



LAKE WATER MONITORING FOR ANALYSIS OF THE EFFECT OF CLIMATE CHANGE

FOREMS for analysis of the effect of climate change on Nainital lake, Uttarakhand.

Lakes are a reliable source of water that serves in various forms of surrounding localities. Monitoring of lakes becomes vital to analyse various toxic substances that can possibly deteriorate the water quality. Apart from this, the saturation of water constituency changes due to the overall effect of the external climate.

Ministry of Jal Shakti, CEDAR (Centre for Ecology Development and Research), Forest Research Institute, Dehradun and IIT Roorkee

contracted with PTESPL for the critical task of deploying a surface water monitoring system.

The system is both clean and green since no hazardous chemicals are discharged, no emissions are generated and the power charge is produced by an onboard solar system. The system has a charge capacity to operate for multiple days such that the weather conditions are compensated.



Image 1. Installed FOREMS by PTESPL at Nainital Lake

The system is assisted by specially engineered smart sensors manufactured by OPRUSS India Pvt Ltd. The design of the system includes control parameters of low-power algae resistance, interference compensation, robust material, long operational hours, and high-frequency data establishment. The system measures pH, ORP, turbidity, conductivity, temperature, salinity TDS, Resistivity, Specific Conductance, Electric Conductance, Dissolved

Oxygen and many such parameters on a real-time basis. Also, direct data transmission via on-board telemetry system transfers the signals to the Ecolyser dashboard.

Here, Ecolyser, the real-time monitoring software enabled with remote utility operation provides live data on the dashboard. Historical reports and data logs can be availed in a universal format.

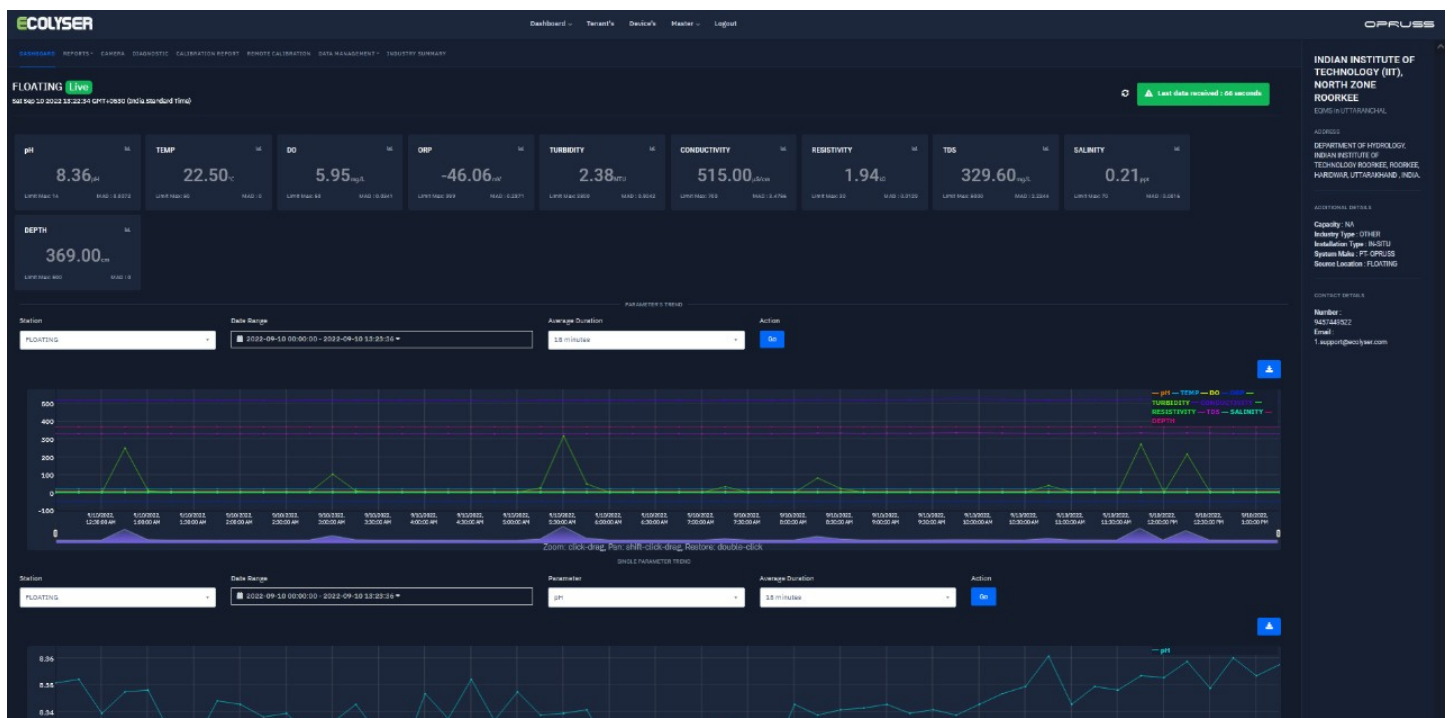


Image 2. Real-time Ecolyser Dashboard

FOREMS at Nainital lake was deployed on June 2022 and has been working effectively. It is one of the most remarkable milestones accomplished by the PTESPL & OPRUSS team.



**Image 3. Representatives of IIT Roorkee and Engineers of PTESPL
after completion of installation**

Special Acknowledgement

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