

INTRODUCTION

Southeast of Greenland, freshwater of Arctic and Greenlandic origin enters the subpolar North Atlantic, flowing southward alongside warm, salty water of subtropical origin offshore. The water mass properties at the boundary are thought to propagate into the interior of the Irminger and Labrador Seas¹, where they can impact deep convection and the overturning circulation. The initial two years of OSNAP² mooring data (2014-2016) provided the first glimpse into the seasonality of freshwater in the complete East Greenland Current system.



MEAN STATE

Time mean sections at OSNAP Cape Farewell moored array. Two distinct velocity cores are apparent: The coastal current (EGCC) on the shelf, measured by CF1-CF2, and the slope current (EGIC) offshore, from CF2-M1. Water on the shelf is very fresh and cold, and there is a wedge of high salinity, warmer water offshore. The water column is salinity stratified on the shelf and temperature stratified offshore.



SEASONALITY OF FRESHWATER IN THE EAST GREENLAND CURRENT SYSTEM

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TRANSPORT SEASONALITY



WIND FORCING



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SEASONAL PROPERTY SHIFTS

Top right: Overall, the warmest and some of the freshest waters are observed in fall. In winter, the coldest waters

Above: Water mass properties on the slope "transition zone". Arrows on TS diagram show: From fall to winter, the

al. 2018 [-1/68](JPO), EGIC: Pickart et al. 2005 [12.9/0.7](JPO), Daniault et al. 2011 [17.3](JPO), ⁴Dee et al. 2011 (QJRMS)

