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Interactive comment on “Melt ponds on Arctic sea ice determined from MODIS satellite data using an artificial neural network” by A. Rösel et al.

A. Rösel

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Dear Elizabeth,

thank you for your comment and the helpful remarks. Of course, I will consider your points in the final version of the publication and describe the data more precise.

To clarify your questions: 1) You are right, the "melt pond fraction" given e.g. in Figure 6 is the fraction of a grid cell. For further analysis (but not described in the paper yet), I combine the melt pond fraction of a grid cell with the sea ice concentration of the grid cell - this results in a relative melt pond fraction on the sea ice. For validation with the MELTEX data, we choose only aerial photos with a open water fraction < 15 %, therewith we assure to compare only ice covered grid cells with melt ponds on a

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compact ice cover. Regarding the two other validations, I need to think about it again.

2) Yes, "entire Arctic" in Figure 6 is, as you guessed correctly, all ocean areas northwards 60 deg N, including ice AND open ocean, excluding land. I will give a proper definition in my final version.

Best regards,

Anja Rösel

Interactive comment on The Cryosphere Discuss., 5, 2991, 2011.

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