

GIANNAROS Christos

Personal Information

DATE - PLACE OF BIRTH: 26 December 1987 in Thessaloniki, Greece
PROFESSION: Postdoctoral Researcher/Principal Investigator
PROFESSIONAL ADDRESS: National and Kapodistrian University of Athens, Zografou
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Academic Qualifications

2018: Ph.D. thesis in Environmental Physics, School of Physics, Faculty of Sciences, Aristotle University of Thessaloniki, Greece.
2014: M.Sc. in Environmental Physics, School of Physics, Faculty of Sciences, Aristotle University of Thessaloniki, Greece.
2011: B.Sc. in Physics, School of Physics, Faculty of Sciences, Aristotle University of Thessaloniki, Greece.

Professional Experience

- ❑ 2023 – today: Postdoctoral Researcher/Principal Investigator, National and Kapodistrian University of Athens, Greece.
- ❑ 2022: Research Associate, National Observatory of Athens, Greece.
- ❑ 2020 – 2021: Postdoctoral Researcher/Principal Investigator, Frederick Research Center, Cyprus.
- ❑ 2019: Research Associate, National Observatory of Athens, Greece.
- ❑ 2011 – 2018: Early-stage Researcher & Research Associate, Aristotle University of Thessaloniki, Greece.

Areas of expertise

- Environmental and Atmospheric Physics.
- Numerical Weather Prediction.
- Human-biometeorology.
- Urban Climate.

Scholarships & Honors/Awards

2024: Recipient of the 2024 European Meteorological Society Tromp Award for an outstanding achievement in biometeorology.
2023: Co-author of the paper “Multi-scale modelling at various spatial scales for the assessment of the potential of adaptation measures to mitigate urban heat in future climate conditions” that was selected for the best research paper award presented in the 6th International Conference on Countermeasures to Urban Heat Islands.

2023: Principal member of the Cyprus Ionospheric Research Group, which received the “Most Active Research Team” award for the academic period 2020-2021, in the framework of the research awards provided by the Frederick University in Cyprus.

2012 – 2013: IKY (Greek State Scholarships Foundation) fellowship for conducting MSc studies (“IKY fellowships granted after personalized assessment of the candidates.”; Operational Program “Education and Lifelong Learning” NSRF (2007-2013).

Visiting Scholars

01.2024: Deutscher Wetterdienst (DWD) – German Meteorological Service, Research Centre Human Biometeorology, Freiburg, Germany.

09.2016 – 12.2016: Georgia Institute of Technology, Nenes Research Group, School of Earth and Atmospheric Sciences, Atlanta, United States of America.

09.2014: Deutsches Zentrum für Luft- und Raumfahrt (DLR) – German Aerospace Center, Atmosphere Research Group, Earth Observation Center, Oberpfaffenhofen-Wessling, Germany.

Educational Activities

2024: Deutscher Wetterdienst (DWD) – German Meteorological Service, Research Centre Human Biometeorology, Freiburg, Germany Official participation in mentoring Anna Tzyrkalli during her PhD Thesis: “Quantification of the effects of urbanization on the association between environmental risk factors and human health”, Climate and Atmosphere Research Center, The Cyprus Institute, in the framework of Erasmus+ mobility Programme.

2023: External member of the Doctoral Examination Committee of Ioannis Sofokleous: “Improving hydrological-process representation in a distributed hydrologic model towards fully coupled atmospheric - hydrological simulations”, Energy, Environment & Water Research Center, The Cyprus Institute.

2022 – today: Co-teaching the courses (1) “Air Quality Models” and (2) “Atmospheric Circulation Models” by an official assignment in the framework of the Program of Postgraduate Studies in “Environmental Physics”, offered by the Department of Physics at the Aristotle University of Thessaloniki.

Other Activities

- **Editor**

2020-now: Member of the Editorial Board in Forecasting journal.

- **Reviewer (International Journals)**

- Atmospheric Research

- Advances in Science and Research – Contributions in Applied Meteorology and Climatology
- Environment Pollution
- International Journal of Hygiene and Environmental Health
- Journal of Cleaner Production
- Meteorological Applications
- Meteorologische Zeitschrift
- Natural Hazards and Earth System Sciences
- Science of the Total Environment
- Scientific Data
- Scientific Reports

- **Scientific Communities**

- 2023 – today: Member of the International Society of Biometeorology (ISB).
- 2023 – today: Member of the International Association of Urban Climate (IAUC).
- 2023 – today: Member of the Mediterranean Climate Variability and Predictability (MedCLIVAR).

- **International Conferences**

- Co-convener of the PL7 Session on “Air quality, Heat and Health in the Mediterranean” during the 18th Plinius Conference on Mediterranean Risks (30 September – 03 October, 2024, Chania, Greece)

Citation Report (Scopus, May 2024)

Total publications: 23 (9 as leading author)

Total citations: 583

H-index: 12

Publications in International and National Journals (peer reviewed)

1. Giannaros, C., Agathangelidis, I., Galanaki, E., Cartalis, C., Kotroni, V., Lagouvardos, K., Giannaros, T.M., Matzarakis, A., 2024. Hourly values of an advanced human-biometeorological index for diverse populations from 1991 to 2020 in Greece. *Sci. Data* 11, 76. <https://doi.org/10.1038/s41597-024-02923-y>
2. Giannaros, C., Dafis, S., Kotroni, V., Lagouvardos, K., 2024. The extreme heat wave of late July/early August 2021 in Greece under the context of the direct effect of anthropogenic greenhouse gases. *Atmos. Sci. Lett.* 25, e1191. <https://doi.org/https://doi.org/10.1002/asl.119>
3. Parliari, D., Giannaros, C., Papadogiannaki, S., Melas, D., 2023. Short-Term Effects of Air Pollution on Mortality in the Urban Area of Thessaloniki, Greece. *Sustainability* 15. <https://doi.org/10.3390/su15065305>
4. Galanaki, E., Giannaros, C., Kotroni, V., Lagouvardos, K., Papavasileiou, G., 2023. Spatio-Temporal Analysis of Heatwaves Characteristics in Greece from 1950 to 2020. *Climate* 11. <https://doi.org/10.3390/cli11010005>
5. Giannaros, C., Agathangelidis, I., Papavasileiou, G., Galanaki, E., Kotroni, V., Lagouvardos, K., Giannaros, T.M., Cartalis, C., Matzarakis, A., 2023. The extreme heat wave of July–August 2021 in the Athens urban area (Greece): Atmospheric and human-

- biometeorological analysis exploiting ultra-high resolution numerical modeling and the local climate zone framework. *Sci. Total Environ.* 857, 159300. <https://doi.org/https://doi.org/10.1016/j.scitotenv.2022.159300>
6. Giannaros, C., Dafis, S., Stefanidis, S., Giannaros, T.M., Koletsis, I., Oikonomou, C., 2022. Hydrometeorological analysis of a flash flood event in an ungauged Mediterranean watershed under an operational forecasting and monitoring context. *Meteorol. Appl.* 29, e2079. <https://doi.org/https://doi.org/10.1002/met.2079>
 7. Parliari, D., Cheristanidis, S., Giannaros, C., Keppas, S.C., Papadogiannaki, S., de' Donato, F., Sarras, C., Melas, D., 2022. Short-Term Effects of Apparent Temperature on Cause-Specific Mortality in the Urban Area of Thessaloniki, Greece. *Atmosphere (Basel)*. 13. <https://doi.org/10.3390/atmos13060852>
 8. Kotroni, V., Lagouvardos, K., Bezes, A., Dafis, S., Galanaki, E., Giannaros, C., Giannaros, T., Karagiannidis, A., Koletsis, I., Kopania, T., Papagiannaki, K., Papavasileiou, G., Vafeiadis, V., Vougioulas, E., 2021. Storm Naming in the Eastern Mediterranean: Procedures, Events Review and Impact on the Citizens Risk Perception and Readiness. *Atmos* <https://doi.org/10.3390/atmos12111537>
 9. Giannaros, C., Galanaki, E., Kotroni, V., Lagouvardos, K., Oikonomou, C., Haralambous, H., Giannaros, T.M., 2021. Pre-Operational Application of a WRF-Hydro-Based Fluvial Flood Forecasting System in the Southeast Mediterranean. *Forecasting* 3, 437–446. <https://doi.org/10.3390/forecast3020026>
 10. Galanaki, E., Lagouvardos, K., Kotroni, V., Giannaros, T., Giannaros, C., 2021. Implementation of WRF-Hydro at two drainage basins in the region of Attica, Greece, for operational flood forecasting. *Nat. Hazards Earth Syst. Sci.* 21, 1983–2000. <https://doi.org/10.5194/nhess-21-1983-2021>
 11. Solomou, E.S., Pappa, A., Kioutsioukis, I., Poupkou, A., Liora, N., Kontos, S., Giannaros, C., Melas, D., 2021. Analog ensemble technique to post-process WRF-CAMx ozone and particulate matter forecasts. *Atmos. Environ.* 256, 118439. <https://doi.org/https://doi.org/10.1016/j.atmosenv.2021.118439>
 12. Giannaros, C., Kotroni, V., Lagouvardos, K., Oikonomou, C., Haralambous, H., Papagiannaki, K., 2020. Hydrometeorological and Socio-Economic Impact Assessment of Stream Flooding in Southeast Mediterranean: The Case of Rafina Catchment (Attica, Greece). *Water* 12, 2426. <https://doi.org/10.3390/w12092426>
 13. Lagouvardos, K., Dafis, S., Giannaros, C., Karagiannidis, A., Kotroni, V., 2020. Investigating the Role of Extreme Synoptic Patterns and Complex Topography During Two Heavy Rainfall Events in Crete in February 2019. *Climate* 8. <https://doi.org/10.3390/cli8070087>
 14. Stefanidis, S., Dafis, S., Giannaros, C., 2020. Hydrological Response of the “Mpasdeki” Torrent Catchment to the Storm of 25th November 2019. *Hydrotechnika* 29, 13–26. <http://ejournals.lib.auth.gr/hydrotechnika/article/view/7632> (in Greek)
 15. Giannaros, C., Kotroni, V., Lagouvardos, K., Giannaros, M.T., Pikridas, C., 2020. Assessing the Impact of GNSS ZTD Data Assimilation into the WRF Modeling System during High-Impact Rainfall Events over Greece. *Remote Sens.* <https://doi.org/10.3390/rs12030383>
 16. Giannaros, C., Melas, D., Giannaros, T.M., 2019. On the short-term simulation of heat waves in the Southeast Mediterranean: Sensitivity of the WRF model to various physics schemes. *Atmos. Res.* 218, 99–116. <https://doi.org/10.1016/j.atmosres.2018.11.015>
 17. Zyrichidou, I., Balis, D., Koukouli, M.E., Drosoglou, T., Bais, A., Gratsea, M.,

- Gerasopoulos, E., Liora, N., Poupkou, A., Giannaros, C., Melas, D., De Smedt, I., Van Roozendaal, M., Van der A, R.J., Boersma, K.F., Valks, P., Richter, A., 2019. Adverse results of the economic crisis: A study on the emergence of enhanced formaldehyde (HCHO) levels seen from satellites over Greek urban sites. *Atmos. Res.* 224, 42–51. <https://doi.org/10.1016/j.atmosres.2019.03.017>
18. Giannaros, C., Nenes, A., Giannaros, T.M., Kourtidis, K., Melas, D., 2018. A comprehensive approach for the simulation of the Urban Heat Island effect with the WRF/SLUCM modeling system: The case of Athens (Greece). *Atmos. Res.* 201. <https://doi.org/10.1016/j.atmosres.2017.10.015>
19. Kontos, S., Liora, N., Giannaros, C., Kakosimos, K., Poupkou, A., Melas, D., 2018. Modeling natural dust emissions in the central Middle East: Parameterizations and sensitivity. *Atmos. Environ.* 190, 294–307. <https://doi.org/https://doi.org/10.1016/j.atmosenv.2018.07.033>
20. Drosoglou, T., Bais, A.F., Zyrichidou, I., Kouremeti, N., Poupkou, A., Liora, N., Giannaros, C., Elissavet Koukouli, M., Balis, D., Melas, D., 2017. Comparisons of ground-based tropospheric NO₂ MAX-DOAS measurements to satellite observations with the aid of an air quality model over the Thessaloniki area, Greece. *Atmos. Chem. Phys.* 17. <https://doi.org/10.5194/acp-17-5829-2017>
21. Merico, E., Gambaro, A., Argiriou, A., Alebic-Juretic, A., Barbaro, E., Cesari, D., Chasapidis, L., Dimopoulos, S., Dinoi, A., Donato, A., Giannaros, C., Gregoris, E., Karagiannidis, A., Konstandopoulos, A.G., Ivošević, T., Liora, N., Melas, D., Mifka, B., Orlić, I., Poupkou, A., Sarovic, K., Tsakis, A., Giua, R., Pastore, T., Nocioni, A., Contini, D., 2017. Atmospheric impact of ship traffic in four Adriatic-Ionian port-cities: Comparison and harmonization of different approaches. *Transp. Res. Part D Transp. Environ.* 50. <https://doi.org/10.1016/j.trd.2016.11.016>
22. Marécal, V., Peuch, V.-H., Andersson, C., Andersson, S., Arteta, J., Beekmann, M., Benedictow, A., Bergström, R., Bessagnet, B., Cansado, A., Chéroux, F., Colette, A., Coman, A., Curier, R.L., Van Der Gon, H.A.C.D., Drouin, A., Elbern, H., Emili, E., Engelen, R.J., Eskes, H.J., Foret, G., Friese, E., Gauss, M., Giannaros, C., Guth, J., Joly, M., Jaumouillé, E., Josse, B., Kadyrov, N., Kaiser, J.W., Krajsek, K., Kuenen, J., Kumar, U., Liora, N., Lopez, E., Malherbe, L., Martinez, I., Melas, D., Meleux, F., Menut, L., Moinat, P., Morales, T., Parmentier, J., Piacentini, A., Plu, M., Poupkou, A., Queguiner, S., Robertson, L., Rouïl, L., Schaap, M., Segers, A., Sofiev, M., Tarasson, L., Thomas, M., Timmermans, R., Valdebenito, Á., Van Velthoven, P., Van Versendaal, R., Vira, J., Ung, A., 2015. A regional air quality forecasting system over Europe: The MACC-II daily ensemble production. *Geosci. Model Dev.* 8. <https://doi.org/10.5194/gmd-8-2777-2015>
23. Karagiannidis, A., Poupkou, A., Giannaros, T., Giannaros, C., Melas, D., Argiriou, A., 2015. The air quality of a Mediterranean urban environment area and its relation to major meteorological parameters. *Water, Air, Soil Pollut.* 226. <https://doi.org/10.1007/s11270-014-2239-8>.