



The Cape Tobin Jet

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In northerly flow, a strong jet close to Cape Tobin in E-Greenland is frequently simulated in numerical weather prediction models. To the extent that the late-summer absence of sea-ice permits, Quik-SCAT observations confirm the presence of this jet.

During the IPY/THORPEX and GREENEX campaigns in March 2008, observations were made of the Cape Tobin jet with a number of dropsondes. The core of the jet with maximum wind speed of about 45 m/s was located at a strong inversion at about 1 km above the sea ice. The inversion slopes and is at a lower level away from Greenland than closer to the coast. A part of the Tobin jet impinges on the more than 2 km high topography of E-Greenland and flows over it in spite of high static stability. The associated mixing leads to cooling of the layers between 1 and 2 km and the downstream flow at these levels may be characterized as “cold foehn”.