Development of an Autonomous Sensing Platform for the Detection of Nutrients in Natural Waters.

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Overview

Marine Strategy Framework Directive (MSFD), and other EU policies – Good water Status by 2020 through the use of cost effective monitoring programmes

Monitoring Platforms must be:

- Capable of autonomous function for long periods of time between servicing
- Provide validated analytical data
- Inexpensive to buy and maintain

http://science.gu.se/digitalAssets/1322/1322948_nodularia-blooming_460px.jpg
Nutrient Platform

Individual component testing and validation
Validation of Colourimetric Chemistries
Deployments

River Liffey Water levels

Internal and External Temperature

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>Water Level (cm)</th>
<th>Phosphate (PO₄³⁻) (µM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>-4.5</td>
<td>63</td>
</tr>
<tr>
<td>Maximum</td>
<td>8.8</td>
<td>187</td>
</tr>
<tr>
<td>Average</td>
<td>2.1</td>
<td>115</td>
</tr>
</tbody>
</table>

Nutrient Platform Phosphate (PO₄³⁻) Detection over a 28 day period

636 measurements over 28 days recorded in the River Liffey, Dublin, Ireland.