



## Mackenzie Meets Beaufort Canada

The intersection of Canada's Mackenzie River and the Beaufort Sea is beautiful, and it is also important to the health of the Arctic ice cap. Research has shown that fresh water flowing from rivers into the Arctic Ocean can have a significant effect on the extent of sea ice cover. Warm-water discharges can accelerate the melting of sea ice near the coast. It also can create more open water, which is darker than ice and absorbs more heat from sunlight.

In the image, tan and brown water masses show up on both sides of the sea ice that crowds the shoreline of the river delta. A massive pulse of warm river water—colored by sediments and organic material flowing out from the Canadian interior—flows right under the ice. The pulse raised offshore water temperatures across hundreds of kilometers and seemed to contribute to the melting and dispersal of nearby sea ice.