Christiana Photiadou

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Folkborgsvägen 17, 601 76 , Norrkoping, Sweden

About me: Senior Climate scientist, specialised in climate change impacts. I am leading projects relevant to wateer and climate services for a wide range of sectors (water resource management, disaster risk reduction, health), while covering the full spectrum of co-generation of services with stakeholders and user interactions.

WORK EXPERIENCE

01/09/2017 – CURRENT – Norrkoping
SCIENTIFIC LEADER FOR WATER AND CLIMATE SERVICES | SENIOR SCIENTIST – SWEDISH METEOROLOGICAL AND HYDROLOGICAL INSTITUTE

Advancing the quality of water and climate services with tailored seasonal forecasts and climate projection data (regional & global scale). Emphasis on:
- Communicating uncertainties in climate models
- Climate Impact Indicators
- Communication of services – User engagement, community and capcacity building
- Adaptation and mitigation strategies – water resources management and societal adaptation
- Data, Tools and Applications (web-based services)
- Preparation of European and International proposal
- Specialised on Copernicus Climate Change Service SIS, Catalogue Datasets, and relevant projects for C3S uptake

01/2014 – 07/2017 – Utrecht, Netherlands
CLIMATE IMPACT RESEARCHER – INTERNATIONAL CLIMATE SERVICE UNIT AT ROYAL NETHERLANDS METEOROLOGICAL INSTITUTE (KNMI)

Researcher on climate change, modeling and services in EU projects: EUPORIAS (PI, WP co-leader), CLIPc, IS-ENES, UERRA, Euro4m.
- Internal/national project leader for climate scenarios update. Responsible for communicating with internal and external users (climate impact scientists and policy makers).
- Climate impact indicators and European Climate Assessment & Dataset: validation of existing and development of new indicators for different sectors (working closely with Expert Teams (ET) on climate indices such as the ET on Climate Change detection and Indices (ETCCDI) and the ET on Sector-specific Climate Indices (ET-SCI)).

09/2009 – 12/2013 – Utrecht/Delft, Netherlands
RESEARCH ASSISTANT – DELTARES AND INSTITUTE FOR MARINE AND ATMOSPHERIC RESEARCH (IMAU), UTRECHT, THE NETHERLANDS

Developing bias correction methods with incorporating circulation patterns for the Rhine River for improving hydrological modeling. Investigating relationships and adapting statistical tools for European heat spells and large-scale atmospheric circulations. Extensive teaching at master level course on Atmospheric Dynamics, Land Surface interactions and modeling, statistical analysis with emphasis on extreme value theory.

03/2007 – 08/2009 – Athens, Greece
RESEARCHER – INSTITUTE OF OCEANOGRAPHY, HELLENIC CENTER FOR MARINE RESEARCH (HCMR), ATHENS, GREECE

Long-term and extreme value analysis of sea waves and wave climate analysis and modeling, wind and wave energy assessment and development methods for wave and wind data evaluation and calibration.

12/2004 – 07/2005 – Nicosia, Cyprus

RESEARCHER – OCEANOGRAPHIC CENTRE AT THE UNIVERSITY OF CYPRUS

Research Scientist for the Mediterranean Forecasting Systems Towards Environmental Predictions (MFSTEP) project. Setup and development of tsunami propagation and oil spill propagation models for the Levantine Sea.

CURRENT PROJECTS

07/2019 – CURRENT
Climate Science Basis (Green Climate Fund (GCF) - World Meteorological Organisation (WMO))

Project coordinator – Development of Climate Information platform for enabling the GCF funding projects to develop their methodologies around climate science and climate change. Involved in organising 4 workshops on capacity building in East Caribbean, Africa, East Asia (National experts and stakeholder and international experts from various sectors).

2017 – CURRENT
Copernicus Climate Change Service (C3S)

- 2018-ongoing PI for climate projections, indicators and modelling - Operational Water Service for C3S (WaterSIS, C3S_424)
- 2019-2020 PI - Demonstrating the potential of the Copernicus Climate Data Store for Kenyan smallholder farmers: a scalable adaptation services approach (C3S_429_Lot1)
- 2017-2019 PI for Global Users in the Copernicus Climate Change Service for water, agriculture, health, energy, tourism, biodiversity, hazards, and food security sectors, (GLORIOUS, C3S_422_Lot1)
- 2017 Researcher- SWICCA: Service for water indicators in climate change adaptation, (C3S_441_Lot1)

10/2017 – CURRENT
AQUACLEW (JPI CLIMATE, FORMAS)

Project Coordinator – Advancing the data quality of European climate services. Best practises for user engagement. Impact of new services. Member of WG for Co-design guidelines under JPI Climate projects.

Horizon 2020 projects

- 2017-2020 CLARA WP leader and PI - Climate forecast enabled knowledge services, (nr 730482). Managing the development of 14 services that are built upon the C3S data and services for 5 sectors: disaster risk reduction, water resource management, energy and renewables, air quality and health, agriculture.
- 2017-2020 S2S4E Researcher - Sub-seasonal to Seasonal climate forecasting for Energy, (nr 776786)
- 2019-2023 E-SHAPE Showcases, Researcher: Applications powered by Europe, (nr 820852)

EDUCATION AND TRAINING

01/09/2009 – 31/12/2013 – Utrecht, Netherlands
PHD EXTREME PRECIPITATION AND TEMPERATURE UNDER CURRENT AND CHANGING CLIMATE: STATISTICAL APPROACHES – Utrecht University (Institute for Marine and Atmospheric Research) | Deltares Institute

09/2005 – 09/2007
MSC ON MARINE SCIENCE – National Technical University of Athens, Department of Naval architecture and Marine engineering

01/1999 – 12/2004
BACHELOR ON MARINE SCIENCE AND PHYSICAL OCEANOGRAPHY – University of Aegean

TRAINING

- March 2019: Leadership and understanding the dynamics of a group (UGL Gällofsta Perla), Sweden
- May 2017: Predictability and Ocean-Atmosphere ensemble forecasting at **ECMWF,** Reading, UK
- June-July 2011: Advance Study Program National Centre for Atmospheric Research (**NCAR**) Boulder, USA

PUBLICATIONS

Peer-review

Photiadou, C.; Arheimer, B.; Bosshard, T.; Capell, R.; Elenius, M.; Gallo, I.; Gyllensvärd, F.; Klehmet, K.; Little, L.; Ribeiro, I.; Santos, L.; Sjökvist, E. Designing a Climate Service for Planning Climate Actions in Vulnerable Countries. *Atmosphere* 2021, *12*, 121, https://doi.org/10.3390/atmos12010121

Merks, J., **Photiadou, C.**, Ludwig F. & Arheimer B. (2020) Comparison of open access global climate services for hydrological data, Hydrological Sciences Journal, DOI: 10.1080/02626667.2020.1820012

Hundecha, Y., Arheimer, B., Berg, P., Capell, R., Musuuza, J., Pechlivanidis, I., and **Photiadou, C**. Effect of model calibration strategy on climate projections of hydrological indicators at a continental scale. Climatic Change 163, 1287–1306 (2020). https://doi.org/10.1007/s10584-020-02874-4

Contreras, E., Herrero, J., Crochemore, L., Pechlivanidis, I., **Photiadou, C.**, Aguilar, C., Polo, M.J., 2020. Advances in the Definition of Needs and Specifications for a Climate Service Tool Aimed at Small Hydropower Plants' Operation and Management. Energies, 13, 1827, https://doi.org/10.3390/en13071827

Belusic, D., Berg, P., Bozhinova, D., Bärring, L., Doescher, R., Eronn, A., Kjellström, E., Klehmet, K., Martins, H., Olsson, J., **Photiadou, C.**, Segersson, D., Strandberg, G. (2019). Climate Extremes for Sweden. https://doi.org/10.17200/Climate_Extremes_Sweden

Photiadou, C., B. van den Hurk, A. van Delden and A. Weerts: Incorporating circulation statistics in bias correction of GCM ensembles: Hydrological application for the Rhine basin. Climate Dynamics, 2015, doi: 10.1007/s00382-015-2578-1

Photiadou, C., M.R. Jones, D. Keellings and C.F. Dewes: Modeling European hot spells using extreme value analysis. Climate Research, 58:193-207, 2014, http://dx.doi.org/10.3354/cr01191

Photiadou, C., A.H. Weerts and B.J.J.M. van den Hurk: Evaluation of two precipitation data sets for the Rhine River using streamflow simulations, Hydrol. Earth Syst. Sci., 15:3355-3366, 2011, doi.org/10.5194/hess-15-3355-2011

Soukissian, T. H., and **Photiadou, C**. A Sensitivity Analysis of the Bottom-up Algorithm For the Segmentation of HS-time Series. Paper presented at the The Eighteenth International Offshore and Polar Engineering Conference, Vancouver, Canada, July 2008.

Annual press release on behalf of WMO RA VI RCC-Network, Contribution to the Annual State of the Climate

"European climate in 2016" by Cornes, R., Photiadou, C., Squintu, A., van den Besselaar, E., van der Schrier, G., Stepanov, I., Azorin-Molina, C. and Verver, G. Climate Indicator Bulletin EURO4M.

"2015: joint warmest year on record in Europe" by Van den Besselaar, E., Cornes, R., Photiadou, C., van der Schrier, G., Verver, G., Klein Tank, A. and Squintu A. Climate Indicator Bulletin EURO4M.

"2014 warmest year on record" by Photiadou C., van der Schrier, G., van Oldenborgh, G.J., Verver, G., Klein Tank, A., Plieger, M., Mänchel, H., Bissoli, P. and Rössner, S. Climate Indicator Bulletin EURO4M.

CONFERENCES AND SEMINARS

Invited Speaker

- Global Climate services and climate innovation. Invited Speaker at the side event of Copernicus Climate Change Service at the 24th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP24), 10 Dec. 2018, Katowice, Poland.
- Global Users in the Copernicus Climate Change Service. Invited Speaker at the Copernicus for Sustainable Development Goals (SDG) workshop organised by DG GROW, 27 Jan. 2019 Brussels, Belgium.
- Climate Services at work: H2020 event organised by DG CLIMA – Invited participant, exchange and networking project lab, Nov. 2017 Brussels, Belgium.
- Overview of available data and tools for monitoring the climate system. Invited speaker at the Mediterranean Climate Outlook Forum (MedCOF), 26 Oct. 2015, Madrid, Spain.

European Geoscience Union (2010-ongoing)

- Gyllensvärd F., <u>Photiadou C.</u>, Arheimer, B., Little L., Sjökvist E., Klehmet K., Bosshard T., Santos L., Elenius M., Capell R. and Ribeiro I.: The Climate Information platform: A climate science basis for climate adaptation and mitigation activities in developing countries. EGU 2020
- Bosshard T., Arheimer B., Crochemore L., Gyllensvärd F., Pechlivanidis I., and <u>Photiadou C.</u>: Continental and global hydro-climatic forecasting services to address user needs for the water-related sectors. EGU 2020
- M. Polo, R. Pimentel, M.J. Pérez-Palazón, P. Torralbo, L. Lorna, M. Menezes Lomba, <u>Photiadou C.</u>, and B. Arheimer: What methods of interaction with users have proved to better perform for advanced co-development of climate services in the water sector? EGU 2020
- E. Pasten-Zapata, P. Royer-Gaspard, R. Pimentel, T. O. Sonnenborg, A. Lemoine, M. J. Pérez-Palazón, R. Schneider, and <u>C. Photiadou</u>: Testing the simulation skill of hydrological models under transient climate conditions for European case studies.EGU 2020
- Henriksen H., Pasten-Zapata E., Berg E., Pimentel R., Thirel G., Lira-Loarca A., and <u>Photiadou C.</u>: Expert elicitation as tool for climate and hydrological model uncertainty reduction. EGU 2020
- <u>Photiadou C.</u>, L. Little, P. Berg, R. Pimentel, M. J. Polo, T. Sonnenborg, E. PastenZapata, V. Andréassian, J. Lückenkötter, P. Kruse, D. Leidinger, A. Huber, S. Achleitner, A. Lira Loarca, and B. Arheimer: Best practises and lessons learnt from AQUACLEW. EGU 2020
- <u>Photiadou C.</u>, Gyllensvärd F., Pechlivanidis I., Crochemore L., Bosshard T., Arheimer B. and Buontempo C.: Global seasonal hydrological forecasts – a Copernicus Climate Change Service (C3S) experience. EGU 2019
- Crochemore L., Cantone C., P<u>hotiadou C. </u>and Pechlivanidis I.: A serious game on the role of forecast uncertainty and reliability in risk-based decision-making. EGU 2019
- Klehmet K., Breviere E., Gyllensvärd F., Little L., <u>Photiadou C.</u> and Arheimer B.: Global users in the Copernicus Climate Change Service. EGU 2019
- I. Pechlivanidis, L. Crochemore, <u>C. Photiadou</u>, and B. Arheimer: Pan-European seasonal forecasting services: Limitations and need for knowledge purveyors. EGU 2018
- <u>Photiadou, C.</u>, Van den Hurk, B., Weerts, A., Van Delden, A.: Precipitation circulation bias via Maximum Covariance Analysis for the Rhine River. EGU 2012
- <u>Photiadou, C.</u>, Weerts, A. Van den Hurk, B.: Extended reference precipitation and temperature dataset for the river Rhine. EGU 2010

International Conferences

- Crochemore L., Cantone C., <u>Photiadou C.</u>, Pechlivanidis I.: Call For Water – A serious game on the role of forecast performance in decision-making. International Conference, presented on the International Environmental Modelling and Software Society (iEMSs), 14-18 Sept. 2020, Brussels (online).
- Crochemore L., Arnal L., Andersson H., Cantone C., Eggen B., Gallo F., Gyllensvärd F., Liggins F., Pechlivanidis I., <u>P hotiadou C</u>.: Experiences on Role-playing Games for Education in Hydrological Forecasting', International Conference, presented on the IUGG/IAHS General Assembly, 8-18 July 2019, Montreal, Canada.
- Pechlivanidis I.G., Crochemore L., <u>Photiadou C.</u>, Gyllensvärd F., Arheimer B.: An operational pan-European seasonal hydro-climatic forecasting service, International workshop on Seasonal forecasting: Meeting User Needs, 24-25 January 2017, Loughborough, UK.
- <u>Photiadou, C.</u>, van der Schrier, G., and Verver, G: Climate Services for the Rhine River: focus on low flows. International Conference, presented at the 16th European Meteorological Society Annual Meeting & 11th European Conference on Applied Climatology, 12–16 September 2016, Trieste, Italy.
- <u>Photiadou, C.</u>, van der Schrier, G., Barichivich, J., and Jones, P. 2015: Monitoring precipitation variations in Europe. International Conference, presented at the 15th European Meteorological Society Annual Meeting & 12th European Conference on Applications of Meteorology, Sofia, Bulgaria.
- Keelings D.J., Jones, M., Dewes, C., <u>Photiadou, C.</u>: Investigating Drivers of European Hot Spells Using Extreme Value Analysis. International Conferences, presented at the American Meteorological Society Annual Meeting, 21st Conference on Probability and Statistics in the Atmospheric Sciences, 22-26 January 2012, New Orleans, Louisiana, USA.
- Jones, M., Castella, M., Dewes, C., Keellings, D., <u>Photiadou, C.</u>: Extreme Hot Spells in Europe and atmospheric circulation. Presented at US CLIVAR Summer Researcher Colloquium, National Centre for Atmospheric Research, 13-18 June 2011, Boulder, CO, USA.
- <u>Photiadou, C.</u>, Weerts, A. Van den Hurk, B.: An extended reference precipitation and temperature dataset for the Rhine River. International workshop, presented at WCRP (GEWEX/CLIVAR) and UNESCO (IHP) on "Metrics and methodologies of estimation of extreme climate events", 27-29 September 2010, UNESCO Headquarters, Paris, France.

LANGUAGE SKILLS

Mother tongue(s): GREEK | ENGLISH

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
DUTCH	B1	B1	A2	A2	A2
SWEDISH	A2	A2	A2	A2	A2
SPANISH	A2	A2	A1	A1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

R programming | Data visualization for climate change | Scripting in Python and/or Bash | Social Media | Microsoft Office

MANAGEMENT, LEADERSHIP, ORGANISATIONAL AND COMMUNICATION SKILLS

Management

Very good organisational / managerial skills acquired during climate research projects as Project and WP leader and PI. As scientific leader I am responsible for a team of 8 people. Course completion on PRINCE2 (May 2017) and Swedish course on Leadership and understanding the dynamics of a group (UGL, March 2019).

Communication

Good communication skills, gained through experience in working in multidisciplinary and international research projects, user requirement assessments, stakeholder engagement and by giving numerous presentations. Communication training in numerous occasions in the R&D environment.

HONOURS AND AWARDS

Honours

- Early Career Scientist Award (2013) for collaboration with Mary Tye and Greg Holland at Mesoscale and Microscale Meteorology Division, National Centre for Atmospheric Research (NCAR), Boulder, USA.
- NCAR/US CLIVAR 2011 Advanced Study Program Summer Colloquium scholarship, National Centre for Atmospheric Research, Boulder, USA.