Outlook of September 2013 sea ice extent based on operational NCEP CFSv2

Wanqiu Wang, Robert Grumbine, and Xingren Wu

(NOAA/NWS/NCEP)

1 Arctic sea ice extent projection for September 2013
$(4.4\pm0.5)\times10^6$ km^2

2 Methods/Techniques
The outlook is based on a CFSv2 ensemble of 40 members initialized from May 24-Jun 2, 2013. The model's systematic bias, forecast RMS errors, and anomaly correlation kill are estimated based on its historical forecasts for 1982-2012.

3. Rationale
The CFSv2 has shown long-term decrease of sea ice extent during the past 3 decades, as in the observation. The CFSv2 was also found to have some skill in predicting year to year variability at seasonal time scales.

4. Executive Summary
The projected Arctic sea ice extent from CPC based on NCEP ensemble mean CFSv2 forecast is 4.4×10^6 km^2 with an estimated error of $\pm0.5\times10^6$ km^2.

5. Estimate of Forecast Skill
The skill estimated as the forecast correlation with observation based on retrospective forecasts for 1982-2012 is 0.78. Forecast uncertainty taken as the RMS error based on 1982-2012 retrospective forecasts is 0.5×10^6 km^2.