PAN-ARCTIC OUTLOOK
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1. Extent Projection   4.66 ± 0.18

2. Methods/Techniques
Multiple regression

3. Rationale
Estimates are based on multiple regression of a wide variety of publicly available monthly arctic data (eg extent, area, sea surface temperature, North Atlantic Oscillation and so forth). Data from 5 to 18 months before September (i.e. from March of the previous year thru April of the given year, but not from May) were correlated with the September monthly average extent data during the period 1979 - 2010. Several regression models were explored, based on 1 to 12 parameters (where each parameter in the model was significant at the $p < 0.05$ level, and more commonly significant at the $p < 0.01$ level). The seven resulting multiple regression models consistently predicted September extents from about 4.4 to 4.9.

4. Executive Summary
This analysis is based purely on a statical analysis of climatological and ice data, using commercial statistical software.   The goal was to use techniques and data available to individuals.

5. Estimate of Forecast Skill (if available).
The regression models typically have R^2 values of 0.5 to 0.9 from the period 1979 – 2010, with typical RMS errors of the fits of approximately 0.4 to 0.7. Since there are seven different models, it can be expected that the error will be reduced by averaging. The value of 4.66 ± 0.18 was determined as the average of predictions of the Septmeber ice extent from the seven models and twice the standard error of those seven models.