

## ***Interactive comment on “Increasing runoff from the Greenland Ice Sheet at Kangerlussuaq (Søndre Strømfjord) in a 30-year perspective, 1979–2008” by S. H. Mernild et al.***

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To show the interest of this paper compared to previous simulations made by the same authors over the whole GrIS ( Mernild et al., J. of Hydro., 2009), I suggest

1. to compare the results of the simulation presented in this paper (forced by the K-transect measurements) with results of the simulation made by Mernild et al. (2009) for the same area. I think well that the previous simulation does not include the K-transect measurements as forcing fields.
2. to validate the SMB simulated here and the one coming from the previous sim-

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ulation made for the whole ice sheet by Mernild et al. (2009) with the SMB measurements made along the K-transect by IMAU from 1990. Part of these measurements are available <here>.

In addition, it should be noted that this paper confirms previous results made by the MAR model showing that i) the SMB variability in the Kangerlussuaq area explains the SMB variability of the whole ice sheet with a correlation of near 0.9 (Fettweis, 2007, TC, Fig.3c) and ii) the total ice sheet runoff is directly proportional to the satellite-derived melt extent (Fettweis et al., 2006, CliDy).

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Interactive comment on The Cryosphere Discuss., 4, 321, 2010.

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