September 2009 Regional Sea Ice Outlook: July Report
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1. *A sea ice projection for the September monthly mean arctic sea ice extent (million square kilometers),* **4.5-4.6**

2-*The type of estimate:* heuristic, and statistical

3-*The physical rationale for the estimate*.

1. Major impact factor to the ice extent variability in the Atlantic sector of the Arctic Ocean is the SST anomalies in the Northern Atlantic in previous month. The SST anomaly in May 2009 (fig.1), which is now available but was not for previous report, demonstrated a "warm tongue" of the inflow stream directed to Eastern part of Arctic. That explained a more ice degradation in this part of Arctic Ocean (fig.2) with account to reference 1979-2000. Invasion of more warm Atlantic waters appeared recently in North Atlantic could lead to further reduction of the ice extent here. Thus there is some uncertainty in the September ice extent **estimate: 4.5-4.6.**

2. Major impact factor to the ice extent variability in the Pacific sector of the Arctic Ocean is the vector wind anomalies occurred in the Northern Pacific. May picture (fig. 3) is very similar to those for previous month. That explains the ice edge in Chukcha Sea is close to reference border (red curve at fig.2). Thus there is no trend in our previous estimate in this part of Arctic.

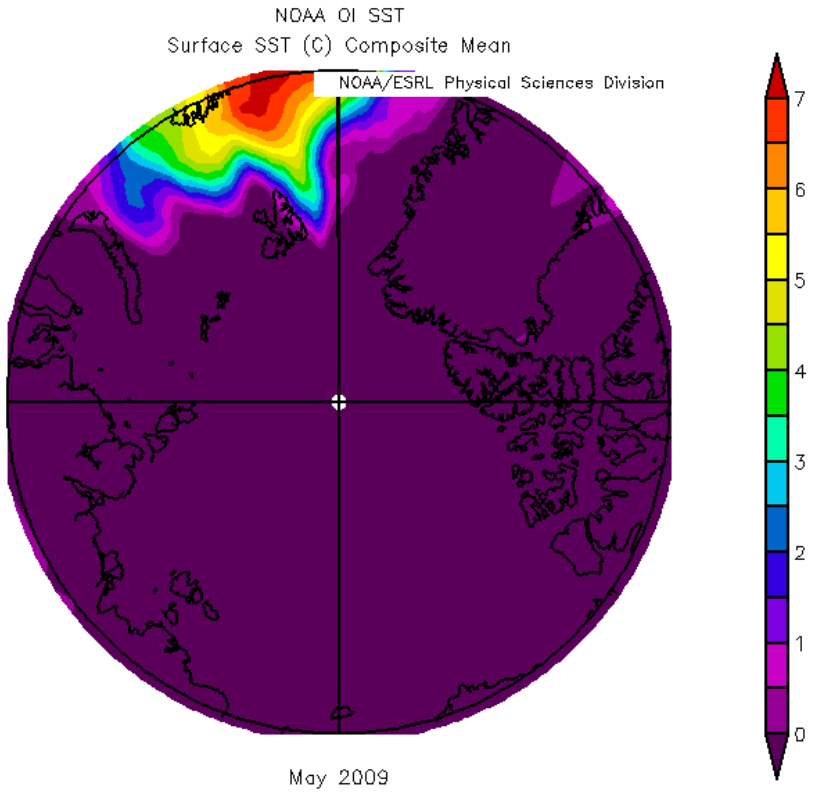

Figure 1. SST anomaly in May 2009

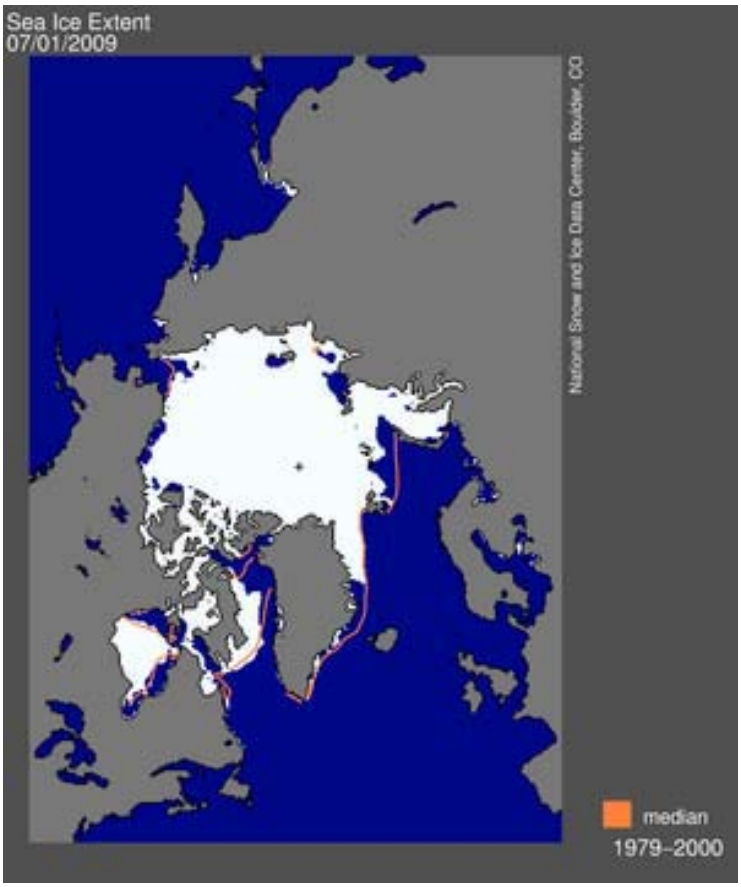

Figure 2. Arctic ice extent at 01 July 2009.

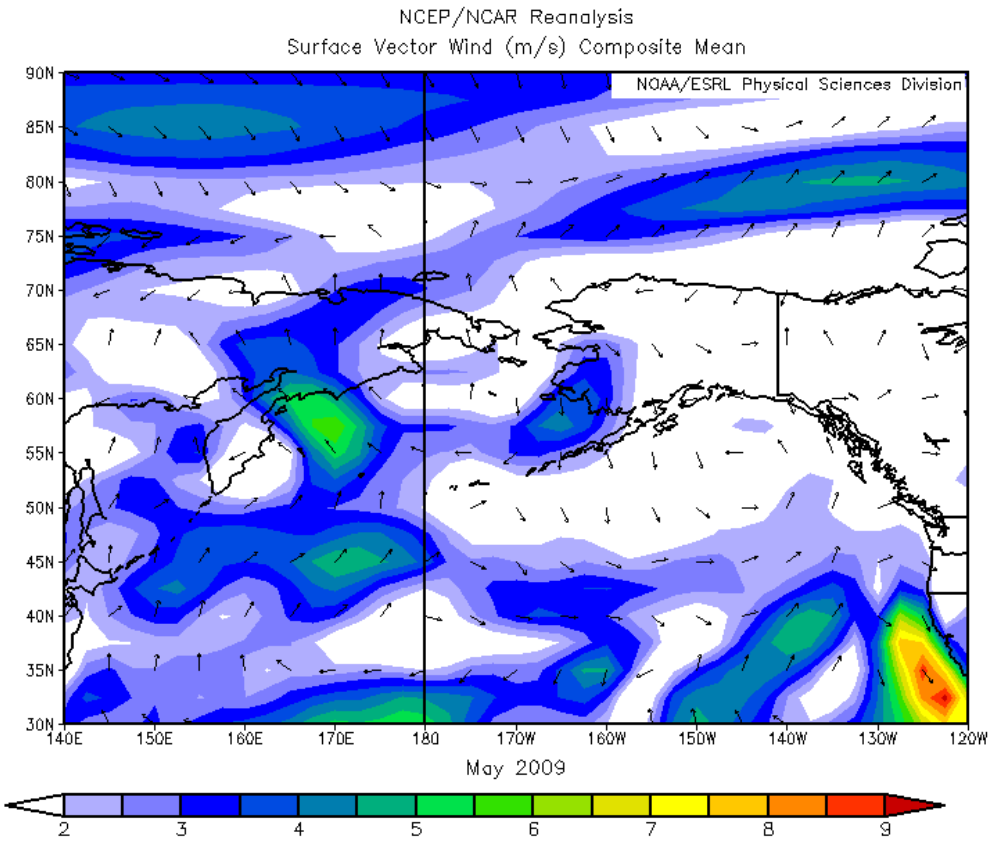

Figure 3. Anomaly vector wind field in May 2009.