

Platon Patlakas

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Personal

Date of Birth: April 29, 1987

Citizenship: Greek

Education

Graduate Student (Phd)

Thesis topic: *“Estimation of extreme values for atmospheric parameters and quantification of the associated uncertainty”*

National & Kapodistrian University of Athens

Atmospheric Modeling and Weather Forecasting Group

December 2020

MSc in Environmental Physics and Meteorology

Thesis title: *“Extreme wind speed events and return period estimation”*

National & Kapodistrian University of Athens

December 2014

BSc in Physics

National & Kapodistrian University of Athens

Major in Environmental Physics & Meteorology / Energy applications

December 2011

Research/Industrial and Academic Appointments

2014 - present **Assistant researcher**

Atmospheric Modeling & Weather Forecasting Group, University of Athens, University Campus, Physics Building V, 15784 Athens (Greece)

2016 - present **Researcher – Contractor**

Weather and Marine Engineering Technologies (WEMET PC <http://wemetpc.com>), Alimos, Athens, Greece

2017 - 2019 **Researcher – Contractor**

Innovation Technological Center S. A. (ITC - <https://itcnet.gr>)

2012 - 2017 **Teaching Assistant**

Laboratory exercises in Mechanics and Thermodynamics, “Physics 2” (2nd Semester). Department of Physics, University of Athens

Skills

Language skills

Greek (Native Language)

English (Level 3 Certificate in English, Univ. of Cambridge – June 2007, IELTS score:7 2012)

Italian (CELI 2, Università per Stranieri, Perugia – November 2003)

Computer Skills

Operating Systems: Windows, Linux/Unix

Programming: Bash, Matlab, R, Fortran

Data Visualization/Statistical Packages: Matlab, Revu, ArcGIS, ncl

Data Handling: HDF, GRIB, NetCDF

NWP Models

WRF, WRF-dust // RAMS, RAMS-ICLAMS // HYPACT // LAPS

Fields of Scientific Activities

Regional-scale atmospheric modeling

Extreme value analysis – quantification of uncertainties

Regional climatology

Aerosol-radiation-cloud-precipitation interaction with respect to extreme events

Funding, Academic Awards and Honors

- 2019: **Young Scientist Travel Award (EMS-YSTA)**, given by the European Meteorological Society to attend the 10th European Conference on Severe Storms in Kraków, Poland.
- 2018-2019: **Research Fellowship**: “Study of Extreme Environmental Events with Numerical Weather Prediction Models and Stochastic Processes”, Operational Program “Human Resources Development, Education and Lifelong Learning”, co-financed by the European Union (European Social Fund) and Greek national funds, MIS 5007050, www.edulll.gr
- 2014 (Dec): **MSc Class Valedictorian**: Valedictorian of the 2015 Class in Environmental Physics and Meteorology MSc, National & Kapodistrian University of Athens.

Work Experience / Participation in Scientific Programs

- WRF/WRFdust operational setup and support for the “General Authority of Meteorology and Environmental Protection” of the Kingdom of Saudi Arabia.
- MARINA Platform Project, Grant agreement number: 241402
- Integrated Research Programme on Wind Energy (IRPWIND), Grant agreement number: 609795
- EMODNET, No. MARE/2012/11: Growth and innovation in ocean economy- Gaps and priorities in sea basin observation and data. LOT NO: 2 – THE MEDITERRANEAN FP7, 2013-2017.
- Development of 30-year dust climatology for the Arabian Peninsula (2014-2018), prepared for Saudi Aramco.
- EMODNET, Contract No EASME/EMFF/2014/1.3.1.3/LOT 4/SI2.709436: Growth and innovation in ocean economy- Gaps and priorities in sea basin observation and data. LOT NO: 4 – BLACK SEA H2020, 2015-2018.

Publications in Scientific Journals

- Tsalis, C., **Patlakas, P.**, Stathopoulos, C., Kallos, G. “Optimizing a new De-clustering approach for relatively small samples of wind speed with an application to offshore design conditions”, under review, Ocean Engineering.
- **Patlakas, P.**, Stathopoulos, C., Tsalis, C., Kallos, G. “Wind and wave extremes associated with tropical-like cyclones in the Mediterranean basin”, *Int J Climatol.* 2020; 1– 22. <https://doi.org/10.1002/joc.6795>.
- Stathopoulos, C., **Patlakas, P.**, Tsalis, C., Kallos, G. “The Role of Sea Surface Temperature Forcing in the Life-Cycle of Mediterranean Cyclones”, *Remote Sensing* 2019.
- Otero-Casal, C., **Patlakas, P.**, Prósper, MA., Galanis, G., Miguez-Macho, G. “Development of a High-Resolution Wind Forecast System Based on the WRF Model and a Hybrid Kalman-Bayesian Filter”, *Energies* 2019, 12(16), 3050; <https://doi.org/10.3390/en12163050>
- **Patlakas, P.**, Stathopoulos, C., Flocas, H., Kalogeri, C., Kallos, G. “Regional Climatic Features of the Arabian Peninsula”. *Atmosphere* 2019, 10, 220. Doi: 10.3390/ATMOS10040220
- **Patlakas, P.**, Drakaki, E., Galanis, G., Spyrou, C., Kallos, G. “Wind gust estimation by combining a numerical weather prediction model and statistical post-processing”. *Journal of Energy Procedia*, Volume 125, September 2017, Pages 190-198. Doi:10.1016/j.egypro.2017.08.179
- **Patlakas, P.**, Galanis, G., Diamantis, D., Kallos, G. “Low wind speed events: persistence and frequency”. *Journal of Wind Energy*, Volume 20, Issue 6, June 2017, Pages 1033-1047. Doi:10.1002/we.2078
- Solomos, S., Ansmann, A., Mamouri, R.E., Biniotoglou, I., **Patlakas, P.**, Marinou, E., Amiridis, V. “Remote sensing and modeling analysis of the extreme dust storm hitting the Middle East and eastern Mediterranean in September 2015”. *Atmospheric Chemistry and Physics*, Volume 17, Issue 6, 27 March 2017, Pages 4063-4079. DOI: 10.5194/acp-17-4063-2017
- **Patlakas, P.**, Galanis, G., Barranger, N., Kallos, G. “Extreme wind events in a complex maritime environment: ways of quantification”. *Journal of Wind Engineering & Industrial Aerodynamics*, Volume 149, February 2016, Pages 89–101. Doi:10.1016/j.jweia.2015.11.006

International Conference Contributions

- **Patlakas, P.**, Stathopoulos, C., Gavriil, A., Galanis, G., Kallos, G. “Wind energy potential assessment in western Mediterranean”. EGU General Assembly 2020, Online | 4–8 May 2020.
- Chaniotis, I., **Patlakas, P.**, Kallos, G. “A numerical study of dust particle effects on cloud microphysical processes and hail/precipitation impacts”. EGU General Assembly 2020, Online | 4–8 May 2020.
- **Patlakas, P.**, Stathopoulos, C., Tsalis, C., Kallos, G. “Tropical-Like Cyclones: Extreme Value Analysis and Risk Exposed Areas”. AGU Fall Meeting 2019, 9 - 13 December, San Francisco, U.S.A.
- Stathopoulos, C., **Patlakas, P.**, Tsalis, C., Kallos, G. “On the importance of the atmospheric-ocean feedback mechanisms in the Mediterranean storms”. 10th European Conference on Severe Storms, Kraków, Poland, 4 – 8 November 2019.
- **Patlakas, P.**, Stathopoulos, C., Tsalis, C., Kallos, G. “Estimating the risk exposed areas and the return periods of Medicanes”. 10th European Conference on Severe Storms, Kraków, Poland, 4 – 8 November 2019.
- Kallos, G., **Patlakas, P.**, Stathopoulos, C., Tsalis, C. “Optimizing a new declustering approach for extreme limited time series of high resolution with an application to wind speed design values”. Extreme Value Analysis (EVA 2019) conference, July 1-5 2019, Zagreb, Croatia.

- **Patlakas, P.**, Stathopoulos, C., Tsalis, C., Kallos, G. “Return periods of Medicanes: a wind-wave approach combining numerical weather prediction models and stochastic processes”. AGU Fall Meeting 2018, 10-14 December, Washington, D.C., U.S.A.
- Stathopoulos, C., **Patlakas, P.**, Tsalis, C., Kallos, G. “On the impact of air-sea feedback mechanisms under storm events”. AGU Fall Meeting 2018, 10-14 December, Washington, D.C., U.S.A.
- **Patlakas, P.**, Stathopoulos, C., Kalogeri, C., Flocas, H., Al Qahtani, J., Alexiou, I., Kallos, G. “Regional Climatology of the Arabian Peninsula based on a state of the art atmospheric model”. 14th International Conference on Meteorology, Climatology and Atmospheric Physics October 15-17, 2018 Alexandroupolis, Greece.
- **Patlakas, P.**, Stathopoulos, C., Kalogeri, C., Flocas, H., Al Qahtani, J., Alexiou, I., Kallos, G. “Regional climatology and climate trends in the Arabian Peninsula based on observational and modeling analysis”. EMS Annual Meeting: European Conference for Applied Meteorology and Climatology 2018, 3–7 September 2018, Budapest, Hungary.
- Stathopoulos, C., **Patlakas, P.**, Galanis, G., Al Qahtani, J., Alexiou, I. and Kallos, G. “Sea Spray Effects on Marine and Coastal Boundary Layer”. 36th International Technical Meeting on Air Pollution Modelling and its Application May 14 - 18, 2018 – Ottawa, Canada.
- **Patlakas, P.**, Stathopoulos, C., Kalogeri, C., Flocas, E., Bartsotas, N., Al Qahtani, J., Alexiou, I. “Dust Climatology for the Arabian Peninsula”. EGU General Assembly 2018, Vienna, Austria, 8–13 April 2018
- Otero-Casal, C., **Patlakas, P.**, Prósper, M. A., Galanis, G., Miguez-Macho, G. “Development of a high resolution wind forecast system based on the WRF model and a hybrid Bayesian-Kalman Filter postprocess”. EGU General Assembly 2018, Vienna, Austria, 8–13 April 2018
- Pinardi, N., Manzella, G., Simoncelli, S., Clementi, E., Moussat, E., Quimbert, E., Blanc, F., Valladeau, G., Galanis, G., Kallos, G., **Patlakas, P.**, Reizopoulou, S., Kyriakidou, C., Katara, I., Kouvarda, D., Skoulikidis, N., Gomez-Pujol, L., Vallespir, J., March, D., Tintoré, J., Fabi, G., Scarcella, G., Tassetti, A.N., Raicich, F., Cruzado, A., Bahamon, N., Falcini, F., Filipot, J.-F., Duarte, R., Lecci, R., Bonaduce, A., Lyubartsev, V., Cesarini, C., Zodiatis, G., Stylianou, S., Calewart, J.-B., Martín Míguez, B. “Stress testing the EU monitoring capacity for the Blue economy”. 8th EuroGOOS Conference, Bergen, 3-5 October 2017
- Kallos, G. with contribution from **Patlakas, P.**, Spyrou, C., Koukoula, M., Bartsotas, N. “Physical and Chemical Properties of Aerosols in the Mediterranean: Patterns and Impacts”. 15th International Conference on Environmental Science and Technology Rhodes, Greece, 31 August to 2 September 2017
- **Patlakas, P.**, Drakaki, E., Galanis, G., Spyrou, C., Kallos, G. “Wind gust estimation by combining a numerical weather prediction model and statistical post-processing”. EGU General Assembly 2017, Vienna, Austria, 23–28 April, 2017.
- Stathopoulos, C., Galanis, G., **Patlakas, P.**, Kallos, G. “Assessing sea wave and spray effects on Marine Boundary Layer structure”. EGU General Assembly 2017, Vienna, Austria, 23–28 April, 2017.
- Kallos, G., **Patlakas, P.**, Bartsotas, N., Spyrou, C., Al Qahtani, J., Alexiou, I., M Bar, A. “Modeling the dust cycle from sand dunes to haboobs”. EGU General Assembly 2017, Vienna, Austria, 23–28 April, 2017.
- Kallos, G., **Patlakas, P.**, Koukoula, M., Stathopoulos, C., Rosenfeld, D. “Sea salt production and its role in warm clouds formation”. EGU General Assembly 2017, Vienna, Austria, 23–28 April, 2017.
- Kallos, G., Nenes, A., **Patlakas, P.**, Drakaki, E., Koukoula, M., Rosenfeld, D., Mihalopoulos, N. “Aerosols in the Mediterranean Region and their role in cloud formation”. 35th International Technical Meeting on Air Pollution Modelling and its Application, 3-7 October, 2016, Chania, Crete, Greece
- **Patlakas, P.**, Kushta, J., Drakaki, E., Al Qahtani, J., Alexiou, I., Bartsotas, N., Spyrou, C. and Kallos, G. “The dust cycle in the Arabian Peninsula and its role in the urban air quality”. 35th

International Technical Meeting on Air Pollution Modelling and its Application, 3-7 October, 2016, Chania, Crete, Greece

- **Patlakas, P.**, Diamantis, D., Galanis, G., Kallos, G. "Towards a study of different types of extreme wind speed conditions". 13th International Conference on Meteorology, Climatology and Atmospheric Physics, COMECAP 2016, 19-21 September 2016, Thessaloniki, Greece.
- **Patlakas, P.**, Galanis, G., Péray, M., Filipot, J.F., Kalogeri, C., Spyrou, C., Diamantis, D. and Kallos, G. "An Integrated Methodology on the Suitability of Offshore Sites for Wind Farm Development". EGU General Assembly 2016, Vienna, Austria, 17-22 April, 2016.
- Kallos, G. with contribution from Galanis, G., Kalogeri, C., **Patlakas, P.**, Stathopoulos, C. and Liakatas, A. "The European offshore wind and wave energy resource analysis – Combined exploitation - Analysis of extremes". Brazilian Symposium on Water Waves, Federal University of Rio de Janeiro, Brazil, 14-16 March, 2016
- Kallos, G., Kushta, J., **Patlakas, P.**, Bartsotas, N., Spyrou, C., Drakaki, E., Al Qahtani, J., Alexiou, I. "The dust cycle in the Arabian Peninsula: from sand dunes to haboobs". PetroEnvironment, 2016. 8th Symposium and Exhibition on Environmental Progress in the Petroleum & petrochemical, Dammam, Saudi Arabia 22-24 February, 2016
- **Patlakas, P.**, Galanis, G., Kallos, G. "Quantifying Extreme wind and uncertainties for energy applications". 8th GRACM – Intern. Congress on Computational Mechanics, Volos, Greece, 12-15 July, 2015.
- Kallos, G., Kushta, J., Bartsotas, N., **Patlakas, P.**, Astitha, M., Al Qahtani, J. "The role of aerosols in low and upper atmospheric layers condensation". 34th International Technical Meeting on Air Pollution Modelling and its Application, Montpellier, France, 4-8 May, 2015.
- **Patlakas, P.**, Galanis, G., Kallos, G. "Quantifying uncertainties in wind energy assessment". EGU General Assembly 2015, Vienna, Austria, 12-17 April, 2015.
- Kallos, G., Galanis, G., Kalogeri, C., Barranger, N., **Patlakas, P.** "Advanced atmospheric modeling for engineering applications". 6th International Symposium on Computational Wind Engineering - CWE2014, Hamburg, Germany 2014.

Workshops

- **Patlakas, P.**, Galanis, G., Kallos, G. "Studying the upper and lower tail of wind speed probability distribution: extreme value analysis". Data Science & Environment workshop, Brest, France, 3-7 July 2017.
- Kallos, G., Stathopoulos, C., Galanis, G., **Patlakas, P.** "Modeling of Atmospheric-Wave Processes With a Fully Coupled System". Ocean waves and wave-Coupled Processes workshop. Australia-China Centre for Maritime Engineering. Melbourne, Australia, December 2016.
- Kushta, J., Spyrou, C., **Patlakas, P.**, Kallos, G. "Sandblasting Mass Efficiency as a Function of Soil Clay Contents: A comparative modelling study". 8th International Workshop on Sand/Duststorms and Associated Dustfall, 1-4 May 2016 Lisbon, Portugal.

Summer Schools

- Data Science & Environment summer school, Brest, France, 3-7 July 2017.

Reviewer for

- Natural Hazards and Earth System Sciences (NHES)
- Climate (MDPI)
- Water (MDPI)
- Atmosphere (MDPI)
- Journal of Wind Engineering and Industrial Aerodynamics

- Journal of Wind Energy
- Advances in Meteorology
- Journal of Atmospheric and Solar-Terrestrial Physics

Memberships/ Professional Societies

- Member of the European Geosciences Union (E.G.U.)
- Member of the American Geophysical Union (A.G.U.)

Volunteer Experience

- Student Mentor: "The Tipping Point" (www.100mentors.com)
June 2018 - present