

New climate states during the last decade in the North Pacific

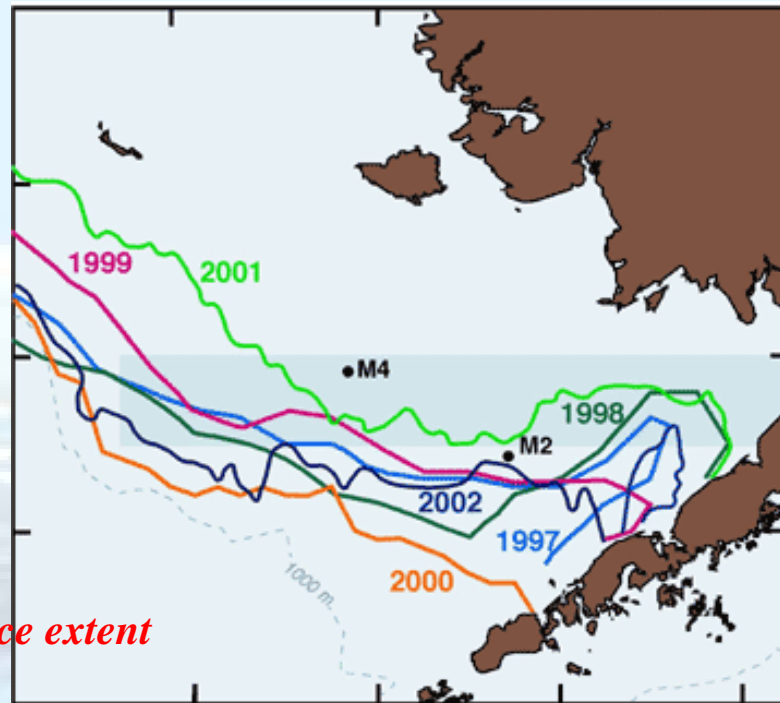
A photograph of a research vessel, likely the R/V Albatross, navigating through a dense field of sea ice in the North Pacific. The ice consists of numerous small, irregular floes of varying sizes, creating a textured, white and light blue surface. The vessel is positioned in the upper center of the frame, moving towards the viewer. The background shows a dark, open sea under a clear, pale blue sky.

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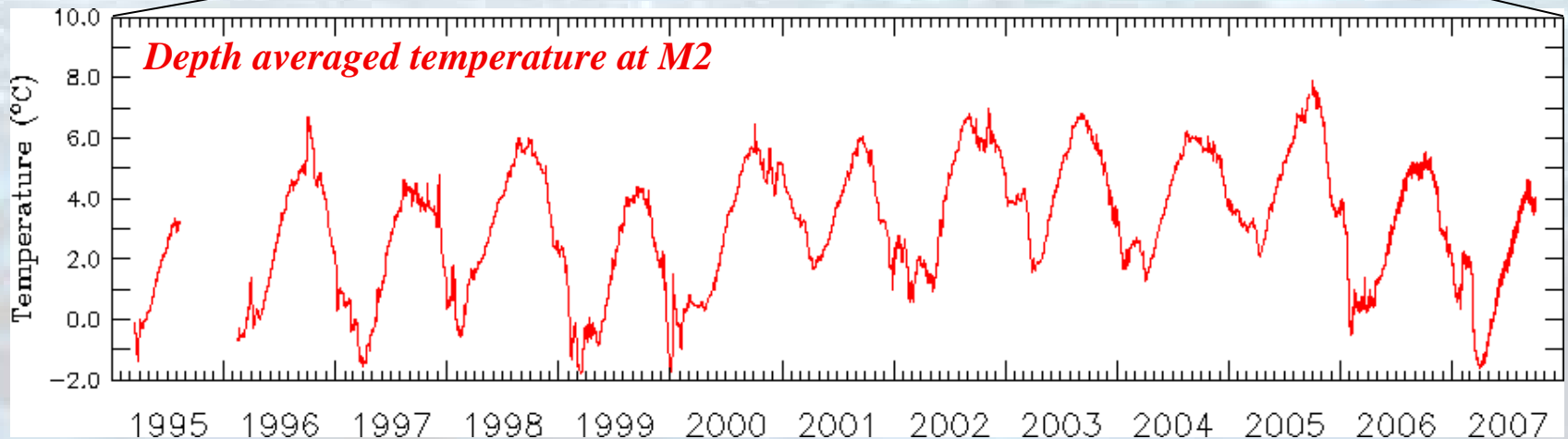
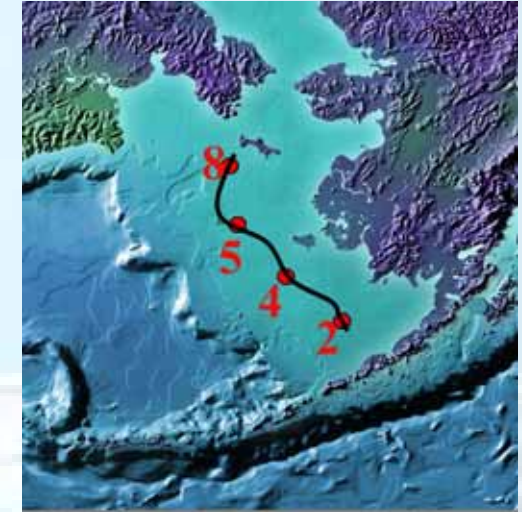
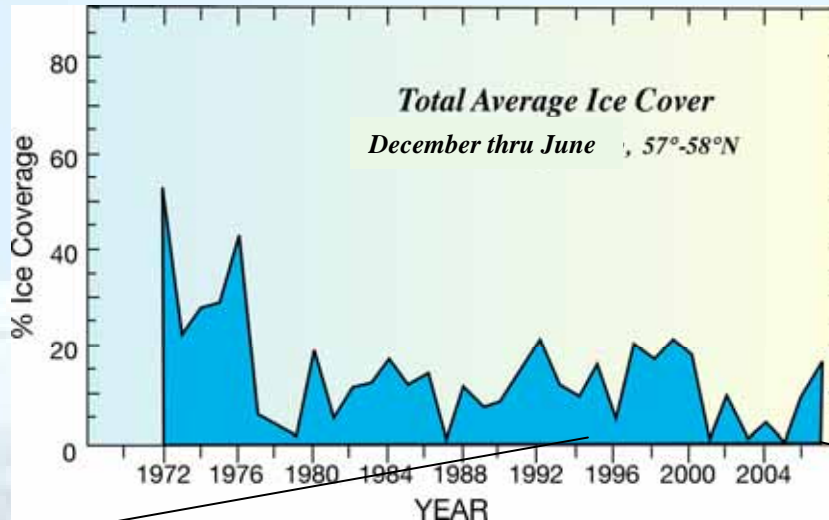
Seattle WA

Ice Extent over the Bering Sea Shelf



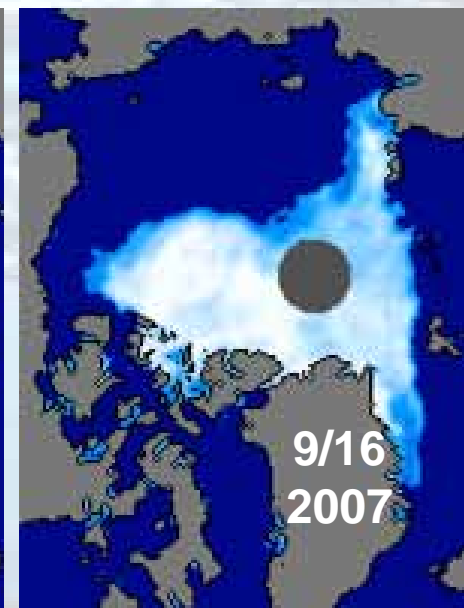
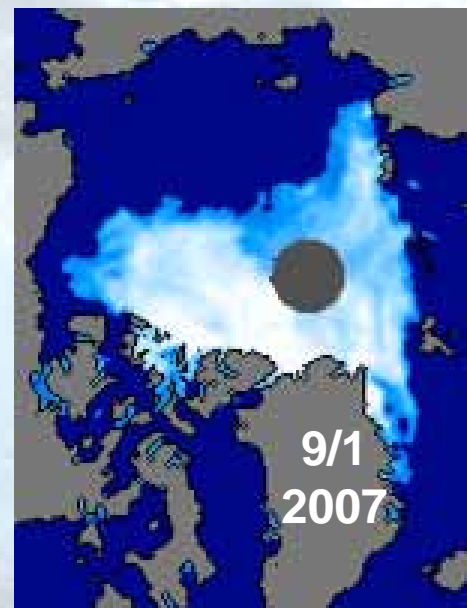
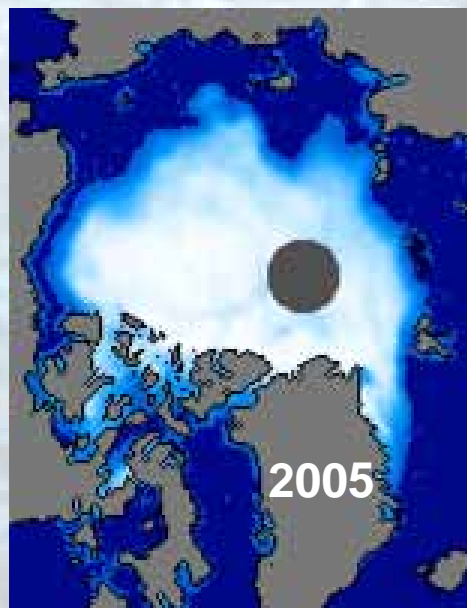
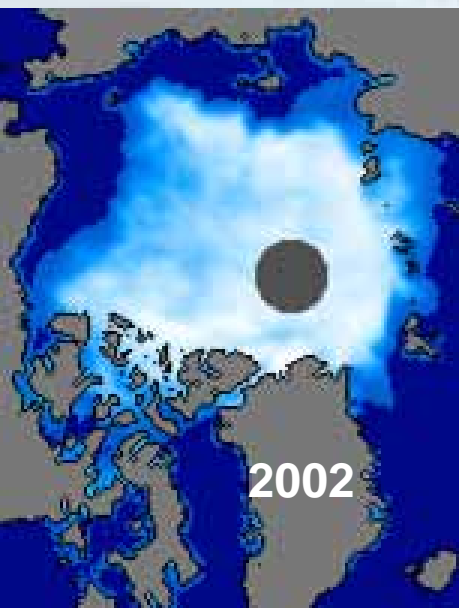
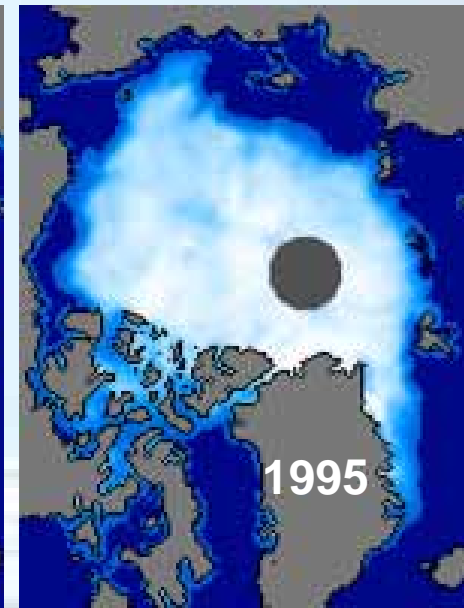
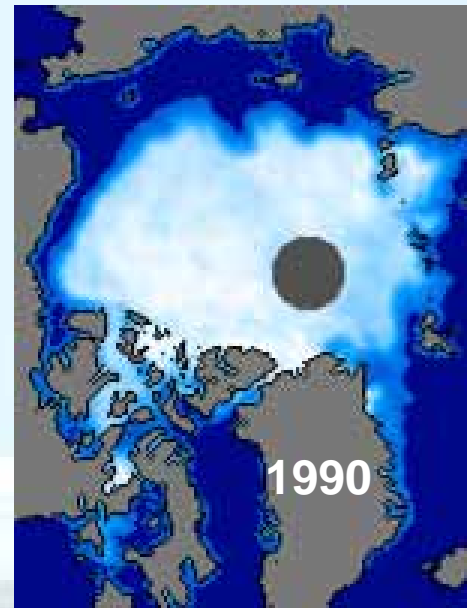
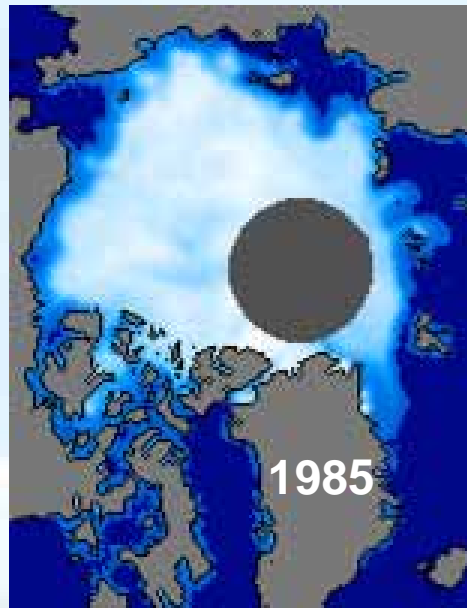
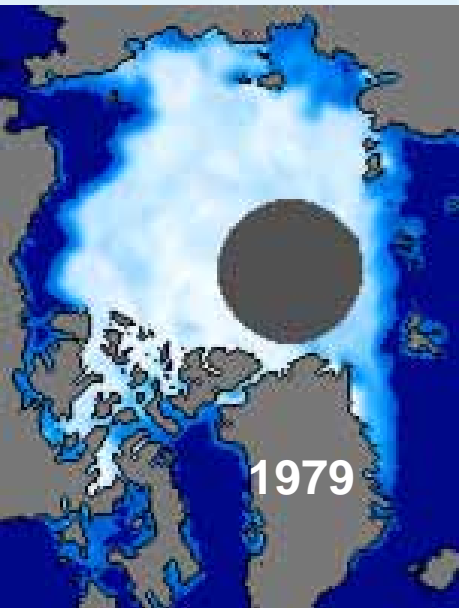
Maximum ice extent

Sea Ice and Depth Averaged Temperature at M2

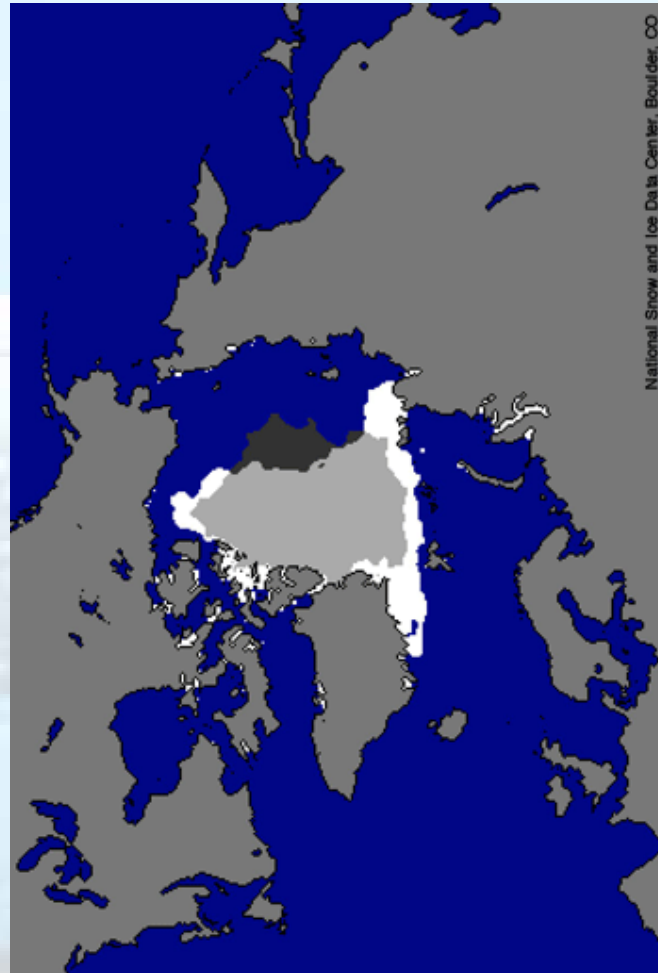


September 1979 sea ice extent and successive September record lows

September 2007 monthly average will fall somewhere between the 9/1 and 9/16 images pictured below

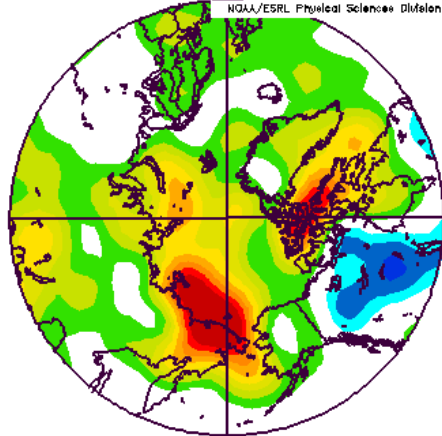


Arctic Sea Ice Extent

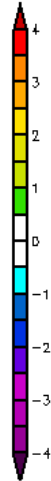


Warm S pring Bering 2000-2005 (Left) Cold S pring and Winter 2006-2007 (Center and Right) Rest of A rctic S tays Warm!

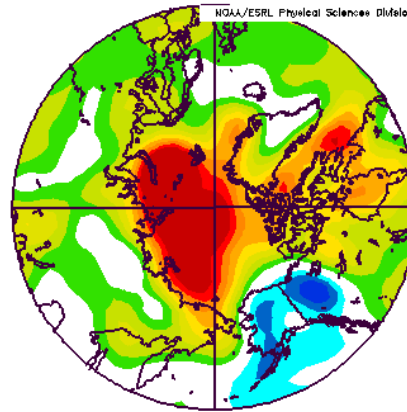
NCEP/NCAR Reanalysis
1000mb air (C) Composite Anomaly 1968-1996 climo
NOAA/ESRL Physical Sciences Division



Mar to May: 2000 to 2005



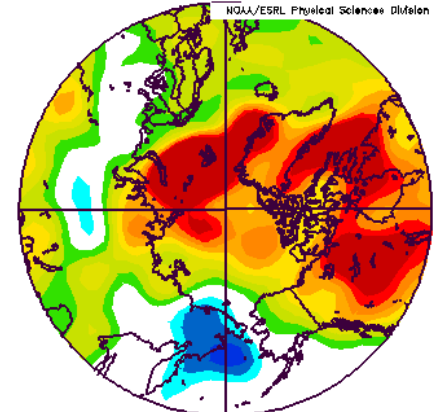
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Mar to May: 2006 to 2007



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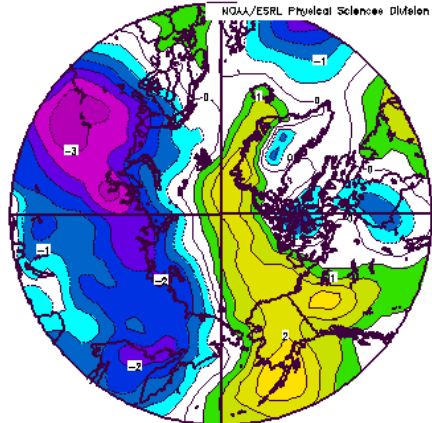


Dec to Feb: 2006 to 2007



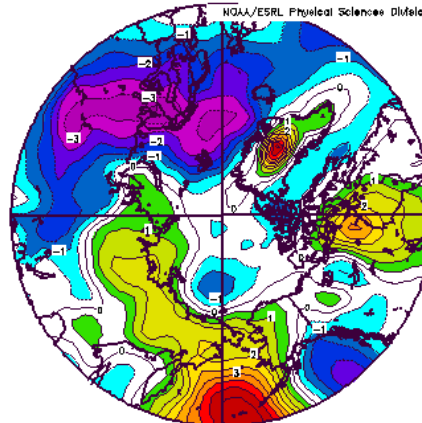
Temperature Anomalies

NCEP/NCAR Reanalysis
Sea Level Pressure (mb) Composite Anomaly 1968-1996 climo
NOAA/ESRL Physical Sciences Division



Mar to May: 2000 to 2005

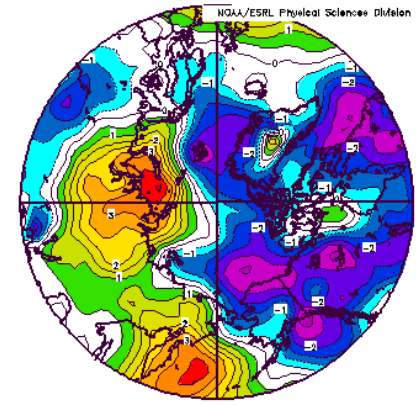
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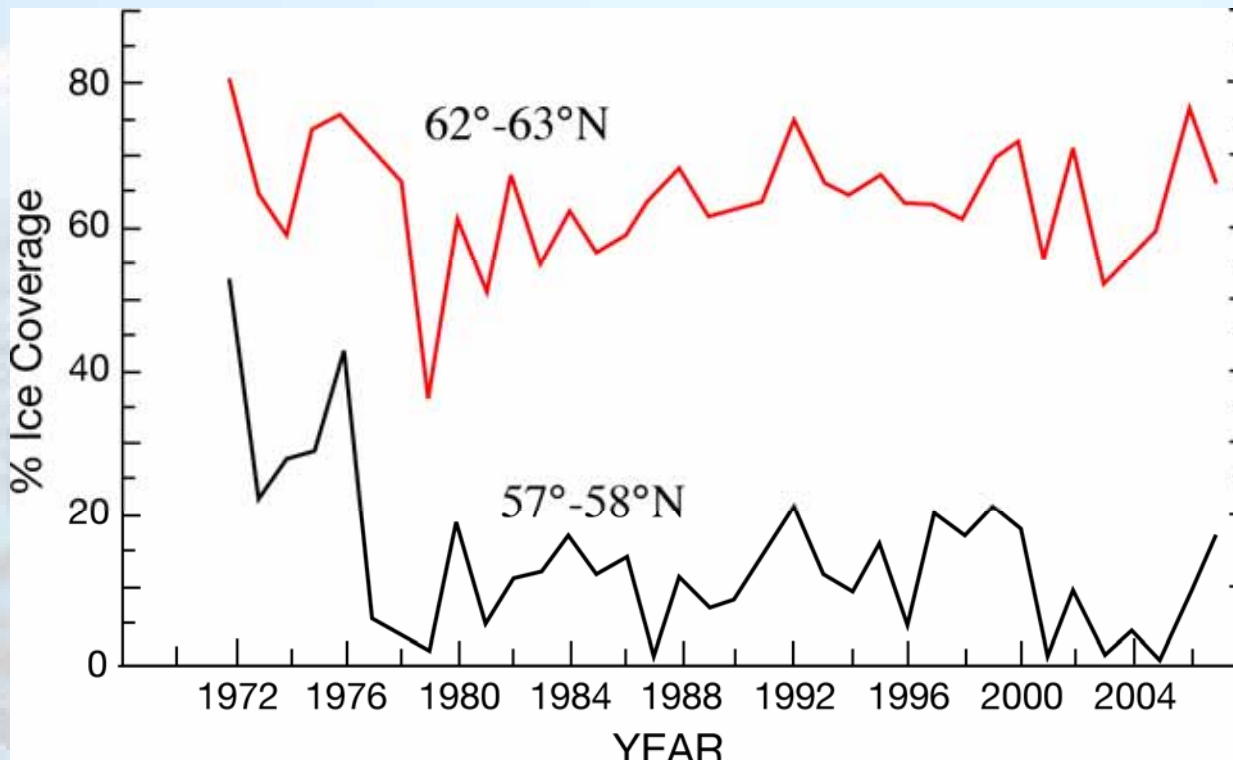
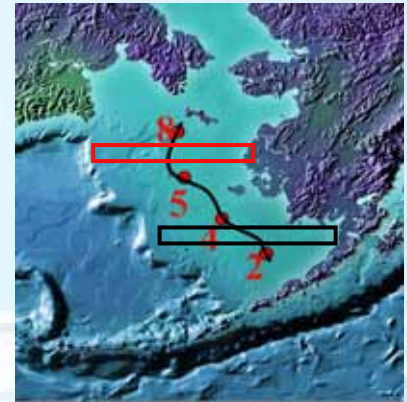


Nov to Feb: 2006 to 2007

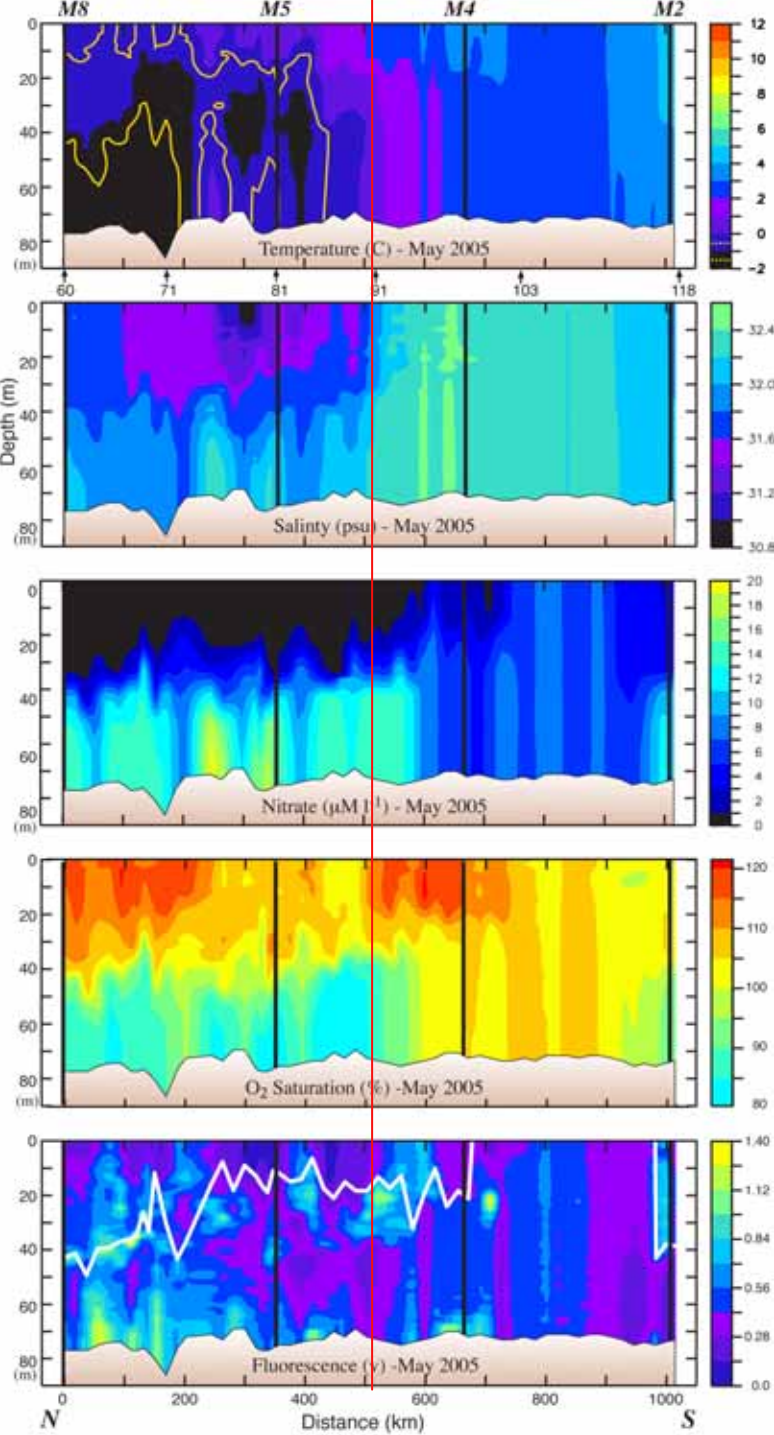


Sea Level Pressure Anomalies

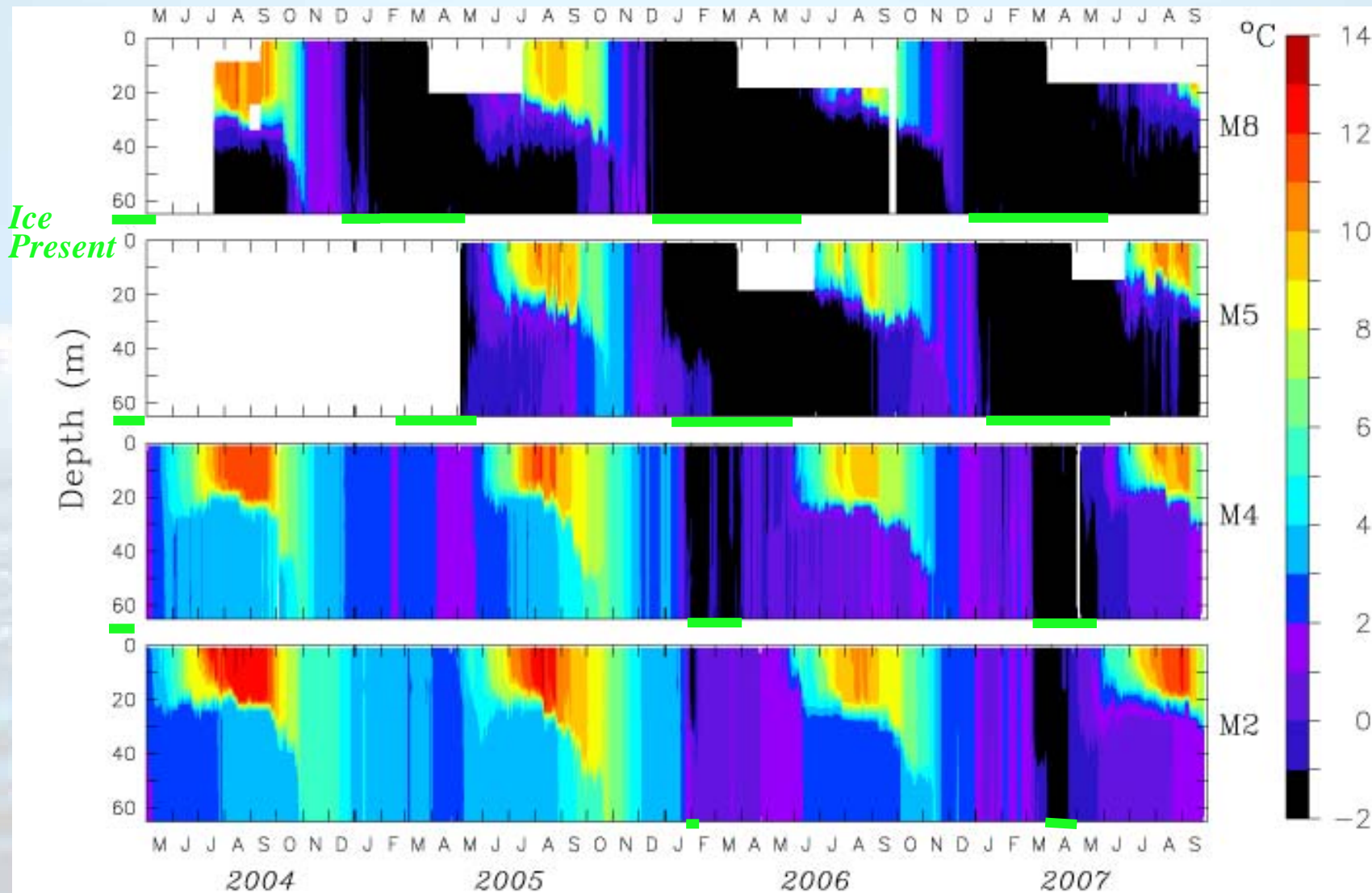
Indices of Ice Extent over the Eastern Bering Sea Shelf (December-June)



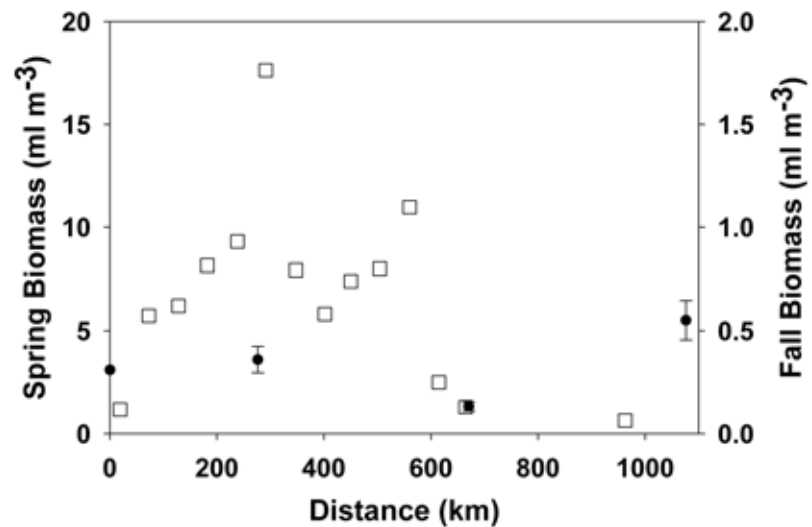
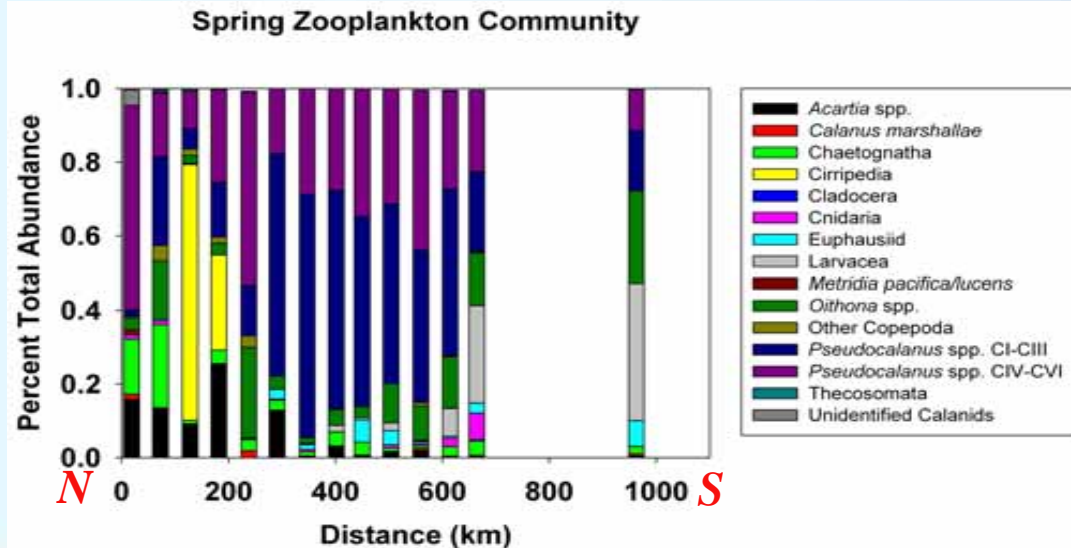
Water Properties along the 70-m Isobath (2005)



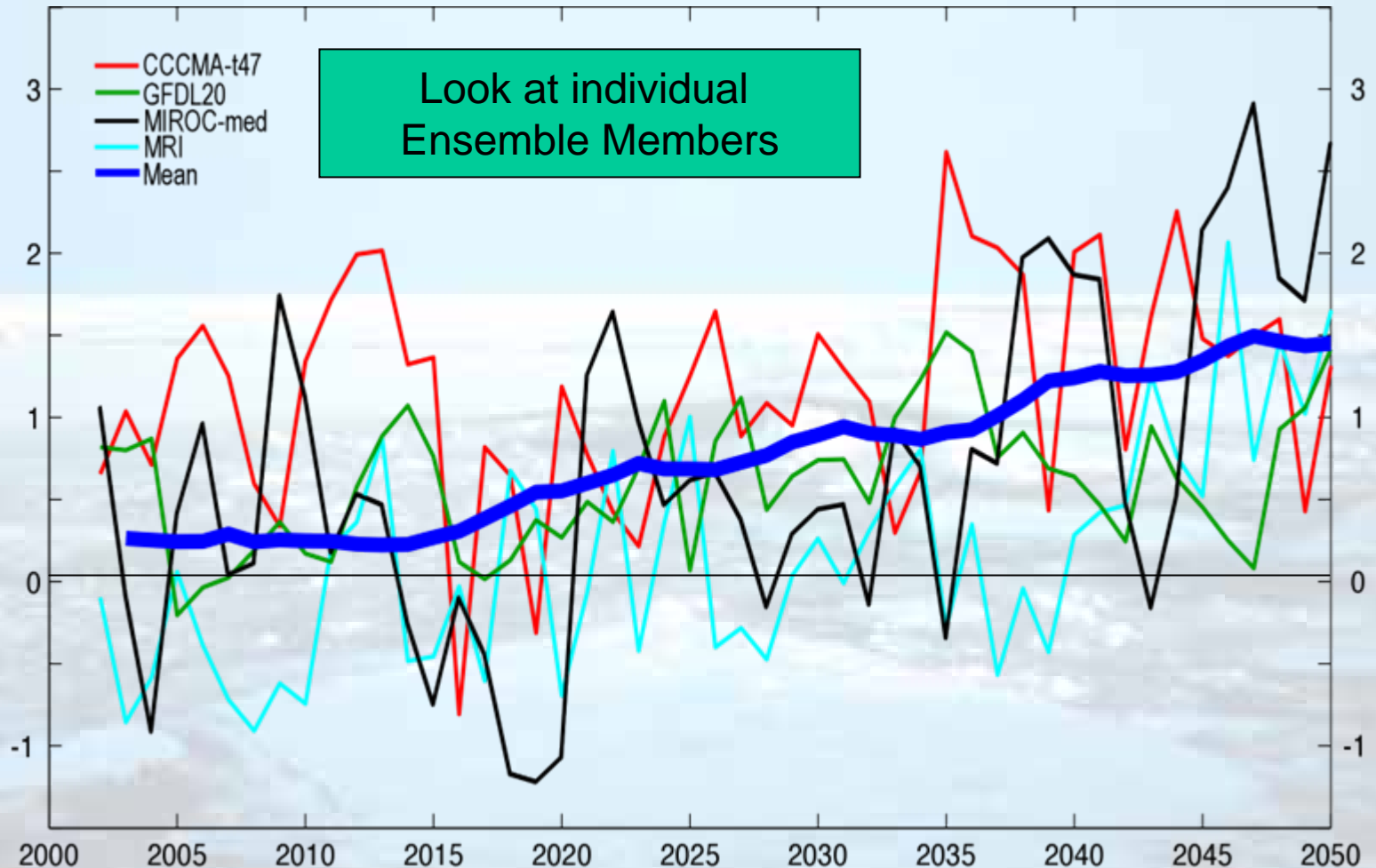
Changes in Temperature at the Moorings



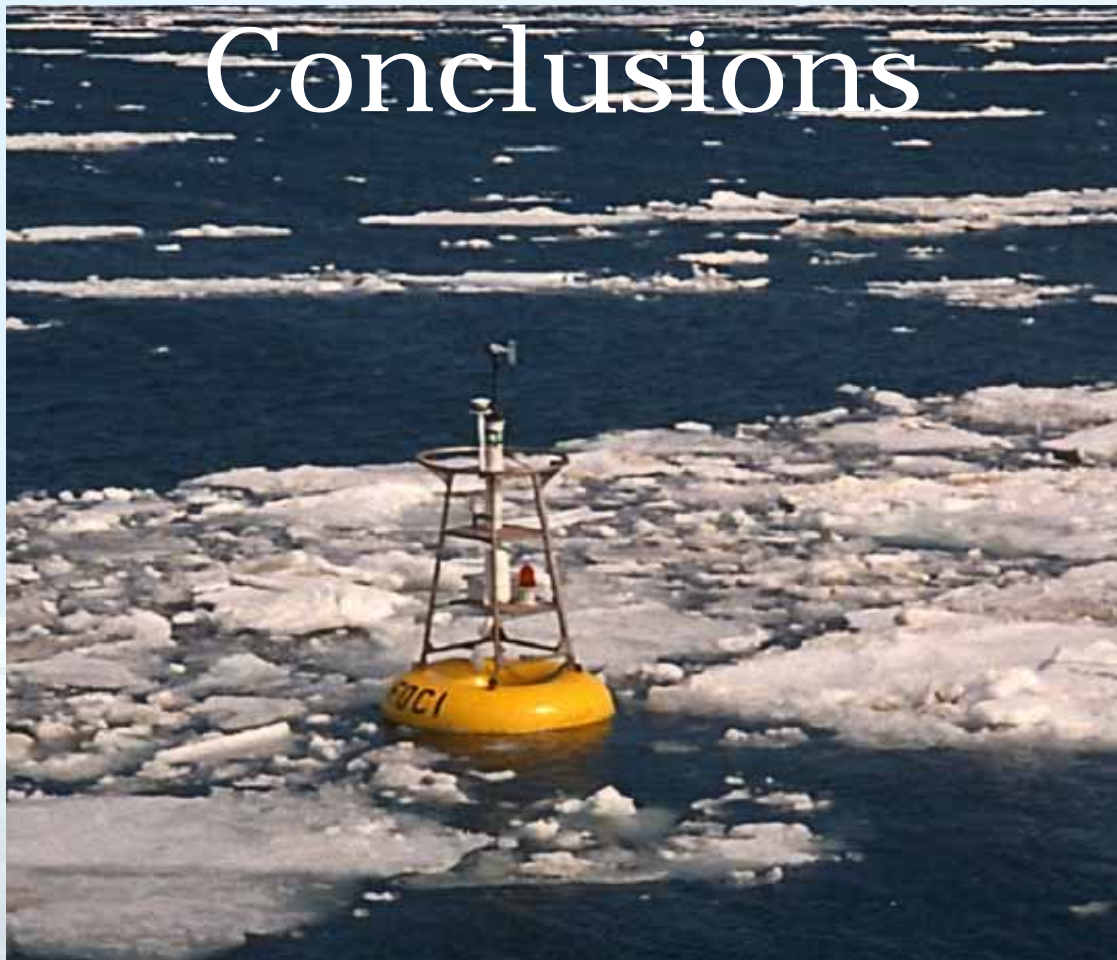
Zooplankton along the 70-m Isobath (2005)



Bering Winter (NDJFM) Ocean Temperature Anomaly (Relative to 1980-99 mean) IPCC A1B emissions scenario



Conclusions



- Definite Arctic/Subarctic ecosystems
- Warm/Cold variability on top of global warming trend
- Arctic sea ice may not return to previous levels (1980s)