Name of contributor or name of contributing organization:

Walt Meier, NASA Goddard

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.

NASA Goddard, Walt Meier (sole contributor)

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

No do not use my prediction this month in later months

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.

4.52

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.

This method applies daily ice loss rates to extrapolate from the start date (June 30) through the end of September. Projected September daily extents are averaged to calculate the projected September average extent. Individual years from 2005 to 2016 are used, as well as averages over 1981-2010 and 2005-2016. The 2005-2016 average daily rates are used to estimate the official submitted estimate.

The predicted September average extent for 2017 is 4.52 (±0.63) million square kilometers. The minimum daily extent is predicted to be 4.41 (±0.62) million square kilometers and occur on 17 September. These values are lower than the June submission (September average of 4.82 [±0.70] million square kilometers and minimum daily extent of 4.70 [±0.71] million square kilometers). Though smaller than in June, the large range of July estimates reflects the large variability in ice loss rates over the final 2+ months of the melt season. Based on the last 12 years, there is only small chance that 2017 will be lower than the current record low extent of 2012.

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

This method applies daily ice loss rates to extrapolate from the start date (June 30) through the end of September. Projected September daily extents are averaged to calculate the projected September average extent. Individual years from 2005 to 2016 are used, as well as averages over 1981-2010 and 2005-2016. The 2005-2016 average daily rates are used to estimate the official submitted estimate. The method essentially provides the range of September extents that can be expected based on how the ice has declined in past years, though it is possible that record fast or slow daily loss rates may yield a value outside the projected range. It also can provide a probability of a new record by comparing how many years of loss rates yield a record relative to all years. It has the benefit that it can easily and frequently (daily if desired) be updated to provide updated estimates and probabilities and as the minimum approaches the "window" of possible outcomes narrows.

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.

NSIDC NRT NASA Team, June 2017

Dataset of 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 for pan-Arctic extent prediction, please provide

a) Uncertainty/probability estimate such as median, ranges, and/or standard deviations (specify what you are providing).

+/-0.63 million sq km; standard deviation of predictions from 2005-2016

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

The projections using the 12 most recent years (2005-2016) are averaged for the official submissions. The range of values (st. dev.) over those 12 years is used as an uncertainty estimate.

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

Daily total extent values are used to calculate daily extent change rates for different years. These are added day-by-day to the initial 2017 extent (June 30) to simulate daily extent through September 2017. The daily values from September are averaged to obtain the monthly September estimate.