

Annamaria Mazzoni, PhD

Senior Researcher — Project Manager

Milan, Italy

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Research Interests

Water Resources Management, WEF Nexus, Non-Conventional Water Sources, Water Footprint and Trade, Hydroeconomic Modeling, Sustainable Water Governance and Policy, Climate Science

Work Experience

- 2025–Present **Senior Researcher**, *Soil and Water Systems (SOWAS) Division, ICR — CMCC Foundation - Euro-Mediterranean Center on Climate Change*, Milan, Italy
- Groundwater sustainability within the Critical Earth Zone.
 - Agricultural Water Optimization: Address crop water requirements, promote sustainable practices, and innovative technologies to reduce water dependency.
 - Non-Conventional Water Resources: Explore solutions such as managed aquifer recharge, renewable desalination, and wastewater reuse to enhance water security in arid regions
- 2024–2025 **Senior Scientific Manager and Researcher**, *CMCC Foundation - Euro-Mediterranean Center on Climate Change*, Milan, Italy
- **Project Management and Technical Reporting:** Expertise in managing and delivering scientific outcomes for EU-funded projects (Horizon, Life, Interreg) on climate change adaptation, climate finance, water resources management, European research agenda, sustainability.
 - **Stakeholder Engagement:** Collaborate with the public and private sectors, researchers, and practitioners to align project objectives and drive sustainable policy and strategy development (workshops, focus groups, community engagement and awareness campaigns, training and capacity building).
 - **Research and Policy Analysis:** Conduct evidence-based research to support climate and sustainability policies, integrating the findings into strategies for resilience and sustainability.
 - **Outreach, Dissemination, and Strategic Communication:** Proven track record in presenting and disseminating scientific findings at national and international conferences, workshops, and forums. Great at communicating complex climate and sustainability insights to diverse audiences.
- 2021–2024 **Principal Investigator, Working Package Lead**, *INTERACTION, Belmont Forum Project*, Qatar (hybrid)
- Project management, scientific direction, and technical reporting to sponsors and partners.
 - Stakeholder Engagement, Scientific Dissemination, Public Outreach.
 - Student supervision, data analysis, research, and survey design.
- Sept 2023 –Present **Guest Faculty**, *EIIS - European Institute of Innovation for Sustainability*, Rome, Italy
- Guest Faculty for the Executive Program on "Sustainable Management" — Modules on: "The Challenges of Ecological Transition", "The Energy Transition", and "Sustainability Regulatory Frameworks"

- 2016–2022 **Research Associate and Project Manager**, *Qatar Foundation (QF), Qatar Environment and Energy Research Institute (QEERI)*, Qatar, Doha
- Led 3 international projects overseeing comprehensive project planning, partner/client negotiations, legal agreements, team leadership, progress monitoring, budget control.
 - Established QEERI's Sustainability Program within my institute advancing sustainability initiatives across QEERI, Qatar Foundation, and nationwide.
 - Conducted econometric analyzes and strategic benchmarking for public and private clients, providing data-driven insights for sustainability-focused decision making (peer-reviewed publications, technical reports).
 - Assessed market opportunities and Technology Readiness Levels (TRL) for sustainability products and services (environmental pollution, renewable energies, desalination tech).
 - Engaged with key stakeholders from government, private sectors, and research institutions at national and international levels to collaborate on national and international projects and help shaping sustainability strategies for Qatar.
 - Technical reporting (EIA, TEA, CBA, Environmental Footprint) and Sustainability reporting (CSRD and ESG standards).
 - Conducted field surveys using advanced geophysical tools (GPR, EMP, Resistivity Probe).
- 2015–2016 **Research Scholar and Assistant Project Manager**, *University of Southern California (USC)*, Los Angeles, CA, USA
- Assisted in drafting and managing 2 scientific projects, including contract negotiations, budgeting, stakeholder communication, partner and sponsor relations, and procurement management, fieldwork logistics.
 - Conducted research on water budget modeling and groundwater resources management in the MENA region.
- 2014–2015 **Visiting Researcher and Assistant Project Manager**, *California Institute of Technology (Caltech)*, Pasadena, CA, USA
- Delivered progress and final reports for the PIs and international funding agencies (USAID, DAI), admin team coordination, monitored project budget, and organized fieldwork logistics.
 - Conducted research on natural resources management and climate change impact assessment on arid environments.
 - Scientific dissemination and participation in international conferences.
- 2013 **Visiting Graduate Student**, *California Institute of Technology (Caltech)*, Pasadena, CA, USA
- MA thesis project: Assessment of Socio-Economic Impacts of Climate Change on Groundwater Resources in Hyper-Arid Environments.
 - Served as a UN observer during a side event at the UNFCCC COP18 in collaboration with UNDP.

Education

- 2020 **PhD in Economics “Vilfredo Pareto”**, *University of Turin and Collegio Carlo Alberto*, Turin, Italy,
Dissertation Title: Water and Food Security Issues in the MENA Region: Limits and Opportunities for Socio-Economic Development — (SECS-P/06 – Applied Economics)
 Advisors: Prof. S. Dalmazzone and Prof. M. Bagliani — Viva Committee: Prof. A. Barattieri, Prof. A. Corsi, Prof. L. Ridolfi
- 2013 **MA in Environmental Economics and Policy**, *University of Turin*, Turin, Italy - 110/110 cum Laude and honor, Advisors: Prof. S. Dalmazzone and Prof. M. Bagliani
- 2011 **BA in Political Sciences and International Studies**, *University of Bologna*, Bologna, Italy 106/110, Advisor: Prof. M. Ricciardi

2009 **Erasmus Exchange Program**, *Ruprecht Karls Universität*, Heidelberg, Germany

Awards

2013 Award for Best Master Thesis of the Department of Economic and Statistics “Cognetti de Martiis”, University of Turin, Italy. Thesis Title: *Evaluation of Socio-Economic Impacts of Climate Change in Hyper-Arid Environments*

2009 LLP Erasmus Scholarship

Research Grants - Main

2024–2026 **Study on the macro-economic impacts of the climate transition (EC CINEA)**

- Funding Entity: EC CINEA - Tender CINEA, REF. 2023/OP/0013 (*Award 1.9M EURO*)
- Role: Project Manager, Researcher

2023–2032 **CLIMate Adaptation for the PO river basin district (LIFE CLIMAXPO)**

- Funding Entity: EC - LIFE21-IPC-IT
- Role: Researcher

2021–2024 **Integrated Assessment of Climate Impacts on Ecosystem Functions and Productivity of Critical-Zone Eco-Hydrology (INTERACTION)**

- Funding Entity: Belmont Forum - BFC04-0719-200004 (*Award 1.08M USD*)
- Role: Principal Investigator

2021–2024 **Hydroponics and Aquaponics with AIoT in Qatar (HAIAT)**

- Funding Entity: QNRF and Ministry of Municipality and Environment- MME02-0911-200015 (*Award 500K USD*)
- Role: Principal Investigator

2020–2021 **Data-driven Estimation and Forecasting of COVID-19 Rates (DEFKOV) Project**

- Funding Entity: QNRF Rapid Response Call - RRC-2-044 (*Award 14K USD*)
- Role: Principal Investigator

2015–2017 **Desert Subsurface Exploration of Aquifers (Desert-SEA) – Phase I – University of Southern California (USC) and Kuwait Institute for Scientific Research (KISR)**

- Funding Entity: KISR (*Award 420K USD*)
- Role: Assistant Project Manager and Researcher

2014–2016 **U.S. - MIDDLE EAST RESEARCH PARTNERSHIP: Radar Probing of Groundwater in Hyper Arid Environments: Understanding Aquifer Dynamics in High Discharge Areas**

- Funding Entity: USAID, DAI, FABRI-Grant 1001624-13S-19790 (*Award 800K USD*)
- Role: Assistant Project Manager and Researcher

Secondary Projects - Research support

2024–2026 **Adriatic coastal areas science-based solutions for climate adaptation (Adria-ClimPlus)**

- Funding Entity: EU EC - Interreg VI-A Italy - Croatia - ITHR0200333
- Role: Research support in survey design and stakeholder engagement activities organization.

2023–2026 **Resilient CLIMATE Financing and Investment Taskforces (CLIMATEFIT)**

- Funding Entity: EU - Horizon Europe RIA - MISS2022-CLIMA-01
- Role: Research support in interview design and administration, deliverable writing.

2022–2026 **MAXimising the synergy of European research Governance and Innovation for Climate Action (MAGICA) Project**

○ Funding Entity: EU - HORIZON-CL5-2021-D1-01

○ Role: Research and operationalization on Task on Open Science and SRIA; deliverable writing; General Assembly co-organization.

Publications

H-index: 8 (Scholar), 367 citations since 2020

Peer Reviewed

1. Aloui, S., Zghibi, A., **Mazzoni, A.**, Abushaikha, A.S. and Elomri, A., 2025. Assessing ground-water quality and suitability in Qatar: Strategic insights for sustainable water management and environmental protection. *Environmental and Sustainability Indicators*, p.100582.
2. Aloui, S., Zghibi, A., **Mazzoni, A.**, Elomri, A. and Al-Ansari, T., 2024. Identifying suitable zones for integrated aquifer recharge and flood control in arid Qatar using GIS-based multi-criteria decision-making. *Groundwater for Sustainable Development*, 25, p.101137. (IF 4.9)
3. Naeem, K., Aloui, S., Zghibi, A., **Mazzoni, A.**, Triki, C. and Elomri, A., 2024. A system dynamics approach to management of water resources in Qatar. *Sustainable Production and Consumption*, 46, pp.733-753. (IF 10.9)
4. Aloui, S., Zghibi, A., **Mazzoni, A.**, Elomri, A. and Triki, C., 2023. Groundwater resources in Qatar: A comprehensive review and informative recommendations for research, governance, and management in support of sustainability. *Journal of Hydrology: Regional Studies*, 50, p.101564. (IF 4.7)
5. Heggy, E., Normand, J.C., Palmer, E.M., Scabbia, G., Al-Maktoumi, A.K., **Mazzoni, A.**, Blanton, L., Schaefer, S.J. and Avouac, J.P., 2023. Probing Shallow Aquifers in Hyper-Arid Dune Fields Using VHF Sounding Radar. *IEEE Transactions on Geoscience and Remote Sensing*. (IF 8.2)
6. Naeem, K., Zghibi, A., Elomri, A., **Mazzoni, A.**, and Triki, C., 2023. A Literature Review on System Dynamics Modeling for Sustainable Management of Water Supply and Demand. *Sustainability*, 15(8), p.6826. (IF 3.9)
7. Aloui, S., **Mazzoni, A.**, Elomri, A., Aouissi, J., Boufekane, A. and Zghibi, A., 2023. A review of Soil and Water Assessment Tool (SWAT) studies of Mediterranean catchments: Applications, feasibility, and future directions. *Journal of Environmental Management*, 326, p.116799. (IF 8.7)
8. Yousaf, A., Kayvanfar, V., **Mazzoni, A.**, and Elomri, A., 2023. Artificial intelligence-based decision support systems in smart agriculture: Bibliometric analysis for operational insights and future directions. *Frontiers in Sustainable Food Systems*, 6, p.1053921. (IF 4.7)
9. Scabbia, G., Sanfilippo, A., **Mazzoni, A.**, Bachour, D., Perez-Astudillo, D., Bermudez, V., Wey, E., Marchand-Lasserre, M. and Saboret, L., 2022. Does climate help modeling COVID-19 risk and to what extent?. *Plos one*, 17(9), p.e0273078. (IF 3.7)
10. Abotalib, A.Z., Heggy, E., Scabbia, G. and **Mazzoni, A.**, 2019. Groundwater dynamics in fossil fractured carbonate aquifers in Eastern Arabian Peninsula: A preliminary investigation. *Journal of Hydrology*, 571, pp.460-470. (IF 6.4)
11. **Mazzoni, A.**, Heggy, E. and Scabbia, G., 2018. Forecasting water budget deficits and groundwater depletion in the main fossil aquifer systems in North Africa and the Arabian Peninsula. *Global Environmental Change*, 53, pp.157-173. (IF 8.9)

Book Chapters

1. Lawler, J., **Mazzoni, A.**, and Shannak, S.D., 2022. The Domestic Water Sector in Qatar. In Sustainable Qatar: Social, Political and Environmental Perspectives (pp. 193-209). Singapore: Springer Nature Singapore.
2. **Mazzoni, A.**, Zaccagni, S. 2019. Status of water resources and human health in the Middle East and North Africa Region: An integrated perspective, Reference Module in Earth Systems and Environmental Sciences, Encyclopedia of Environmental Health, 2nd edition. Nriagu J.O. (ed.). Burlington, Elsevier Science Inc.

Proceedings

1. **Mazzoni, A.**, 2019. The economic and environmental effects of the blockade on Qatar's trade flows: a gravity approach. *Emerging Economies*, (14), pp.6-7.
2. **Mazzoni, A.**, Heggy, E. and Scabbia, G., 2018. Understanding the Evolution of Water Deficit in the North African Region. In *Recent Advances in Environmental Science from the Euro-Mediterranean and Surrounding Regions: Proceedings of Euro-Mediterranean Conference for Environmental Integration (EMCEI-1)*, Tunisia 2017 (pp. 849-851). Springer International Publishing.

Technical Reports

1. ESG: Development of a Sustainability Reporting Tool for Qatar Foundation Research, Development Innovation (QF RDI) initiatives.
2. Agro-food: QEERI project report: Energy and Water Sustainability in Qatar's Agriculture.
3. Carbon Accounting: Water Footprint and Carbon Sequestration of Landscaping in Education City Campus (Parks and Plant Initiative), QEERI Support to COO Sustainability Initiatives.
4. Techno-economic analysis: QEERI project report: Pre-feasibility report for brine management and disposal within QEERI Farm.

Work in Progress

1. Inland Solar Desalination: A Sustainable Path across the Water, Energy and Food Security Nexus (with Y. Manawi, O. O. Ogunbiyi, A. Krama, V. Kochkodan, J. Lawler).
2. Economic and Environmental Sustainability of Autarkic Food Provision Policies in Case of Shocks: the Qatar Blockade (with S. Dalmazzone, M. Bagliani, V. Frontuto, and M. Mazzarano).
3. Advancing Water Governance in the Gulf Region: Policy Analysis, Regional Benchmarking, and Stakeholders Engagement – A Qatar Case Study (with I. Abdel-Hadi, G. McKay, A. Elomri).

Conferences, Seminars, and Workshops Participation

- 2024 1° Seminario del Ciclo Seminari Life CLIMAX PO: Adattarsi al Clima che Cambia – Un Percorso di Conoscenza e Azione Sfide Climatiche in Veneto: Strategie e Pratiche di Adattamento (talk, invited, Rovigo, Italy).
4° Seminario del Ciclo Seminari Life CLIMAX PO: Adattarsi al Clima che Cambia – Un Percorso di Conoscenza e Azione Sfide Climatiche in Piemonte: Strategie e Pratiche di Adattamento (talk, invited, Turin, Italy).
Convegno Il Rischio che cambia. Come i cambiamenti climatici influenzano la progettazione delle opere idrauliche (talk, invited, Rovigo, Italy).
Lecture: "Climate Adaptation Strategies: Climate Governance, Risk Assessment, and Stakeholders' Engagement" for the Thematic Course Advanced Climate and Early Warning Services of the PhD Course: Future Earth, Climate Change and Societal Challenges, University of Bologna, Italy.
- 2022 9th Annual Gulf and Arabian Peninsula Studies Forum - The Ukraine Crisis, Regional, and International Competition and the Future of Energy Security in the Gulf, 2022, Doha, Qatar (talk, invited).
Invited panelist for International Women's day 2022 by QPWN to deliver a talk on "Gender Equality Today for a Sustainable Tomorrow".
- 2021 Sustainability Research and Innovation Congress 2021 (SRI), Brisbane, AU (talk, online).
Food, Energy, Water and Waste (FEWW) Workshop, Center of Sustainable Development, Qatar University, Qatar (invited, talk, online).
- 2020 61a RSA, Società Italiana Economisti (Italian Economic Association) 2020, Turin, Italy (invited, talk online)
The 8th World Sustainability Forum, Geneva, Switzerland (poster, online).
- 2019 American Geophysical Union Fall Meeting, San Francisco, CA, USA (poster).
5th Workshop on Trade Wars and Global Crises, Turin Center on Emerging Economies and Italian Association for the Study of Comparative Economic Systems, Turin, Italy (talk).
- 2018 CIRS-Georgetown University Workshop on Water and Conflict in the Middle East, Doha, Qatar (invited).
- 2017 1st Euro-Mediterranean Conference for Environmental Integration, Sousse, TUN (talk).
American Geophysical Union Fall Meeting, New Orleans, LA, USA (poster).
- 2015 International Water Association, Water Development Congress and Exhibition, Amman, Jordan (poster).
- 2014 American Geophysical Union Fall Meeting, San Francisco, CA, USA (talk).

Conferences and Workshops Organization

- 2022 QEERI Workshop on Impact of Sustainable Buildings in Arid Environment on the Indoor and Outdoor Air Quality, Doha, Qatar.
Co-organizer QEERI/Ooredoo/TASMU workshop.
Co-organizer of the QEERI Workshop on Water Sector Digitalization, Doha, Qatar.
- 2021 Co-organizer and Co-chair (2 sessions) of the QEERI International Conference on Sustainable Energy-Water-Environment Nexus in Desert Climate (ICSEWEN21), Doha, Qatar.
- 2017, 2018 Co-Organizer of the X and XI Editions of the PhD Workshop in Economics, Collegio Carlo Alberto, Turin.

Other Professional Activities

- **Referee for:** Science of the Total Environment, Journal of Hydrology, Groundwater for Sustainable Development.
- **Supervision:** 1 Research Assistant, 2 PhD Students, 2 MA students.
- **People Management:** Managed and led diverse teams of 10+ members, fostering an inclusive environment and ensuring effective collaboration across various cultural backgrounds and skill sets.
- QEERI workers' representative for Joint Health and Safety Committee (raise awareness of health and safety issues in the workplace, risk assessment, and recommendations development).

Other Education and Training

- 2024 Course on Nature-based Solutions for Disaster and Climate Resilience (PEDRR).
- 2020 2nd Annual Conference on Food Security by MME, Doha, Qatar — Qatar Sustainability Summit, Doha, Qatar — Workshop B4D QF HR and Behavioral Insight Unit on sustainability and policy experiment design, Doha, Qatar — SUNEX Workshop, Doha, Qatar.
- 2019 Panic-Buying During Crises: How Do Food Supply Chains Cope? (E-learning course by EIT, Queen's University Belfast - certificate available).
- 2018 QCRI Workshop on Artificial Intelligence and Food Security, Doha, Qatar— ARC '18 Food Security Workshop, Doha, Qatar— QF RDI Food Security Workshop, Doha, Qatar — EAERE-ETH Winter School in Environmental Economics, Ascona, Switzerland.
- 2017 QNRF ROS on Food Security, Doha, Qatar.
- 2015 MENA NWC Congress, Muscat, Oman.
- 2012 UNFCCC - COP18, Doha, Qatar (UN Observer - Side Event with UNDP).

Languages

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|---------|-------------------------------|
| English | Full Professional Proficiency |
| German | Intermediate |
| Arabic | Survival |
| Italian | Native |

Computer Skills

Database STATA

Platforms MacOS, Windows

PM Monday, Slack, Workday (HR)

Editors Office, WordPress, EndNote, Zotero, Canva

Media Coverage

- Qatar, a regional example in food security, 2022, *Gulf Times*
- Why Qatar's food security efforts are paying dividends, 2022, *HBKU NEWS*, *Gulf Times*, *The Peninsula*, *Alarab (AR)*.
- Water security today: Rethinking resource management in a changing climate, 2020, *Gulf Times*
- Social Media Campaign on Science Diplomacy, 2020, *Ambasciata d'Italia a Doha - Embassy of Italy in Doha*

Last Update: January 2025