

Nikolaos Mastrantonas, Ph.D., M.Eng., M.Sc.

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PERSONAL STATEMENT

Hydrometeorologist – Civil Engineer with extensive experience in analysing and visualizing climate data & extreme conditions. My professional interest is to contribute to mitigating the negative consequences of climate change & natural hazards, with increased dissemination activities, a focus on early warning systems, and advocacy for enhanced stakeholder participation.

Key Skills/Characteristics:

- Strong analytical skills, multidisciplinary background, quick learner; experienced in statistical analysis & specialized software.
- Result-oriented, passion for applied research and client satisfaction; drive for implementation within budget and timeline.
- Experienced in organizing and managing projects and coordinating teams in multicultural environments.
- Stakeholder engagement and interpersonal skills; friendly team player with a positive attitude.

PROFESSIONAL EXPERIENCE

04/2023 – present **Hydrometeorologist – Previsico (UK)**

- **Project:** Flood libraries; ensemble forecasting
- **Tasks:** Sourcing & processing weather datasets; forecasts' evaluation; data exploitation
- **Contributions:** Operationalising forecasts' validation; incorporating ensembles & flood libraries for medium-range forecasts; reducing computational time of the operational workflow

10/2019 – 09/2022 **Early-Stage Researcher – European Center for Medium-Range Forecasts (ECMWF) (UK)**

- **Project:** Climate Advanced Forecasting of subseasonal Extremes (CAFE)
- **Tasks:** Sub-seasonal forecasting; weather extremes; diagnostics; data exploitation; science communication.
- **Research repository:** <https://github.com/ecmwf-lab/med-extreme-prec-atm-patterns>
- **Outreach activities:** Videos ([1](#), [2](#)) about the project; blogposts on research/networking ([1](#), [2](#), [3](#), [4](#), [5](#), [6](#), [7](#), [8](#))

03/2018 – 08/2019 **Research Associate Hydrologist – Centre for Ecology & Hydrology (CEH) (UK)**

- **Projects:** National River Flow Archive - NRFA (UK); National Hydrological Monitoring Programme - NHMP (UK); Drought-related: IMPETUS (UK), ENDOWS (UK), SUNRISE (Africa, China, India), STAR (Thailand).
- **Tasks:** Stakeholder engagement; hydrological modelling; water supply stress testing; drought monitoring; seasonal forecasting; forecasts evaluation; trend analysis; data exploitation, validation, and visualisation.
- **Contributions:** Development of new visualisations with wide acceptance and increased understanding by the stakeholders; automation of routine processes; improvement of existing computational methods.

EDUCATION

10/2019 – 02/2023 **Ph.D. in Atmospheric Science (summa cum laude) – TUBAF (Germany)**

- Dissertation: "[Use of large-scale atmospheric flow patterns to improve forecasting of extreme precipitation in the Mediterranean region for longer-range forecasts](#)".

09/2015 – 09/2017 **M.Sc. in Flood Risk Management (120 ECTS; distinction) – IHE Delft (UNESCO-IHE) (the Netherlands)**

- This M.Sc. is offered by a consortium of: IHE Delft; TU Dresden; TU Catalonia; University of Ljubljana.
- Thesis: "[Merging Near Real-Time Satellite Precipitation Products: A Case Study in Kinu Basin, Japan](#)". The work was conducted at ICHARM, Japan, & IHE Delft, the Netherlands.
- Course Representative: Advocating for the students & representing them at international fora (EMA).

09/2006 – 03/2012 **Diploma (M. Eng.) in Civil Engineering (300 ECTS; graduation ranking: 16th/239) – NTUA (Greece)**

- Water Resources and Environmental Engineering major; Construction Management minor.
- Thesis: "[Application of mathematical simulation for the control efficiency of wastewater treatment plants](#)".
- Conducted four 2-month internships as Site/Water Engineer in Jordan, Greece, Turkey, and Egypt.

Training Courses (selected)

- 07/2022 Forecast Informed Reservoir Operations (FIRO) colloquium – *SCRIPPS (USA)* [**competitive selection**]
- 06/2021 The Science of Subseasonal to Seasonal (S2S) Predictions – *NCAR (online)* [**competitive selection**]
- 12/2018 Resilience Action Planning - Implementing the Sendai Framework at the Local Level – *UNITAR [UN]*
- 10/2018 Good Practices in Stakeholder Engagement – *Dialogue Matters (UK)*
- 08/2017 Becoming a Water Leader Summer Course – *IHE Delft (the Netherlands)*
- 08/2014 Successful Negotiation: Essential Strategies and Skills – *University of Michigan (USA); online*

OTHER EXPERIENCES

- 09/2017 – 10/2022 **Disaster Risk Reduction Team Focal Point/Member** – *Water Youth Network (WYN) (international org.)*
- **Projects:** Early Warning Systems Young Professionals Network; WYN members database.
 - **Tasks:** Co-convening scientific events; acting as the link between the members & coordinators of the team.
 - **Contributions:** Improvement of the organisation's database, and the internal & external communication.
- 05/2013 – 07/2015 **Site Engineer** – *Grecotel Hotels & Resorts (Greece)*
- **Project:** Renovation (internal, external, landscape) of a 5-star hotel in the municipality of Bodrum in Turkey.
 - **Tasks:** Quantity surveying; Health & Safety supervision; assisting the accounting department.
 - **Contributions:** Implemented changes for improving the functionality, and Health & Safety of the hotel; created a database for accessing all information; identified & corrected omissions in the accountings.
- 06/2009 – 07/2015 **Team Coordinator / Project Manager** – *IAESTE (international org.)*
- **Projects:** IAESTE Greece Alumni database creation; Job Fair Athens; IAESTE Athens reception team.
 - **Tasks:** Social Media management; organization of many internal and external activities; cooperation with other NGOs; job raising; presentations; representative of IAESTE Greece in international conferences.
 - **Contributions:** Improvement of the internal structure of IAESTE Greece; 24% increase in the success rate of our nominees; spectacularly increase of the popularity of IAESTE locally & nationally.

PUBLICATIONS (peer-reviewed; selected) [full list]

- Gupta, S.; **Mastrantonas, N.**; Masoller, C.; Kurths, J., *Perspectives on the importance of complex systems in understanding our climate and climate change—The Nobel Prize in Physics 2021*. Chaos 1 May 2022; 32 (5): 052102, <https://doi.org/10.1063/5.0090222>
- **Mastrantonas, N.**; Magnusson, L.; Pappenberger, F.; Matschullat, J., **2022**. What do large-scale patterns teach us about extreme precipitation over the Mediterranean at medium- and extended-range forecasts? Q. J. R. Meteorol. Soc., 875-890, <https://doi.org/10.1002/qj.4236>
- Herrera-Lormendez, P.; **Mastrantonas, N.**; Douville, H.; Hoy, A.; Matschullat, J., **2021**. *Synoptic circulation changes over Central Europe from 1900 to 2100: Reanalyses and Coupled Model Intercomparison Project phase 6*, International Journal of Climatology. <https://doi.org/10.1002/joc.7481>
- Hannaford, J.; **Mastrantonas, N.**; Vesuviano, G.; Turner, S., **2021**. *An updated national-scale assessment of trends in UK peak river flow data: how robust are observed increases in flooding?* Hydrol. Res. <https://doi.org/10.2166/nh.2021.156>
- **Mastrantonas, N.**; Bhattacharya, B.; Shibuo, Y.; Rasmy, M.; Espinoza-Davalos, G.; Solomatine, D., **2019**, *Evaluating the benefits of merging Near Real-Time Satellite Precipitation Products: A Case Study in the Kinu Basin Region, Japan*, Journal of Hydrometeorology, <https://doi.org/10.1175/JHM-D-18-0190.1>

CONFERENCES – WORKSHOPS (selected)

- Conferences**
- EGU General Assembly 2021 [**Co-convening session; poster (yOSPP award)**]
 - Drought and Water Scarcity: addressing current and future challenges – *AboutDrought (UK, 2019)*
- Workshops/ Seminars**
- Water Resource Management & Supply in Central India – *IUKWC (India, 2019) [competitive selection]*
 - Decision Making under Deep Uncertainty – *DMDU (UK, 2017)*

AWARDS

- **V. Outstanding Student and PhD candidate Presentation Award**; European Geoscience Union 2021.
- **2nd place** at Copernicus Barcelona Hackathon 2020.
- Graduated with **distinction** from the 'Flood Risk Management' MSc.
- **3 scholarships** for attending the MSc: Erasmus Mundus; Onassis Foundation; A.G. Leventis Foundation.

ADDITIONAL INFORMATION

- Languages** Greek (native) | English (excellent) | Turkish (intermediate) | German (intermediate)
- Managerial skills** Negotiation skills | Planning and implementation | Coordination of teams | Collection and analysis of data
- Computer skills** LINUX | Microsoft Office | Analysis (R, Python) | GIS (ArcGIS, QGIS) | Hydrological/Hydraulic (HEC-RAS)
- Affiliations** AMS | EGU | Royal Meteorological Society | British Hydrological Society | Technical Chamber of Greece
- Military obligations** Fulfilled (09/2012 – 05/2013), ELDYK (Cyprus): Managing service plans and leave for up to 60 soldiers
- Driving licence** European Union (Greek): Category B
- Others** Blood Donor, First Aider
- Interests** humanitarian/environmental issues | history | geopolitics | swimming | basketball | travelling