Name of Contributor of Name of Contributing Organization:

Brettschneider/Walsh/Thoman

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.

University of Alaska Fairbanks (Brettschneider, Walsh)
NOAA/NWS (Thoman)

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?

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.

4.48

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.

Sea Ice Outlook
2017 June Report
Individual Outlook

Forecast is based on an analog procedure that identifies the past years with the atmospheric circulation and temperature most similar to the present year (2017) through May. The forecast of September 2017 sea ice, calculated as a departure from the linear trend line, is a weighted mean of the September sea ice departures-from-trend-line of the five best analog years. The weighting factor is the number of times a particular analog year was selected when different predictor variables were used. Predictor variables include sea level pressure, upper air geopotential height and air temperatures. NCEP/NCAR reanalysis is the primary data source. Predictor and predictand domains are pan-Arctic, although we also include indices of leading atmosphere-ocean modes of variability.

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

The predicted quantity is the departure from the linear trend of historical (1979-2016) pan-Arctic sea ice extent. For 2017, the weighted mean September ice extent of the best historical analog years (defined by closeness of fit to atmospheric fields through May 2017) was 4.48 million km2, slightly below the trend line. This value is lower than the past four September values, but greater than the 2012 minimum.

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.**

Analog-year values of September ice extent were based on the NASA Team dataset, obtained from NSIDC.

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

Ice thickness not used.

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:

N.A.

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).

Range of uncertainty: 3.88 million km2 to 5.25 million km2.

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

Range of uncertainty is the spread among the various analog years that were averaged into a mean value. The mean value (4.48 million km2).

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.**

N.A.

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).

N.A.