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Seasonal Mixing Processes in an Arctic Fjord System

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ABSTRACT

Studies of water movement in the Aafardlikavsâ/Qaumarujuk fjord system in West Greenland have been carried out in order to understand the movement of mine tailings discharged into Agfardlikavsâ Fjord. Observations are explained in terms of resonance of the internal tide, deep convection associated with sea ice growth, and basin water exchange occurring at the time of ice breakup in early summer. Mixing processes are dominated by these events, illustrating the limitations of any seasonal description based on conventional diffusive processes.

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