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BENEMELT: Melting ice shelves in East Antarctica

Ice shelves are the floating extensions of the ice sheet, and aid to keep the ice upstream in place. When future climate becomes warmer, however, increasing surface melt on these shelves will destabilize them.

This enhances the probability of increasing ice loss from Antarctica and subsequent sea level rise. In this project, we want to understand how much snow melts currently on these ice shelves, by how much that melt will increase in the future, and how that will impact ice shelf stability. To that end, we will observe the weather on these ice shelves, measure the amount of surface melt from the ground and from satellites, and analyze how snow characteristics change in response to melt.

All these observations will be combined to improve climate models, which will provide an estimate of present-day and future surface melt on the East Antarctic ice shelves. The BENEMELT project will bring together climate researchers from Belgium and The Netherlands.