

Paper at the NBDF7 Webinar

Implementation of decision-making and strategic planning tools on water quality at the scale of the Nile basin. A comprehensive approach to data capitalization, data analysis and modelling of surface water quality in key areas of the Nile basin

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Water quality database

A Web base tool for water quality data management and dissemination









Water quality database

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A Web base tool for water quality data management and dissemination



- **197** water quality stations
 - o 123 for rivers
 - o 79 for Lakes
 - o 7 for groundwater
- 999 samples

- 45 171 Analytical results
- Results are covering data coming from 1978 to 2019
- Most of results are concerning **Rwanda**, **Tanzania**, **Egypt**, **Sudan**, **Kenya and Uganda**
- Spatial datasets has been implemented for Victoria Lake through maps







NILE BASIN INITIATIVE Tactical **Pressure / Impact map** INITIATIVE DU BASSIN DU Management INTEGRATED PRESSURE INDEX MAP NILE BASIN INITIATIVE Representative of water quality coarse map for the Nile basin A global map for highly potential water quality impact LEGEND Cities Nie sub-basin **Direct Pressure:** A pressure 1773 Countries Hotspot score can be considered as direct if the Identification of main driving No significant pressure Very low risk forces of the basin that can emission can be located at a single Low risk impact water quality Potential risk point. Important hotspot score High hotspot score Very high hotspot score Classification of each drinving Diffuse Pressure: A pressure force into « pressure class » can be considered as diffuse if the emission cannot be located at a Spatial computation for Spatial computation for Direct morphological pressure hot single point but more in an area or pressure hot spot a sector Spatial aggregation for Morphological pressure : integrated pressure hot spot A pressure that has modified the bed of the river (low or major) in Comparison with some water quality analysis performed its shape. This type of pressure can affect the quality of water ecosystems and their related ecoservices. THE WORLD BANK QIZ MARS cooperation

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Pressure / Impact map

75% 35% 15% Tactical Management

A global map for highly potential water quality impact



Modeling and planning

QUAL 2K model for Water quality modeling of impacts

Input variables Climate data set **ISSUES** Air temperature Dew point Wind speed. Cloud cover water Hydraulic calibration Initial water quality Width Water quality Head Concentration (mg/lor ug/l) Water quality Velocity model Water level results downstream water quality A water quality control point **Calibration** variables

Strategic

Management



Modeling and planning





