

Workshop on

# Linkages between Arctic Sea Ice Loss and Mid-Latitude Weather Patterns

September 12-13, 2013  
College Park, MD

National Research Council  
Board on Atmospheric Sciences and Climate  
Polar Research Board

Sponsored by NASA, NOAA, NSF



# Tradition of BASC Summer Studies

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- BASC organizes a summer workshop about once every two or three years, starting back in about 1998.
- Self-selected topics, and funded under board core support, so an opportunity to pick something proactively.
- The purpose of these workshops is to facilitate discussion on a topic that might not otherwise be addressed via BASC board discussion forums or full studies – continuing or emerging community issues, technical issues, science-policy interface issues.
- The Board's opportunity to explore an issue in some depth and leave a record of those discussions.



# The Workshop Goal

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- Bring together a diverse array of experts to examine linkages between Arctic sea ice and mid latitude weather patterns.
- A more in-depth, formal review that not only includes presentations from leading researchers on this topic, but also includes debate with those who question or have alternative views about these polar/mid-latitude linkages.
- Discussion and brainstorming among scientists on possible next steps for advancing research on this topic

→ **report that summarizes the workshop discussions**



# Questions to Address

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- What do we currently understand about the mechanisms that link declines in Arctic sea ice cover, loss of high-latitude snow cover, changes in arctic-region energy fluxes, atmospheric circulation patterns, and the occurrence of extreme weather events?
- What may be the possible implications of more severe loss of summer Arctic sea ice upon weather patterns at lower latitudes?
- What are the major gaps in our understanding, and what sort of observational and/or modeling efforts are needed to fill those gaps?
- What are the current opportunities and limitations for using Arctic sea ice predictions to assess the risk of temperature/precipitation anomalies and extreme weather events over northern continents?



# NRC Committee

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- **David A. Robinson, Chair**
  - Rutgers, The State University of New Jersey
- **Uma Bhatt**
  - University of Alaska, Fairbanks
- **Cecilia Bitz**
  - University of Washington
- **Lance F. Bosart**
  - State University of New York, Albany
- **David H. Bromwich**
  - Ohio State University
- **Clara Deser**
  - National Center for Atmospheric Research
- **Walter Meier**
  - NASA



# Workshop Structure

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- **Sessions (moderated by Committee members)**
  - Big Picture
  - Observations
  - Modeling
- **Open panel sessions**
- **Discussion**
- **Breakout Groups (see guidance in Briefing Book)**
- **Report Back to Plenary**



# Briefing Book

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- **Agenda**
- **Background Materials (including a compilation of relevant papers)**
- **Participant List and Speaker Bios**
- **Breakout Groups (instructions and assignments)**
- **Logistics**



# How does this workshop fit within evolving and ongoing efforts?

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- **Met Office Academic Partnership Workshop on Drivers of Monthly to Seasonal European Climate Variability**
  - Held June 17th - 18<sup>th</sup>, 2013 at the Met Office in Exeter
- **The Northern Hemisphere Polar Jet Stream and Links with Arctic Climate Change Workshop**
  - To be held November 13-15, 2013 in Reykjavik, Iceland



# The report: Some key points

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- Staff-authored
- Expected to be released by the end of the year
- Will summarize the workshop discussions and will not include any findings or recommendations



# Questions?

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**Thank you for your  
participation!**

