

Alaska Climate Dispatch

A state-wide seasonal summary & outlook

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ACCAP
Alaska Center for
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Alaska Climate Dispatch

A state-wide seasonal summary & outlook

Brought to you by the Alaska Center for Climate Assessment and Policy in partnership with the Alaska Climate Research Center, SEARCH Sea Ice Outlook, National Centers for Environmental Prediction, and the National Weather Service.

Summer 2010

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Spring Weather Summary

Parts of Alaska were unusually warm and dry during the 2010 spring (March, April, May), while other parts of the state were colder and wetter than usual. The figure in the next column shows the spring temperature departure from the recent 30-year average at the main National Weather Service stations in Alaska. Most of Alaska had temperatures above the long term average, especially the eastern, northern and central part of the State. The largest temperature departures above the 30 year average were at Fairbanks (4.2°F), Bettles (4.0°F) and Barrow (3.9°F). Above-normal temperatures were also observed in the Southeast; however, these temperatures were closer to the long-term average than those in Interior and Arctic Alaska. Temperatures in Southwestern Alaska and the Aleutians were much colder than normal for spring time. The colder temperatures in Southwestern Alaska were consistent with the extensive ice cover in the Bering Sea (see section on sea ice). Temperatures were 6.3°F colder than the 30-year average at St. Paul Island, 4.5°F colder than average at Cold Bay and 3.4°F colder than average at Bethel.

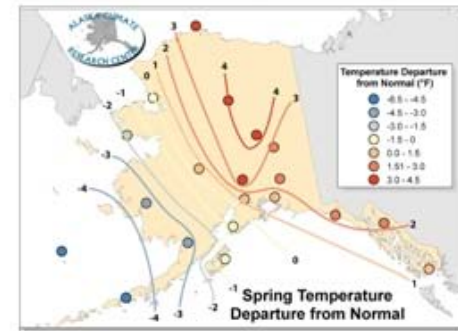
Temperature

On a monthly basis, the temperature departures during March varied widely across the state. As shown in the table on page two, Arctic and Southern Alaska recorded temperatures somewhat warmer than normal, while the Interior and especially Western Alaska were much colder than normal. St. Paul Island in the Bering Sea was 13.4°F colder than normal in March, an extreme departure that was larger than at any other Alaskan station in any of the spring months during 2010. April's temperatures were warmer than normal, with the exception of the Southwest. In April, Barrow was 8.4°F warmer than average, the largest positive departure from average in any 2010 spring month. May's temperatures were above

normal across much of Alaska, although Arctic, South Central and South-Eastern Alaska reported values below normal. In Interior Alaska the weather was unusually warm. Fairbanks was 5.2°F warmer than the average in May, and temperatures reached 80°F or higher on four days. The warmest day was May 27 when the temperature reached 82°F. Temperatures this high are not normally expected until June.

Precipitation

Precipitation over Alaska varies tremendously from south to north. On the average, Yakutat receives about 30 times more precipitation than Barrow. Also, departures from normal monthly and seasonal precipitation vary widely from station to station, so we could not make a map with contour lines of precipitation or its departures from normal. Instead, we summarize the data in the figure on page two by color-coding each station's spring



<http://climate.gi.alaska.edu/index.html>

precipitation as a percentage of the station's normal. In Barrow, where the annual precipitation is light, more than 3 times the normal precipitation was reported for spring 2010. Otherwise, precipitation was generally lighter than average, especially in Interior Alaska, with large variations from station to station.

March was very dry in Interior Alaska. Fairbanks reported its seventh consecutive month with below normal precipitation. Snow cover in March was less than 50% of the expected amount, the 3rd lowest amount since observations started in 1930. Fairbanks also received only 0.09" precipitation, just less than a third of the expected amount. In contrast to the Interior, Southeast Alaska reported above



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Objectives of newsletter

- **Highlight recent climatic events of significance to Alaska**
- **Inform about NOAA products and other experimental products**
 - **information to facilitate use**
 - **background on methods, uncertainties, etc.**
- **Obtain feedback on usefulness of products, possible improvements, and unmet user needs**

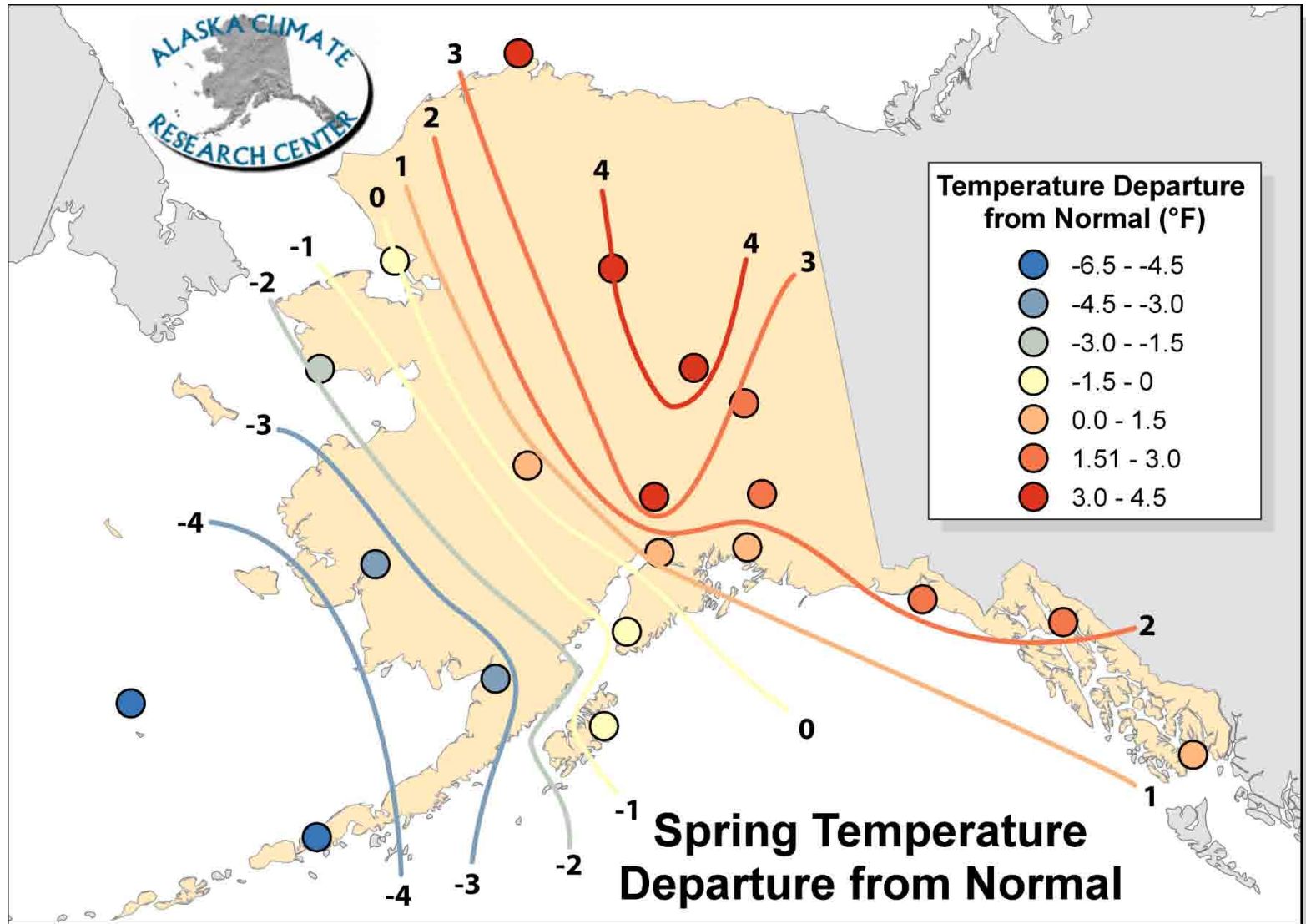
Test issue (Volume 0, June 2010)

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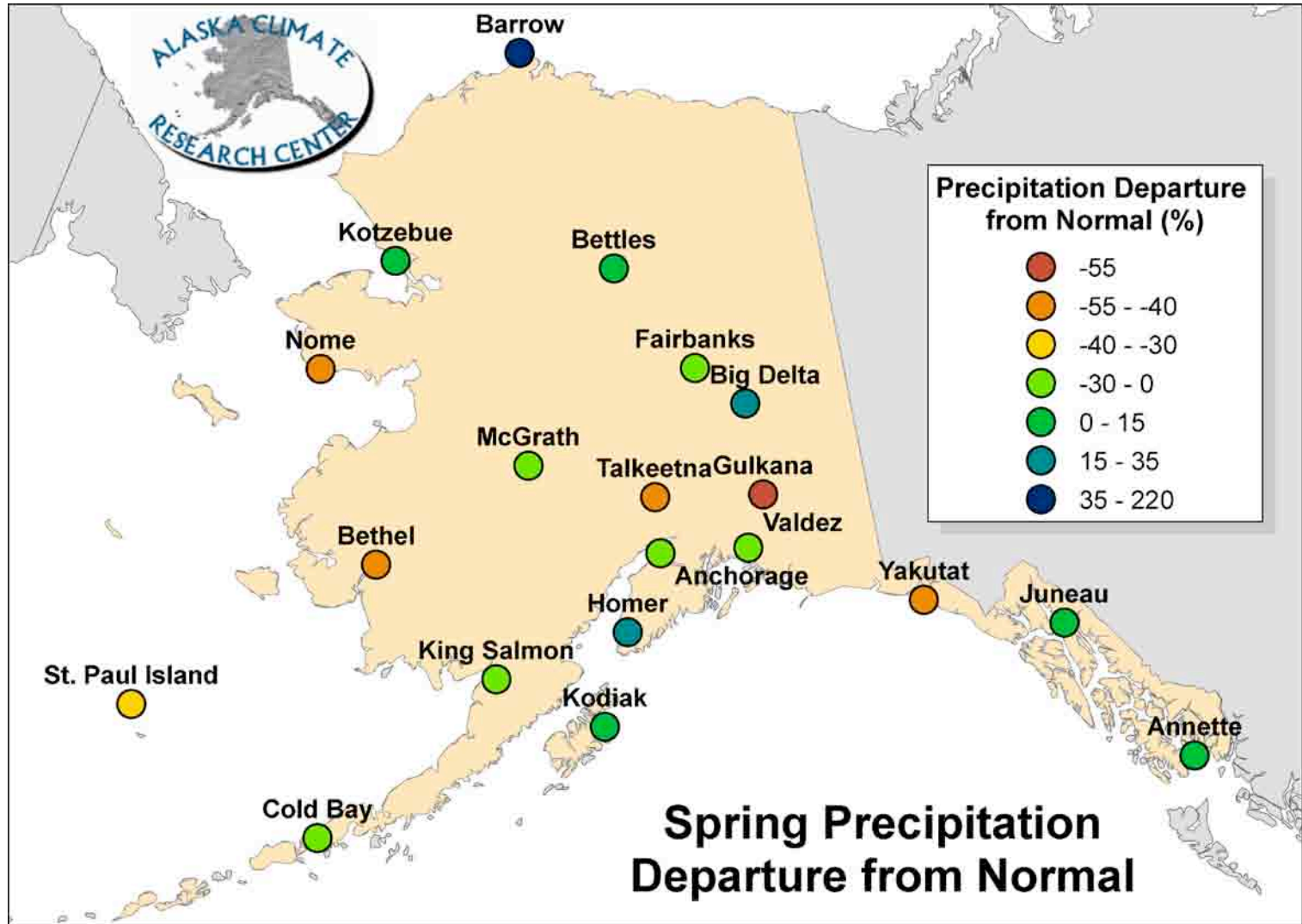
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Departures from normal temperature (spring, March-May) [Alaska Climate Research Center]



% departure from normal precipitation (spring, March-May) [Alaska Climate Research Center]



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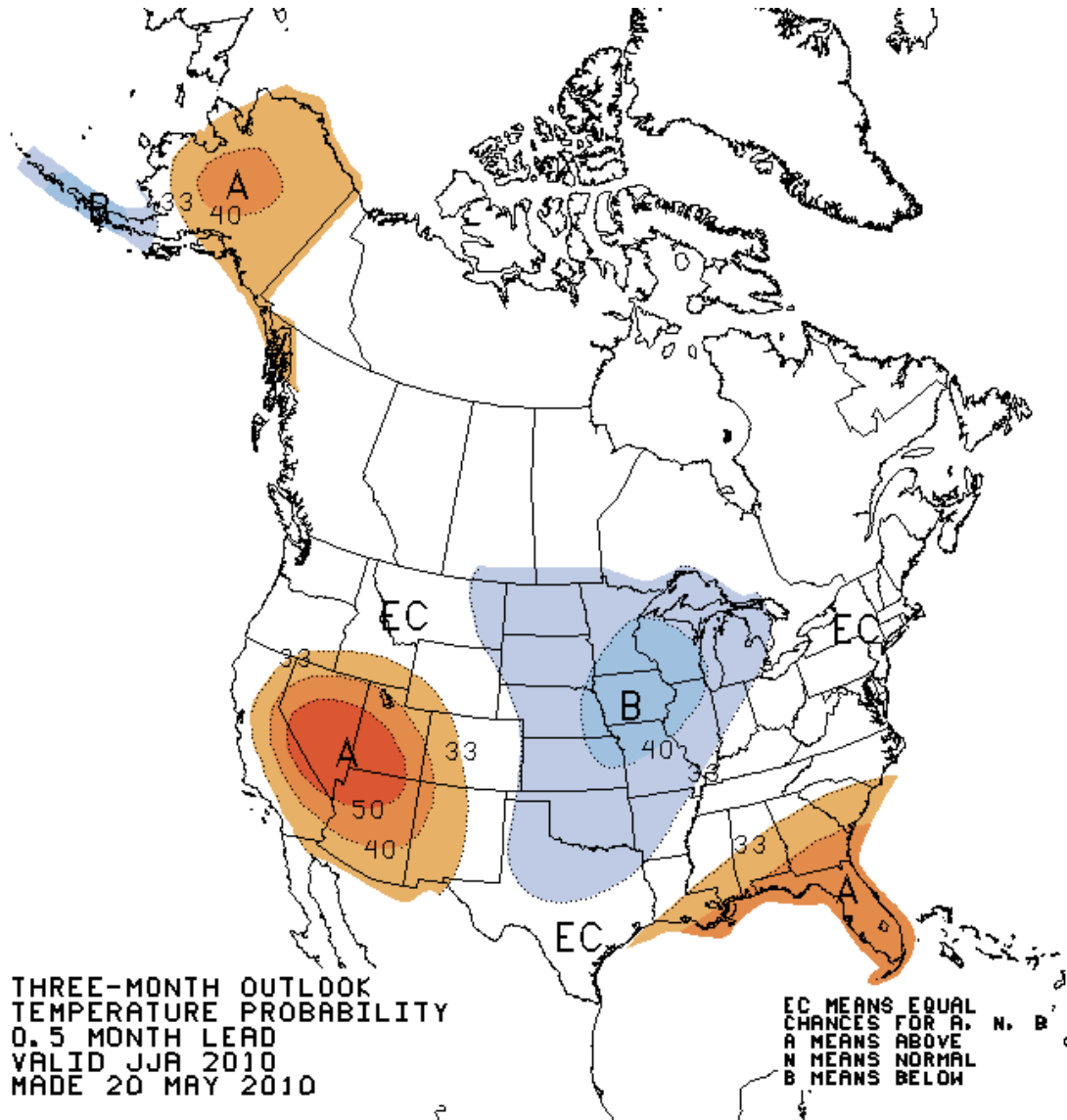
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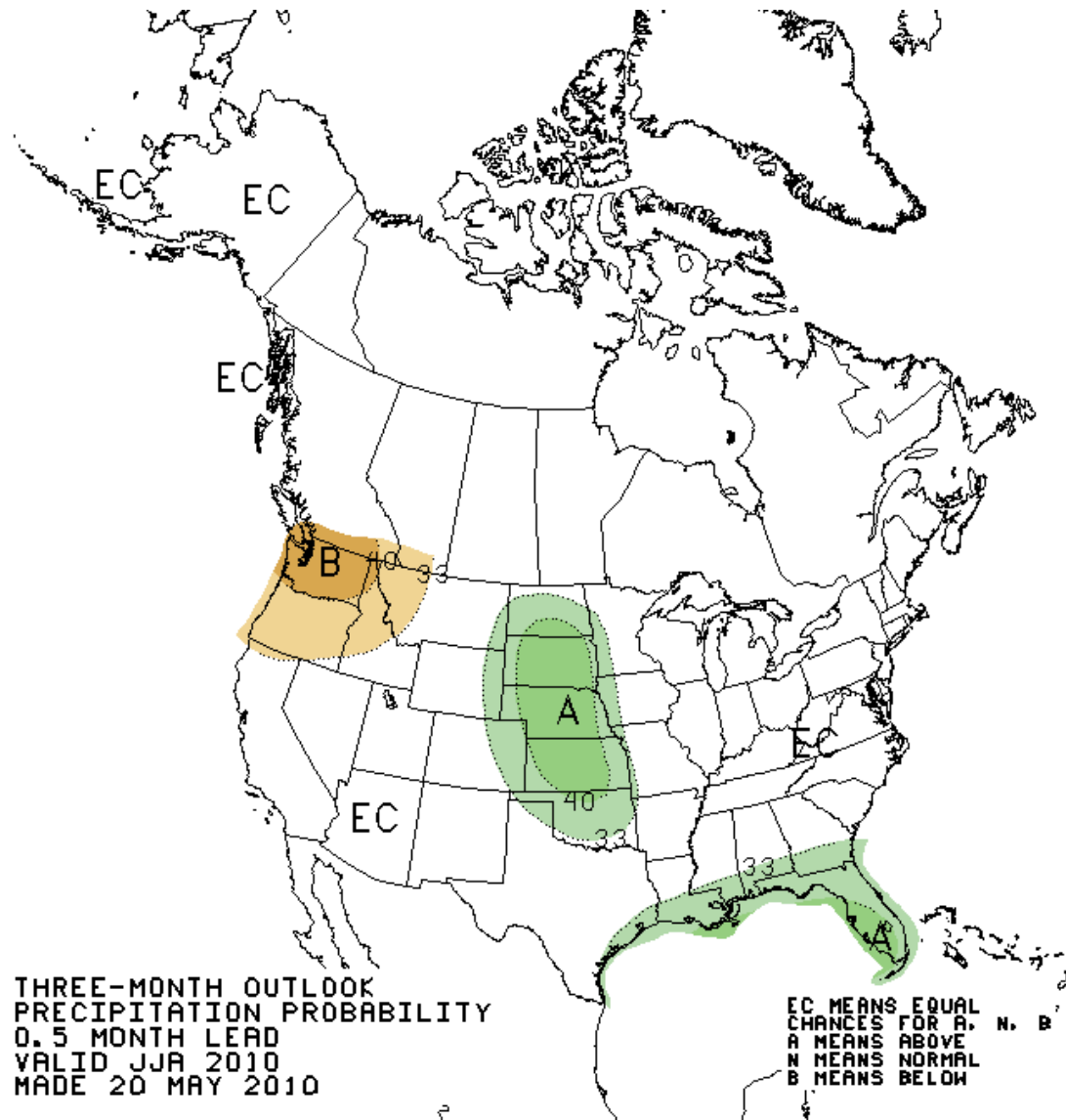
Sea Ice Outlook.....page 4



Summer (Jun-Aug) temperature outlook: probabilities of warmest, coldest tercile *[Climate Prediction Center/NWS/NOAA]*



Summer (Jun-Aug) precipitation outlook: probabilities of wettest, driest tercile *[Climate Prediction Center/NWS/NOAA]*



Supplementary information

- **Explanation of probability format**
- **Description of basis for forecast (methods)**
 - **El Niño, La Niña status**
 - **recent (10-30) year trends for region and time of year**
 - **present, anticipated states of major atmosphere/ocean patterns (e.g., Pacific Decadal Decadal Oscillation, Pacific-North American pattern, ...)**
 - **snow/ice anomalies in the cold season; dry/wet soils in summer**
 - **statistical forecast tools (correlations, analogs)**
 - **a dynamical model (Coupled Forecast System, CFS)**

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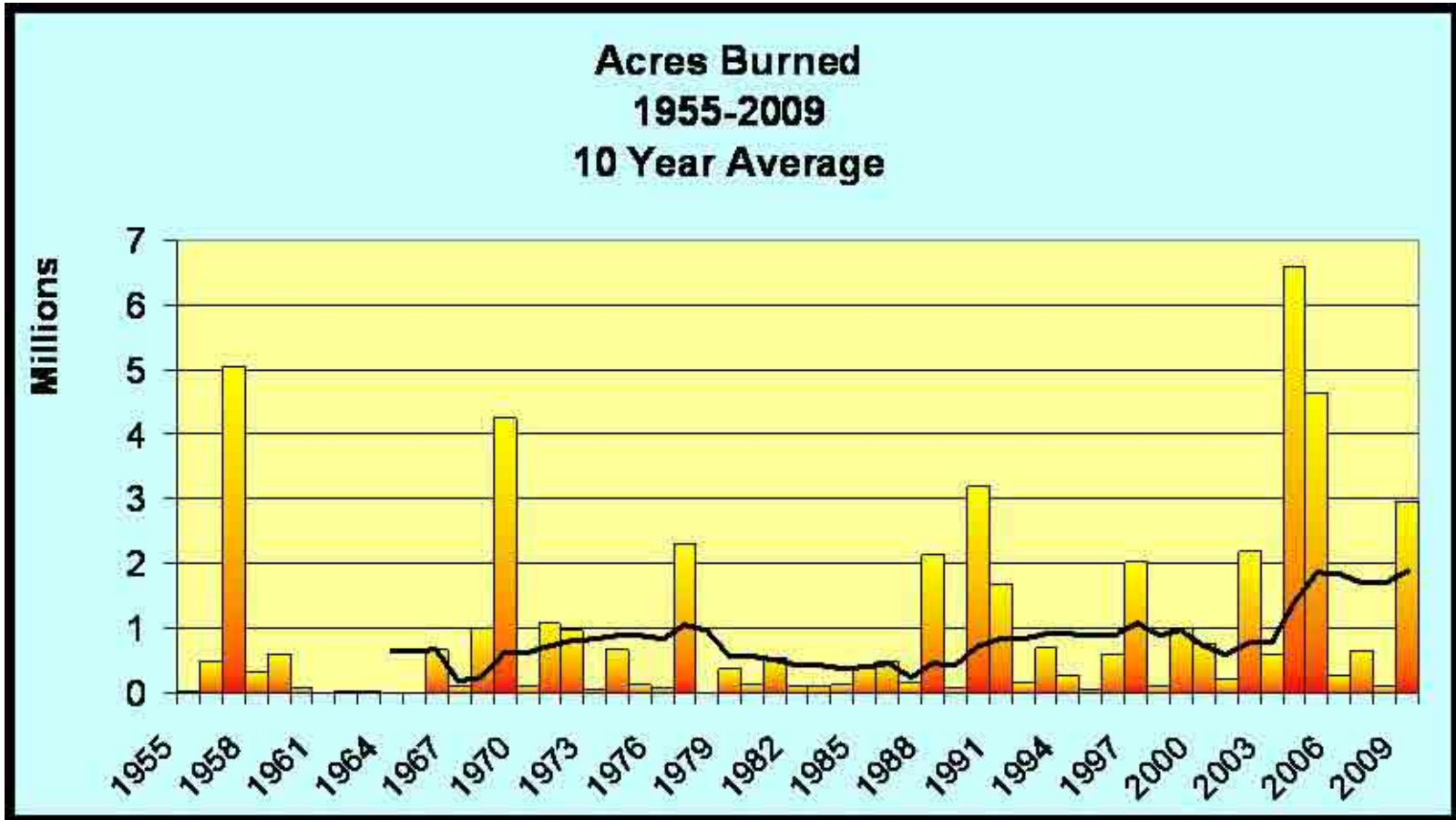


Alaskan wildfires

- **History of Alaskan fire season severity**
- **Status as of end of May 2010 (ties to spring weather)**
- **Two experimental forecasts of 2010 fire season (burn area)**
 - **Paul Duffy (ACCAP, Neptune, Inc.)**
 - **Peter Bieniek (UAF Dept. of Atmospheric Sciences)**

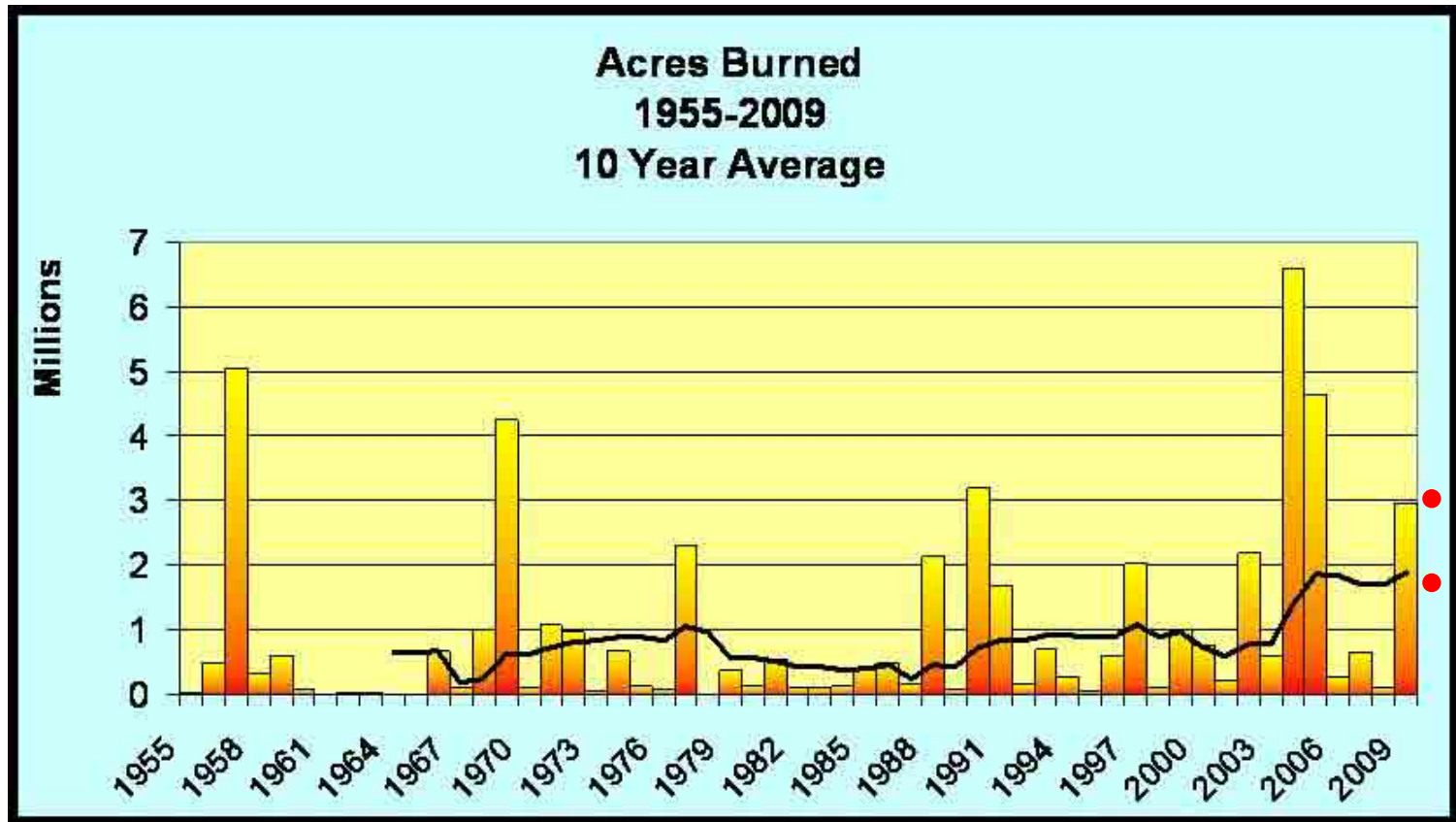
Yearly history of Alaskan fire season severity: acres burned

[Alaska Interagency Coordination Center Predictive Services]



Yearly history of Alaskan fire season severity: acres burned

- experimental forecasts for 2010



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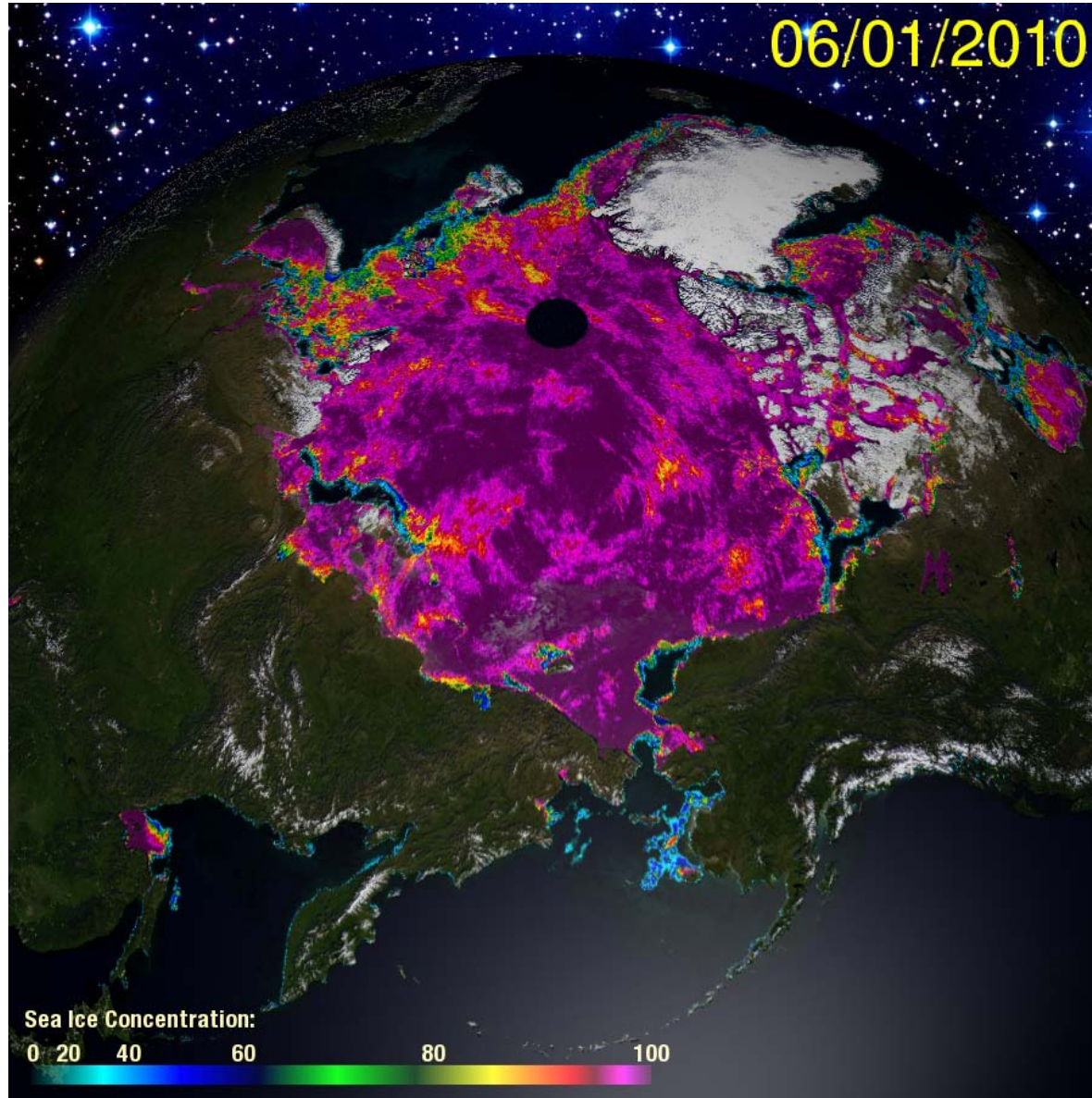
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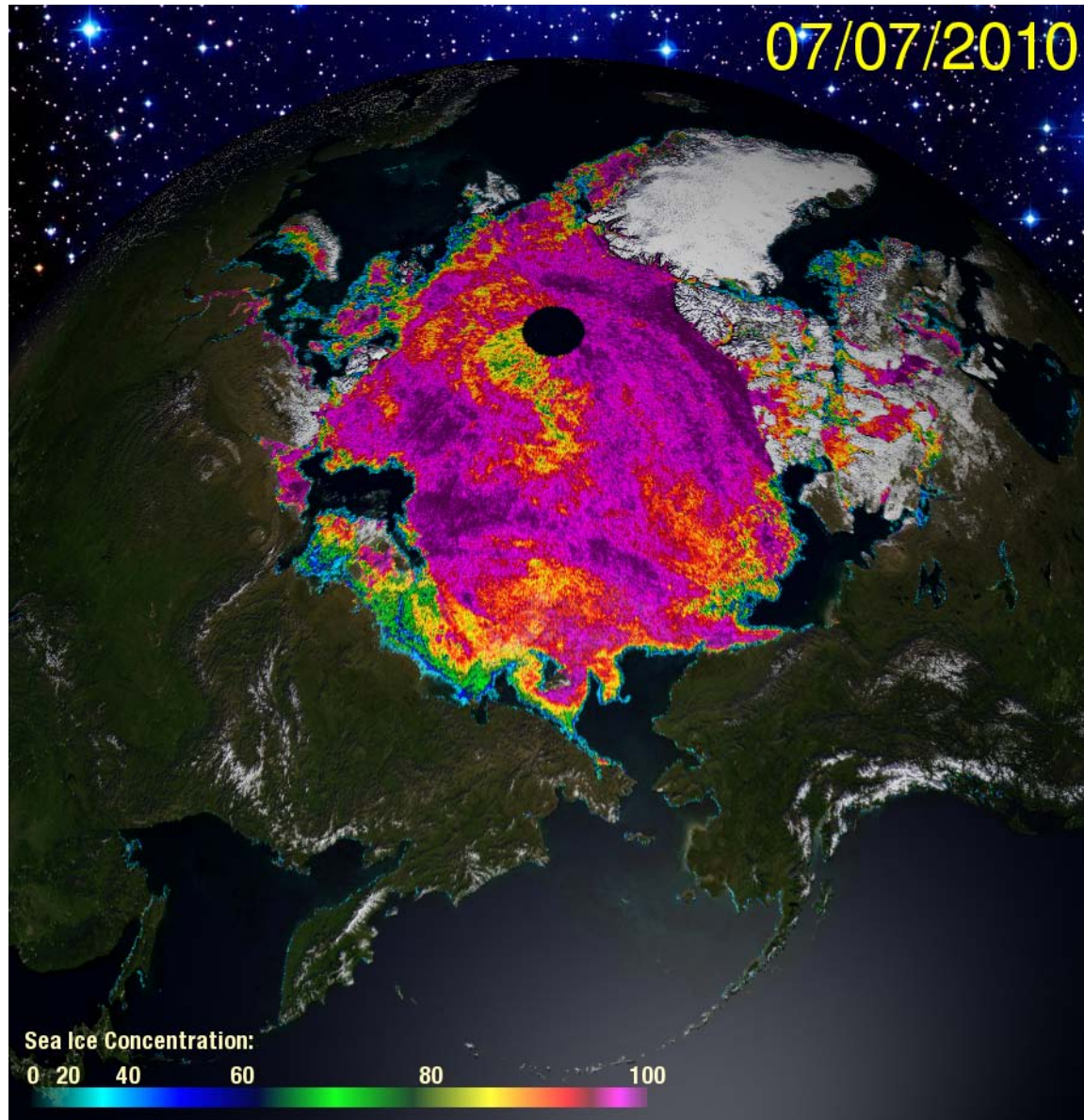
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Arctic sea ice concentrations: June 1, 2010



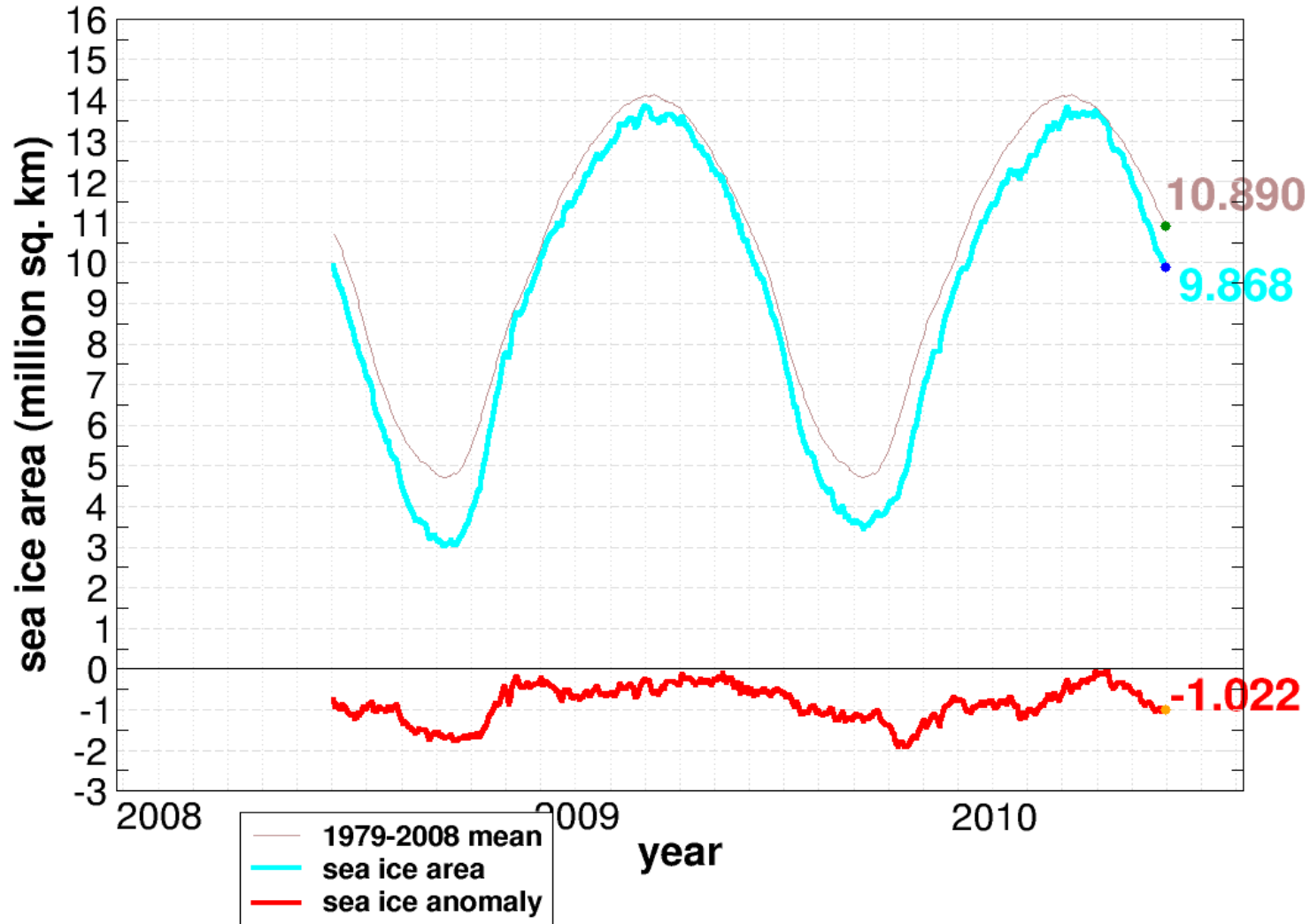
Arctic sea ice concentrations: July 7, 2010



Recent evolution of total (Arctic-wide) sea ice area: June 1

Current Northern Hemisphere Sea Ice Area

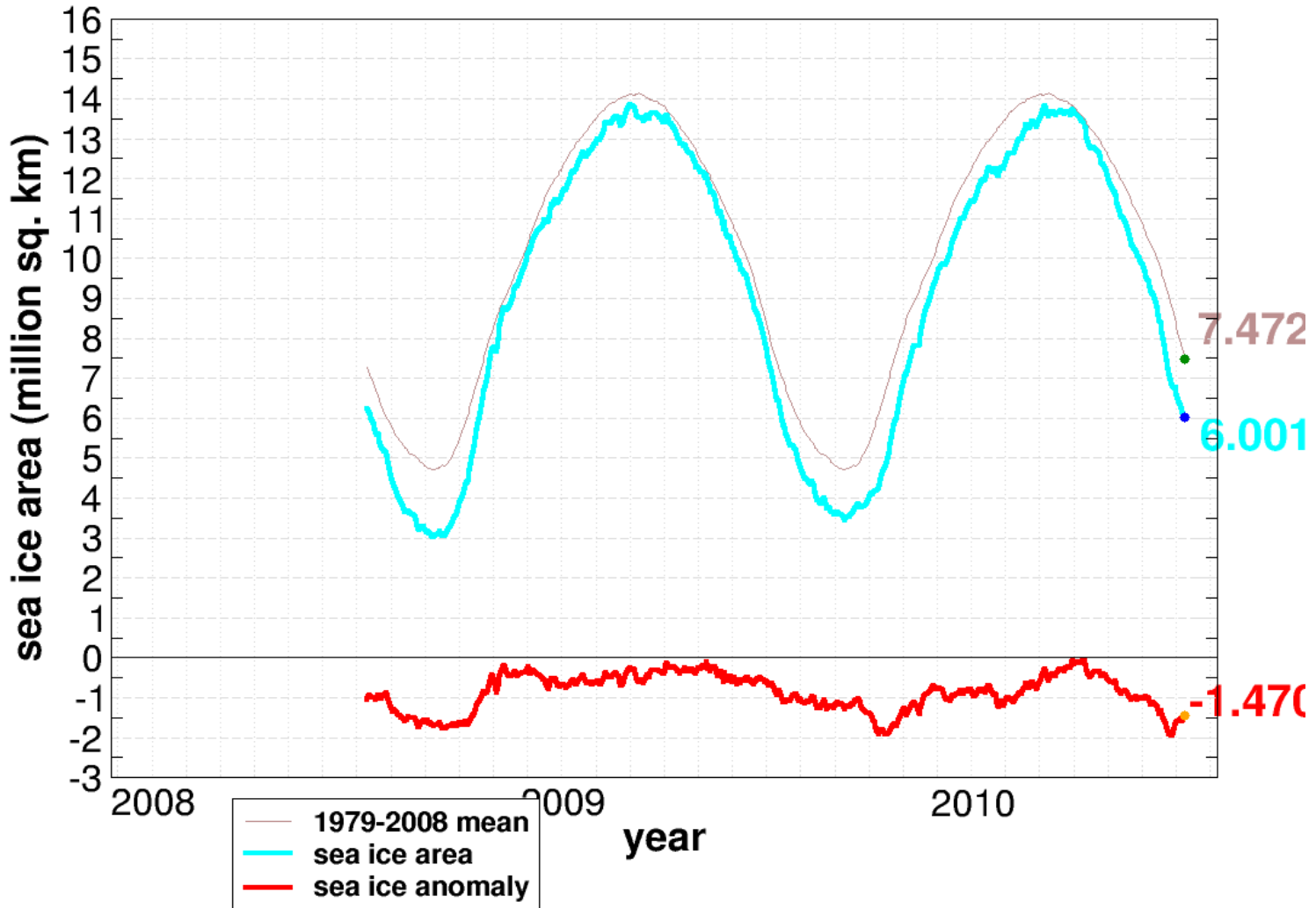
most recent two years shown



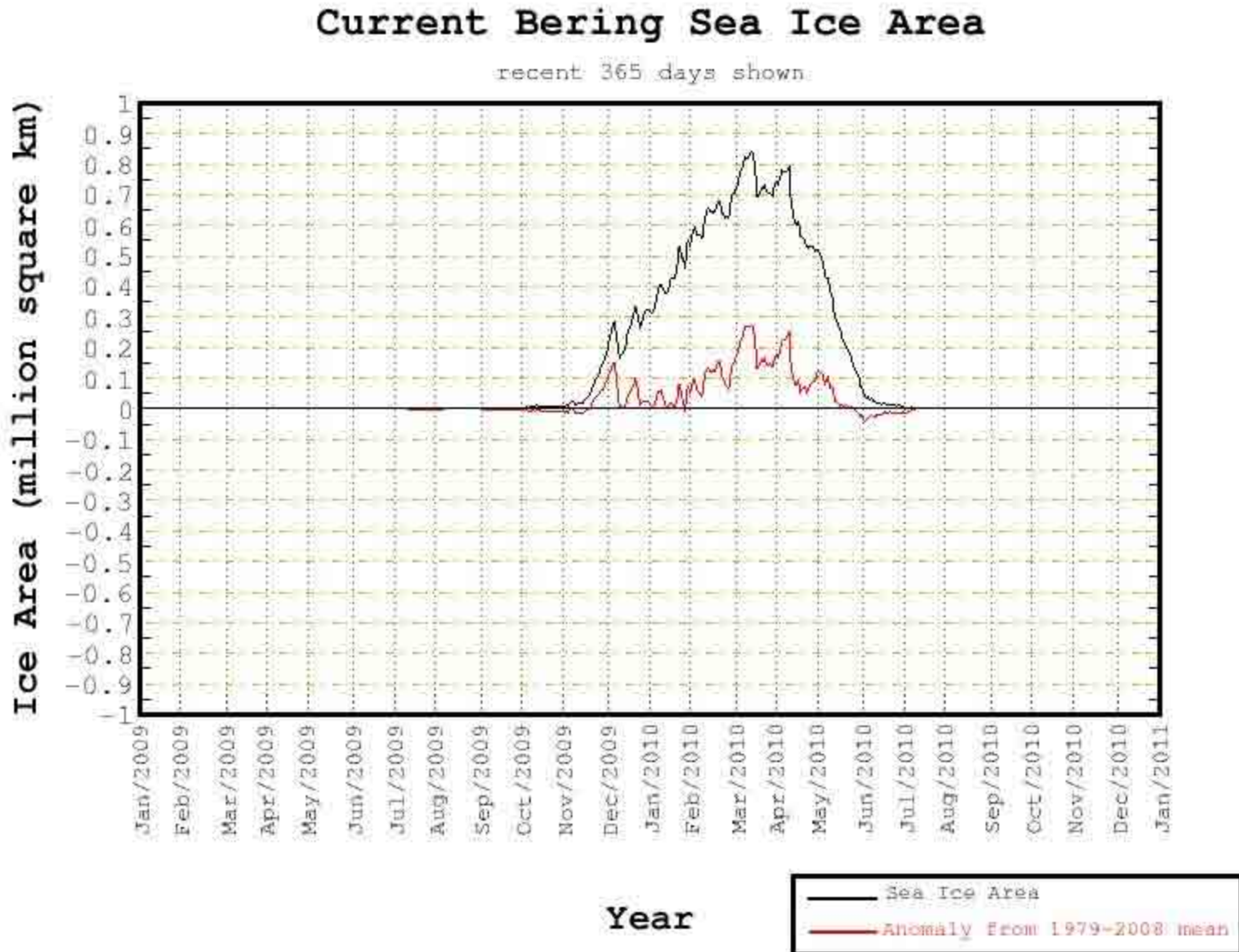
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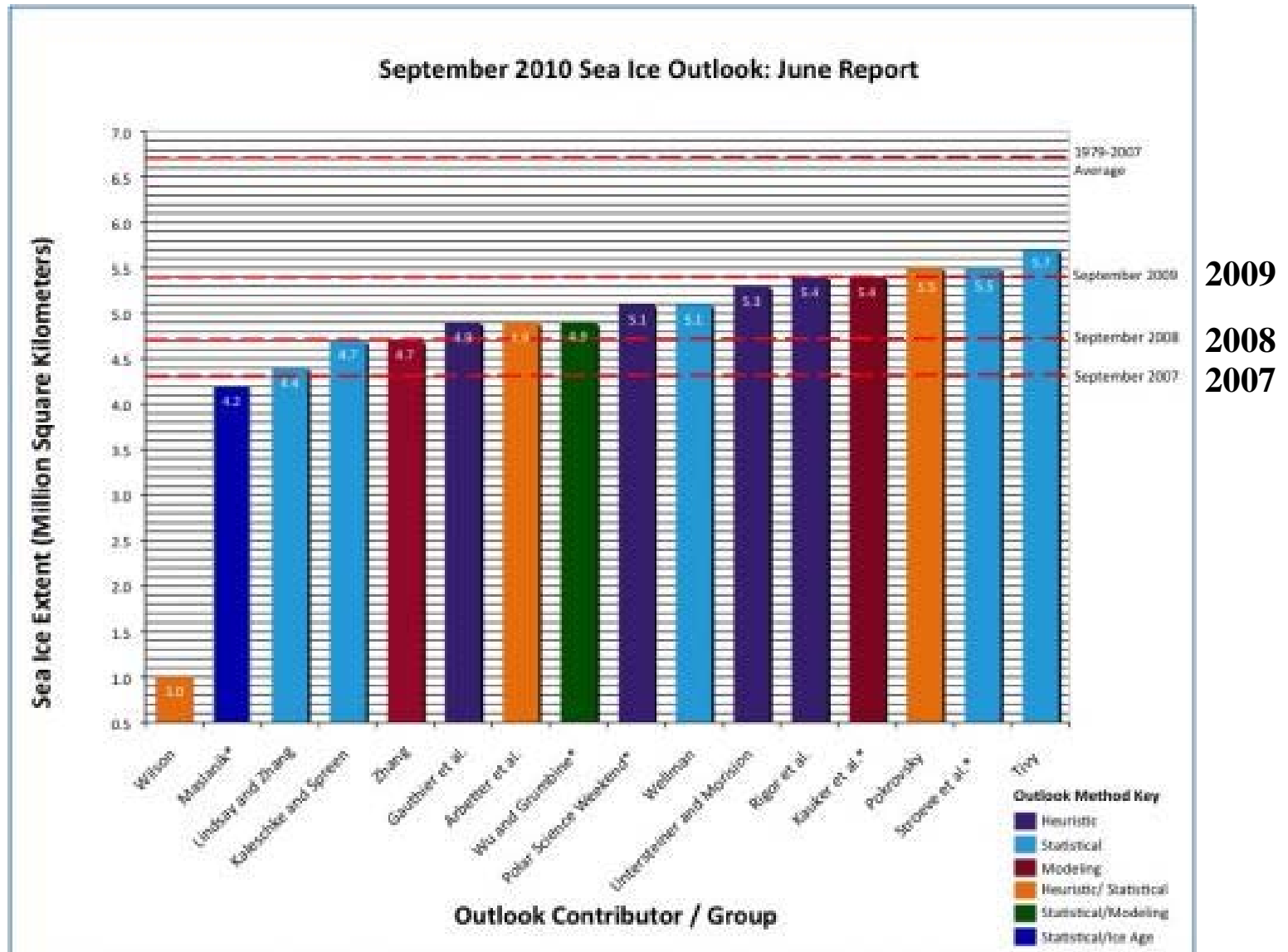


Regional focus (not in spring newsletter): Bering sea ice, 2009-10



Summer 2010 Sea Ice Outlook: September ice extent

[from SEARCH and ARCUS: <http://www.arcus.org/search/seaiceoutlook/2010/june>]



Planned for September newsletter

- **Review of summer 2010 weather and climate**
- **90-day outlook for autumn (Sep-Nov)**
- **Review of summer 2010 fire season, sea ice retreat**
- **Hydrology: pre-freeze-up assessment of streamflow, ground moisture (?)**

Desired feedback

- **Content:** Which topics would have been timely additions?
- **Level** – too technical, too watered down?
- **Should background on product development (methods, format) be included?**
- **Particular items that were confusing, too detailed, inadequate?**
- **Any other suggestions for future newsletters**
-- content, format, distribution, . . .

Please send comments to: accap@uaf.edu



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