Development of Arctic Route Search System on ADS

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The aim of this study is to build the Arctic Route Search System in order for everyone can easily search optimum navigation route. This system is constructed on ADS (Arctic Data archive System) based on the research products by Arctic Sea Route research group (Yamaguchi laboratory in the University of Tokyo) in ArCS project. In this application, we estimate a sea ice situation and a navigational difficulty from Ice Index based on sea ice concentration and sea ice thickness. A* search algorithm is adopted as search algorithm which select a route with smallest navigation cost among the possible route.
In the present system, because AMSR2 satellite data is used as input condition, route prediction cannot be performed. We are improving the system to use sea ice forecast model TOPAZ4 dataset for input condition, and expect to predict a navigation route for a time period up to 10 days.

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