The impact of sea level rise on the performence of wastewater drainage systems

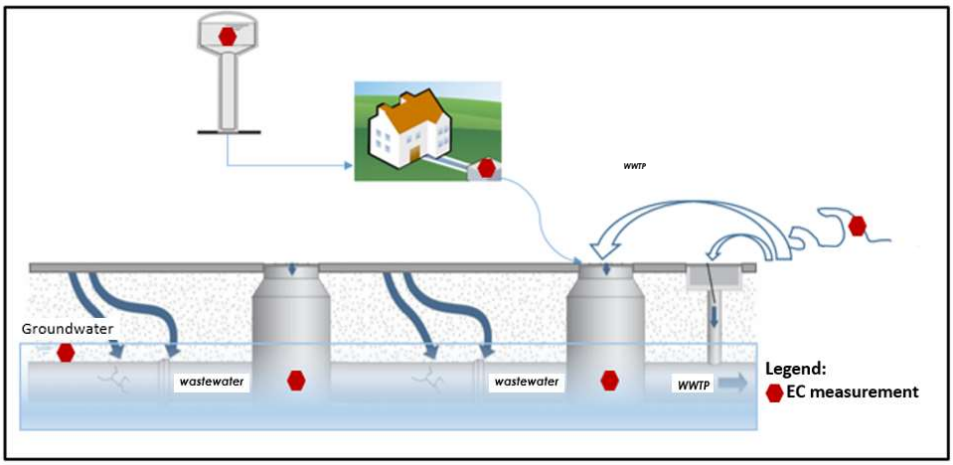
Water stress is increasing and affecting more and more countries, particularly in the Mediterranean and Sub-Saharan Africa. On the other hand, reuse initiatives are not influenced by climate uncertainty and at the same time contribute to the transition to circular economy and to the implementation of Sustainable Development Goal 6 (Water and Sanitation for All). Considering, for instance, that Cape Verde has limited water resources, the reuse of treated effluent for compatible uses, namely for irrigation of green and agricultural lands, becomes very attractive. However, the occurrence of undue saline inflows (USI) in the drainage systems, direct or indirect (e.g., by tidal effects or infiltrations of brackish water), may condition the use of treated effluent.

Within this research work it is our main purpose to characterize, identify and quantify USI in wastewater drainage systems and WWTP using Electrical conductivity (EC) measurements.

Measurements campaingns are made in differente places of the urban water cicle to monitor the variation of EC. (water supply network: public network reservoirs, potable water and water tap in residences / services / industry; drainage system: public network, residences / services / industry discharge and WWTP; sea; water table: wells, boreholes), in order to identify the origin of the USI.

Keywords

Cape Verde, electric conductivity, sanitation drainage systems, reuse, undue saline inflow.



EC measurement in the urban water cycle.

PhD student
Ana Rita Vieira de Castro

PhD program
Climate Change and Sustainable Development Policies (IST, University of Lisbon)

Supervisor
José Saldanha Matos (CERIS, IST, University of Lisbon)

Co-supervisor
Filipa Ferreria (CERIS, IST, University of Lisbon)

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