Comments on the 2009 Minimum versus the NIC Seasonal Outlook

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NSIDC minimum value: 5.36 million km^2

NIC minimum value: 5.00 million km^2

NIC outlook values:

Outlook	Conservative	Moderate
June	5.224 million km^2	4.763 million km^2
July	5.261 million km^2	4.528 million km^2
August	4.773 million km^2	4.151 million km^2

The NIC Conservative Outlook values for June and July were close to the NSIDC reported minimum of 5.36 million km^2, while the August value fell away. Since the outlook was explicitly linked to the amount of MYI in the basin, the drop in the August value is not surprising; all ice types are decreased in that month. Nevertheless, the results this year are encouraging. Given a relatively simple method, we were able to come within 2.5% of the NSIDC value.

The accuracy of the outlook values is promising. However, it should be noted that the method by which NIC creates its operational sea ice charts (on which the outlooks are based) is different than that by which NSIDC creates their Sea Ice Index (the value used as "truth" for the ARCUS Sea Ice Outlook). NSIDC ice extent, based solely on SSM/I retrievals, is calculated as the area within the 15% sea ice concentration contour as measured on a 25 km^2 grid. But SSM/I has difficulty measuring low ice concentrations. NIC uses a variety of instruments including SAR, MODIS, SSM/I, and AMSR-E; an ice analyst synthesizes this information to create an ice chart. The extent is obtained by measuring the sections of the chart where the ice concentration is greater than 10%.

Other research facilities and operational centers may have different techniques for obtaining a minimum value. Within the Outlook project, there may be differences in how each group obtains their area (e.g., model grid cells of varying resolution, sea ice charts, satellite observations); each of these could produce a different value for ice extent than the two methods above. When considering the success and accuracy of a given method, it is important to take into account whether and how the area of ice extent value is obtained and if this value is significantly different than the "true" (NSIDC) value.