Outlook of 9/2009 sea ice in the Northwest Passage region from 7/1/2009

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This outlook from July 1, 2009 shows that more of the Northwest Passage (NWP) is ice free in September 2009 (Figure 1) than the outlook from June 1 (Figure 2). The ensemble predictions are made by the Pan-arctic Ice-Ocean Modeling and Assimilation System (PIOMAS), which is forced by NCEP/NCAR reanalysis data and assimilates satellite ice concentration data. The ensemble consists of seven members each of which uses a unique set of NCEP/NCAR atmospheric forcing fields from recent years, representing recent climate, such that ensemble member 1 uses 2002 NCEP/NCAR forcing, member 2 uses 2003 forcing, …, and member 7 uses 2008 forcing. Each ensemble prediction starts with the same initial ice–ocean conditions on 6/1/2009. The initial ice-ocean conditions are obtained by a retrospective simulation that assimilates satellite ice concentration. Ensemble median is considered to have a 50% probability of occurrence and taken as the outlook product. More details about the prediction procedure can be found in Zhang et al. (2008) http://psc.apl.washington.edu/zhang/Pubs/Zhang_etal2008GL033244.pdf.

Figures 1 and 2 are compared below:

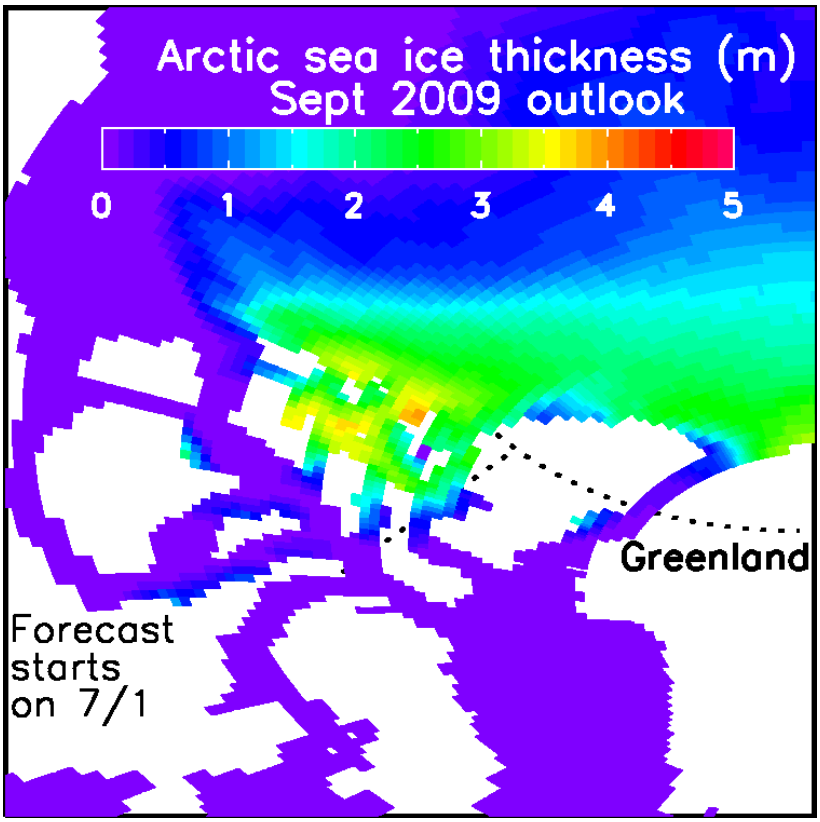

Figure 1. Ensemble prediction of September 2009 sea ice thickness in the NWP region. Prediction starts on 7/1/2009.

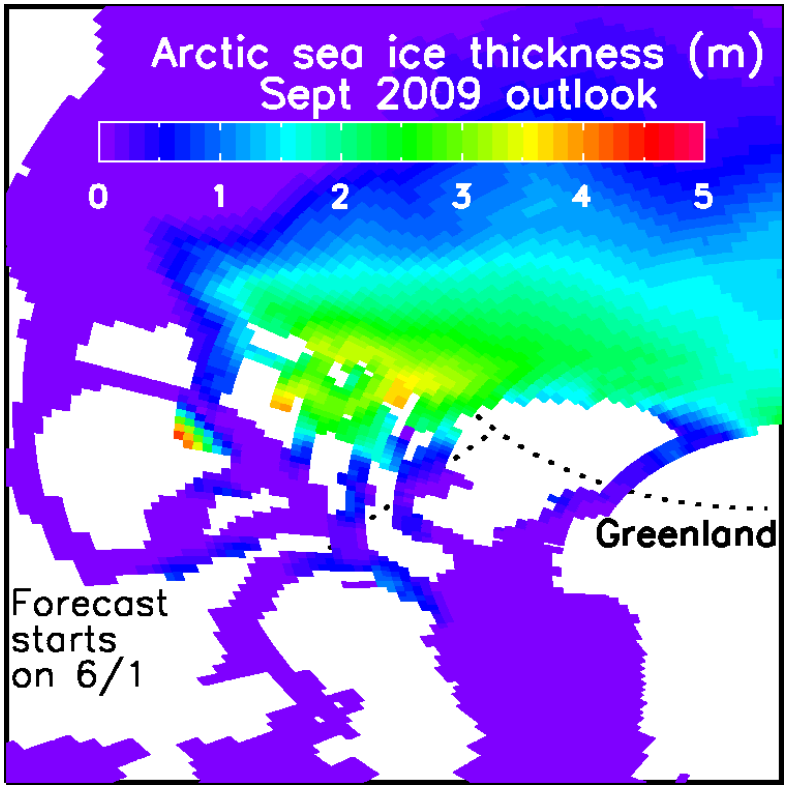

Figure 2. Ensemble prediction of September 2009 sea ice thickness in the NWP region. Prediction starts on 6/1/2009.