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## Detection of Melt Pond in the Arctic

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Once ice area decrease by the ice-albedo feedback effect, it depends and absorbs short wave radiation because the open water increase, and reflectance falls and promotes melting. This becomes important to understand arctic climate change. In recent years, a number of melt pond is molded in arctic sea ice surface with arctic sea ice area decrease. There seems to be promotes melting, and absorption of the sunlight on the sea ice increases by a feedback effect when rate of melt pond on the sea ice increase.

This study analyzed melt pond and ice concentration distribution by using icebreaker in situ data in the Arctic Ocean by American observation project HOTRAX2005 from August September in 2005, by a Chinese observation team August 9 from September 4 in 2008, by observation project JOIS2009 of Canada from September 17 to October 15 in 2009. Sea ice and melt pond distribution was obtained by the front camera image on boated on icebreaker.

The result are shown in figure. In 2005, the highly ice-covered area(over 90%) successively seen from 78N to 84N of section and melt pond is formed to Arctic center neighborhood. In 2008, latitude is the higher, the increaser tendency ice concentration, but the highly ice-covered area is not seen. In comparison with 2005, melt pond develops, and sea ice melting to developing. In 2009, melt pond is not almost seen because there was observation of after the freeze began.

Keywords: Detection of Melt Pond in the Arctic