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Our Outlook contribution:

Our Outlook used the new Met Office Seasonal Forecasting system (GloSea4) to produce a sea ice extent prediction for the first time. The system is still in development and our prediction was based on ensemble runs starting with climatological sea ice conditions - so the ice was too extensive and thick. Therefore, we expected our estimate (5.5 +/- 0.4 million km²) to be too high, as indeed it was. Our system will be improved over the next few months to include data assimilation of ice concentration into the initial conditions and we will reassess the skill of the system in predicting sea ice extent.

Useful additional data / data sets:

Operational ice thickness observations - that we could assimilate into our initial conditions. However, this would require the development of an ice thickness assimilation scheme in our system (which would be more than a years work).

Historical ice thickness observational data set - an ice thickness product for recent decades comparable to the ice concentration HadISST data set (Rayner et al., 2003). HadISST uses observations from a range of sources and involves eliminating biases between the differing data sets as much as possible to create a homogenized data set. This would be helpful for both model evaluation and initialising hindcast runs.

Suggestions for future Outlooks:

We think it would be useful to plot the predicted range (or error bars) for the individual estimates on the summary bar chart to highlight the uncertainty. So for ensemble model runs, the mean and standard deviation could be plotted.