. Kallos, 2007: "Analysis of a two-layer Cloud System with RAMS model and Comparison to Airborne Observations", Environmental Fluid Mechanics, 7, 537-568.*
- *G Kallos, C Spyrou, M Astitha, C Mitsakou, S Solomos, J Kushta, I Pytharoulis, P Katsafados,* **E Mavromatidis**, *N Papantoniou and G Vlastou, 2009: "Ten-year operational dust forecasting - Recent model development and future plans", IOP Conference Series: Earth and Environmental Science, Volume 7, Issue 1, pp. 012012.*

- *Mavrakis A., Flocas H., **Mavromatidis E.**, Kallos G., Theoharatos G., Christides A., 2010: "A case of nighttime high ozone concentration over the greater Athens area", Meteorologische Zeitschrift, Vol. **19**, No. 1, 035-045.*

- *Katsafados P., **E. Mavromatidis**, A. Papadopoulos, and I. Pytharoulis, 2011: "Numerical simulation of a deep Mediterranean storm and its sensitivity on sea surface temperature", **Natural Hazards and Earth System Science**, **11**, 1233–1246, doi:10.5194/nhess-11-1233-2011.*

- *Solomos S., G. Kallos, **E. Mavromatidis**, and J. Kushta, 2012: "Density currents as a desert dust mobilization mechanism", Atmos. Chem Phys., 12, 11199-11211, doi: 10.5194/acp-12-11199-2012.*

- *Katsafados P., **E. Mavromatidis**, N. Gkikas and A. Papadopoulos, 2012: "The numerical weather prediction system of Harokopio University and statistical evaluation of the forecasts", Geografies, 20, 79-98 (in Greek).*

- *Katsafados,P., A. Papadopoulos, G. Varlas, E. Papadopoulou, and E. **Mavromatidis, 2014**: Seasonal predictability of the 2010 Russian heat wave, Nat. Hazards Earth Syst. Sci., 14, 1531-1542, doi:10.5194/nhess-14-1531-2014.*

Publications in Conference Proceedings (selection)

- *P. Katsafados, C. Chalkias, E. Karymbalis, K. Gaki-Papanastassiou, **E. Mavromatidis** and A. Papadopoulos, 2010: An integrated system for hydrological analysis of flood events. European Geosciences Union (EGU), General Assembly 2010, 2-7 May 2010, Wien, Austria, pp. 8274.*

- *P. Katsafados, **E. Mavromatidis**, A. Papadopoulos and C. Georgantopoulou, 2010: Climatic analysis and dynamical forecasting of wind power. 4th Conference of the Unit for Renewable Energy Sources (RENES 2010), 10-12 May 2010, Athens, Greece.*

- *Katsafados P., A. Papadopoulos, K. Lagouvardos, V. Kotroni, **E. Mavromatidis** and I. Pytharoulis, 2010: "Statistical evaluation of a mesoscale data assimilation system over Greece". 12th Plinius Conference on Mediterranean Storms, 1-4 September 2010, Corfu, Greece, pp. 31.*

- *Papadopoulos A., P. Katsafados, **E. Mavromatidis**, E.N. Anagnostou, and I. Pytharoulis. "Evaluation of the operational implementation of LAPS into the POSEIDON weather forecasting system". 12th Plinius Conference on Mediterranean Storms, 1-4 September 2010, Corfu, Greece, pp. 49.*

- *Pytharoulis I., A.F. Karagiannidis, D. Brikas, P. Katsafados, A. Papadopoulos, **E. Mavromatidis**, S. Kotsopoulos, and T.S. Karacostas: "Sensitivity of WRF precipitation on microphysical and boundary layer parameterizations during extreme events in Eastern Mediterranean". 12th Plinius Conference on Mediterranean Storms, 1-4 September 2010, Corfu, Greece, pp. 31.*

- *Katsafados P., **E.Mavromatidis**, N. Gkikas and A. Papadopoulos, 2010: The weather forecasting system at Harokopio University: Structure and forecasting products", 9th PAN-HELLENIC Geographical Conference of the Greek Geographical Society, Harokopion University, Department of Geography, 4-6 November 2010, Athens.*

- *Iliopoulos N., K. Kalampokidis, G. Kallos, H. Feidas, A. Malounis and **E. Mavromatidis**, 2010: "Forest Fire Modeling and the Effect of Fire-Weather in Landscape Fire Behavior for the Region of Attica, Greece", 9th PAN-HELLENIC Geographical Conference of the Greek Geographical Society, Harokopion University, Department of Geography, 4-6 November 2010, Athens, pp. 296-302.*

- *Katsafados P., N. Gkikas, **E. Mavromatidis**, and S. Kalogirou: "The website of weather forecast at Harokopio University: Structure and forecasting products". 6th Conference of HellasGI, 4-5 December 2010, Athens, Greece.*

- *Katsafados P., Papadopoulos A., **Mavromatidis E**. and Gikas N., 2011: "Quantitative Verification Statistics of WRF Predictions over the Mediterranean Region", 12th Annual WRF Users' Event 20-24 June 2011, Boulder CO, USA.*

- *Katsafados P., A. Papadopoulos , and **E. Mavromatidis**, 2011: "Statistical evaluation of real-time WRF predictions across the Mediterranean region", 13th Plinius Conference on Mediterranean Storms, Vol 13, Savona, 7-9 September 2011, pp. 22.*
- *Katsafados P., A. Papadopoulos, **E. Mavromatidis**, 2012: "Evaluation of surface sensible weather forecasts by an atmospheric mesoscale model over the Mediterranean basin", 10th Symposium of Oceanography and Fisheries, Athens, 7-11 May 2012, pp. 35.*
- *Katsafados P., A. Papadopoulos, K. Lagouvardos, V. Kotroni, **E. Mavromatidis** and I. Pytharoulis, 2012: "Statistical evaluation of the Local Analysis and Prediction System over Greece", 2nd LAPS Users Workshop, October 23-25, 2012, Boulder CO, USA.*
- *Nomikou V., **E. Mavromatidis**, A. Papadopoulos and P. Katsafados, 2014: "Application and latest developments of the Local Analysis and Prediction System (LAPS) in Greece", International Symposium on Data Assimilation, 24 -28 February 2014, LMU – Munich.*
- *Katsafados P., V. Nomikou, **E. Mavromatidis**, A. Papadopoulos, K. Lagouvardos and V. Kotroni, 2014: "Nowcasting extreme weather events over Greece", Vol. 16, EGU2014-10190, European Geosciences Union (EGU) General Assembly 2014, Vienna, Austria, 27 April – 02 May 2014.*
- *Nomikou V., P. Katsafados, **E. Mavromatidis**, A. Papadopoulos, K. Lagouvardos and V. Kotroni, 2014: "Nowcasting extreme weather events: the case study of the deadly flash flooding at November 22nd 2013 in Rhodes Island", 12th International Conference of Meteorology, Climatology and Physics, Comecap 2014, 28-31 May 2014, Heraclion, Greece.*
- *Katsafados P., A. Papadopoulos, V.M. Nomikou and E. Mavromatidis, 2014: "Research and operational advances of the Local Analysis and Prediction System in Greece". 2 nd European LAPS (ELAPS) Meeting, 28 April 2014, Wien, Austria.*

List of projects participating as associate researcher

- *Development of a high resolution weather forecasting system in high performance computers (SKIRON Project), EPET II*
- *POSEIDON: Supply, Installation and Operation of a System of Floating Oceanographic Measurement Stations for the Monitoring and Forecasting of the Greek Seas*
- *Investigation of Cloud by ground – based and Airborne Radar and Lidar (CARL)*
- *NHREAS: A Very High Resolution Weather, Wave and Ship Safety Forecasting System (Ελληνικός τίτλος: 'Ένα σύστημα πρόγνωσης καιρού υψηλής ευκρίνειας για ναυτιλιακές και άλλες εφαρμογές')*
- *Mediterranean Atmospheric Mercury Cycle System (MAMCS)*
- *Subgrid-scale Investigation of Factors Determining the Occurrence of Ozone and Fine Particles (SUB-AERO)*
- *Atmospheric Deposition and Impact of Pollutants, Key Elements and Nutrients on the Mediterranean Sea (ADIOS)*
- *Development of a Next Generation Wind Resource Forecasting System for the Large-Scale Integration of Onshore and Offshore Wind Farms (ANEMOS)*
- *Development and Application of Validated Geophysical Ocean Wave Products from ENVISAT ASAR and RA-2 Instruments (EnviWave)*
- *Mediterranean Forecasting System toward Environmental Predictions (MFSTEP)*
- *Grid enabled Remote Instrumentation with Distributed Control and Computation (GRIDCC).*
- *Atmospheric circulation and dispersion of air pollutants affected the Western Macedonia and released from local and distant sources, GSRT-PENED 1864*
- *Frost development and evolution in the area of Imathia-Pella, Northern Macedonia, ELGA*
- *Development and installation of the special version of the numerical weather and wave models Skiron/Eta, RAMS, LAPS, and WAM for supporting the Athens Olympics 2004, Greek Ministry of Culture, General Secretariat for the Athens Olympic Games, 2004 (Contract No #5217/29-11-2002).*

- *Data Integration System for Eutrophication Assessment in Coastal Waters (InSea)*
- *MyWave: A pan-European concerted and integrated approach to operational wave modelling and forecasting – a complement to GMES MyOcean services.*
- *Utilization of the Argo Network observations in weather prediction models*