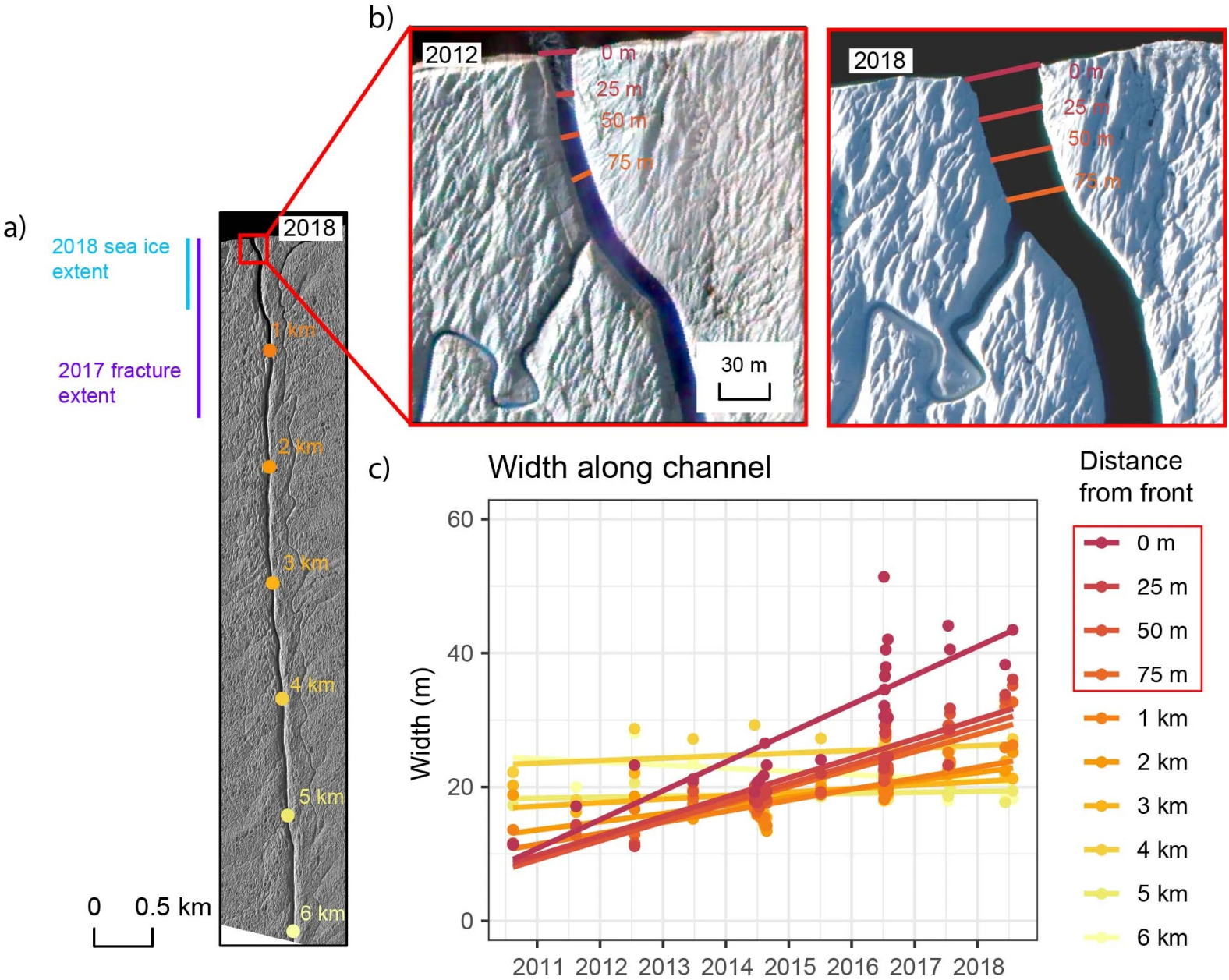
Extended Data Fig. 3: Evidence for change at the mouth of the estuary.

From: Development of ice-shelf estuaries promotes fractures and calving



a Location of wetted width measurements at 1 km increments along the Petermann river set against pan-chromatic WorldView-2 image (30 August 2018). Blue line denotes the maximum extent of sea ice found in the channel, (24 July 2018). Purple line denotes the maximum extent of

the longitudinal fracture (25 July 2017). Red box shows the location of Extended Data Fig. 3b. **b** The mouth of the Petermann estuary widened from 2012 (left) to 2018 (right). Left panel: 2012 image with river widths shown as colored lines at 25 m increments from the ice-shelf front (QuickBird image July 19th). Right panel: 2018 image with river widths at 25m increments as in left panel. The estuary is approximately three times wider in 2018. **c** Wetted width measurements along channel from 2010 to 2018. The channel widens at the mouth of the estuary and within 2 km from the ice-shelf front. Width measurements (points) and trendlines are colored by locations marked in Extended Data Fig. 3a,b. Fracture growth and flow reversal evidence are coincident with this widening as shown in **a**. Credit: a,b (left): (2012, 2018) DigitalGlobe, Inc.

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