

# OMC



## **Sustainability of Wastewater Recycling and Reuse in Agricultural Irrigation**

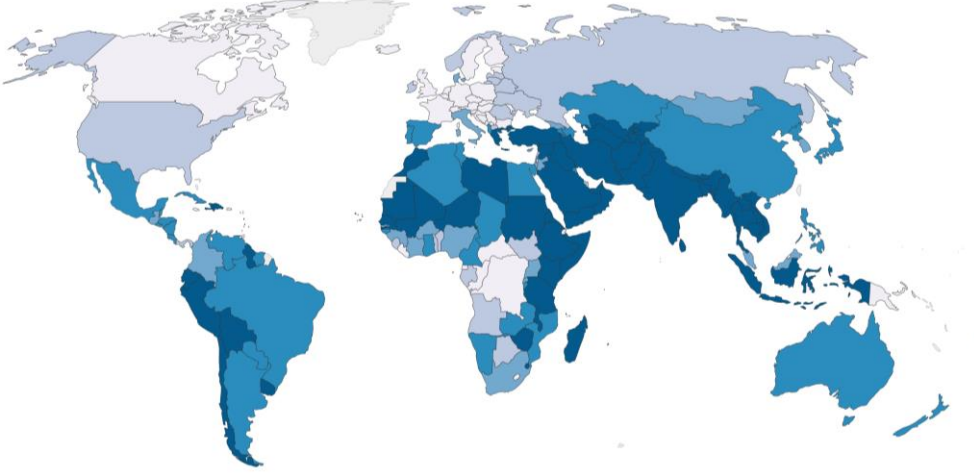
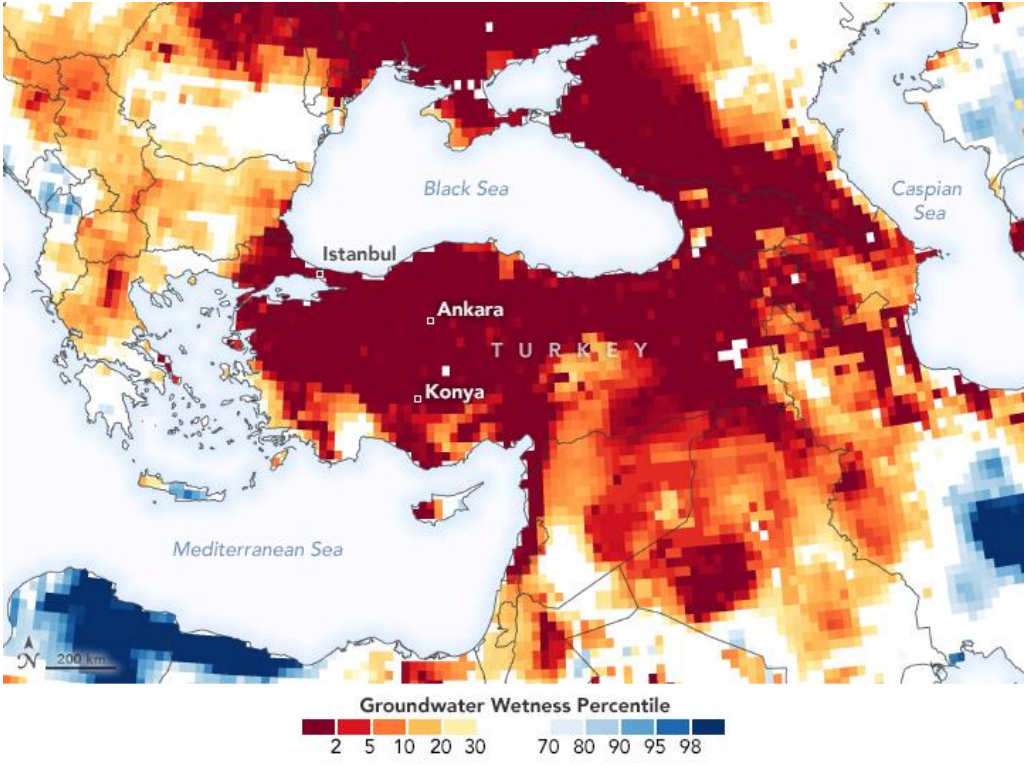
**Bora Okan**

**Credentials:**

**PhD Candidate, M.S., B.S.  
Izmir Institute of Technology**

# Water Scarcity

# Agricultural Water Share



No data 0% 20% 40% 60% 80% 100%

Source: Food and Agriculture Organization of the United Nations (via World Bank)  
OurWorldInData.org/water-access-resources-sanitation/ • CC BY



# Urban Water Circularity





# Aim & Objectives



Ensuring water circularity in urban wastewater



Determining sustainability indices in agricultural irrigation



Establish links between governance, treatment technology, water logistics and irrigation technology



Protection of groundwater and water resources

# Philosophy, Design & Approach



Data Collection and Identification

Q&Q of Treated Wastewater  
Agricultural Water Demand  
Distribution



Defining Indexes

Water Circularity Index  
Carbon Index



Life Cycle Analysis (LCA)

Treated Wastewater  
Groundwater



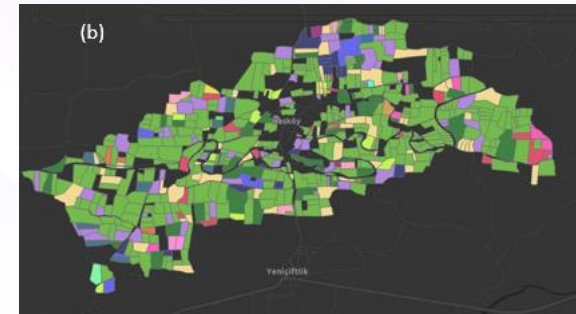
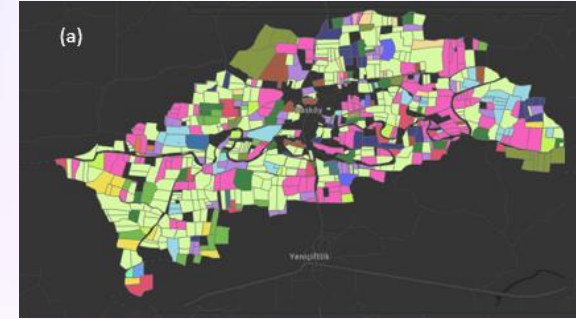
Spatialization (GIS)

Spatial Communication  
Hydraulic Model



Decision-Making Mode

Multi-Sector Water Circularity  
Assessment



# Project Capacity and Summary



Best way to divert TWW



Ensure Water Circularity



Difference observation between  
conventional linear application



Seasonal DM guideline for fate of  
TWW

Thank you for your  
attention



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vakfı

CWT

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