

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

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1 Arctic sea ice extent projection for September 2013

$(4.2 \pm 0.3) \times 10^6 \text{ km}^2$

2 Methods/Techniques

The outlook is based on a CFSv2 ensemble of 40 members initialized from Jul 27-Aug 5, 2013. The model's systematic bias, forecast RMS errors, and anomaly correlation skill 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 $4.2 \times 10^6 \text{ km}^2$ with an estimated error of $\pm 0.3 \times 10^6 \text{ km}^2$.

5. Estimate of Forecast Skill

The skill estimated as the forecast correlation with observation based on retrospective forecasts for 1982-2012 is 0.76. Forecast uncertainty taken as the RMS error based on 1982-2012 retrospective forecasts is $0.3 \times 10^6 \text{ km}^2$.