

# Sea-ice Outlook for Summer 2009

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## 1 Extent Projection

Our guess of the September monthly mean Arctic sea-ice extent based on July atmospheric conditions is  $4.4 \pm 0.5$  millions  $km^2$ . With JRA25 July 2009 forcings, the model produces less ice loss than those predicted using May and June data. However, there is a systematically higher sea-ice extent of approximately 0.9 million  $km^2$  in our model results when compared with that from SSMI for both June and July of this year (Fig. 1). A closer look shows that the model over-estimates sea-ice extent in the Laptev, Kara, and Barents Sea, consistent with what Kauker et al. reported last month in their report. We correct this month estimate by 0.9 million  $km^2$  to arrive at  $4.4 \pm 0.5$  millions  $km^2$ .

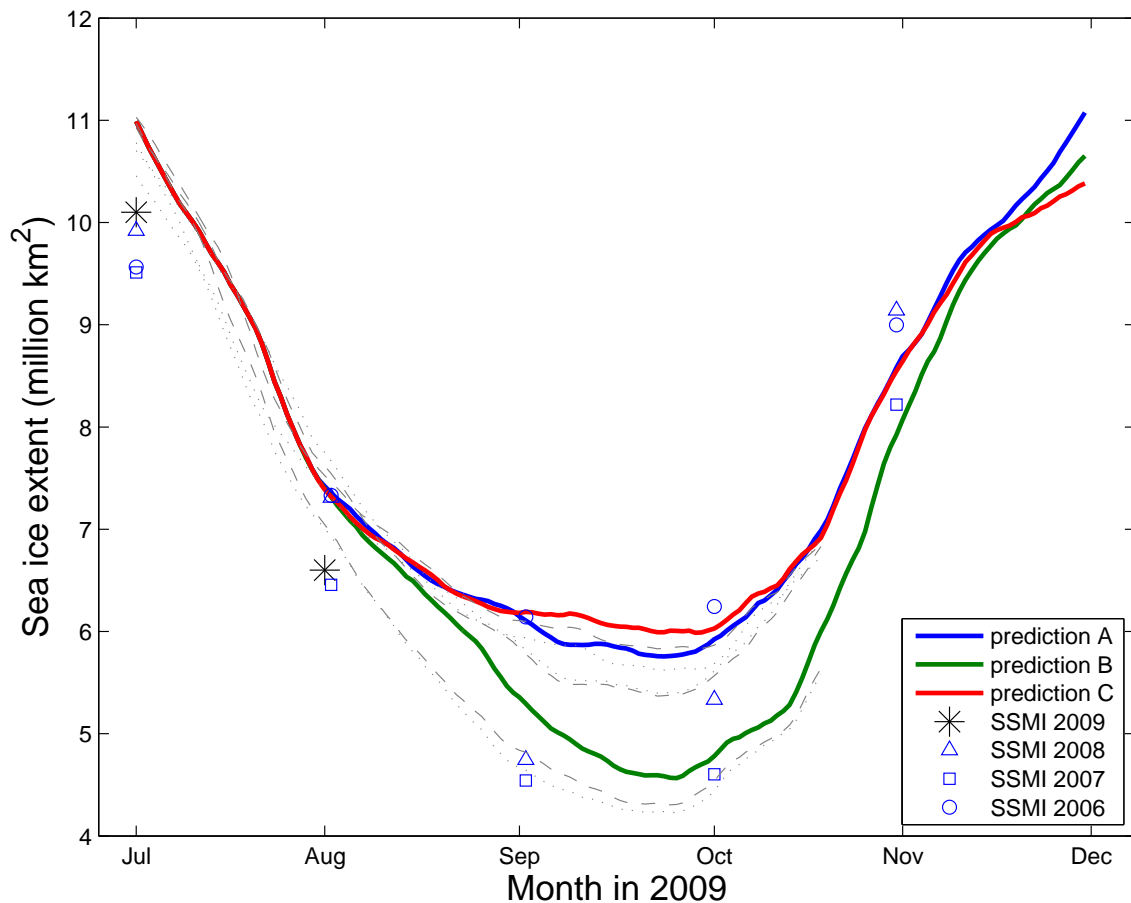


Figure 1: September 2009 sea-ice extent predictions based on 2008 (Prediction A), 2007 (Prediction B), and 2006 (Prediction C) atmospheric forcings beginning in July 26. Predictions based on June and May data are shown in dashed (June) and dotted (May) thin gray lines. The model over-estimates July sea-ice extent for 2009 by approximately 0.9 million  $km^2$  when compared with daily SSMI data from the National Snow and Ice Data Center (NSIDC). Our estimate of  $4.4 \pm 0.5$  millions  $km^2$  is the mean and spread of predictions A and B adjusted for the 0.9 million  $km^2$  model bias.