

SEA ICE PREDICTION NETWORK (SIPN)
Pan-Arctic Sea Ice Outlook Core Contributions
August 2016 Report

***REQUIRED**

1. *Name of Contributor or name of Contributing Organization and associated contributors as you would like your contribution to be labeled in the report (e.g., Smith, or ARCUS (Wiggins et al.)).

NMEFC of China (Li & Li)--- Chunhua Li, Ming Li /National Marine Environmental Forecasting Center(NMEFC),China

2. * Contributions submitted by a person or group not affiliated with a research organization, please self-identify here:

_____ Yes, this contribution is from "Citizen Scientists."

3. * Do you want your contribution to be included in subsequent reports in the 2016 season?

Yes, use this contribution for all of the 2016 SIO reports (this contribution will be superseded if you submit a later one).

_____ No, I/we plan to submit separate contributions for subsequent reports.

_____ No, I only want to participate this time.

4. *"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.

We predict the September monthly average sea ice extent of Arctic by statistic method and based on monthly sea ice concentration and extent from National Snow and Ice Data Center. The result shows that the Sep. ice extent of 2016 will be less than in 2015.

5. *Type of Outlook method:

___dynamic model _statistical ___heuristic ___mixed or other (specify)

6. *Dataset of initial Sea Ice Concentration (SIC) used (include name and date; e.g., "NASA Team, May 2016"):

Sea Ice Index - Daily and monthly sea ice concentration and extent from National Snow and Ice Data Center.

7. Dataset of initial Sea Ice Thickness (SIT) used (include name and date):

8. If you use a dynamical model, please specify:

a) Model name:

b) Information about components, for example:

c) Number of ensemble members and how they are generated:

d) For models lacking an atmosphere or ocean component, please describe the forcing:

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%.)

4.05(3.23-4.57)

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).

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.

A simple statistical model is used to predict September monthly Arctic sea ice extent. We find that the sea ice extent of September has a good correlation with the sea ice extent of Jan. to Apr. and Jun. to Jul. in the same year, and the ice decreasing trend during Jan. to Apr. of 2016 is similar to the trend of 2015, so we assume that the ice extent will decreasing with the same rate of 2015. Moreover, considering the possibility of extreme shrinkage of 2012, and integrating the multiple regression method and optimal climate normal method, the sea ice extent of September predicted this year is 4.05 million square kilometers.

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).

4.05(3.23-4.57)

b) Brief explanation/assessment of basis for the uncertainty estimate (1-2 sentences).

The result offered is the average of three different methods results which respectively are 3.23, 4.34 and 4.57 million square kilometers.

c) Brief description of any post processing you have done (1-2 sentences).

We do the bias adjustment for the results based on the prediction error of 2015.

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).