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2008 Sea Ice Minimum Summary Report

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Recap of Summer 2008 Outlook: How important was preconditioning versus anomalous meteorological forcing in giving the 2008 September minimum? If end of spring sea ice conditions were a major factor, does this give some skill in summer projections, even if the meteorological conditions cannot be predicted? How was 2008 different than 2007?

Our outlook emphasized the importance of preconditioning in making a summer outlook, i.e., spatial distribution of ice thickness (or age of ice as a proxy for thickness). We expected an extensive retreat of sea ice this summer given that we had more FY ice in the Spring than ever observed, and regionally we expected extensive retreats of sea ice along the Eurasian coast driven by high-AO conditions during the previous winter, and extensive retreat in the Beaufort and Chukchi seas given the fracturing of what remained of the older, thicker ice areas during early winter, which left extensive areas of younger, thinner ice interspersed between the patches of old ice.

In retrospect, our overall outlook of setting a new record minimum based on the vast amount of FY ice should have been tempered by the fact that the FY ice over the pole should be thicker since it was the first ice to grow last fall and the north pole is also colder than the Eurasian and Alaskan coasts, and during summer this ice is subject to less incident sunlight. Although we did not set a new record minimum as we expected, the ice did retreat considerably in the Beaufort, Chukchi, East Siberian and Laptev seas as we expected despite what may have been a cooler summer than 2007, and the fact that the winds during summer tended to export less sea ice from the Arctic Ocean.