Name of contributor or name of contributing organization:

RASM (Kamal et al.)

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

false

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.

Our RASM Team includes the following people:
1.   Samy Kamal, primary contact, Naval Postgraduate School
2.   Wieslaw Maslowski, Naval Postgraduate School
3.   Robert Osinski, Institute of Oceanology, Polish Academy of Sciences
4.   Andrew Roberts, Naval Postgraduate School
5.   Anthony Craig, Contractor
6.   Mark Seefeldt, University of Colorado
7.   John Cassano, University of Colorado
8.   Xingren Wu, NOAA/NCEP

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?

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.

4.75

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.

0.468

"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.

We used RASM version 2.01, which is a recent version of the limited-area, fully coupled climate model consisting of the Weather Research and Forecasting (WRF), Los Alamos National Laboratory (LANL) Parallel Ocean Program (POP) and Sea Ice Model (CICE), Variable Infiltration Capacity (VIC) land hydrology and routing scheme (RVIC) model components (Maslowski et al. 2012; Roberts et al. or 2015; DuVivier et al. 2015; Hamman et al. 2016; Hamman et al. 2017; Cassano et al. 2017).
The model uses CFSR or CFSv2 output for RASM-WRF lateral boundary conditions and for nudging winds and temperature starting above 500 mbar. We used one root case utilizing WRF371, including the Grell-3D parameterization scheme (with shallow cumulus convection option only turned on over the ocean grid).

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

For the July forecast we used one root case forced with CFSR to generate the initial conditions for all 29-member ensemble starting at time 0000 on July 1, 2018. The root case is a hindcast forced from September 1979 through the end of June 2018, providing internally- and physically-consistent initial conditions for all ensemble member forecasts. Each of the

29-member ensembles were integrated for 5 months forward using respective outputs from CFSV2.

The CFSV2 forcing streams used for the ensemble were initialized everyday (at 0000) between June 1st and June 29th, and used for RASM forcing at time 0000 on July 1st 2018.

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

Self-generated from a 39 year hindcast run.

Tell us the dataset used for your initial Sea Ice Thickness (SIT) used. Include name and date.

Self-generated from a 39 year hindcast run.

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:

Coupled dynamical models

If available from your method.
a) Uncertainty/probability estimates:

Median

Ranges

Standard Deviations

 0.239 million square kilometers

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

The uncertainty was estimated based on standard deviation of the 29-member ensemble.

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

No bias correction or any other post processing of model output is employed.