

**CSIRO MARINE LABORATORIES**  
**Report 242**

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**CONSIDERATIONS FOR  
AN UNDERWAY  
BIOGEOCHEMISTRY  
OBSERVING SYSTEM**

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**Edward C. V. Butler (Ed.)**



**CSIRO**

**January  
2005**

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**CONSIDERATIONS FOR  
AN UNDERWAY  
BIOGEOCHEMISTRY  
OBSERVING SYSTEM**

**A report for the CSIRO Wealth from Oceans  
Flagship**

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A task of Wealth from Oceans Project 1.2.1: compiled and authored by Edward Butler after a workshop (6 May 2004) and other contributions.

Considerations for an underway biogeochemistry observing system : a report for the CSIRO Wealth from Oceans Flagship.

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## **Summary**

This report looks at aspects of an underway biogeochemical observing system for the Australian waters: location, frequency, vessels and platforms, instrumentation and ancillary equipment. Evaluating this information, recommendations are made to support two trans-basin (Pacific Ocean) and a single, localised (Tasman Sea/Bass Strait) lines. The latter should be a high-frequency transect to capture shorter term events; a ferry would be an appropriate vessel. Instrumentation suggested to be deployed includes fluorimeters and radiometers, flow analysers for nutrients (and possibly micronutrients) and devices to measure components of the carbon dioxide system. The program of underway measurements must be effectively integrated with other observing system elements (buoys, floats, satellites, etc.).