

# 8<sup>th</sup> EGO Meeting and International Glider Workshop

Presented by  
**UG<sup>2</sup> / EGO**

May 21–23, 2019  
Rutgers University, New Jersey

## Observations of shelf-deep ocean exchange at Cape Hatteras

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### Abstract (Oral Presentation)

The area around Cape Hatteras, NC is a region of intense exchange between the continental shelf and deep ocean. Convergence of shelf waters from the Middle Atlantic Bight and South Atlantic Bight results in net export of shelf waters, while the nearby Gulf Stream and variable atmospheric forcing modulate the location and sign of instantaneous flow across the edge of the continental shelf. From April 2017 through April 2019, Spray gliders continuously surveyed along the upper continental slope north of Cape Hatteras as part of the 'Processes driving Exchange At Cape Hatteras (PEACH)' program. Gliders returned more than 80 transects between the northern edge of the Gulf Stream and just south of Norfolk Canyon (a distance of about 140 km), as well as more than 50 transects across the shelfbreak front and outer shelf near Norfolk Canyon. These observations are used to examine the mean and variability of exchange between the shelf and deep ocean through two complete annual cycles.