

## Observing Baltic Sea exchanges: results from a new multi-platform autonomous observatory

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The Skagerrak and Kattegat are a narrow and shallow channel separating the North Sea and Baltic Sea. This highly dynamic area plays a key role in transforming water masses which flow into and oxygenate deep regions of the Baltic. This site is also a region of important carbon export, through advection down into and out of the Norwegian Trench. This rich and productive ecosystem is strained by intensive human activity and shows strong coupling between biological and physical processes at a range of scales.

We present data from a new autonomous observatory funded by the Voice of the Ocean Foundation. We compare data obtained from two underwater gliders and autonomous surface vehicles with that collected through historical monitoring programmes. Empirical variograms highlight the strong coupling between biological and physical parameters and the prevalence of small-scale processes not usually resolved in this region. We also present event-scale case studies showing variability in the coastal current and small scale export events. Finally, we outline the technical infrastructure and innovations of the Voice of the Ocean observatories and how to access its open data.

Foundation website and contact details: <http://www.voiceoftheocean.org>