September 2009 Sea Ice Outlook: August Report
By: Ron Lindsay

The predicted mean ice extent in September is 4.94 +/- 0.26 million km^2. It is a statistical prediction based on the fractional area of ice and open water less than 1.0 m thick (G1.0) obtained from model retrospective simulations created by Jinlun Zhang. This prediction is substantially greater than that from June data (3.99 ± 0.30, based on G0.4).

The anomalous thin ice in the Beaufort Sea and north of the Canadian Archipelago is most influential in making the prediction, but widespread anomalies in this measure contribute to the prediction.

The three maps in the attached figure show a) the correlation of the September mean ice extent with the G1.0 measure of the ice thickness for 1987–2008, b) the anomaly of the G1.0 measure in July 2009, and c) the product of a) and b). The area integral of c) is used as the predictor to obtain the estimate of the September ice extent.

The mean ice thickness fields give the same prediction but it has a larger error bar (4.94 ± 0.37).

The 1-sigma error bars are determined from the RMS error of the linear regression fit to past data. The errors are likely underestimated because of the changing statistical properties of the system.

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Predictions for September 2009 from July

Observed and Predicted Ice Extent from the Sea Ice Index

Predictor: G1.0m
Prediction: 4.94 +/- 0.26
R^2 of Fit: 0.91

◇ Fit
✳ Predicted
— Observed

Area (10^6 km^2)

Year

Correlaton
Sep IE & Jul G1.0m

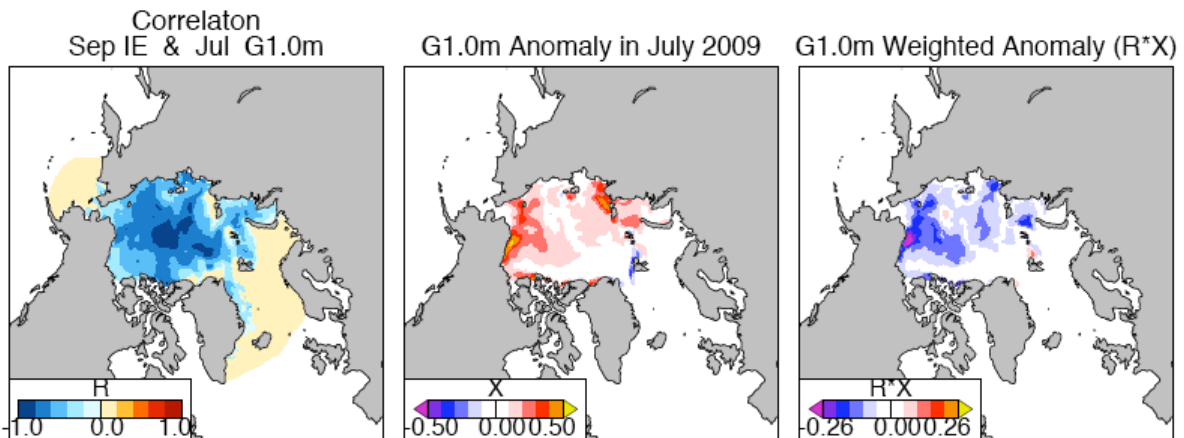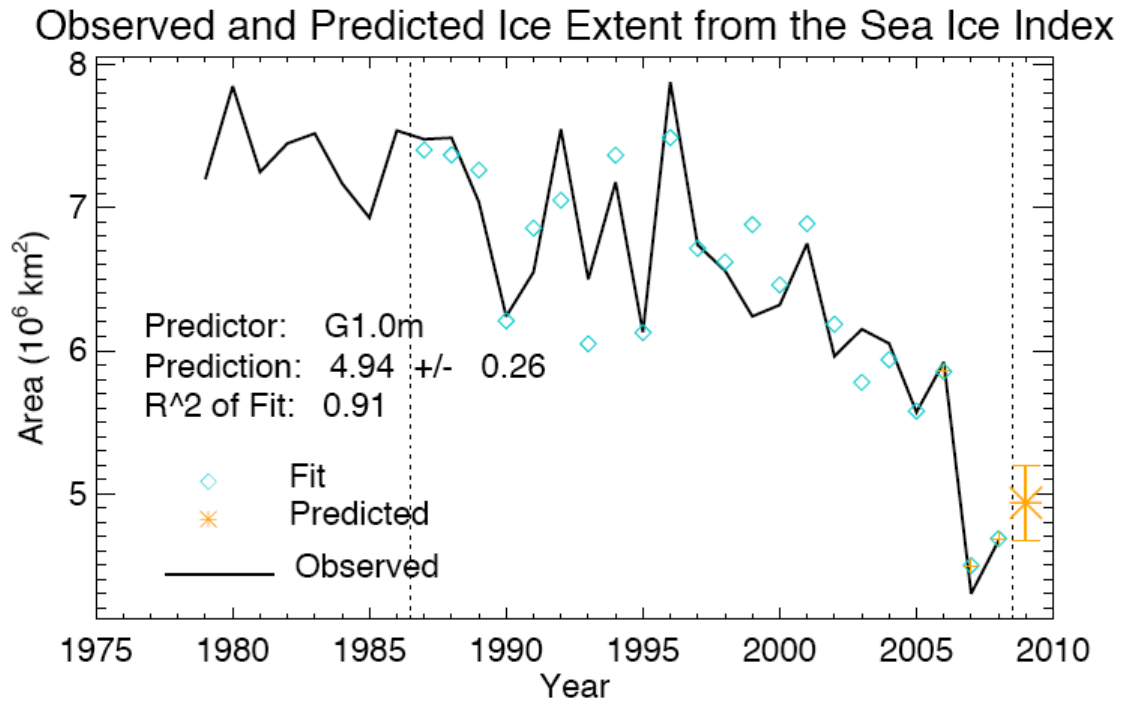G1.0m Anomaly in July 2009

G1.0m Weighted Anomaly (R*X)

Figure 1. A) the correlation of the September mean ice extent with the G1.0 measure of the ice thickness for 1987–2008, B) the anomaly of the G1.0 measure in July 2009, and C) the product of A) and B). The area integral of C) is used as the predictor to obtain the estimate of the September ice extent.

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