

*Kuehnast Lecture Series*

Twelfth Annual Lecture  
October 12, 2004

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*The Role of Sea Ice in Global Climate*

**Dr. Wallace Broecker**  
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and Environmental Science,  
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Columbia University**

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Large-scale sea ice cover in the northern Atlantic induced by a conveyor shutdown appears to account for both the profound Younger Dryas cooling of Greenland and northern Europe and the far field impacts of this cold snap. Question: Could the ongoing greenhouse warming bring about a repeat?

Adkins and Schrag have shown that much expanded Antarctic sea ice of glacial time led to the existence of an ultra salty water mass and hence impacts thermohaline circulation. Question: Could the ongoing greenhouse warming reduce southern sea ice extent (and hence the production of brine) and thereby alter thermohaline circulation?

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- Introductions ..... Dr. Mark Seeley  
Professor  
Dept. of Soil, Water, and Climate
  - Greetings from Sigma Xi .. Dr. Michael Russelle  
Past President, Minnesota Chapter
  - Departmental Welcome ..... Dr. Ed Nater  
Head  
Dept. of Soil, Water, and Climate
  - Remembering Bruce Watson ..... Frank Watson  
(son)
  - N.W.S. Recognition ..... Craig Edwards  
Meteorologist-in-Charge  
National Weather Service
  - Mr. Richard Feser, Springfield, MN  
40 year service award
  - Keynote Speaker ..... Dr. Wallace Broecker  
Columbia University, New York
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