

Marine Ice in Larsen Ice Shelf

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It is argued that Larsen Ice Shelf contains marine ice formed by oceanic freezing and other mechanisms. Missing basal returns in airborne radar soundings and observations of a smooth and healed surface coincide downstream of regions where an ocean model predicts freezing. Visible imagery suggests that marine ice currently stabilizes Larsen C Ice Shelf and implicates failure of marine flow bands in the 2002 Larsen B Ice Shelf collapse. Ocean modeling indicates that any regime change towards the incursion of warmer Modified Weddell Deep Water into the Larsen C cavity could curtail basal freezing and its stabilizing influence.