CURRICULUM VITAE

KATERINA MAZI

PhD. Hydrogeologist

Research Scientist ELE B

Institute for Environmental Research & Sustainable Development,
National Observatory of Athens

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PERSONAL DATA

Born 15/12/1969 in Athens, Greece; married, 1 son.

EDUCATION

June 2014	***PhD***, Department of Physical Geography, Stockholm University
June 2000	***MSc***, National Technical University of Athens, Greece
November 1993	***BSc***, Geology, Aristotle University of Thessaloniki, Greece

DOCTORAL THESIS

Seawater intrusion risks and controls for safe use of coastal groundwater under multiple change pressures, Dissertations from the Department of Physical Geography and Quaternary Geology No 42, Stockholm University. US-AB, Stockholm, Sweden, 2014. Supervisor: Prof. G. Destouni.

MSc THESIS

Optimisation of parameters of a hydrologic model with the use of groundwater data, MSc in "Science and Technology of Water Resources", NTUA, June 2000. Supervisors: Prof. D. Koutsoyiannis, Prof. A.D. Koussis.

FIELDS OF INTEREST

Hydrogeology; applied hydrologic modelling; field studies; GIS applications in hydrology; hydrometry.

SCIENTIFIC – PROFESSIONAL EXPERIENCE

06/2017-today	Research Scientist, ELE B, Hydrogeologist, Institute for Environmental Research & Sustainable Development, National Observatory of Athens
2001 – 2017	Staff Scientist – Hydrogeologist, Institute for Environmental Research & Sustainable Development, National Observatory of Athens
1996 – 2001	Researcher (on contract), National Observatory of Athens (Institute for Environmental Research & Sustainable Development and Geodynamics Institute) working on research projects funded by the Commission of European Communities (see below), Greece: PPC (ΔΕΗ) and GSRT (ΓΓΕΤ)
1995 – 1996	Administrative Experience: Secretary of the Greek Commission of Space Research and Technology
1990	Geologist (*Praktikum*), "Greek Bauxites of Elikon", Distomo, Boeotia

EXPERIENCE IN RESEARCH PROGRAMMES

➢ *Principal investigator*

Hydro-Telemetric Networks of Surface Waters: Gauging instruments, smart technologies, installation and operation («Υδρο-Τηλεμετρικά Δίκτυα Επιφανειακών Υδάτων: οργανομετρία, έξυπνες τεχνολογίες, εγκατάσταση και λειτουργία»), **01/2018-01/2021**.

The project is Part (15) (Υποέργο 15) of the *Hellenic Integrated Marine and Inland Water Observing, Forecasting and Offshore Technology System, HIMIOFoTS* («Ελληνικό Ολοκληρωμένο Σύστημα Παρακολούθησης, Πρόγνωσης και Τεχνολογίας των Θαλασσών και των Επιφανειακών Υδάτων») (*MIS 5002739*), Action "Strengthening Research and Technology Infrastructures", Business Plan "Competitiveness, Entrepreneurship and Innovation" (Ε.Π. «Ανταγωνιστικότητα, Επιχειρηματικότητα και Καινοτομία»), ***National Strategic Reference Framework*** (2014-2020).

➢ *Co-operating Scientist*

Funded by the Commission of European Communities

FLASH: *Observations, Analysis and Modeling of Lightning Activity in Thunderstorms for use in Short Term Forecasting of Flash Floods, Cordis FP6* SUSTDEV-2005-3.II.1.2, September 2006 – October 2010. **WP 5 - Hydrology: *Hydrological modelling of the Boietikos Kephissos Basin*.**

WERMED: *Weather-routing in the Mediterranean,* (*Interreg IIIB* MEDOCC project), 2005-2006. Phase 2: Climatology of the Mediterranean. **WP2.1 - Climatology of surface wind. Statistical analysis and evaluation of wind data in the Mediterranean: *Generation of maps and summary of results*.**

TELEFLEUR: *Telematics-Assisted Handling of Flood Emergencies In Urban Areas*, (DG 13 *or IST*), January 1998 – December 2000**.** ***Calibration of the watershed model TELESIM and application in the modelling of flood flows in the Kephissos River Basin, Attica; creation and maintenance of the hydrological data base*****.**

WASSER*: Utilisation of Groundwater Desalination & Wastewater Reuse in the Water Supply of Seasonally-stressed Regions, (*DG 12 *Research),* February 1998 – March 2001. ***Modelling of the hydrologic balance of the Akrotiri Basin and Aquifer of Cyprus; calibration and validation of the hydrologic model MMS-PRMS/USGS*****.**

AUTO-SEISMO-GEOTECH: *Estimation-Prevention of the Seismic Risk of Great Cities, EU, 1995-1996.* ***Estimation and assessment of the seismo-tectonic data of the greater area of Crete using GIS (Arc-Info)*****.**

SEISGREECE: *Detection of deep structure in the Ionian and Aegean seas, using Seismic Reflection and Refraction methods to locate seismogenic faults, 1996****. Participation in fieldwork: installation and monitoring of a mobile telemetric network of seismographs*****.**

Funded by

GSRT* (ΓΓΕΤ) – *DEUCALION* (ΔΕΥΚΑΛΙΩΝ, CONTRACT 09ΣΥΝ-31-798)*: *Assessment of flood flows in Greece under conditions of hydroclimatic variability: Development of physically-established conceptual-probabilistic framework and computational tools* (3/2011 – 7/2014). ***Hydrogeological modelling and flow simulations; hydrometry*****.**

From 01/2014-31/07/2014: Scientific responsible for this project and its economic management.

Public Power Corporation of Greece* (ΔΕΗ)*: *Estimation of the Wind Power Potential of the Island of Crete*, 1997**.** ***Use of GIS (Arc-Info) for the construction of the digital terrain model of Crete Island, Greece*****.**

CITATIONS

Web of Science: *h-index: 8*

Sum of the Times Cited: **172** (*All Data Bases*)

Google Scholar: *h-index: 9*

Sum of the Times Cited: **280**

PUBLICATIONS

Publications in Refereed Journals

1. Koussis, A.D. and **K. Mazi** (2018) Corrected interface-flow model for seawater intrusion in confined aquifers: relations to the dimensionless parameters of variable-density flow, Hydrogeology Journal, 26(8), 2547-2559, doi 10.1007/s10040-018-1817-z.
2. Thorslund J., J. Jarsjö, F. Jaramillo, J. Jawitz, S. Manzoni, N. B. Basu, S. Chalov, M. Cohen, I. Creed, R. Goldenberg, A. Hylin, Z. Kalantari, A. Koussis, S. Lyon, **K. Mazi**, J. Mård; K. Persson, J. Pietroń, C. Prieto, A. Quin, K. Van Meter and G. Destouni (2017) Wetlands as large-scale nature-based solutions: status and challenges for research, engineering and management, Ecological Engineering, 108: 489-497.
3. **Mazi K.**, A. D. Koussis and G. Destouni, 2016. Quantifying a sustainable management space for human use of coastal groundwater under multiple change pressures, *Water Resources Management*, 30(12): 4063-4080, doi: 10.1007/s11269-016-1363-1 and also Erratum: 30(12), 4081, doi: 10.1007/s11269-016-1427-2
4. Koussis, A. D. and **K. Mazi**, 2016. Reverse flood and pollution routing with the lag-and-route model, *Hydrological Sciences Journal*, 61:10, 1952-1966, doi: 10.1080/02626667.2015.1061194
5. Koussis, A. D., **K. Mazi**, F. Riou and G. Destouni, 2015. A correction for Dupuit-Forchheimer interface flow models of seawater intrusion in unconfined coastal aquifers, *J. Hydrology,* **525**: 277–285, doi:10.1016/j.jhydrol.2015.03.047
6. **Mazi K.**, A. D. Koussis and G. Destouni, 2014. Intensively exploited Mediterranean aquifers: resilience to seawater intrusion and proximity to critical points, *Hydrology and Earth System Sciences* (HESS), **18**: 1663–1677, doi:10.5194/hess-18-1663-2014
7. **Mazi K.**, A. D. Koussis and G. Destouni, 2013. Tipping points for seawater intrusion in coastal aquifers under rising sea level. *Environ. Res. Lett.* ***8***, 014001, doi:10.1088/1748-9326/8/1/014001
8. Koussis, A. D., **K. Mazi** and G. Destouni, 2012. Analytical single-potential, sharp-interface solutions for regional seawater intrusion in sloping unconfined coastal aquifers, with pumping and recharge, *J. Hydrology*, **416–417**: 1–11.
9. Koussis, A. D., **K. Mazi**, S. Lykoudis and A.A. Argiriou, 2012. Reverse flood routing with the inverted Muskingum storage routing scheme, *Natural Hazards & Earth System Sciences*, 12: 217–227, doi:10.5194/nhess-12-217-2012
10. Koussis A. D., E. Georgopoulou, A. Kotronarou, **K. Mazi**, P. Restrepo, G. Destouni, C. Prieto, J.J. Rodriguez, J. Rodriguez-Mirasol, T. Cordero, C. Ioannou, A. Georgiou, J. Schwartz and I. Zacharias, 2010. Cost-efficient management of coastal aquifers via recharge with treated wastewater and desalination of brackish groundwater: Application to the Akrotiri Basin and Aquifer, Cyprus, *Hydrological Sciences Journal* **55**(7), doi: 10.1080/02626667.2010.512469
11. Koussis A. D., E. Akylas and **K. Mazi**, 2007. Response of sloping unconfined aquifer to stage changes in adjacent stream II. Applications, *J. Hydrology*, **338**: 73-84.

12. **Mazi K.** and A. D. Koussis, 2006. The 8 July 2002 storm over Athens: Analysis of the Kifissos River/Canal overflows, *Advances in Geosciences*, **7**: 301–306. SRef-ID: 1680-7359/adgeo/2006-7-301, European Geosciences Union.
13. **Mazi K.**, A. D. Koussis, P. Restrepo-Posada and D. Koutsoyiannis, 2004. A groundwater-based, objective-heuristic parameter optimisation method for the PRMS model: The Akrotiri Basin, Cyprus application. *J. Hydrology*, **290**: 243-258; and also Erratum: *Journal of Hydrology*, **299**: 160-161.
14. Koussis A. D., K. Lagouvardos, **K. Mazi**, V. Kotroni, D. Sitzmann, J. Lang, H. Zaiss, A. Buzzi and P. Malguzzi, 2003. Flood forecasts for an urban basin with an integrated hydro-meteorological model, *J. Hydrologic Engineering*, **8**(1): 1-11.

Conference Presentations / Posters

1. Ntigkakis C., G. Markopoulos-Sarikas, P. Dimitriadis, T. Iliopoulou, A. Efstratiadis, A. Koukouvinos, A.D. Koussis**, K. Mazi**, D. Katsanos and D. Koutsoyiannis, Hydrological investigation of the catastrophic flood event in Mandra, Western Attica, EGU 2018: NH1.3/HS11.27 – Flood Risk and Uncertainty (co-organized).
2. **Mazi K.** and A. D. Koussis, On the modelling concept of seawater intrusion in an aquifer as uncoupled flow and transport in the region above an interface, SWIM-APCAMM 2016, Cairns, Queensland Australia, 4-8 July, 2016.
3. Zarkadoulas A., K. Mantesi, A. Efstratiadis, A. Koussis, **K. Mazi**, D. Katsanos, A. Koukouvinos and D. Koutsoyiannis, A hydrometeorological forecasting approach for basins with complex flow regime, *EGU 2015*: HS4.1/AS1.22/GM7.12/NH1.10.
4. **Mazi K.**, G. Destouni and A. D. Koussis, Evaluating seawater intrusion at the regional-scale in intensely exploited coastal aquifers, *NGL Annual Science Meeting*, Oskarshamn Sweden, 7-8 November, 2013.
5. **Mazi K.**, G. Destouni and A. D. Koussis, Regional-scale assessment of tipping points for Mediterranean Coastal Aquifers, *EGU* 2013: 818; HS8.2.5.
6. **Mazi K.**, A. D. Koussis and G. Destouni, Tipping points for seawater intrusion in coastal aquifers under rising sea level, *Navarino Environmental Observatory (NEO): The 2nd NEO Research Workshop: Climate and Environmental Change in the Mediterranean Region*, Costa Navarino, Peloponnesos, Greece, October 26–27, 2012.
7. **Mazi K.**, A. D. Koussis and G. Destouni, Tipping points for seawater intrusion in coastal aquifers - Mediterranean case exemplification, *Navarino Environmental Observatory (NEO): The 2nd NEO Research Workshop: Climate and Environmental Change in the Mediterranean Region*, Costa Navarino, Peloponnesos, Greece, October 26–27, 2012.
8. Destouni G., N. Basu, M. J. Cohen, H. Dahlke, F. Jaramillo, J. Jarsjö, J.W. Jawitz, J. Juston, E.M. Karlsson, A.D. Koussis, S. Lyon, **K. Mazi**, J. Mård-Karlsson, C. Prieto, S. C. Rao, Y. van der Velde and N. Vercauteren, Hydro-Biogeochemical and Environmental-Management Functions of Wetland Networks in Landscapes, *9th INTECOL, International Wetlands Conference: WETLANDS IN A COMPLEX WORLD*, June 3-8, 2012, Orlando, Florida, USA.

9. **Mazi K.**, A sharp-interface analytical solution of sea-water intrusion in sloping coastal aquifers, *Navarino Environmental Observatory (NEO): Ecohydrology and Integrated Water Resource Management Workshop,* Costa Navarino, Peloponnesos, Greece, October 20–26, 2011.
10. **Mazi K.** and A. D. Koussis, Reverse Flood Routing with the Lag-and-Route Storage Model, *12th Plinius Conference on Mediterranean Storms*, September 2010, Corfu Island, Greece.
11. Koussis A. D., **K. Mazi**, S. Lykoudis, and A. Argyriou, Reverse flood routing with the inverted Muskingum storage routing scheme, *12th Plinius Conference on Mediterranean Storms*, September 2010, Corfu Island, Greece.
12. Efstratiadis A., **K. Mazi**, A. D. Koussis and D. Koutsoyiannis, Flood modelling in complex hydrologic systems with sparsely resolved data, *EGU2009*-4157-1; HS5.3.
13. **Mazi K.** and A.D. Koussis, Quantitative assessment of well vulnerability by an efficient 2-D backward transport model, *EGU2008*-A-10433; HS9.1-1MO5P-0275.
14. Georgopoulou, E., Restrepo, P., Kotronarou, A., Koussis, A., **K. Mazi**, Gomez-Gotor, A., Rodriguez, J.J. & Destouni, G., A Decision Aid Tool for the management of coastal aquifers based on sea-intrusion control through recharge with treated wastewater and desalination of brackish groundwater, *EGU2008*-A-12311; IS22 - HS2.1/NP1.05- 1TU2O-005.
15. **Mazi K.** and A. D. Koussis, The 8 July 2002 storm over Athens: analysis of the Kifissos River/Canal overflows, *7th Plinius Conference on Mediterranean Storms*, Creta Island, October 2005.
16. Koussis A. D., **K. Mazi**, S. Lykoudis & A. Argyriou, Groundwater Contamination: Identification of Source Signal by Time-Reverse Transport Computation with Filtering, *EGS - AGU - EGU Joint Assembly 2003*, Nice, France.
17. Restrepo P. J., E. Georgopoulou, **K. Mazi**, A. Kotronarou and A. D. Koussis, Water Supply from Brackish Coastal Aquifers. 1. System Concept; 2. Natural Recharge Estimation; 3. Screening Model for an Optimal Artificial Recharge Strategy, *AGU Hydrology Days 2001*, Colorado State University, April 2 - 5, 2001.
18. Clement C., J.C. Lepine, A. Hirn, M. Sachpazi, **K. Mazi**, P. Charvis and N. Roussos, Ionian Islands Subduction and Transform: Resolving the Crustal Part from OBS and Land Based Local Earthquake and Refraction Recording with Coincident Reflection Seismics, S.17: 2636, *IASPEI 1997*, August 18-28, Thessaloniki, Greece.

Publications for the General Public

Interview to Shannon Palus for *Hakai Magazine,* 2015

Shannon Palus, "Water Wars: Seeping Saltwater is Threatening Our Drinking Water," *Hakai Magazine*, April 22, 2015 http://bit.ly/1aRLsf8

Reports

1. Co-author of the following technical reports for the ***DEUCALION*** Project:

- Koussis A.D. and K. Mazi, *Theoretical documentation of flood forecasting system*, Contractors: ETME Peppas & Collaborators, Grafeio Mahera, Department of Water Resources and Environmental Engineering – NTUA, National Observatory of Athens, 8 pages, September 2014.
- Katsanos D., Koussis A.D., K. Mazi and F. Pierros, *Theoretical documentation of numerical simulation of rainfall*, Contractors: ETME Peppas & Collaborators, Grafeio Mahera, Department of Water Resources and Environmental Engineering – NTUA, National Observatory of Athens, 15 pages, September 2014.

3. Co-Author of "*Flooding in Kephissos from the storm of July 8th 2002: Analysis of the rainfall records and the hydrologic-hydraulic impacts*", September 2006. Report to the court-appointed expert. Scientific Responsible Dr. A. D. Koussis.
4. Co-Author of "*Responsibilities and role of the local administration in the handling of natural disasters*", Section on *Hydrological Disasters and Risks*, Report for the Institute of Local Administration, Athens (2007-2008). Scientific Responsible Dr. A. D. Koussis.
5. Co-author of the following reports for the EU-funded research projects:

   TELEFLEUR

   - D2.1 World Wide Web page
   - D3.1 Report on user requirements analysis
   - D3.2 Command Centre: Specs and 1st Design
   - D3.3 Data Bases: Met/Hydro, monitoring & communications infrastructure
   - D8.1 Reports on Athens Demonstrator (preliminary operations manual), after: a) simulating flood emergencies with historic data (α and β versions); validation with real time flooding
   - D10.1 Final form of Athens Demonstrator, with Appendix, 87 pages, February 2001, submitted to the 13th GD of the EU.
   - Final Project Report, February 2001, submitted to the 13th GD of the EU.

   WASSER – Final Project Report, Environment & Climate Programme, Contract No. ENV-CT97-0459, 171 pages and Appendices (I-VIII) 144, June 2001.

MEMBER OF INTERNATIONAL SCIENTIFIC GROUPS

1. **N**avarino **E**nvironmental **O**bservatory (**NEO**) – Navarino Environmental Observatory, Messinia, Greece, through Stockholm University Team.

2. **G**lobal **W**etland **E**cohydrology **N**etwork: An Agora for Scientists and Study Sites (**GWEN**) – Scientific network for the ecological and hydrological studies of globally significant wetlands.

REVIEWER

Hydrological Sciences Journal

Water Journal

Groundwater for Sustainable Development

DISTINCTIONS

Scholarship (1992), ***State Scholarships Foundation*** (IKY) – *ERASMUS* Fellow of the Commission of European Communities.

LANGUAGES

English – Certificate of Proficiency in English, 03/03/2001

German – Goethe Institut Mittelstuffe, 01/07/1986

COMPUTER SKILLS

HYDROLOGIC/HYDRAULIC MODELS

Precipitation-Runoff Modelling System (PRMS – MMS) USGS

TELESIM – Software for the hydrologic/hydraulic simulation of stream runoff

MAD-PD Solute transport in groundwater

FEFLOW – WASY Software

GEOGRAPHIC INFORMATION SYSTEMS: *MAPINFO, ARCINFO, QGIS*

PROGRAMMING: *VISUAL BASIC (EXCEL), FORTRAN*

SEMINARS - COURSES

23/06 - 03/07/2013	***The Subtropical Frontier: A summer school on climate variability and change in the Subtropics****, Navarino Environmental Observatory, Messenia, GR*
06/09 - 18/09/1998	***Palaeohydrological Methods In Groundwater and Waste Management,*** *British Geological Survey, Nottingham, UK*
28/10 - 23/11/1996	***Wide Aperture Reflection Profiling (WARP), Processing - Inversion - Modelling - Microseismicity Data Analysis,*** *Universitaet Hamburg, Institut fuer Geophysik, Hamburg, DE*
01/10 - 22/12/1995	***Geographical Information Systems (UNIX),*** *National Technical University of Athens, GR*
01/09 - 25/10/1994	***Photointerpretation – Remote Sensing. Analogue and Digital Methods, Techniques and Applications,*** *National Technical University of Athens, GR*
09/1993-01/1994	***Geographical Information Systems (PC),*** *GR*