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The statistically estimated September month average extent as computed by NSIDC is 4.41 million km², with standard error on the estimate of 0.5 million km².

The physical basis of the statistical method is to model the growth of open water as a feedback process analogous to population growth under constraint. This produces a logistic curve. The statistics are used to estimate the three parameters for such curves. All parameter sets whose fit to observation in the previous N years is within 0.5 million km² standard error are used in the ensemble. The final estimate is the average of all ensemble members.

The results of the last two years suggest that this approach is more accurate for estimating the minimum day's extent than for the monthly averaged ice extent. Even against the latter, however, the estimates have been within the method's 1 standard deviation estimate.