

Pan-Arctic Outlook for September 2012, August Update

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1. Extent Projection

Provide a sea ice projection for the September monthly mean arctic sea ice extent (in million square kilometers).

4.68 million sq. km. (stdev. 0.32, min. 4.00, max. 5.70)

2. Methods/Techniques

Provide the type of estimate (heuristic, statistical, ice-ocean model ensemble runs, etc.).

The heuristic method used to make our extent projection is an informal inquiry of 23 climate scientists on June 1, 2012. While some participants used statistics to inform their estimate, most estimates were based on resources provided by the organizer about recent sea ice conditions and lunch time discussions.

3. Rationale

Include a short paragraph on the physical rationale for the estimate.

This is the fifth year that I have assembled estimates for the September Arctic sea ice extent, an effort motivated by lunch-time discussion amongst climate scientists working at NCAR. Our lunchtime discussions generally include both researchers intimately involved in sea ice research, and researchers who have no specific knowledge of sea ice processes but experience in climate research.

Although our methods are very different than those used by other groups participating in the sea ice outlook, the lunch table thinks that they provide an interesting contrast to the more sophisticated statistical and modeling-based methods. Surprisingly, our forecast skill has been quite good. In three of the four years that the pool has been run, our ensemble mean estimate has been within 0.10 million sq. km. of the observed mean September Arctic sea ice extent reported by NSIDC.

4. Executive Summary

Provide a short paragraph that summarizes your outlook contribution in two or three sentences.

An informal pool of 23 climate scientists on June 1, 2012 estimates that the September 2012 Arctic sea ice extent will be 4.68 million sq. km.

(stdev. 0.32, min. 4.00, max. 5.70). In 2008, 2009, and 2011, our informal pool estimates of the mean September ice extent were within 0.10 million sq. km. of the corresponding observed value, making our informal method competitive with more sophisticated prediction efforts.

5. Estimate of Forecast Skill (if available)

If possible, please include any estimates of forecast skill, uncertainty, or error associated with your prediction.

In three of the four years that our informal pool has been run, our ensemble mean guess has been within 0.10 million sq. km. of the observed mean September Arctic sea ice extent reported by NSIDC, making our informal method competitive with more sophisticated prediction efforts.