

E & E NEWS PM

CLIMATE: Polar summers could be ice-free in 30 years -- study (04/02/2009)
Lauren Morello, E&E reporter

Arctic summers could be ice-free by 2037, according to a new federally funded study.

Researchers at NOAA and the University of Washington based their analysis on a comparison of climate models and observed ice levels in the Arctic.

Muyin Wang, the University of Washington scientist who co-wrote the paper, said scientists have been surprised at how quickly Arctic sea ice has declined in recent years. In 2007, Arctic sea ice dipped to its lowest level since satellite observations began in 1979 and came up just shy of that mark last year.

"Nobody expected the ice to reach this low this fast," she said. Most climate models had predicted summer sea-ice would persist until the end of the century.

Wang and her co-author, NOAA scientist James Overland, examined the projections of six climate models that most closely matched recent sea ice conditions. The models predict that when Arctic sea-ice cover dips to about 4.7 million square kilometers -- about the level it is now -- it will take about 30 years to reach ice-free summers.

As ice disappears, it creates a feedback loop that accelerates warming, Wang said.

"The ice is like a refrigerator for the climate system," she said. "If you have a lot of ice in the summer, that keeps things cool."

But when ice disappears, it is replaced by darker, less reflective water, which absorbs more heat from the sun. And the warmer the ocean water gets, the harder it is for new sea ice to form in the fall.

Mark Serreze, a research scientist at the National Snow and Ice Data Center in Boulder, Colo., called the new work a "useful attempt to refine when we might go to an essentially ice-free summer in the Arctic."

The study will be published in the journal *Geophysical Research Letters*.

For more, see tomorrow's *ClimateWire*.

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