Sea Ice Outlook
2017 August Report
Individual Outlook

Name of contributor or name of contributing organization:

Bosse

Is this contribution from a person or group not affiliated with a research organization?

Yes this contribution is from a "Citizen Scientist"

Name and organization for all contributors. Indicate primary contact and total number of people who may have contributed to your Outlook, even if not included on the author list.

Frank Bosse

Do you want your June contribution to automatically be included in subsequent reports? (If yes, you may still update your contribution via the Google form.)

Yes automatically include my contributions in July and August 2017

What is the type of your Outlook projection?

Mixed

Starting in 2017 we are accepting both pan-Arctic and pan-Antarctic sea ice extent (either one or both) of the September monthly mean. As in 2016, we are also collecting Alaskan regional sea ice extent. 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%.

a) Pan-Arctic September extent prediction in million square kilometers.

4.62

b) same as in (a) but for pan-Antarctic. If your method differs substantially from that for the Arctic, please enter it as a separate submission.

c) same as in (b) but for the Alaskan region. Please also tell us maximum possible extent if every ocean cell in your region were ice covered.

"Executive summary" of your Outlook contribution (using 300 words or less) describe how and why your contribution was formulated. To the extent possible, use non-technical language.

Just as in the last years my guess is derived from the 0...700m OHC of the Atlantic part of the arctic. For the detailed mapping of the data from Argo and the physical explanation see https://www.arcus.org/files/sio/23220/bosse_july2015.pdf . The average of the monthly June...September OHC-data of the year n is the input for a linear regression to estimate the september mean of the sea ice extent for the year n+1. In this year I do not consider the PIOMAS- data due to some doubts of the validity of this model in the light of the Cryosat data.

Brief explanation of Outlook method (using 300 words or less).

The arctic melting is strong influenced by the waterinflow of the Atlantic and the forcing. Both parts are represented in the OHC of the 60°N...65°N part which is used (the JJAS data) for a linear regression The data are available via the "KNMI Climate Explorer", thanks to Geert-Jan. The skill of the guess can be shown with this plot:
https://picload.org/image/riliowwr/image002.gif
It shows running 15a-Trends for the guess (in brown) and for the observed data(blue). The guess -trends reflect the observed trend-changes to a high degree. The "rest" (19%) are the weather patterns of the melting season which influence the melting less than thought, see:
http://discovery.ucl.ac.uk/1519678/1/Serreze_et_al-2016-Journal_of_Geophysical_Research__Atmospheres.pdf .

Tell us the dataset used for your initial Sea Ice Concentration (SIC). Include name and date (e.g., "NASA Team, May 2017"). We also encourage you to submit initial fields to the dropbox, see https://www.arcus.org/sipn/sea-ice-outlook/2017/june/call in the section on "Submitting Figures and Gridded Data of Full Spatial Fields (Optional) of Forecasts and Initial Conditions" for detailed instructions. Required if sea Ice concentration is used.

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

If you use a dynamic model, please specify the name of the model as a whole and each component including version numbers and how the component is initialized:

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).

+-0.45

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

The uncertainty is calculated with the single std.dev. of the residuals 1979...2016. The year 1996 is excluded as an outlier.

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