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## **Eight years of continuous Rockall Trough transport observations from moorings and gliders**

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The Rockall Trough (RT) is a key pathway for warm and salty water flowing northward, a process which plays a key role in dictating the western European climate. The picture of the mean circulation and variability in the RT is still emerging, as the record of continuous transport observations has only recently been extended to eight years. Here, for the first time, we present the temporally extended record of RT volume, heat and freshwater transports. An important feature of the RT circulation is the European Slope Current (ESC) which is poorly constrained by ship-based, mooring, and satellite observations. To tackle this, we gathered around 150 glider transects over 3 years which capture the ESC velocity field in unprecedented detail. The data are sufficient to characterise both the mean state and the emergent seasonal variability of the ESC and reveal the year-round presence of a southward countercurrent at depth. Variability in the strength and structure of this previously unstudied feature modulates net northward transport in the eastern boundary current system.

### **Topic**

Value of AMOC observing –what have we learned?

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