

Sea Ice Outlook
2018 July Report
Individual Outlook

Name of contributor or name of contributing organization:

John, Christian

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

true

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.

None

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

false

What is the type of your Outlook projection?

Statistical

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.

4.24

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.

The arctic and the sea ice is a area of interests for a lot of people, just not only Scientists also for the public, because it seems that arctic is most affected by ongoing climate change, its interesting to see how fast the climate is changing in this area, therefore i decide to contribute here.

The Basic Idea is, that beyond the climate change driven decrease of sea ice extent, the variance from year to year could be explained by die variance of the weather (cold or warm weather)

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

I use the Air Temperature(1) and the Sea-Surface-Temperatur(2) to forecast the upcoming Extent Minimum(3) in September, for both the same domain: 70-90N to 0-360E, while the former version of the Model has used for all summer months, the new version is just using June for the forecast with a new methode, it more based on the idea, that the difference between the minimum in september and the minimum a year before is controlled by the difference between the weather (which is here presented as Air and Sea Temperatur) of the June and the June a year before. Calibration Period is 1980-2016 and gives a very good skill of $R^2 = 0.782$, with an first Sigma Error of 0.33 Mio km². Since difference between 1979 to 1980 is a massiv outlier(1.44 Mio km²) which strongly impacts the skill of the Model i therefore decide to drop out this one.

Tell us the dataset used for your initial Sea Ice Concentration (SIC).

Include source (e.g., which data center), name (algorithm), DOI and/or data set website, and date (e.g., "NSIDC NASA Team, <https://nsidc.org/data/nsidc-0081>, <https://doi.org/10.5067/U8C09DWVX9LM>.")

Tell us the dataset used for your 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.

a) Uncertainty/probability estimates:

Median

Ranges

Standard Deviations

0.33

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

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

creating Standard deviations by estimate the difference between Model and NSIDC Value of Exent in September