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Title: *Summertime Observations of the Mackenzie River plume over the Canadian Beaufort Shelf, 2005-2009.*

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In summer, the Mackenzie River outflow forms a large, turbid and brackish river plume over the Canadian Beaufort Shelf that is 6-8m thick. Satellite imagery shows the plume to be irregular and complex, containing many fronts, eddy-like features and swirls. The Nahidik program from 2005 to 2009 was able to collect 10 cross-shelf hydrographic sections that ran from near the delta to close to the shelf-break which together display these features and the interannual variability of the plume. We show these sections and relate them to the large-scale wind-forcing over the Canadian Beaufort Shelf.