

**Sustainable Water Management  
Doctoral Programme (Water4All)**



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<b>Title of the PhD Project</b>	Effect of <b>Climate Change on Coastal Aquifers</b> of Aegean and Mediterranean Regions
<b>Acronym</b>	CConCA
<b>Research Fields of the Project</b>	Water resources
<b>Keywords</b>	Groundwater, hydrogeology, climate change, coastal aquifer
<b>Host Institution, Department and Campus Location</b>	Izmir Institute of Technology, Department of International Water Resources Gülbahçe, Izmir, Türkiye
<b>PhD Awarding Institution and Graduate Programme</b>	Izmir Institute of Technology, Department of International Water Resources
<b>Name and Affiliation of Main Supervisor</b>	Prof.Dr. Alper BABA Izmir Institute of Technology,
<b>Name and Affiliation of Co-Supervisors</b>	Prof. Dr. Koray K.YILMAZ, Middle East Technical University Prof.Dr. Orhan GÜNDÜZ, Izmir Institute of Technology
<b>Research Environment and Infrastructure</b>	The selected candidate will have access to the research infrastructure available at Izmir Institute of Technology and Middle Technical University. When a specific instrument or expertise is needed, all other national laboratories will also be contacted.
<b>Scientific Context of the Project</b>	Climatic conditions have a considerable influence on the availability of groundwater resources in the aquifers of coastal regions. The Aegean and Mediterranean regions are likely to be strongly affected by the negative impacts of climate change on water supply. Climate change has the potential to affect groundwater resources in a number of ways, including altering recharge processes and increasing the need to draw from groundwater sources during periods of drought. This may be unacceptable in regions where more frequent and longer periods of drought are expected. It has been observed that groundwater levels in many aquifers worldwide have recently declined due to overexploitation of the resource and the decline in natural recharge. Rising sea levels due to climate change will also pose a threat to aquifers in coastal regions, especially those that are saline due to overexploitation. The aim of this project is to evaluate effect of climate change on coastal aquifers of Aegean and Mediterranean

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	regions.
<b>Brief Workplan</b>	Evaluate climate change on water resources Evaluate effect of climate change on groundwater resources Evaluate effect of climate change on groundwater resources in some Aegean countries Evaluate effect of climate change groundwater resources in some Mediterranean Countries
<b>Innovative Aspects of the Project</b>	The results of the project will contribute to the development of innovative solutions for coastal aquifers. The objectives of this study were to assess the impact of climate change on sea level rise and freshwater recharge rates and to investigate these seawater and freshwater recharge rates on seawater intrusion into coastal groundwater systems using the saturated and unsaturated transport model. The changes in salinity compared to the baseline at the monitoring wells for each scenario were investigated using the numerical model.
<b>Training Opportunities of the Project</b>	Numerous field studies related to the project Visiting organizations working on this issue and examining what they do innovatively
<b>Interdisciplinary Aspects</b>	This project will be carried out with a fully interdisciplinary approach. The project will involve many contacts between climate scientists, civil engineers, hydrogeologists, geologists, environmental engineers and agronomists.
<b>Intersectoral Mobility</b> <input checked="" type="checkbox"/> Short Visit <input type="checkbox"/> Secondment	State Hydraulic Works
<b>Intersectoral Mobility</b> <input checked="" type="checkbox"/> Short Visit <input type="checkbox"/> Secondment	Izmir Water and Sewerage Administration
<b>International Academic Secondment</b>	Villanova University

Main Supervisor							
<b>Brief CV</b>	<p><b>Prof. Dr. Alper BABA</b></p> <p>E-mail: <a href="mailto:alperbaba@iyte.edu.tr">alperbaba@iyte.edu.tr</a></p> <p><b>Academic Degrees</b></p> <table><tr><td>Ph.D. Hydrogeology, Dokuz Eylül University, Türkiye</td><td>2000</td></tr><tr><td>M.Sc. Geological Engineering, Dokuz Eylül University, Türkiye</td><td>1995</td></tr><tr><td>B.Sc. Geological Engineering, Dokuz Eylül University, Türkiye</td><td>1992</td></tr></table> <p><b>Professional Networks</b></p> <p>Google Scholar: <a href="https://scholar.google.com.tr/citations?user=QVgCMkEAAAAJ&amp;hl=en">https://scholar.google.com.tr/citations?user=QVgCMkEAAAAJ&amp;hl=en</a></p> <p>ResearchGate: <a href="https://www.researchgate.net/profile/Alper-Baba">https://www.researchgate.net/profile/Alper-Baba</a></p> <p>Scopus: <a href="https://www.scopus.com/authid/detail.uri?authorId=7201982375">https://www.scopus.com/authid/detail.uri?authorId=7201982375</a></p> <p>ORCID: <a href="https://orcid.org/0000-0001-5307-3156">https://orcid.org/0000-0001-5307-3156</a></p>	Ph.D. Hydrogeology, Dokuz Eylül University, Türkiye	2000	M.Sc. Geological Engineering, Dokuz Eylül University, Türkiye	1995	B.Sc. Geological Engineering, Dokuz Eylül University, Türkiye	1992
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Co-supervisor:							
<b>Brief CV</b>	<p><b>Assoc. Prof. Dr. Koray K. YILMAZ</b></p> <p>E-mail: <a href="mailto:yilmazk@metu.edu.tr">yilmazk@metu.edu.tr</a></p> <p><b>Academic Degrees</b></p> <table><tr><td>Ph.D. Hydrology and Water Resources, Univ. of Arizona, USA</td><td>2007</td></tr><tr><td>M.Sc. Geological Engineering, Middle East Technical University, Türkiye</td><td>1999</td></tr><tr><td>B.Sc. Geological Engineering, Middle East Technical University, Türkiye</td><td>1996</td></tr></table> <p><b>Professional Networks</b></p> <p>Google Scholar: <a href="https://scholar.google.com.tr/citations?user=olbhvrYAAAAJ&amp;hl=tr&amp;oi=ao">https://scholar.google.com.tr/citations?user=olbhvrYAAAAJ&amp;hl=tr&amp;oi=ao</a></p>	Ph.D. Hydrology and Water Resources, Univ. of Arizona, USA	2007	M.Sc. Geological Engineering, Middle East Technical University, Türkiye	1999	B.Sc. Geological Engineering, Middle East Technical University, Türkiye	1996
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	<p>ResearchGate: <a href="https://www.researchgate.net/profile/Koray-Yilmaz-5">https://www.researchgate.net/profile/Koray-Yilmaz-5</a></p> <p>Scopus: <a href="https://www.scopus.com/authid/detail.uri?authorId=56568516600">https://www.scopus.com/authid/detail.uri?authorId=56568516600</a></p> <p>ORCID: <a href="http://orcid.org/0000-0002-6244-8826">http://orcid.org/0000-0002-6244-8826</a></p>												
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