Sea Ice Outlook
2020 August Report
Individual Outlook

Name of contributor or name of contributing organization:

APPLICATE CNRM (Batte, et al.)

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.

Lauriane Batte (CNRM, Meteo-France, Toulouse, France; primary contact)
Virginie Guemas (CNRM, CNRS, Toulouse, France)
Clotilde Dubois (Mercator Ocean International, Toulouse, France)
and the CNRM PASTEL and IOGA teams (~ 10 people)

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.)

Include this submission in both the July and August reports.

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.

4.95

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 contribution is part of the H2020-APPLICATE project and based on Meteo-France System 7 June initialization forecast. It is a 51-member ensemble forecast initialized from three sets of ocean/ice and atmosphere/land initial conditions from May 21 (25 members), May 28 (25 members), and June 1st (1 member).

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

0.46 million square kilometers. The Alaskan regional SIE prediction is produced by a regional

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

Initial conditions for the ocean and sea ice (both concentration and thickness) are provided by Mercator Ocean International. These are based on the Mercator Ocean International operational analysis, run at 1/12┬¼Γ êᵖᵗˢ horizontal resolution with NEMO-LIM. This analysis is upscaled to the 1/4┬¼Γ êᵖᵗˢ ocean resolution of CNRM-CM6 HR used for Meteo-France system 7, and fields are used to nudge a NEMO-GELATO run (Meteo-France configuration) forced by IFS operational analysis and restoring SST towards Mercator. Sea ice concentration and thickness (and ocean fields) are used to initialize forecasts.

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

See above.

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:

[DynamicModelType]

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

Median

4.98 million km2

Ranges

4.38 to 5.43 million km2

Standard Deviations

0.22 million km2

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

These estimates are based on a 51-member ensemble

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

Data was corrected for systematic error in SIC, as well as trend in SIE, based on hindcast data for the corresponding starts.