

CO₂ storage: a solution in the blue?

Since the beginning of the industrial revolution, the release of carbon dioxide (CO₂) from human activities has increased the amount of CO₂ in the atmosphere. A possible solution to slow down atmospheric CO₂ increases is to use the potential of carbon storage by natural resources.



Maerl bed in Loch Sween. Photo courtesy of Nick Kamenos



Nick Kamenos deploying the SeaGuardII DCP at 4.5m depth in the Loch Sween

The Universities of Glasgow and St Andrews in Scotland are studying the carbon storage capacity of red coralline algal beds, which are a globally present and highly calcified type of macro algae. Their complex three dimensional structure hosts a high biodiversity which contributes to the carbon locked up by the deposits. This storage of atmospheric CO₂ by marine ecosystems is known as “blue carbon”.

Given their global distribution, red coralline algae are likely to be promising carbon stores in coastal regions. The understanding of blue carbon storage is still limited by the lack of knowledge regarding the natural variability of carbon assimilation by these systems. This project aims to refine the understanding of blue carbon storage by red coralline algae over multiple timescales using a combination of field and laboratory techniques.

The SeaGuardII DCP is a key component providing a unique opportunity to collect high resolution in-situ multi-parameter data (current profiles, pH, pCO₂, oxygen, conductivity, temperature and tide). Read more about the research project [here](#).

SeaGuardII DCP also available with Dual Head

The SeaGuardII DCP Dual Head is a cost efficient solution combining two 600kHz profiler sensors on the same instrument, which doubles the range for high quality current measurement with up to 160m and gives half the horizontal beam separation (see Figure).

The instrument also has the ability to host multiple water quality sensors including Aanderaa smart sensors placed on the top plate or on a string above/below and third party sensors with analog and serial signal output.



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