Project Title: Data aggregation for environmental monitoring

Project Researcher: Caitriona Farrell

Funding Body: Beaufort Marine Awards Internship Programme

Project Summary: Continuously measuring the state of a water body such as a river, lake or estuary, for levels of pollution is an important but difficult undertaking. It requires a comprehensive understanding of the water body, how, when and where water flows in and out of the body, and the likely places and times where pollution may be introduced. This can only really be achieved by using multiple sensing of the water body whereby we use a wide range of sensors and where we combine the different sensor readings to paint a more detailed picture of the status of the water body. In our past work we have created a detailed, real time model of the status of the River Lee in Cork. We combine satellite imaging, rainfall radar, and point sensing for pollution levels at 5 points on the river to determine pollution levels and to predict potential rises in levels at downstream points. The goal of this internship is to work with the PhD researcher who has developed this model of the River Lee and to apply it to another river for which we have sensor readings. The tasks would involve understanding the model as currently developed and applying this to new data sources. The work would mostly be data processing and the intern would need to be self-motivated and have an ability to work independently. An interest in environmental science and strong data processing abilities would be advantageous for this position.