

**SEA ICE OUTLOOK**  
2016 Report

**Template with Core Requirements  
for Pan-Arctic Contributions  
and  
Guidelines for Submitting Optional  
Alaskan Regional Outlook, Figures, and Gridded Data**

**Submission Guidelines:**

The submission deadline is 6:00 pm (AKDT) Monday, 13 June 2016 (firm) and all submissions should be sent to [sio2016@arcus.org](mailto:sio2016@arcus.org). Contributions received after the deadline will be posted to the website but not incorporated into the Outlook report or discussion.

Questions may be directed to Betsy Turner-Bogren, ARCUS ([betsy@arcus.org](mailto:betsy@arcus.org))

**Core Requirements for Pan-Arctic Contributions:**

\* REQUIRED

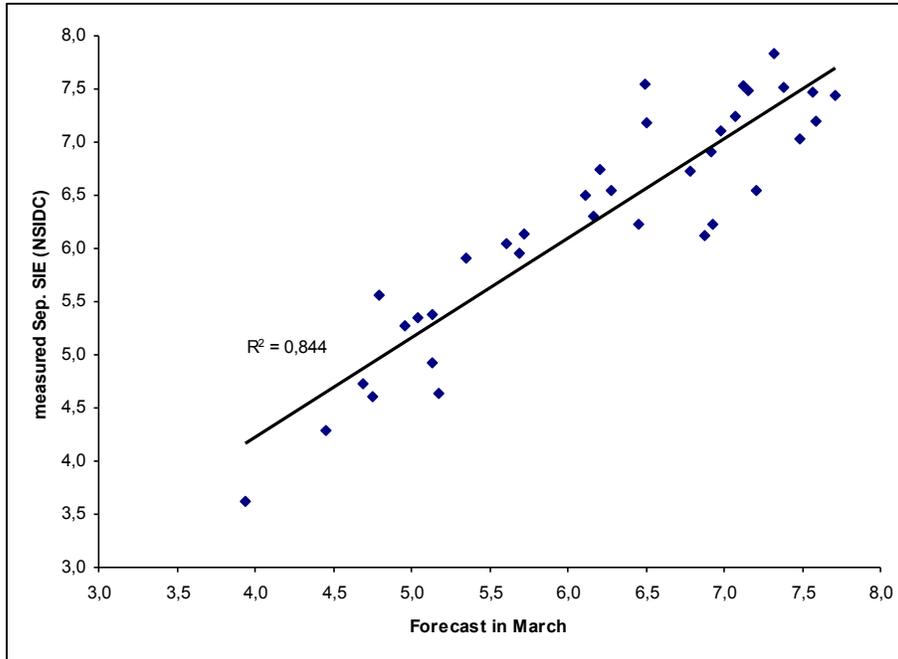
1a Frank Bosse

1b

\_\_\_\_\_ Yes, this contribution is from "Citizen Scientists."

\_\_\_\_\_ Yes, use this contribution for all of the 2016 SIO reports (this contribution will be superseded if you submit a later one).

1. \*"Executive summary" of your Outlook contribution: in a few sentences (using 300 words or less) describe how and why your contribution was formulated. To the extent possible, use non-technical language.
2. Just as in the two years before I calculate the value for the September-minimum of the arctic sea ice extent of the year n (NSIDC monthly mean for September) from the Ocean Heat Content (0...700m depth) northward 65°N during JJAS of the year n-1. After 2006 the lower sea ice volume of the Februaries also impacts the minimum extent. For the physical explanation see [https://www.arcus.org/files/sio/23220/bosse\\_july2015.pdf](https://www.arcus.org/files/sio/23220/bosse_july2015.pdf) .  
The performance of the statistical model:



3. \*Type of Outlook method:  
dynamic model statistical heuristic mixed or other (specify)
4. \*Dataset of initial Sea Ice Concentration (SIC) used (include name and date; e.g., "NASA Team, May 2016"): none
5. Dataset of initial Sea Ice Thickness (SIT) used (include name and date): PIOMAS
- 8.
9. \*Prediction of September pan-Arctic extent as monthly average in million square kilometers. (To be consistent with the validating sea ice extent index from NSIDC, if possible, please first compute the average sea ice concentration for the month and then compute the extent as the sum of cell areas > 15%.)  
**4.1 +/-0.43 Mio km<sup>2</sup>**
10. Prediction of the week that the minimum daily extent will occur (expressed in date format for the first day of week, taking Sunday as the start of the week (e.g., week of 4 September).  
n/a
11. \*Short explanation of Outlook method (using 300 words or less). In addition, we encourage you to submit a more detailed Outlook, including discussions of uncertainties/probabilities, including any relevant figures, imagery, and references.  
See point 2 and [https://www.arcus.org/files/sio/23220/bosse\\_july2015.pdf](https://www.arcus.org/files/sio/23220/bosse_july2015.pdf) .
12. If available from your method for pan-Arctic extent prediction, please provide:

a) Uncertainty/probability estimate such as median, ranges, and/or standard deviations (specify what you are providing).

The uncertainty is derived from the single sigma of all the years 1979...2015.

(probability 66%) The probability of 95%:  $4.1 \pm 0.86$  Mio km<sup>2</sup> (  $2 \cdot \sigma$ ) After 2000 the 95%-probability is  $4.1 \pm 0.79$  Mio km<sup>2</sup>.

d) Raw (and/or post processed) forecasts for this year and retrospective forecasts in an excel spreadsheet with one year on each row and ensemble member number on columns (specifying whether raw or post processed).

See att.