

# Study of Environmental Arctic Change (SEARCH) Sea Ice Outlook

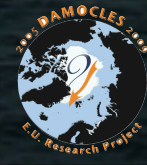
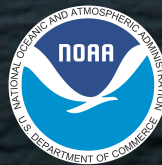


Photo Credit: Ute Kaden

# Sea Ice Outlook (SIO) Background



Photo Credit: Rob Bauer, National Snow and Ice Data Center

- A response by the scientific community to the need for better understanding of the arctic sea ice system, given the drastic and unexpected sea ice decline in 2007.
- The idea for the SIO was conceived at the “Arctic Observation Integration Workshops,” held 17–20 March 2007 (<http://www.arcus.org/search/meetings/2008/aow/>)
- Dramatic changes in arctic sea ice may have an effect on socioeconomics, marine life, shipping, and arctic security.

# What is the Sea Ice Outlook?

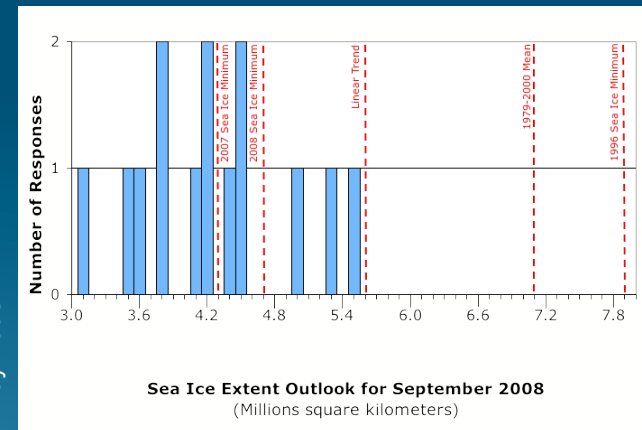
- International effort to provide a community-wide summary of the state of the arctic sea ice over the summer season.
- Monthly reports synthesize community estimates of the current and expected sea ice minimum—at both pan-arctic and regional scales—during the summer melt season.
- The intent is NOT to issue predictions, but to summarize all available data in order to provide the best available information on the evolution of arctic sea ice.



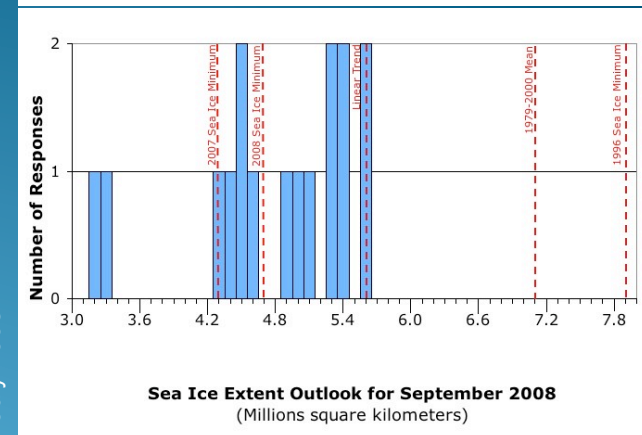
# The 2008 SIO Was a Success

- 22 groups participated.
- Good agreement between outlook projections and observations.
- The projected median ice extent in July was 4.9 million square kilometers, compared to the monthly averaged value of 4.7 million square kilometers.
- Provided a successful forum for community synthesis.
- Important first step for understanding arctic sea ice loss.

May 2008



July 2008



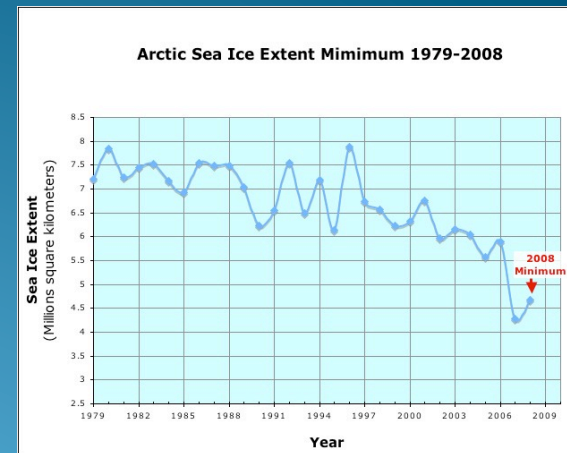
Contribution distributions for September 2008 arctic sea ice extent based on May and July data.

# What Did We Learn from 2008?

- Meteorological conditions played an important role in the sea ice minimum.
  - 2008 extent minimum nearly matched 2007 minimum.
  - Extent was driven by pre-existing spring conditions and variable summer wind patterns.



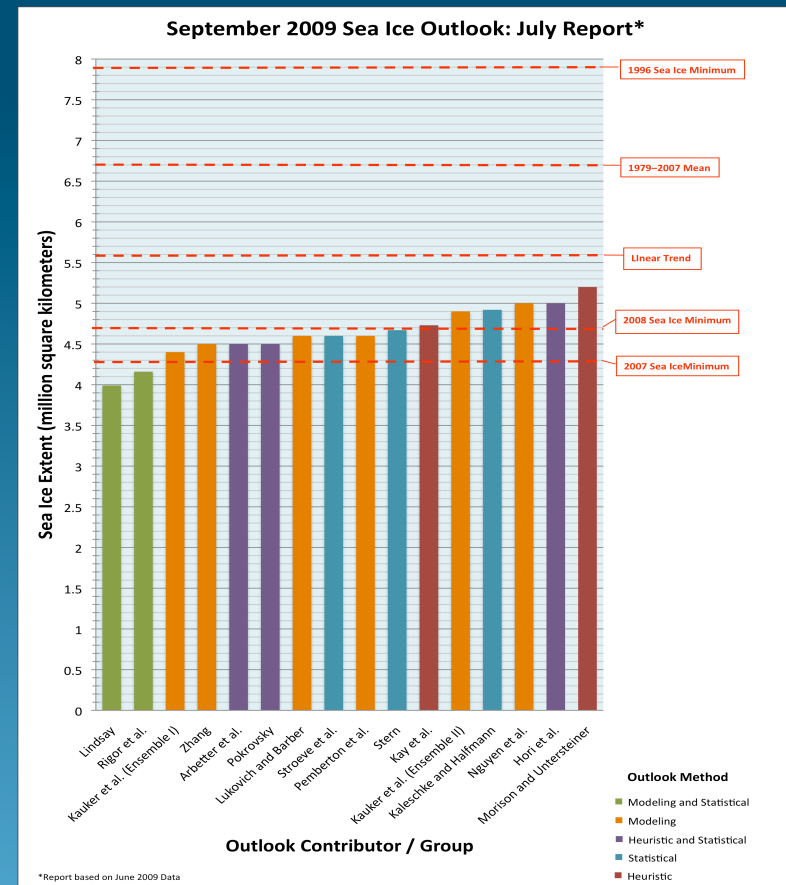
Pool of water on an ice floe in the Bering Sea as seen from the USCGC Healy. Photo by Patty Janes (TREC 2006), courtesy of ARCUS.



Annual arctic sea ice extent since 1979. Data is from the NSIDC sea ice index. Graph courtesy of ARCUS.

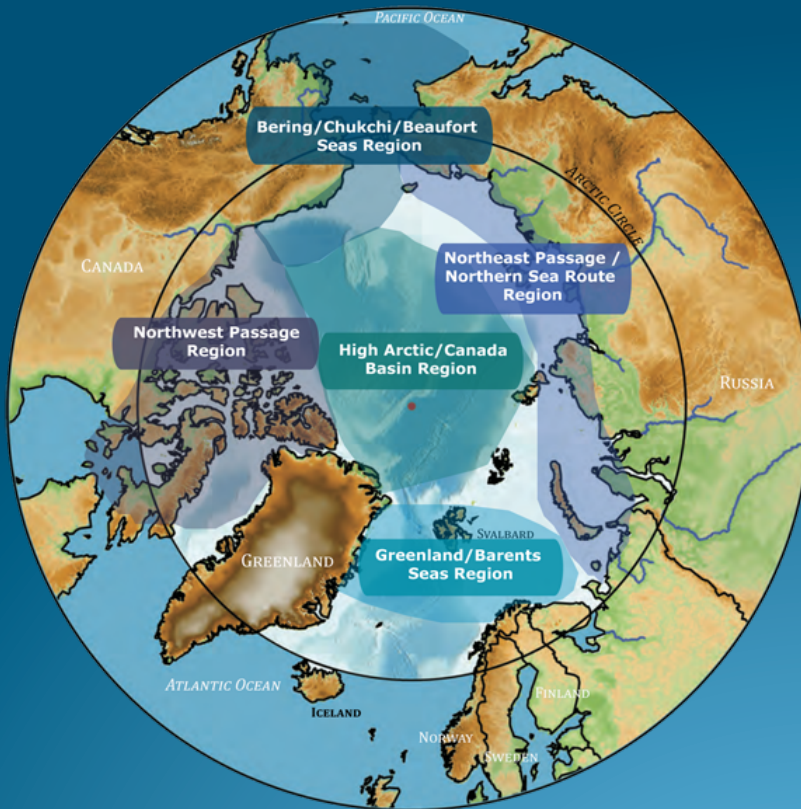
# Moving into the 2009 SIO

- The 2009 SIO will also track the types of outlooks.
- To date, two reports have been issued: June and July.
  - Both indicate a continuation of low pan-arctic sea ice extent with no indication that a return to historical levels will occur.



Distribution of individual outlook values for September 2009 sea ice extent based on June data.

# Regional Outlook



A view of the Arctic with regional labels.

- A new feature of the 2009 SIO is a separate Regional Report, which synthesizes contributions that provide perspective on specific areas of the Arctic.



# Implications for the Future of Arctic Sea Ice



A view of the sea ice on the Arctic Ocean. Photo by Ute Kaden (TREC 2005). Courtesy of ARCUS.

- Based on June data, the Outlook indicates a continuation of low pan-arctic sea ice extent, with no indication of a return to historical levels.



# For More Information

- Visit the SEARCH Sea Ice Outlook website:
- <http://www.arcus.org/search/seaiceoutlook/index.php>
- Or Contact:
  - Jim Overland, Sea Ice Outlook Lead  
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