Name of Contributor of Name of Contributing Organization:

Nico Sun

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

Yes this contribution is from a Citizen Scientist"es this contributi"""es this contribution "

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.

Nico Sun
CryosphereComputing

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

No do not use my prediction this month in later months

What is the type of you 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.

4.1

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 the 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 forecast model is based on my own global surface radiation model and uses arctic sea ice albedo and northern hemisphere snow cover to calculate daily sea ice area and volume losses. The albedo values are obtained from extent/area ratios. The average error for the 2007-2016 period is 4.8% or 0.147 million km2 for daily minimum sea ice area. The final average September extent value is calculated over the compaction ratio.

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

The feedback system between sea ice area, extent, volume and energy absorption is a dynamic model. The prediction of extent to area ratios for the remaining melting season is statistical.

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.**

NASA Team, 20 March 2017

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

PIOMAS, 20th March 2017

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).

sea ice extent ranges in million km2:
Low: 3.20
Mid: 4.10
High: 5.07

The low and high forecasts represent the interdecile range (+-1.28 SD)

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

c) same as in (b) but for the Alaskan region. Please also tell us the maximum possible extent if every ocean cell in your region were ice covered. See https://www.arcus.org/sipn/sea-ice-outlook/2017/june/call **in the section on "Instructions for Submitting an Alaskan Regional Outlook" for detailed instructions.**

None

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).

None