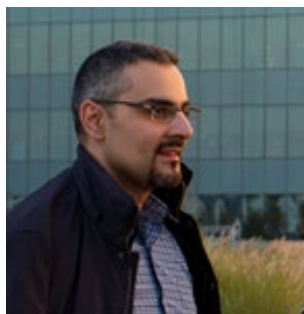


Curriculum Vitae

Personal Information



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Synopsis

Dr. Christos Spyrou is an Associate Researcher in the Research Centre for Atmospheric Physics and Climatology of the Academy of Athens. He got his degree in Physics from the Department of Physics of the National and Kapodistrian University of Athens (NKUA) in 2002. On 2004 he got his Master's Degree on Environmental Physics and Meteorology from NKUA and on 2011 he successfully defended his PhD thesis titled "Development Of Algorithms For The Calculation Of The Feedback Of Naturally Produced Particles Of Radiative Transfer And Energy Balance". He has worked in the framework of **27** Projects funded by the European Union and the Greek Government as a Senior Researcher. He has **47** original publications in peer-reviewed scientific journals and an h-index of **22** (1536 citations, excluding self-citations. Source: Scopus). He has more than **60** publications in conference proceedings and international workshops. He is the co-author of **5** book chapters on desert dust, the radiative feedbacks of aerosols and numerical modeling and he is a reviewer in **19** international scientific journals. On 2023 he became a Guest editor for "Sustainability" for the special issue "Nature-Based Solutions to Address Climate Change for Sustainable Development". He was in charge of the SKIRON/Eta model operational forecasts of the Atmospheric Modelling and Weather Forecasting Group of the National and Kapodistrian University of Athens from 2008 up to 2018. He specializes in the numerical model WRF-Chem and is part of the development and application of the METAL-WRF model. He also specializes in the ETA model which is the core of many forecasting systems like SKIRON, POSEIDON, DREAM-NMM, WRF-NMM. He is also experienced in other numerical models like NEMO, LAPS, SWAN. In 2018 he was assigned the independent teaching of the "Climate Change" course in the Geography Department of Harokopio University of Athens.

Education

Studies

- **PhD**, National and Kapodistrian University of Athens, School of Sciences, Faculty of Physics, Department of Environmental Physics, Development Of Algorithms For The Calculation Of The Feedback Of Naturally Produced Particles Of Radiative Transfer And Energy Balance, 2011, University of Athens, PhD dissertation. Available at: <http://phdtheses.ekt.gr/eadd/handle/10442/26160?locale=en>
- **M.Sc**, National and Kapodistrian University of Athens, School of Sciences, Faculty of Physics, Department of Environmental Physics, 2004
- **B.Sc.**, National and Kapodistrian University of Athens, School of Sciences, Faculty of Physics, 2002

Areas of Scientific Interest

- Climate Change
- Weather Forecasting and numerical models
- Data Assimilation
- Air-Sea Interaction
- Nowcasting
- Air Pollution
- Desert Dust

Participation in Projects

1. **UNBS-F** (Urban Nature Based Solutions into the Future). 18th Call for Proposals for Production Projects for access to ARIS national high performance computing system. National Infrastructures for Research and Technology – GRNET. **2025 – 2026 (P.I.)**.
2. **CARMINE** (Climate-Resilient Development Pathways in Metropolitan Regions of Europe). Funded by the EU (HORIZON). **2025 – 2026**.
3. “Development and Installation of an integrated system for monitoring the effects of climate change at the monuments of Delos island”. Funded by the “Initiative 1821-2021”. **2024**
4. **SALAM-MED** (Sustainable Approaches to Land and water Management in Mediterranean Drylands) Funded by the EU (HORIZON 2020). **2024**
5. **AGRORAY** (Development of an integrated weather forecasting system and specialized indicators for the agricultural sector - KMP6-0078047) Funded by the Prefecture of Central Macedonia. **2022 – 2024**
6. **NESTOR** (NaturE based SoluTiOns for addressing uRban heat island - ATTP4-0317076) Funded by the Prefecture of Attica. **2022 – 2023**
7. **BIOASTY** (Bioclimatic urban design services for the sustainability and resilience of the urban environment in the context of climate change) Funded by NSRF. **2023**
8. **MegDETH** (Mineralogy of Dust Emissions and impacts on Environment and Health) Funded by the the Hellenic Foundation for Research and Innovation (H.F.R.I.). **2021 – 2023**
9. **D-TECT** (Does dust triboelectrification affect our climate?) Funded by the EU (European Research Council - ERC). **2020 - 2022**
10. **OPERANDUM** (OPEn-air laboRAtoRies for Nature based solUtions to Manage environmental riks) Funded by the EU (HORIZON 2020). **2019 - 2022**. <https://site.unibo.it/operandum/en>
 - i. Task leader in Work Package 5.2 “Multiple Impact Modelling”
11. **i-ALARMS** (Ionian-Adriatic earLy wARning Monitoring System). **2019**. <https://greece-albania.eu/> Funded by the EU and the Greek Government. Interreg IPA CBC “Greece - Albania 2014-2020”
12. Maintenance and upgrade of the meteorological forecasts of the **POSEIDON** system” funded by the EU and the Greek Government, subcontracting of the **HIMIOFOTS** project. **2018 – 2019**.
13. **MARINA** (MARine Renewable INtegrated Application Platform) Funded by the EU (FP7) 2011 – 2013, 201-2018 - <http://msp-platform.eu/projects/marina-platform>
14. **IRPWIND** (Integrated Research Programme on Wind Energy), Funded by the EU (FP7) 2017 - http://cordis.europa.eu/project/rcn/111468_en.html
15. “Meteorological modelling in the context of the NWP and HPC Project of Qatar Civil Aviation Authority, Meteorology”. Funded by the Qatari Civil Aviation Agency, 2016
16. “Study the energy reduction in power systems in ships, through innovative management of power recovery (**ECOMARINE**), Funded by the EU ((National Strategic Reference Framework – NSRF), 2014 – 2016.

17. **E-Wave** (Integrated high resolution system for monitoring and quantifying the wave energy potential in the EEZ of Cyprus) Funded by the Research Promotion Foundation of Cyprus. 2012.
<http://www.oceanography.ucy.ac.cy/ewave/>
18. **WASSF** (Weather, dust transport, sea and ocean state forecasting system for the Arabian Peninsula, the Arabian (Persian) Gulf and the Red Sea"). Funded by the Saudi Aramco, 2010 – 2011.
19. "Study of the measured Particle Matter exceedances in Greece. Funded by the Greek Ministry for the Environment, Physical Planning and Public Works, 2010
20. "Study of the microclimate of the Metropolitan Park in Athens and the potential changes and energy effects". Funded by the Greek Ministry for the Environment, Physical Planning and Public Works, 2009
21. **POW WOW** (Prediction Of Waves, Wakes and Offshore Wind), Funded by the EU (FP6) 2009 - http://cordis.europa.eu/result/rcn/47011_en.html
22. **CIRCE** (Climate Change and Impact Research the Mediterranean Environment), Funded by the EU (FP6) 2008 – 2010 - <http://climate-adapt.eea.europa.eu/metadata/projects/climate-change-and-impact-research-the-mediterranean-environment>
23. "Study of the dispersion and diffusion of the air pollutants from the current and future units of the power stations in Soroni Rhodes", Funded by the Hellenic Public Power Corporation (HPPC, DEI), 2006.
24. **INSEA** (Data Integration System for Eutrophication Assessment in Coastal Waters), Funded by the EU (FP6) 2007 – 2008, 2011 - [http://www.2020-horizon.com/INSEA-Data-Integration-System-for-Eutrophication-Assessment-in-Coastal-Waters\(INSEA\)-s27752.html](http://www.2020-horizon.com/INSEA-Data-Integration-System-for-Eutrophication-Assessment-in-Coastal-Waters(INSEA)-s27752.html)
25. "Forecasting Systems for simulating the Saharan and East Asia Gobi Deserts dust cycle in the atmosphere. Evaluation of two systems". Funded by the Greek Government. 2007
26. **ESPEN** (An Enhanced operational System for wave monitoring and Prediction with Applications in Hellenic Navigation). Funded by the EU (FP6) and the Greek Government. 2007 - <http://forecast.uoa.gr/espen.php>
27. "Study of the natural and anthropogenic aerosols and estimation of the effects on the Climate of Greece", Funded by the Greek Government, 2006

Positions of Trust

1. Member of the ISC (International Science Council) Global Roster of Experts (<https://council.science/roster/>)
2. Seven-Member PhD Examination Committee member for Konstantinos Papatheodosiou. "Developing an emergency system based on DRM technology for civil protection services". University of West Attika, School of Engineering, Department of Electrical and Electronics Engineering. Act 5/27.2.2024, Issue 7,1 – 2024.
3. Research proposal evaluator for the U.S. National Science Foundation; <https://www.nsf.gov/>
4. Guest Editor for the "Sustainability Journal" for the special issue "Nature-Based Solutions to Address Climate Change for Sustainable Development" https://www.mdpi.com/journal/sustainability/special_issues/2662M90DYG

Publications in Peer Review Scientific Journals (Scopus H-index 22)

1. Kouklaki, D., Charalampous, G., Moustaka, A., Papetta, A., Herrero del Barrio, C., Chadoulis, R.-T., Aslanoglu, S. Y., Herrero-Anta, S., Mytilinaios, M., Papadimitriou, N., Anyfanti, K., Spyrou, C., Meloni, D., Fragkos, K., Derimian, Y., Di Iorio, T., Mamouri, R.-E., Amiridis, V., Solomos, S., Kazadzis, S., and Fountoulakis, I.: Dust radiative effects and impact on energy production over the Mediterranean Basin, Atmos. Meas. Tech., 19, 5633–5657, <https://doi.org/10.5194/amt-19-5633-2026>, 2026.

2. Papetta, A., Herrero del Barrio, C., Aslanoğlu, S. Y., Chadoulis, R.-T., Charalampous, G., Herrero-Anta, S., Kouklaki, D., Mytilinaios, M., Moustaka, A., Proestakis, E., Amiridis, V., Spyrou, C., Gkikas, A., Pikridas, M., Kezoudi, M., Marengo, F., Sciare, J., Vandenbussche, S., Solomos, S., Kazadzis, S., and Fountoulakis, I.: Source-dependent optical and mineral signatures of dust outbreaks over the Mediterranean, *Atmos. Chem. Phys.*, 26, 12395–12434, <https://doi.org/10.5194/acp-26-12395-2026>, 2026.
3. Spyrou, C., Fountoulakis, I., Solomos, S., Papadimitriou, N., Bais, A., Gröbner, J., Meloni, D., and Zerefos, C.: Implications of dust minerals on radiative transfer at regional scale, using the METAL-WRF model, *Atmos. Meas. Tech.*, 18, 7717–7734, <https://doi.org/10.5194/amt-18-7717-2025>, 2025.
4. Pappa, A.; Kalogiros, J.; Tombrou, M.; Spyrou, C.; Anagnostou, M.N.; Varlas, G.; Kalogeri, C.; Katsafados, P. Assessing the Impact of Assimilated Remote Sensing Retrievals of Precipitation on Nowcasting a Rainfall Event in Attica, Greece. *Hydrology* 2025, 12, 198. <https://doi.org/10.3390/hydrology12080198>.
5. Spyrou, C.; Koukoulou, M.; Saviolakis, P.-M.; Zerefos, C.; Loupis, M.; Masouras, C.; Pappa, A.; Katsafados, P. Green Roofs as a Nature-Based Solution to Mitigate Urban Heating During a Heatwave Event in the City of Athens, Greece. *Sustainability* 2024, 16, 9729. <https://doi.org/10.3390/su16229729>
6. Bowyer Paul, Silvia Maria Alfieri, Bidroha Basu, Emilie Cremin, Sisay Debele, Prashant Kumar, Veronika Lechner, Michael Loupis, Massimo Menenti, Slobodan Mickovski, Alejandro Gonzalez-Ollauri, Jan Pfeiffer, Francesco Pilla, Beatrice Pulvirenti, Paolo Ruggieri, Arunima Sarkar Basu, Christos Spyrou, Silvia Unguendoli, Thomas Zieher, Silvana di Sabatino. Modelled effectiveness of NbS in reducing disaster risk: Evidence from the OPERANDUM project, *Nature-Based Solutions*, 2024, 5, 100127, <https://doi.org/10.1016/j.nbsj.2024.100127>.
7. Moustaka, A.; Korras-Carraca, M.-B.; Papachristopoulou, K.; Stamatis, M.; Fountoulakis, I.; Kazadzis, S.; Proestakis, E.; Amiridis, V.; Tourpali, K.; Georgiou, T.; Solomos, S.; Spyrou, C.; Zerefos, C.; Gkikas, A. Assessing Lidar Ratio Impact on CALIPSO Retrievals Utilized for the Estimation of Aerosol SW Radiative Effects across North Africa, the Middle East, and Europe. *Remote Sens.* 2024, 16, 1689. <https://doi.org/10.3390/rs16101689>
8. Katsafados, P.; Saviolakis, P.-M.; Varlas, G.; Ben-Romdhane, H.; Pavlopoulos, K.; Spyrou, C.; Farrah, S. Investigation of the Synoptic and Dynamical Characteristics of Cyclone Shaheen (2021) and its Influence on the Omani Coastal Region. *Atmosphere* 2024, 15, 222. <https://doi.org/10.3390/atmos15020222>
9. Solomos, S.; Spyrou, C.; Barreto, A.; Rodríguez, S.; González, Y.; Neophytou, M.K.A.; Mouzourides, P.; Bartsotas, N.S.; Kalogeri, C.; Nickovic, S.; Vimic A.V.; Mandic, M.V.; Pejanovic, G.; Cvetkovic, B.; Amiridis, V.; Sykioti, O.; Gkikas, A.; Zerefos, C. The Development of METAL-WRF Regional Model for the Description of Dust Mineralogy in the Atmosphere. *Atmosphere* 2023, 14, 1615. <https://doi.org/10.3390/atmos14111615>.
10. Drakaki, E., Amiridis, V., Tsekeri, A., Gkikas, A., Proestakis, E., Mallios, S., Solomos, S., Spyrou, C., Marinou, E., Ryder, C. L., Bouris, D., and Katsafados, P.: Modeling coarse and giant desert dust particles, *Atmos. Chem. Phys.*, 22, 12727–12748, <https://doi.org/10.5194/acp-22-12727-2022>, 2022.
11. Spyrou, C.; Loupis, M.; Charizopoulos, N.; Arvanitis, P.; Mentzafou, A.; Dimitriou, E.; Debele, S.E.; Sahani, J.; Kumar, P. Evaluating Nature-Based Solution for Flood Reduction in Spercheios River Basin Part 2: Early Experimental Evidence. *Sustainability*, 2022, 14, 10345. <https://doi.org/10.3390/su141610345>
12. Spyrou, C.; Solomos, S.; Bartsotas, N.S.; Douvis, K.C.; Nickovic, S. Development of a Dust Source Map for WRF-Chem Model Based on MODIS NDVI. *Atmosphere*, 2022, 13, 868. <https://doi.org/10.3390/atmos13060868>
13. Bourma, E., Perivoliotis, L., Petihakis, G., Korres, G., Frangoulis, C., Ballas, D., Zervakis, V., Tragou, E., Katsafados, P., Spyrou, C., M., Dassenakis, S., Poulos, P., Megalofonou, S., Sofianos, T., Paramana, G., Katsaounis, A., Karditsa, S., Petrakis, A.-M. Mavropoulou, V., Paraskevopoulou, N., Milatou, P., Pagonis, S., Velanas, M., Ntoumas, I., Mamoutos, M., Pettas, S., Christodoulaki, D., Kassis, M., Sotiropoulou, A., Mavroudi, A., Moira, D., Denaxa, G., Anastasopoulou, E., Potiris, V., Kolovogiannis, A.-A., Dimitrakopoulos, S., Petalas 3 and N., Zissis, 2022. The Hellenic Marine Observing, Forecasting and Technology System—An Integrated Infrastructure for Marine Research. *J. Mar. Sci. Eng.* 2022, 10, 329. <https://doi.org/10.3390/jmse10030329>.
14. Prashant Kumar, Sisay E. Debele, Jeetendra Sahani, Nidhi Rawat, Belen Marti-Cardona, Silvia Maria Alfieri, Bidroha Basu, Arunima Sarkar Basu, Paul Bowyer, Nikos Charizopoulos, Glauco Gallotti, Juvonen Jaakko, Laura

- S. Leo, Michael Loupis, Massimo Menenti, Slobodan B. Mickovski, Seung-Jae Mun, Alejandro Gonzalez-Ollauri, Jan Pfeiffer, Francesco Pilla, Julius Proll, Martin Rutzinger, Marco Antonio Santo, Srikanta Sannigrahi, Christos Spyrou, Heikki Tuomenvirta, Thomas Zieher (2021). Nature-based solutions efficiency evaluation against natural hazards: Modelling methods, advantages and limitations, *Science of The Total Environment*, 784, 2021, 147058, <https://doi.org/10.1016/j.scitotenv.2021.147058>.
15. Glauco Gallotti, Marco Antonio Santo, Ilektra Apostolidou, Jacopo Alessandri, Alberto Armigliato, Bidroha Basu, Sisay Debele, Alessio Domeneghetti, Alejandro Gonzalez-Ollauri, Prashant Kumar, Angeliki Mentzafou, Francesco Pilla, Beatrice Pulvirenti, Paolo Ruggieri, Jeetendra Sahani, Aura Salmivaara, Arunima Sarkar Basu, Christos Spyrou, Nadia Pinardi, Elena Toth, Silvia Unguendoli, Umesh Pranavam Ayyappan Pillai, Andrea Valentini, George Varlas, Giorgia Verri, Filippo Zaniboni and Silvana Di Sabatino (2021). On the Management of Nature-Based Solutions in Open-Air Laboratories: New Insights and Future Perspectives. *Resources*, 2021, 10, 36. <https://doi.org/10.3390/resources10040036>
 16. Christos Spyrou, Michael Loupis, Nikos Charizopoulos, Ilektra Apostolidou, Angeliki Mentzafou, George Varlas, Anastasios Papadopoulos, Elias Dimitriou, Depy Panga, Lamprini Gkeka, Paul Bowyer, Susanne Pfeifer, Sisay E. Debele and Prashant Kumar (2021) Evaluating Nature-Based Solution for Flood Reduction in Spercheios River Basin under Current and Future Climate Conditions, *Sustainability* 2021, 13, 3885. <https://doi.org/10.3390/su13073885>
 17. Prashant Kumar, Sisay E. Debele, Jeetendra Sahani, Nidhi Rawat, Belen Marti-Cardona, Silvia Maria Alfieri, Bidroha Basu, Arunima Sarkar Basu, Paul Bowyer, Nikos Charizopoulos, Juvonen Jaakko, Michael Loupis, Massimo Menenti, Slobodan B. Mickovski, Jan Pfeiffer, Francesco Pilla, Julius Pröll, Beatrice Pulvirenti, Martin Rutzinger, Srikanta Sannigrahi, Christos Spyrou, Heikki Tuomenvirta, Zoran Vojinovic, Thomas Zieher (2021). An overview of monitoring methods for assessing the performance of nature-based solutions against natural hazards, *Earth-Science Reviews*, 217 (2021) 103603, <https://doi.org/10.1016/j.earscirev.2021.103603>.
 18. George Varlas, Eleni Marinou, Anna Gialitaki, Nikolaos Siomos, Konstantinos Tsarpalis, Nikolaos Kalivitis, Stavros Solomos, Alexandra Tsekeri, Christos Spyrou, Maria Tsihla, Anna Kampouri, Vassilis Vervatis, Elina Giannakaki, Vassilis Amiridis, Nikolaos Mihalopoulos, Anastasios Papadopoulos and Petros Katsafados, (2021) Assessing Sea-State Effects on Sea-Salt Aerosol Modeling in the Lower Atmosphere Using Lidar and In-Situ Measurements, *Remote Sensing*, 2021, 13, 614, <https://doi.org/10.3390/rs13040614>.
 19. Kampouri, A., Amiridis, V., Solomos, S., Gialitaki, A., Marinou, E., Spyrou, C., Georgoulas, A.K., Akritidis, D., Papagiannopoulos, N., Mona, L., Scollo, S., Tsihla, M., Tsikoudi, I., Pytharoulis, I., Karacostas, T., Zanis, P., (2021) Investigation of Volcanic Emissions in the Mediterranean: “The Etna–Antikythera Connection”. *Atmosphere* 2021, 12, 40.
 20. Christos Spyrou, George Varlas, Aikaterini Pappa, Angeliki Mentzafou, Petros Katsafados, Anastasios Papadopoulos, Marios N. Anagnostou and John Kalogiros, (2020) Implementation of a Nowcasting Hydrometeorological System for Studying Flash Flood Events: The Case of Mandra, Greece, *Remote Sensing* 2020, 12, 2784; doi:10.3390/rs12172784.
 21. G. Varlas, V. Vervatis, C. Spyrou, E. Papadopoulou, A. Papadopoulos, P. Katsafados, (2020) Investigating the impact of atmosphere–wave–ocean interactions on a Mediterranean tropical-like cyclone, *Ocean Modelling*, Volume 153, 2020, 101675, ISSN 1463-5003, doi: 10.1016/j.ocemod.2020.101675.
 22. George Varlas, Christos Spyrou, Anastasios Papadopoulos, Gerasimos Korres, Petros Katsafados, (2020) One-year assessment of the two-way coupled atmosphere-ocean wave modeling system CHAOS over the Mediterranean and Black Seas, *Mediterranean Marine Science*, 21(2), 372-385, doi: <https://doi.org/10.12681/mms.21344>
 23. Triantafyllou, E., Diapouli, E., Korras-Carraca, M.B., Manousakas, M., Psanis, C., Floutsi, A.A., Spyrou, C., Eleftheriadis, K., Biskos, G., (2020). Contribution of locally-produced and transported air pollution to particulate matter in a small insular coastal city, *Atmospheric Pollution Research*, Volume 11, Issue 4, April 2020, Pages 667-678, doi: 10.1016/j.apr.2019.12.015.
 24. Christakos, K., Varlas, G., Cheliotis, I., Spyrou, C., Aarnes, O.J., Furevik, B.R. (2020). Characterization of Wind-Sea- and Swell-Induced Wave Energy along the Norwegian Coast. *Atmosphere* 2020, 11, 166,

doi:10.3390/atmos11020166.

25. Jeetendra Sahani, Prashant Kumar, Sisay Debele, Christos Spyrou, Michael Loupis, Leonardo Aragão, Federico Porcù, Mohammad Aminur Rahman Shah, Silvana Di Sabatino (2019). Hydro-meteorological risk assessment methods and management by nature-based solutions, *Science of the Total Environment*, 696 (2019) 133936, doi: 10.1016/j.scitotenv.2019.133936.
26. Solomos, S., Abuelgasim, A., Spyrou, C., Biniotoglou, I., and Nickovic, S.: Development of a dynamic dust source map for NMME-DREAM v1.0 model based on MODIS Normalized Difference Vegetation Index (NDVI) over the Arabian Peninsula, *Geosci. Model Dev.*, 12, 979-988, <https://doi.org/10.5194/gmd-12-979-2019>, 2019.
27. Varlas, G., M., Anagnostou, C., Spyrou, A., Papadopoulos, J., Kalogiros, A., Mentzafou, S., Michaelides, E., Baltas, E., Karymbalis and P., Katsafados, (2019). A multi-platform hydrometeorological analysis of the flash flood event of 15 November 2017 in Attica, Greece, *Remote Sensing*, 2019, 11, 45; doi:10.3390/rs11010045.
28. Mitsakou, C., S. Dimitroulopoulou, C. Heaviside, K. Katsouyanni, E. Samoli, S. Rodopoulou, C. Costa, R. Almendra, P. Santana, M. M., Dell’Olmo, C., Borell, D., Corman, N., Zengarini, P., Deboosere, C., Franke, J. Schweikart, M., Lustigova, C., Spyrou, K. de Hoogh, D., Fecht, J., Gulliver, S., Vardoulakis (2019). Environmental public health risks in European metropolitan areas within the EURO-HEALTHY project. *Science of the Total Environment*, 658 (2019) 1630–1639, doi: 10.1016/j.scitotenv.2018.12.130.
29. Katsafados, P., Varlas, G., Papadopoulos, A., Spyrou, C., & Korres, G. (2018). Assessing the implicit rain impact on sea state during Hurricane Sandy (2012). *Geophysical Research Letters*, 45(21), pp. 12,015-12,022; <https://doi.org/10.1029/2018GL078673>
30. Tsarpalis, K., A. Papadopoulos, N. Mihalopoulos, C. Spyrou, S. Michaelides and P. Katsafados, 2018: The Implementation of a Mineral Dust Wet Deposition Scheme in the GOCART-AFWA Module of the WRF Model, *Remote Sensing*, 2018, 10, 1595; doi:10.3390/rs10101595.
31. Christos Spyrou, 2018: Direct radiative impacts of desert dust on atmospheric water content, *Aerosol Science and Technology*, 52:6, 693-701 DOI:10.1080/02786826.2018.1449940.
32. de Andrade Campos, D., Chou, S.C., Spyrou, C., Chagas, J.C.S., Bottino, M.J., 2018: Eta model simulations using two radiation schemes in clear-sky conditions. *Meteorology and Atmospheric Physics*, (2018), doi:10.1007/s00703-017-0500-6
33. Ansmann Albert, Franziska Rittmeister, Ronny Engelmann, Sara Basart, Oriol Jorba, Christos Spyrou, Samuel Remy, Annett Skupin, Holger Baars, Patric Seifert, Fabian Senf, and Thomas Kanitz, 2017: Profiling of Saharan dust from the Caribbean to western Africa – Part 2: Shipborne lidar measurements versus forecasts, *Atmos. Chem. Phys.*, 17, 14987–15006, 2017, doi: 10.5194/acp-17-14987-2017.
34. Patlakas Platon, Eleni Drakaki, George Galanis, Christos Spyrou and George Kallos, 2017: Wind gust estimation by combining a numerical weather prediction model and statistical post-processing, *Energy Procedia*, 125, pp 190-198, 2017, doi:10.1016/j.egypro.2017.08.179
35. Diapouli, E., Manousakas, M. I., Vratolis, S., Vasilatou, V., Pateraki, S., Bairachtari, K. A., Querol, X., Amato, F., Alastuey, A., Karanasiou, A. A., Lucarelli, F., Nava, S., Calzolari, G., Gianelle, V. L., Colombi, C., Alves, C., Custódio, D., Pio, C., Spyrou, C., Kallos, G. B., and Eleftheriadis, K.: AIRUSE-LIFE +: estimation of natural source contributions to urban ambient air PM10 and PM2.5 concentrations in southern Europe – implications to compliance with limit values, *Atmos. Chem. Phys.*, 17, 3673-3685, doi:10.5194/acp-17-3673-2017, 2017.
36. C. Kalogeri, G. Galanis, C. Spyrou, D. Diamantis, F. Baladima, M. Koukoula, G. Kallos, 2017: Assessing the European offshore wind and wave energy resource for combined exploitation. *Renewable Energy*, 101 (2017) 244-264, doi: 10.1016/j.renene.2016.08.010.
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Teaching Experience

1. **2018:** Independent teaching assignment of the “Climate Change” course in the Geography Department of Harokopio University of Athens.
2. **2016:** Training on Weather forecasting and Numerical Modelling of Qatar Civil Aviation Authority personnel during the “Meteorological modelling in the context of the NWP and HPC Project of Qatar Civil Aviation Authority, Meteorology” project funded by the Qatari Civil Aviation Agency, 2016

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Workshops - Seminars

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11. T. Lekas, G. Kallos, J. Kushta, S. Solomos, C. Spyrou, 2011: Impacts of dust on aviation, *6th International Workshop On Sand/Duststorms And Associated Dustfall, 7-9 September 2011, Athens, Greece*.
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Posters

1. Solomos Stavros, Christos Spyrou, Ilias Fountoulakis, Nikolaos Papadimitriou, Alkiviadis Bais, Julian Gröbner, Daniela Meloni, and Christos Zerefos: Advancing Mineral-Resolved Dust Aerosol Modeling: METAL-WRF Capabilities for Chemistry, Radiation, and Ecosystem Coupling, iCACGP-IGAC 2026, International Conference, 6-11 September; Heraklion, Crete.
2. Liartsi Tania, Christos Spyrou, Nikos Gialesakis, Kyriaki Papoutsidaki, Stavros Solomos, Stelios Myriokefalitakis, Maria Kanakidou: Modelling of atmospheric phosphorus in the eastern Mediterranean atmosphere, iCACGP-IGAC 2026, International Conference, 6-11 September; Heraklion, Crete.
3. Poupkou, A.; I., Fountoulakis; N., Kalligeris; J., Kapsomenakis; N., Melis; S., Solomos; D., Athanasoulis; K., Boukouras; K., Douvis; C., Gkaraouni; A., Gkikas; P., Kalabokas; V., Koufolia, K., Lentas; E., Liadopoulos; C., Maris; G., Ntagkounakis; N., Papadimitriou; C., Spyrou; T., Stavraka; T., Vakoulis; C., Synolakis; C., S., Zerefos: An Emblematic, Transdisciplinary, and Multi-Hazard Monitoring Infrastructure on Delos Island (Greece) for the Protection of UNESCO World Heritage Monuments from Climate Change, EGU General Assembly 2026, Vienna, 3–8 May 2026, <https://doi.org/10.5194/egusphere-egu26-18171>.
4. Pytharoulis, I., Kartsios, S., Spyrou, C., Tegoulis, I., Bampzelis, D., and Zanis, P.: A WRF-based operational high-resolution numerical weather prediction system in northern Greece, EMS Annual Meeting 2024, Barcelona, Spain, 1–6 Sep 2024, EMS2024-592, <https://doi.org/10.5194/ems2024-592>, 2024.
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6. Zerefos C., Kalabokas, P., Fountoulakis, I., Gkikas, A., Kapsomenakis, I., Poupkou, A., Solomos, S., Spyrou, C., Douvis, K., Stavraka, T., Luterbacher, J., Xoplaki, E., Eleftheratos, K., Gazerian, S., 2023. "Warming in the broader Mediterranean region and its urban areas: Present day and future projections". UN Climate Change Conference (COP28) - United Arab Emirates, 30 Nov - 12 Dec 2023.
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8. Pappa, A., C. Spyrou, A. Gkikas, G. Papangelis, V. Amiridis, E. Gofa, P. Katsafados. 2022: Conceptualizing the assimilation of Aeolus wind products in LAPS. *4rd European Nowcasting Conference*, 21 – 24 March 2022, online event.
9. Drakaki E., Amiridis V., Mallios S., Solomos S., Spyrou C., Tsekeri A., Gkikas A., Bouris D. and Katsafados P., 2021: Aerodynamic effects on dust transport processes, *15th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP)* September 26-29, 2018 Ioannina, Greece.
10. Varlas G., Vervatis V., Spyrou C., Papadopoulou E., Papadopoulos A., and Katsafados P. 2021: Physical and dynamical considerations of three-way atmosphere-wave-ocean coupling, *15th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP)* September 26-29, 2018 Ioannina, Greece.
11. Gkikas A.I., Papangelis G., Drakaki E., Proestakis E., Spyrou C., Gialitaki A., Marinou E., Benedetti A., Rennie M., Straume A.G., Christoudias T., Kushta J., Sciare J. and Amiridis V., 2021: Improving dust forecasts through assimilation of ESA-Aeolus wind profiles, *15th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP)* September 26-29, 2018 Ioannina, Greece.
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14. Marco Antonio Santo, Glauco Gallotti, Bidroha Basu, Alberto Armigliato, Christos Spyrou, Aura Salmivaara, Paolo Ruggieri, Francesco Pilla, Arunima Sarkar Basu, Electra Apostolidou, George Varlas, Angeliki Mentzafou and Silvana Di Sabatino, 2020: A modelling approach to assess Nature Based Solutions efficiency, *AGU Fall Meeting*, Online 1 – 17 December 2020, NH039-0005.
15. Bidroha Basu, Arunima Sarkar Basu, Francesco Pilla, Srikanta Sannigrahi, Aoife Ni Rathaille, Glauco Gallotti, Marco Antonio Santo, Christos Spyrou, Paolo Ruggieri, Aura Salmivaara and Silvana Di Sabatino, 2020: Trend analysis of annual maximum precipitation in Western Europe over the past 70 years, *AGU Fall Meeting*, Online 1 – 17 December 2020, H141-0026.
16. Kampouri, A., Amiridis, V., Solomos, S., Spyrou, C., Gialitaki, A., Papagiannopoulos, N., Mona, L., Georgoulas, A. K., Akritidis, D., and Zanis, P., 2020: Investigation of volcanic emissions in the Mediterranean: “The Etna-Antikythera connection”, *Second Scientific Conference PANACEA*, Web Conferencing, 29 September – 1 October 2020
17. Sisay Debele, Jeetendra Sahani, Federico Porcù, Leonardo Aragão, Christos Spyrou, Michael Loupis, Nikos Charizopoulos, Silvana Di Sabatino, and Prashant Kumar, 2020: A copula-based multivariate drought indicator to design and monitor nature-based solutions, *European Geosciences Union General Assembly 2020*, Vienna, Austria, 4-8 May 2020. doi: 10.5194/egusphere-egu2020-13912.
18. P. Patlakas, E. Drakaki , G. Galanis ,C. Spyrou and G. Kallos, 2017: Wind gust estimation by combining numerical weather prediction model and statistical post-processing, *European Geosciences Union General Assembly 2017*, Vienna, Austria, 23–28 April 2017.
19. E. Drakaki, S. Solomos, C. Spyrou, G. Kallos, 2016 Highly Hygroscopic Particulate In Cloud Environment, *35th International Technical Meeting on Air Pollution Modelling and its Application (ITM)*, 3-7 October, 2016, Chania, Crete, Greece.
20. P. Patlakas , G. Galanis, M. Péray, J.-F. Filipot, C. Kalogeri, C. Spyrou, D. Diamantis, and G. Kallos, 2016: An integrated methodology on the suitability of offshore sites for wind farm development, *EGU General Assembly 2016*, A.433, Vienna, Austria, 17 – 22 April, 2016.
21. J. Al Qahtani, E. Alaa, G. Kallos, G. Galanis, S. Sofianos, C. Mitsakou, C. Spyrou, C. Kalogeri, N. Bartsotas, J. Athanaselis, V. Vervatis, S. Solomos, P. Axaopoulos, D.W. Beard, I. Alexiou, 2013: An integrated weather and sea-state forecasting system for the Arabian Peninsula (WASSF), *33rd International Technical Meeting on Air Pollution Modelling and its Application (ITM)*, 26 – 30 August 2013, Miami, Florida, USA.
22. G. Kallos, G. Galanis, S. Sofianos, C. Mitsakou, C. Spyrou, C. Kalogeri, N. Bartsotas, J. Athanaselis, V. Vervatis, S. Solomos, P. Axaopoulos, J.A. Qahtani, D.W. Beard, I. Alexiou, E. Alaa, 2013: An integrated weather and sea state forecasting system for the Arabian Peninsula (WASSF), *EGU General Assembly 2013*, AS1.1, Vienna, Austria, 07 – 12 April, 2013.
23. L. Cradden, C. Kalogeri , C. Spyrou, A. Adam, C. Stathopoulos, G. Galanis, S. Sofianos, D. Ingram, G. Kallos, A. Papapostolou, P. Axaopoulos, 2012: A combined resource atlas for marine energy, *4th International Conference on Ocean Energy (ICOE) 2012*, Dublin 17 – 19 October 2012.
24. A. Adam, C. Kalogeri, C. Spyrou, J. Athanaselis, S. Sofianos, G. Galanis and G. Kallos, 2012: Offshore Energy Mapping for Northeast Atlantic and Mediterranean: MARINA PLATFORM project, *EGU General Assembly 2012*, ERE1.2, Vienna, Austria, 22 – 27 April, 2012.
25. G. Kallos, G. Galanis, C. Mitsakou, P. Athanasiadis, C. Spyrou, S., Sofianos, and C. Kalogeri, 2011: Energy resource mapping at the framework of MARINA PLATFORM project, *EGU General Assembly 2011*, OS4.6, Vienna, Austria, 3 – 8 April, 2011.
26. C. Spyrou, C. Mitsakou, P. Athanasiadis, G.Kallos, and C. Kalogeri, 2011: Study of the radiative effects of desert dust on weather and climate, *EGU General Assembly 2011*, CL1.24/AS4.1, Vienna, Austria, 3 – 8 April, 2011.

27. S.Solomos, G.Kallos, J.Kushta, M.Astitha, C.Spyrou, C.Mitsakou, 2009: A modeling study on the effects of aerosol concentration and chemical composition on precipitation amounts and distribution, *International workshop on: Atmospheric Composition Changes: Climate-Chemistry Interactions*, Lecce, Italy, November 2-4, 2009.
28. Kallos, G., C. Spyrou, C. Mitsakou, G. Vlastou and C. Kalogeri, 2008: The new surface and radiative transfer parameterization in the SKIRON/Dust modelling System, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract A43A-0268. 15 – 19 December 2008, San Francisco.
29. Kallos, G., Spyrou, C., Astitha, M., Mitsakou, C., Solomos, S., Kushta, I., Mavromatidis, E., 2008: ‘Recent SKIRON dust model development and future plans’, EGU General Assembly 2008, Vienna, Austria, 13-18/4/2008.

Technical Reports – Manuals

1. G. Kallos, P. Katsafados, C. Spyrou, 2008: The Weather Forecasting System POSEIDON II: Operational Manual And Description Of The Model. University of Athens, Department of Applied Physics, Athens, 2008
2. G. Kallos, C. Spyrou, N.Papantoniou, C. Mitsakou, M. Astitha, S. Solomos and P. Katsafados, 2007: Analysis of the Particulate Matter Exceedances in Greece. Period 2001-2004. *Final Report Prepared for the Ministry of Environment City Planning and Public Work*, June 2007.
3. G. Kallos, C. Spyrou, S. Solomos, P. Katsafados and M. Astitha, 2006 : Analysis of the Particulate Matter Exceedances in Greece During the Period 2001-2004. *Technical Report Prepared for the Ministry of Environment City Planning and Public Work*, June 2006.

Lectures

1. The role of Desert Dust in Climate Change: 9th of November 2016. Lecture as part of the “Environmental Hazards and Security” course (Master) in Harokopio University of Athens.
2. The role of Desert Dust in Health and Climate Change: 22nd of November 2017. Lecture as part of the “Environmental Hazards and Security” course (Master) in Harokopio University of Athens.
3. The role of Desert Dust in Health and Climate Change: December 2018. Lecture as part of the “Environmental Hazards and Security” course (Master) in Harokopio University of Athens.

Invited Speaker

1. The Role of Desert Dust in the Environment and the Climate 19th of May 2017: Invited speaker at the National and Kapodistrian University of Athens.

Reviewer for International Scientific Journals

1. Atmospheric Chemistry and Physics (Impact Factor : 5.318)
2. Scientific Research and Essays (Impact Factor : 0.74)
3. Atmospheric Environment (Impact Factor : 3.629)
4. Meteorology and Atmospheric Physics (Impact Factor : 1.172)
5. Journal Of Geophysical Research (Impact Factor : 3.44)
6. International Journal Of Climatology (Impact Factor : 3.609)
7. Environmental and Fluid Mechanics (Impact Factor : 1.603)
8. Journal of Aerosol Science (Impact Factor : 2.042)
9. Atmospheric Research (Impact Factor : 3.778)
10. Advances in Meteorology (Impact Factor : 1.277)

11. Journal of the Air and Waste Management Association (Impact Factor : 1.570)
12. Atmospheric Pollution Research (Impact Factor : 1.637)
13. International Journal of Environmental Research and Public Health (Impact Factor : 2.101)
14. Atmosphere (Impact Factor: 1.221)
15. Acta Geophysica (Impact Factor: 0.709)
16. Sustainability (Impact Factor: 1.343)
17. Remote Sensing (Impact Factor: 3.244)
18. Climate (Impact Factor: 4.805)
19. Geoscientific Model Development (Impact Factor: 6.135)
20. Acta Geophysica (Impact Factor: 2.0)

Foreign Languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Listening	Reading
English	C2	C2	C2	C2	C2
Certificate of Proficiency in English, University of Cambridge					
French	B1	B1	B2	B1	A2
Diplôme D'Études Françaises ,Sorbonne 2em Degré					
Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user Common European Framework of Reference for Languages					

Computer Skills

- Unix
- Linux
- Visualization Tools (NCAR,NCL,IDV,GRADS)
- Programming Languages: FORTRAN, Bash (sh,ksh,csh)
- Bash Scripting
- Microsoft Office (Word, EXCEL, PowerPoint, Front Page)

Algorithm Development/ Operational use of Models and Data Assimilation Systems

• WRF (Weather Research and Forecasting model) <ul style="list-style-type: none"> ➤ METAL-WRF ➤ WRF-NMM ➤ WRF-ARW ➤ WRF-Chem 	Spyrou et al., 2025. https://doi.org/10.5194/amt-18-7717-2025 , 2025. Solomos et al., 2023. https://doi.org/10.3390/atmos14111615 . https://www2.mmm.ucar.edu/wrf/users/ https://github.com/wrf-model
• Workstation ETA <ul style="list-style-type: none"> ➤ SKIRON/Eta ➤ POSEIDON ➤ DREAM-NMM 	http://forecast.uoa.gr/forecastnewinfo.php http://poseidon.hcmr.gr/weather_forecast.php?area_id=gr http://pre-tect.space.noa.gr/instruments/17/
• CHAOS (Chemical Hydrological Atmospheric Ocean wave System)	http://dx.doi.org/10.1016/j.atmosres.2017.08.019
• NEMO (Nucleus for European Modelling of the Ocean)	https://www.nemo-ocean.eu/
• LAPS (Local Analysis and Prediction System)	https://journals.ametsoc.org/doi/pdf/10.1175/1520-0434%281996%29011%3C0273%3ATLAAPS%3E2.0.CO%3B2
• SWAN wave model	https://www.tudelft.nl/citg/over-faculteit/afdelingen/hydraulic-

	engineering/sections/environmental-fluid-mechanics/research/swan
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