

Section: Process and regional studies

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Abstract-Title:

The Surface Ocean CO₂ Atlas (SOCAT) - Coastal Regional group

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Abstract-Text:

Continental shelf seas receive massive inputs of organic matter and nutrients from land, exchange large amounts of matter and energy with the open ocean across continental slopes and constitute one of the most biogeochemically active areas of the biosphere. The coastal ocean hosts between ~15% and ~30% of oceanic primary production and ~80% of oceanic organic matter burial. It also hosts most of the benthic oceanic calcium carbonate (CaCO₃) production, ~20% of surface pelagic oceanic CaCO₃ stock, and ~50% of oceanic CaCO₃ deposition. Hence, carbon flows in the coastal ocean are disproportionately high in comparison with its surface area (~7% of total oceanic surface area). Intense air-water carbon dioxide (CO₂) exchanges can then be expected in the coastal ocean and could be significant for CO₂ flux budgets at regional and global scales.

The aims of the Surface Ocean CO₂ Atlas (SOCAT) project are to produce a:

1. 2nd level quality controlled global surface ocean fCO₂ data set
2. Gridded SOCAT product of monthly surface water fCO₂ means, with no temporal or spatial interpolation (i.e. bin averages).

Here we present the activities of the regional group that will deal with data available in the SOCAT database in coastal waters.