

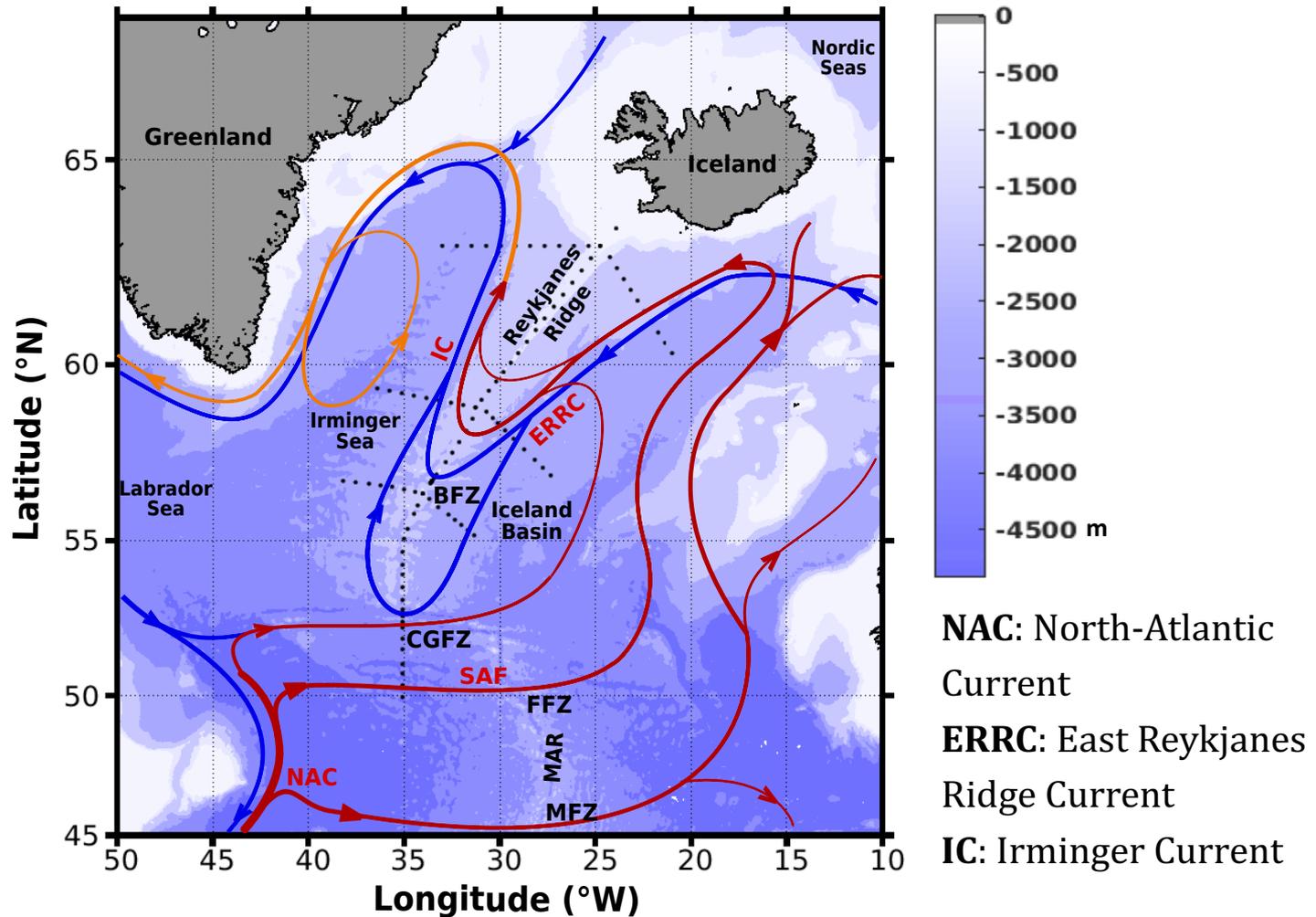
New Insight Into the Formation and Evolution of the East Reykjanes Ridge Current and Irminger Current

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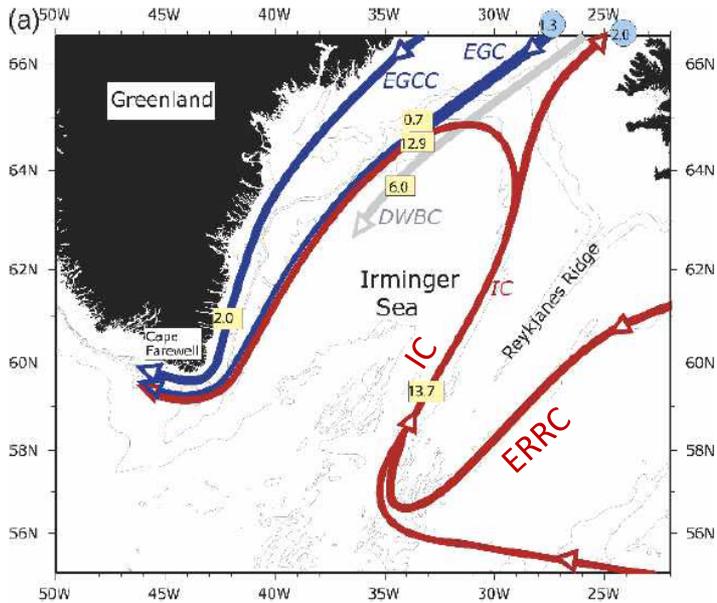


Large scale oceanic circulation

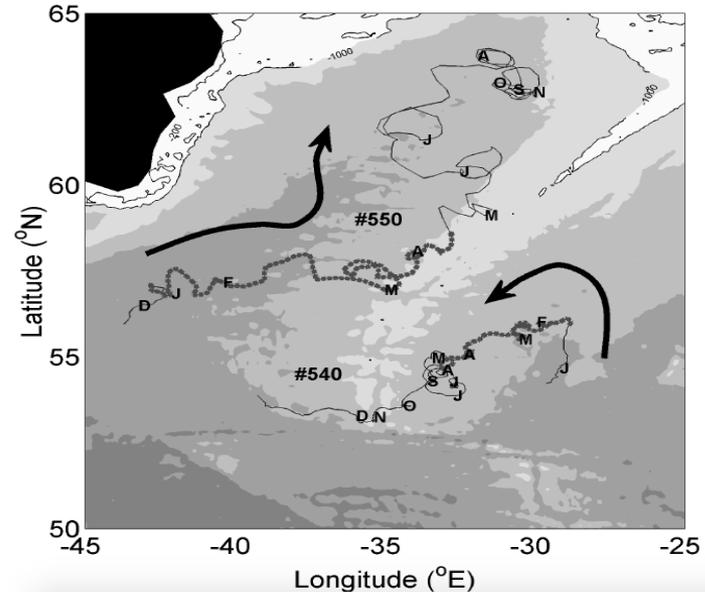


Patchy observations

ERRC and IC, continuous vein of currents?



Pickart et al. (2005)

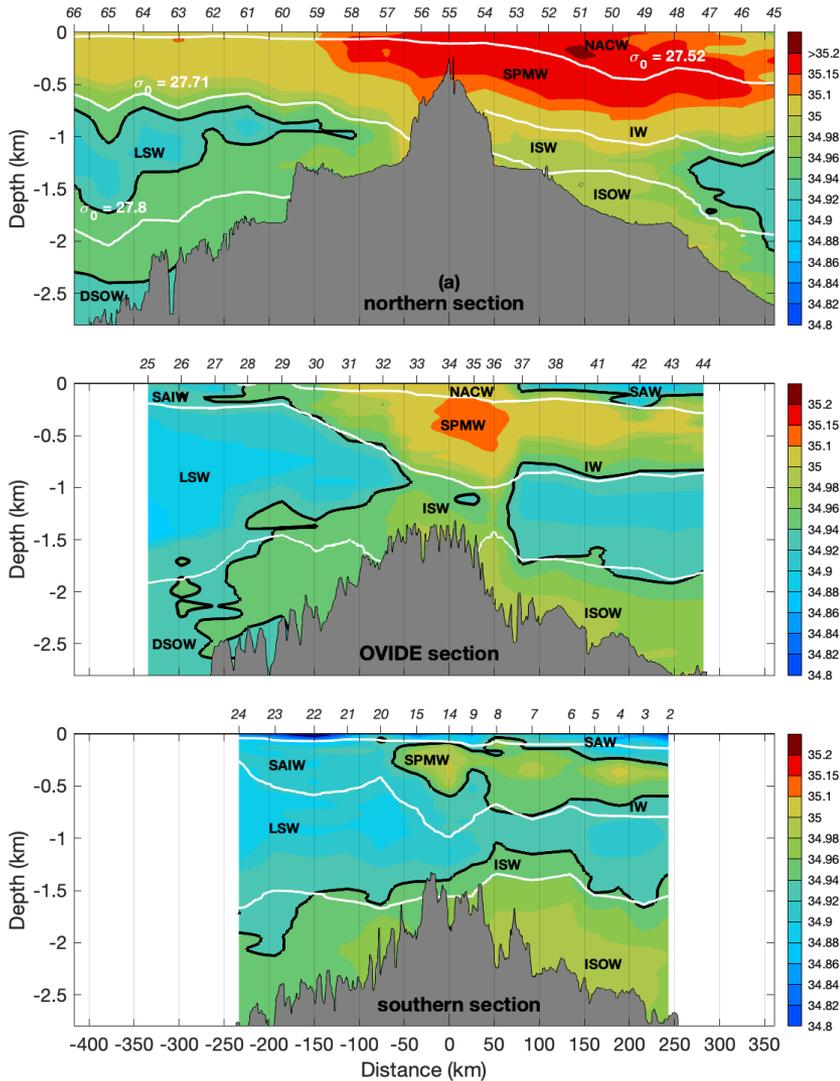


Lazarevich et al. (2004)

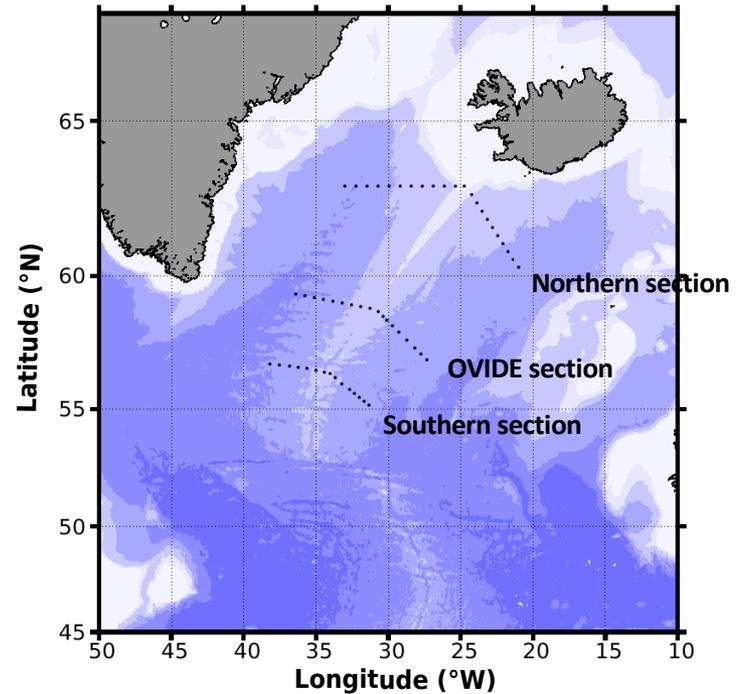
Q.1 What is the large scale circulation, from the surface to the bottom, and the intensity of the flow around and across the Reykjanes Ridge?

Q.2 How the ERRC and IC evolve along the ridge? How are they connected each other as well as with the circulation in the interior of the Iceland Basin and Irminger Sea?

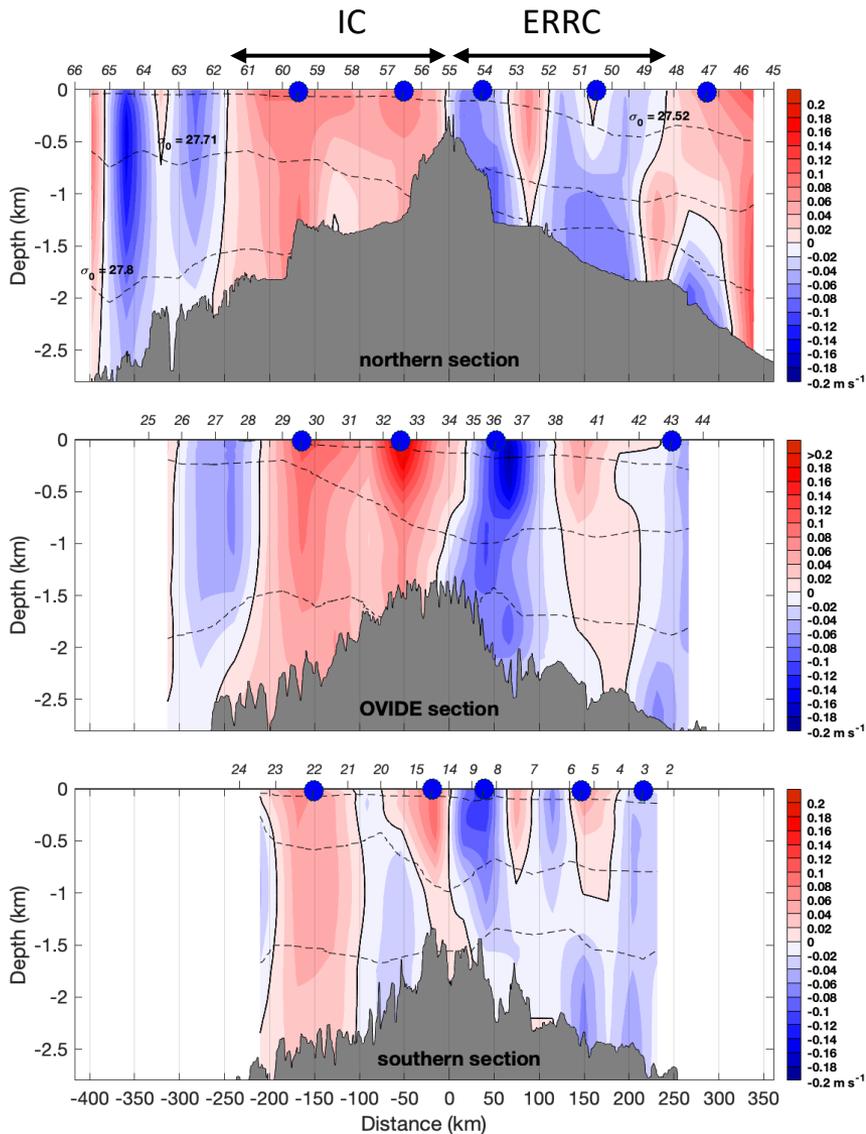
Latitudinal evolution of the ERRC and IC



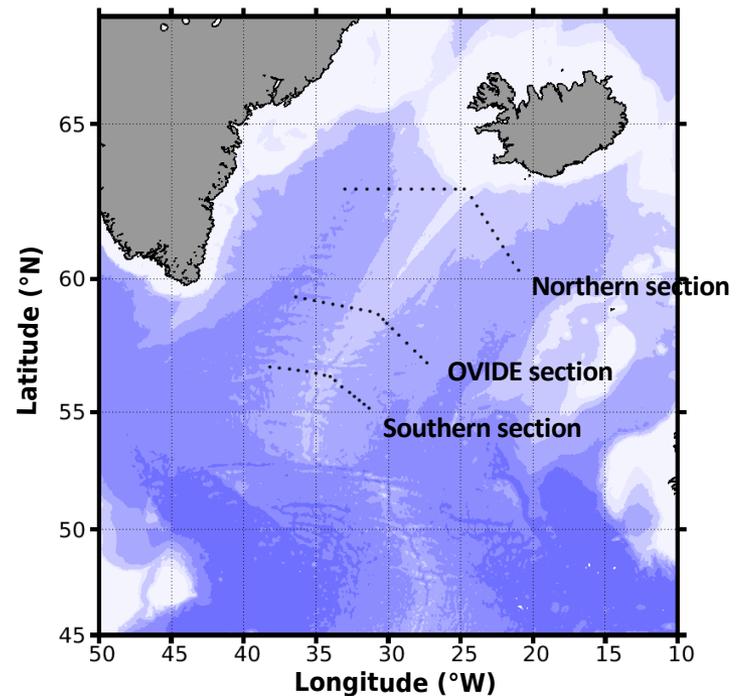
Hydrological sections were carried out by the RREX2015 cruise in June–July 2015 with Ship-ADCP (S-ADCP) and Lowered-ADCP (L-ADCP) velocity measurements



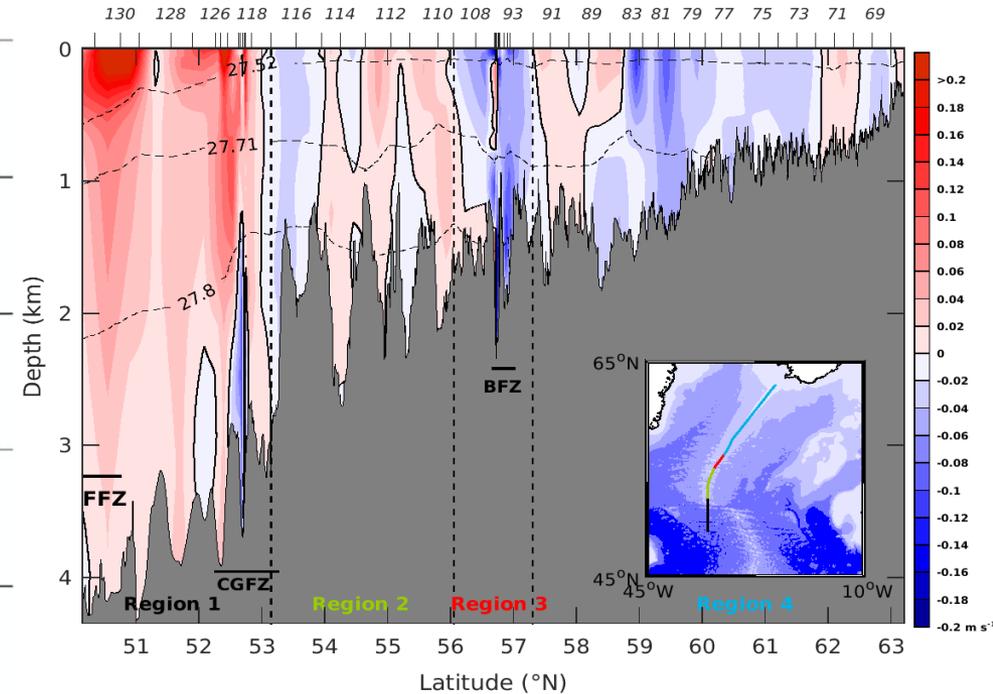
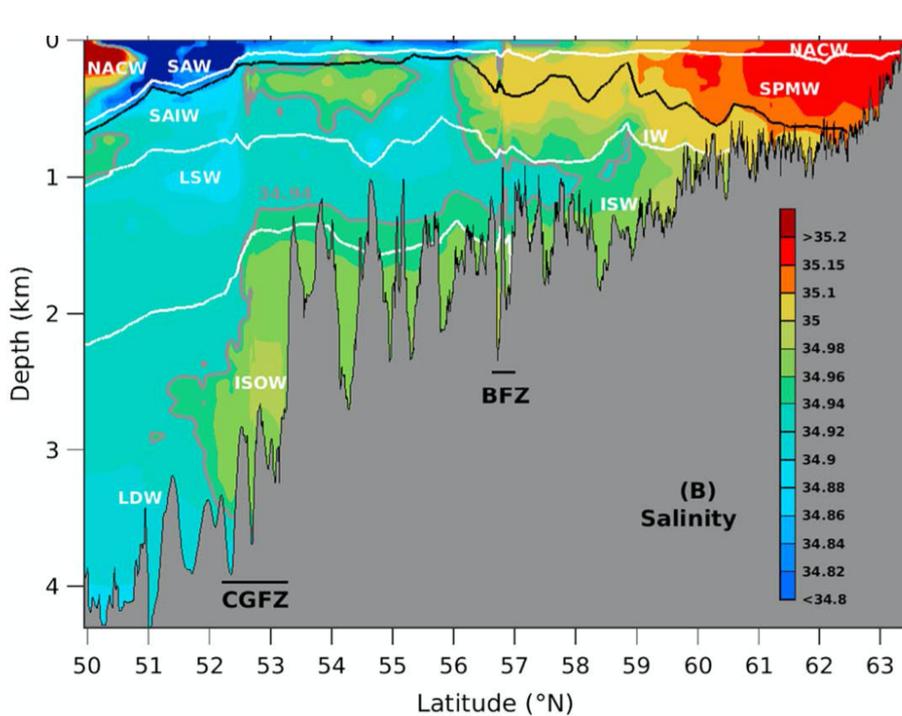
Latitudinal evolution of the ERRC and IC



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Latitudinal evolution of the cross-ridge flow

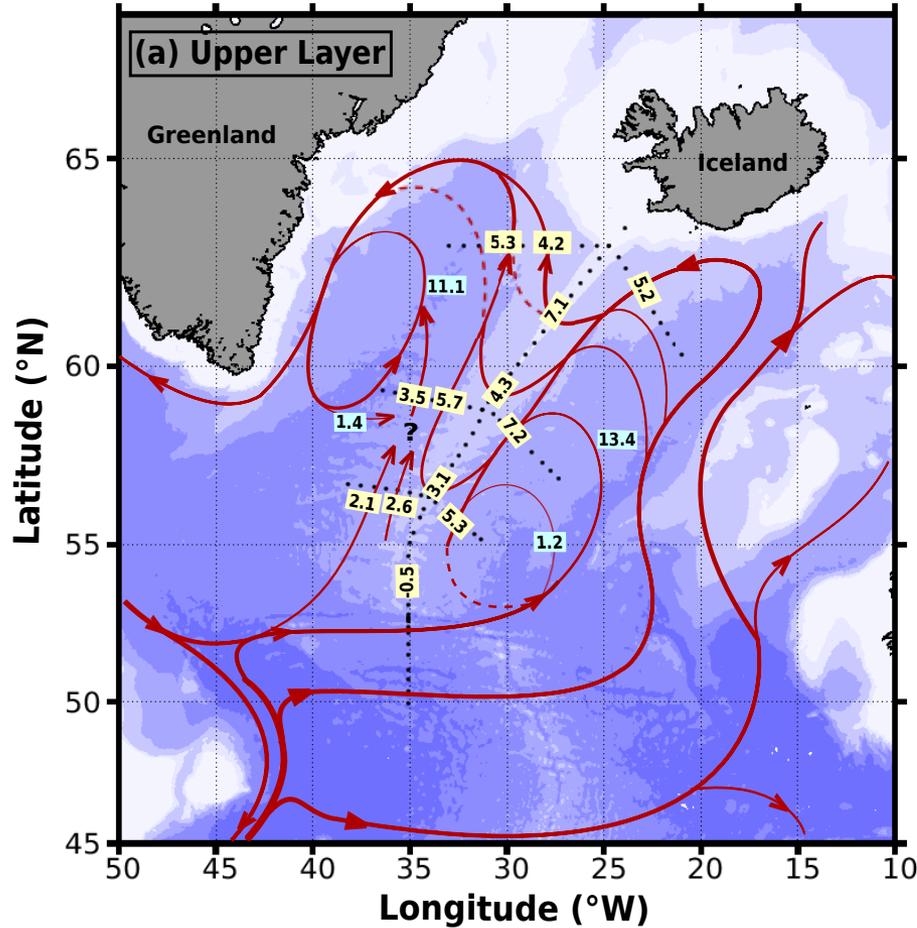


Section along the top of the Reykjanes Ridge described by:

Petit, T., Mercier, H., & Thierry, V. (2018). First direct estimates of volume and water mass transports across the Reykjanes Ridge. *Journal of Geophysical Research: Oceans*, 123. [https://doi.org/ 10.1029/2018JC013999](https://doi.org/10.1029/2018JC013999)

Conclusion

New vision of the circulation in the vicinity of the Reykjanes Ridge



- This new data set reveals undocumented along-stream evolutions of the ERRC and IC properties, structures, and transports.
- These evolutions are due to flows connecting the ERRC and IC branches at specific locations set by the bathymetry of the ridge and to continuous and significant connections with the interiors of the basins.

Petit, T., Mercier, H., & Thierry, V. (2019). New Insight Into the Formation and Evolution of the East Reykjanes Ridge Current and Irminger Current. *Journal of Geophysical Research: Oceans*, 124. <https://doi.org/10.1029/2019JC015546>