



Tea-Colored Rupert Bay Canada

Remote Rupert Bay is a place where the majesty and dynamism of fluid dynamics is regularly on display. With several rivers pouring into this nook of James Bay, the collision of river and sea water combines with the churn of tides and the motion of currents to make swirls of colorful fluid.

As they wind through the boreal forests and wetlands of northern Quebec, the rivers that flow into Rupert Bay carry water stained brown with natural chemical substances found in plants. Tannins and lignins from roots, leaves, seeds, bark, and soil can leach into the water and give it a yellow, brown, or even black color. (The same process gives tea its dark color.) Note that the colored plumes and intricate vortices around the islands are pointing inland—an indicator that the tide was likely coming in, or that northwesterly winds were affecting the flow of the water.