



WATER QUALITY VARIATION IN AN AGRICULTURAL MEDITERRANEAN BASIN UNTIL 2100

D. Malamataris^{1,*}, A. Tsavdaridou¹, D. Banti¹, A. Malliaras², A. Karalis², N. Theocharis³, C. Michos⁴, A. Mazaris¹

¹Department of Ecology, School of Biology, Aristotle University of Thessaloniki, 54636, Thessaloniki, Greece

²Geotexniki, Polytechniou Kefallinias St., 62125, Serres, Greece

³Environmental Studies Company, Georgiou Papandreou St. No. 7, 62125, Serres, Greece

⁴Consulting and Financial Office, Kilikis St. No. 24, 62100, Serres, Greece

(dimalamataris@gmail.com)

SCOPE



Kokkinorema River Basin

The current study examines the temporal change in the quality of surface water systems in the Kokkinorema basin in northern Greece.

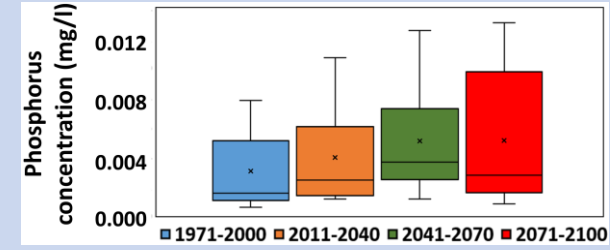
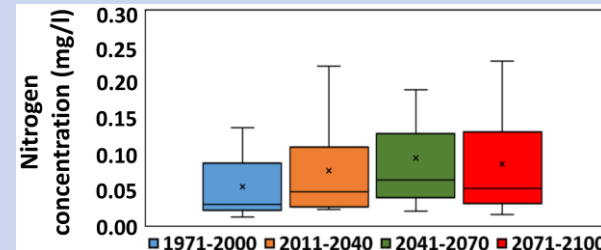
METHODOLOGY

Climate projections until 2100 were derived by the HadGEM2-ES+RACMO22E regional climate model under the RCP2.6 scenario. In addition, projections of phosphorus and nitrogen concentrations produced by the hydrological model E-HYPEcatch were derived by the Copernicus European Earth Observation and Monitoring Program.

RESULTS

Mean annual precipitation is projected to decrease by 3.99% and mean monthly temperature to increase by +2.27 °C in 2071-2100 compared to the historical period.

These changes in meteorological variables are expected to cause an increase of maximum phosphorus and nitrogen concentration at about 67% of current values by the end of the century.



CONCLUSIONS

To mitigate the impacts of climate change on water quality, a better control of excessive phosphorus and nitrogen loads have to be ensured.

ACKNOWLEDGMENTS

This research was carried out as part of the project «Supporting Agricultural Production and Ecosystems Services under the prism of Climate Change» (Project code: KMP6-0219951) under the framework of the Action «Investment Plans of Innovation» of the Operational Program «Central Macedonia 2014-2020», that is co-funded by the European Regional Development Fund and Greece.