Name of Contributor of Name of Contributing Organization:

Xingren Wu and Robert Grumbine

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

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.

Xingren Wu and Robert Grumbine
MOAA/NCEP/EMC
Primary contact: Xingren Wu

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.)

Yes automatically include my contributions in July and August 2017

What is the type of you outlook projection?

Dynamic Model

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.

4.39

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.

20.8

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 projected Arctic minimum sea ice extent from the NCEP CFSv2 model with revised CFSv2 May initial conditions (ICs) using 31-member ensemble forecast is 4.39 million square kilometers with a standard deviation (SD) of 0.35 million square kilometers. The corresponding Antarctic maximum sea ice extent is 20.80 million square kilometers with a SD of 0.23 million square kilometers.

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

We ran the NCEP CFSv2 model with 31-case of May 2017 revised ICs. The IC was modified from real time CFSv2 of each day at 00Z by thinning the ice pack (based on test from previous years' sea ice outlook). If this thinning would have eliminated ice from areas observed to have sea ice, a minimum thickness of 10 cm was left in place for the ice IC.

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.**

NCEP Analysis for the CFSv2 May 2017

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

CFSv2 model guess w/ bias correction

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:

Model Name: NCEP CFSv2
Component Name Initialization
Atmosphere NCEP GFS NCEP CDAS
Ocean GFDL MOM4 NCEP GODAS
ICE Modified GFDL SIS SIC nudging
31 ensemble members (May 1-May 31 2017, each day at 00Z cycle)

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).

For Pan-Arctic: The range is 3.61-5.05 million square kilometers with a standard deviation of 0.35
For Pan-Antarctic: The range is 20.00-21.19 million square kilometers with a standard deviation of 0.23

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

We ran the NCEP CFSv2 model with 31-case of May 2017 revised ICs. The IC was modified from real time CFSv2 of each day at 00Z by thinning the ice pack (based on test from previous years' sea ice outlook). If this thinning would have eliminated ice from areas observed to have sea ice, a minimum thickness of 10 cm was left in place for the ice IC.

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.**

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).