2010 Sea Ice Outlook
July Report

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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). For reference, the arctic sea ice monthly mean extent for September 2009 was 5.36 million square kilometers, the third lowest in the satellite record.

4.89 million sq. km. (stdev. 0.5, min. 4.0, max. 5.8)

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

The method is an informal inquiry of 19 climate scientists on June 1, 2010. While some people used statistics to inform their estimate, most predictions were based on information 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 third year that I have assembled estimates for the September ice extent motivated by lunch-time discussion amongst climate scientists working at NCAR. Our discussion 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.

Discussion this year has focused on the vulnerability of the ice pack due to long-term thinning, the record-low ice extent minima of the past three years, this year's strong negative AO and its influence on ice export and winter temperatures, the fast pace of the ice loss in May 2010, and on the importance of the unpredictable summer weather conditions.

Although our methods are very different than those used for other groups participating in the sea ice outlook, we think that they provide an interesting contrast and emphasize that there are many unpredictable factors in seasonal sea ice prediction that make a reasoned guess of the mean September Arctic ice extent competitive with much more sophisticated methods.

For example, in 2009, we were all pretty pessimistic and over-predicted the seasonal ice extent loss. Only 3/19 entrants predicted a greater September 2009 ice extent than what was observed. But, we were in good company. Our average guess was well within ARCUS

sea ice outlook efforts to predict sea ice conditions using statistical, modeling, and heuristic techniques.

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

An informal pool of 19 climate scientists on June 1, 2010 estimates that the September 2010 ice extent will be 4.89 million sq. km. (stdev. 0.5, min. 4.0, max. 5.8). In 2007, 2008, and 2009, our informal pool estimate of the mean September ice extent was competitive with much more sophisticated prediction efforts based on statistical methods and ice-ocean model ensemble runs.