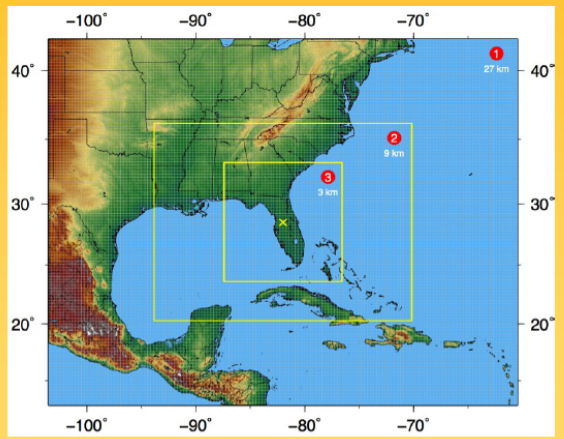
# SAVE THE DATE #1

**US Geological Survey & Center for Environmental Studies at Florida Atlantic University Present:**

## *Precipitation Downscaling Technical Meeting*

**Mon. June 22 & Tues. June 23, 2015 ▪ FAU Davie Campus**

**Join us for a scientific meeting for Florida environmental scientists & managers! in-depth & Interdisciplinary.**



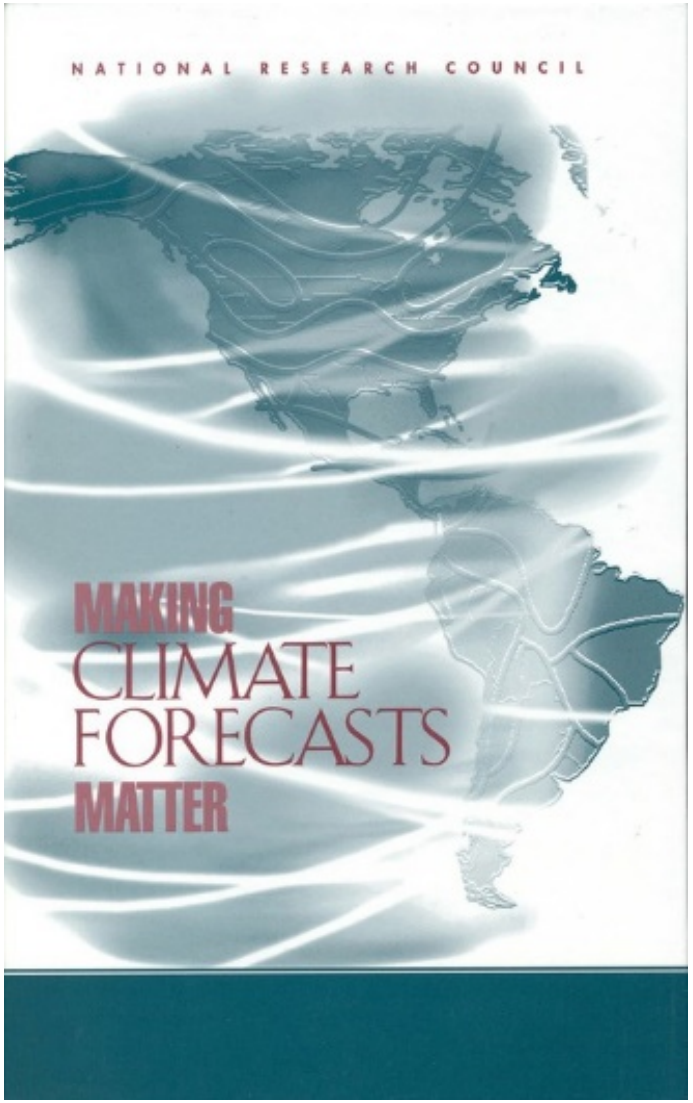

**How can precipitation downscaling be used to improve Everglades science & restoration?**

**www.ces.fau.edu/climate_change/downscaling**

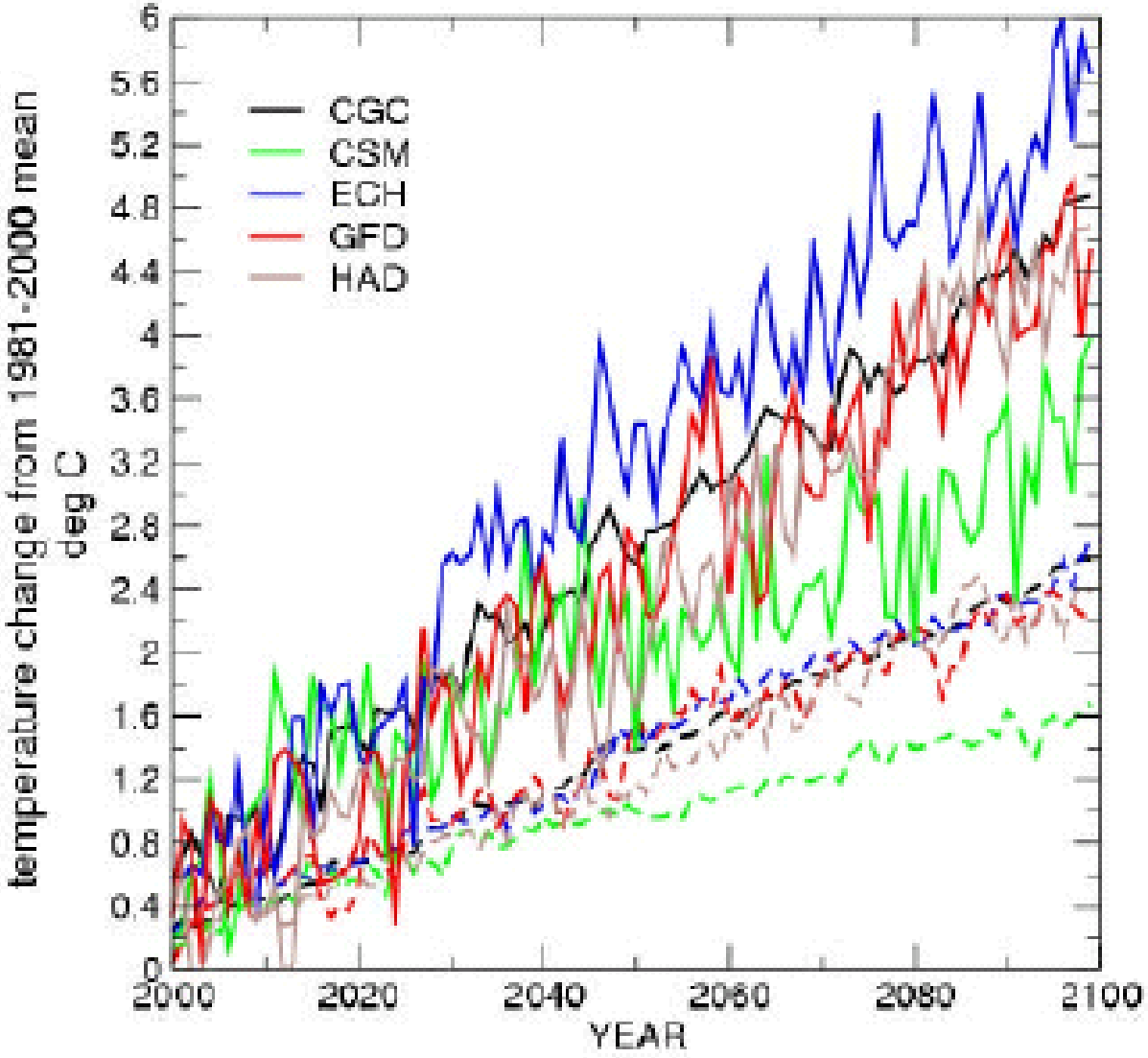
**For more info: MaryBeth Hartman mhartman@fau.edu ● Image source: University of Miami**

Dr. Colin Polsky
Director, CES
Professor of Geosciences
6/22/15


LIVE
3:42 pm ET
U.S. SENATE
SEN. JAMES INHOFE
R-Oklahoma
C-SPAN2
c-span.org


NATIONAL RESEARCH COUNCIL
MAKING
CLIMATE
FORECASTS
MATTER

NRC, 1999


temperature change from 1981-2000 mean
deg C
YEAR
CGC
CSM
ECH
GFD
HAD
0
0.4
0.8
1.2
1.6
2
2.4
2.8
3.2
3.6
4
4.4
4.8
5.2
5.6
6
2000
2020
2040
2060
2080
2100

ACIA, 2005

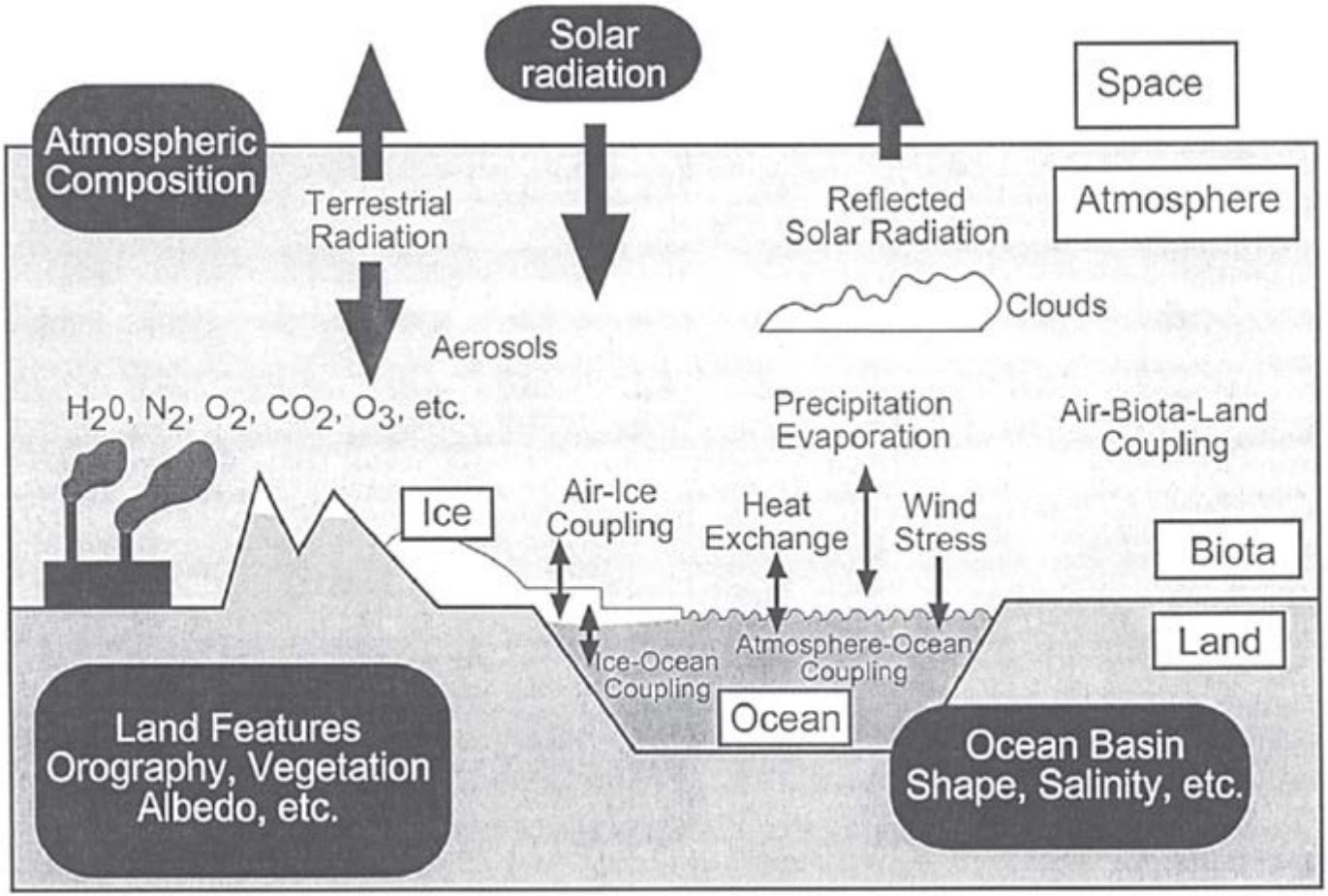



**Figure 1. The climate system (after Schneider and Londer 1984).**

Crane, et al., 2002

# TWO BASIC STEPS:

1. Derive a fine-scale transfer function between observed circulation-humidity and observed ppt
2. Apply the fine-scale transfer function to coarse-scale GCM circulation-humidity values → *GCM-based fine-scale ppt*

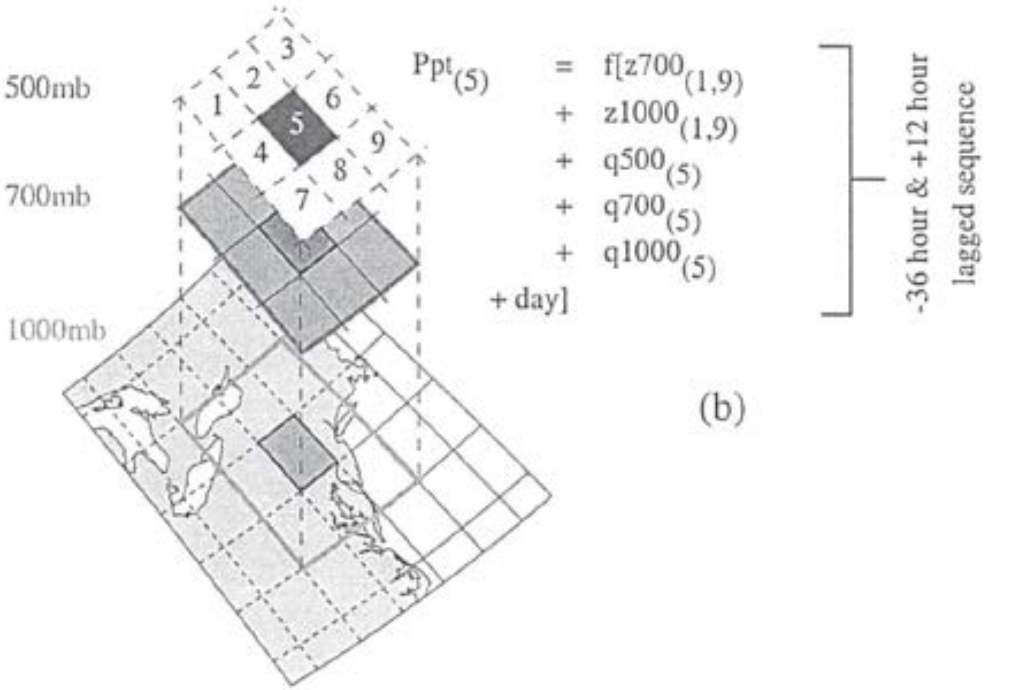



**Figure 2.** The study area and data structure used for the empirical downscaling (Crane and Hewitson 1998).

Crane, et al., 2002

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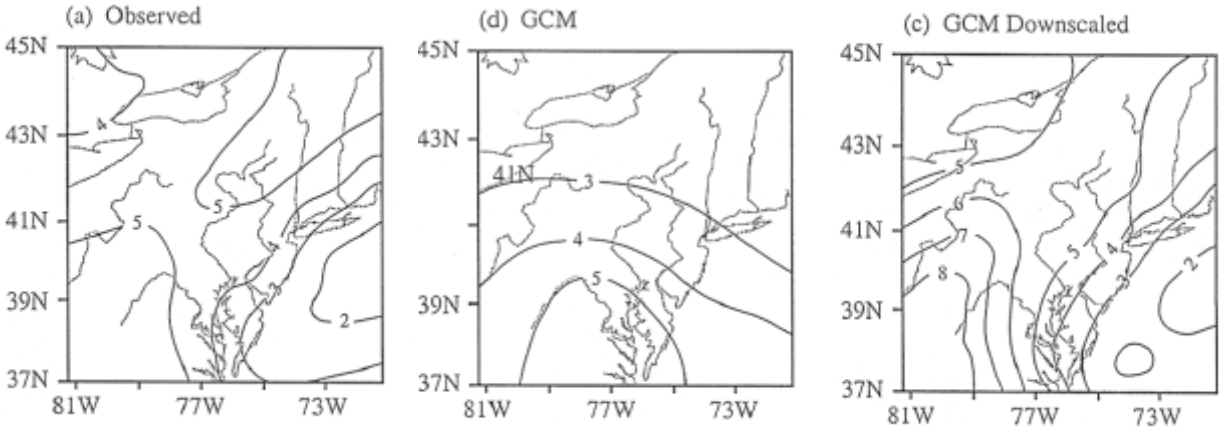


**Summer (JJA) precipitation**

***mm/day***

Crane, et al., 2002

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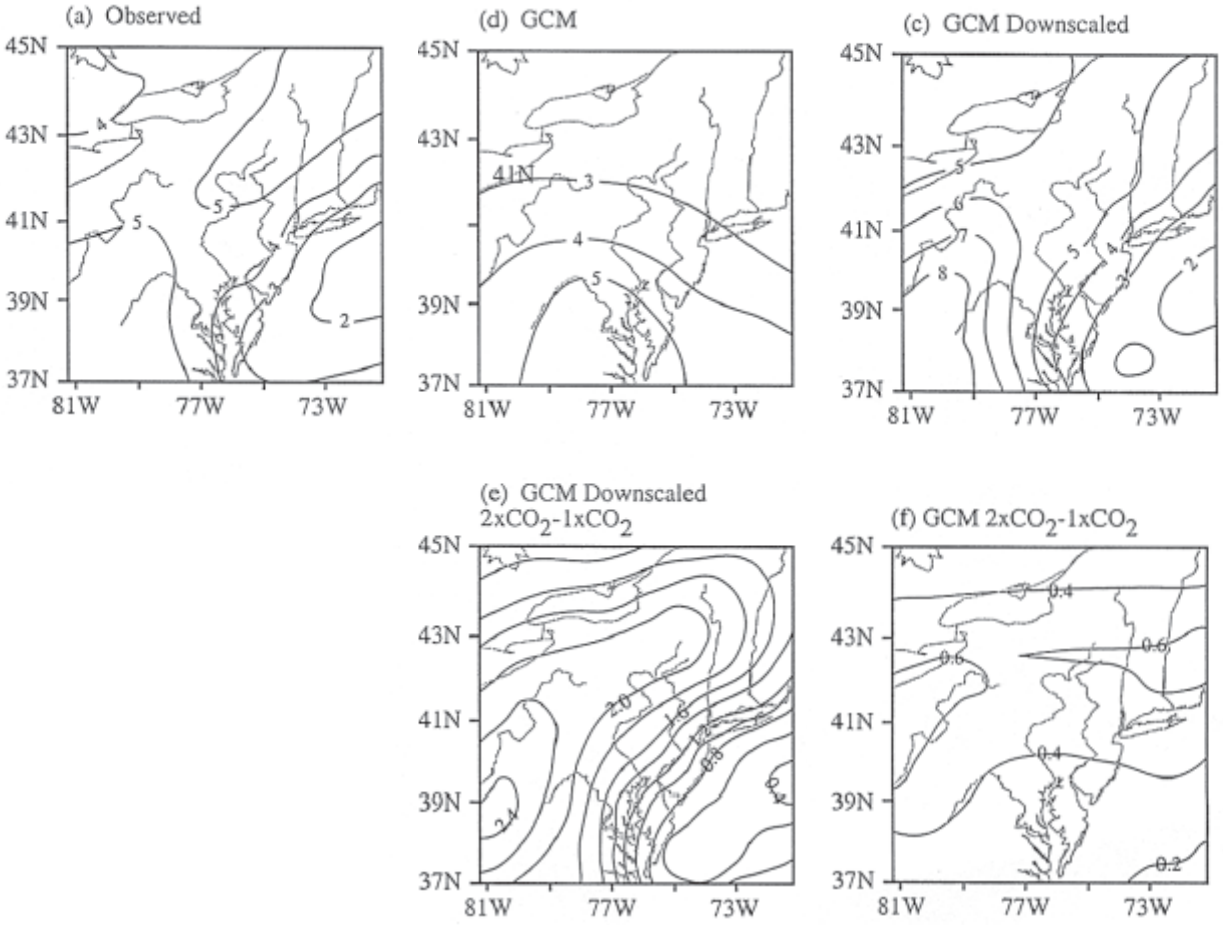
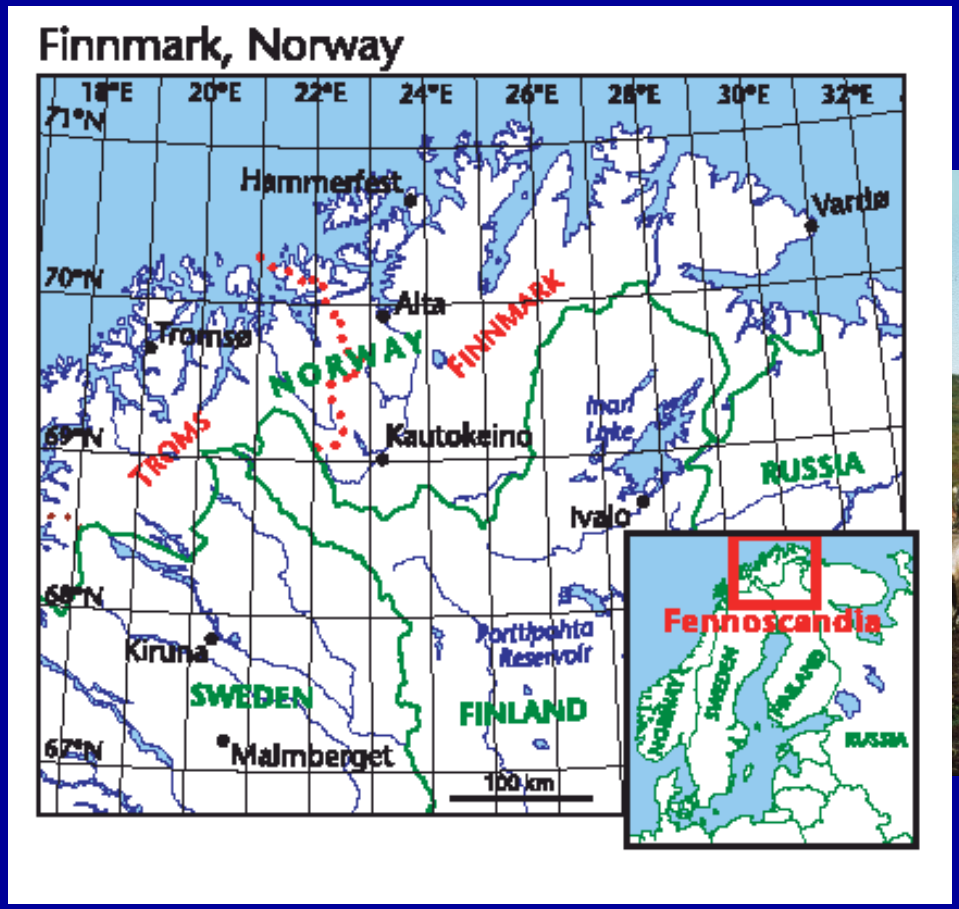



**Summer (JJA) precipitation**

***mm/day***

Crane, et al., 2002

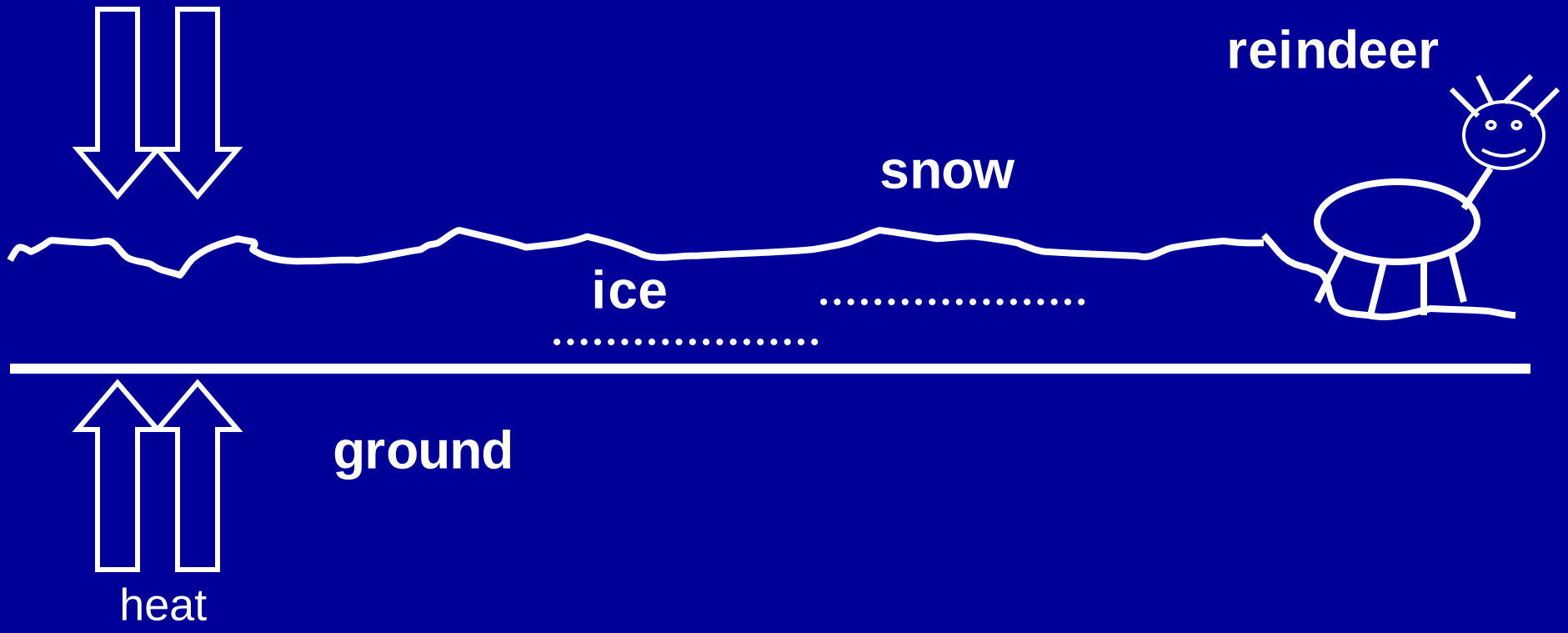
Hypothesis: Downscaled (local) climate projections will facilitate Saami reindeer herders in Finnmark, Norway to reduce their vulnerabilities to the effects of climate change.



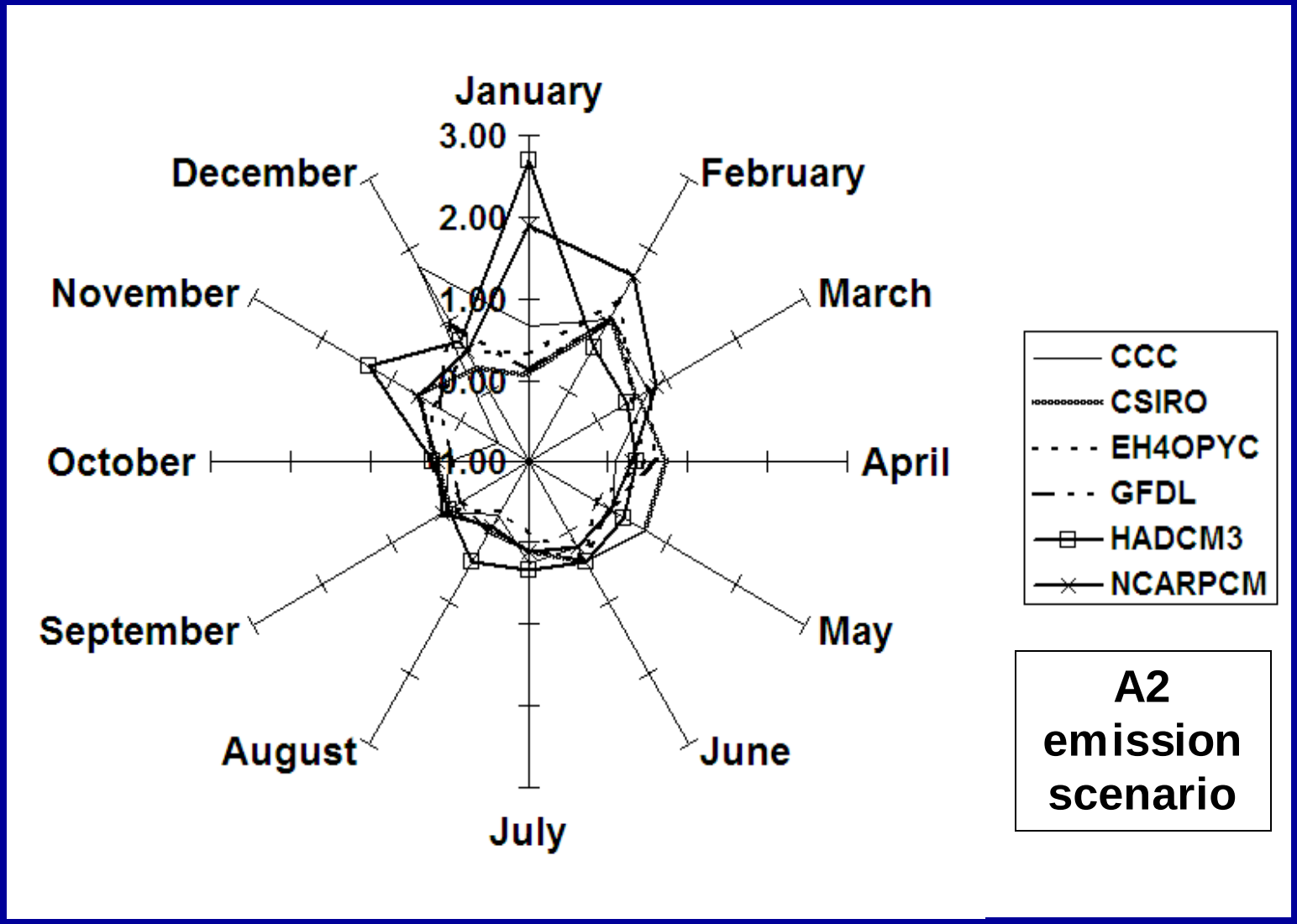

Turner, et al., 2003

# “Copious” snow terminology:

**amount, consistency, bearing, surface, trees, thawing, patches, accessibility, …** (Ruong, 1967)



# Karasjok mean monthly temp: ºC/decade, 2000-2100



# So what are we going to do?

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# ENVIRONMENTAL MANAGEMENT

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**To:** Assistant Regional Directors and Deputies, Southeast Region Project Leaders, Ecosystem Team Leaders

**From:** Regional Research Coordinator and Committee

**Subject:** CALL FOR PROPOSALS – FY15 Science Support Partnership and Quick Response Programs for the Southeast Region **(Proposals due to Bob Ford AND ARDs or Ecoteams May 16, 2014; Ranked proposals from ARDs and Ecoteams due to Bob Ford and Regional Research Committee, June 11, 2014). Proposals recommended for funding are submitted to USGS by August 22, 2014. The target date for announcement of awards from USGS is expected on October 1, 2014.**

The Southeast Region Research Committee solicits proposals for the Science Support Partnership (SSP) and Quick Response (QR) programs. These programs are a cooperative effort between USGS and the Service to address key scientific and information needs that will best help the Service make important conservation and management decisions. We expect USGS will have approximately $253,000 available for new SSP and QR starts in the Service's Southeast Region for FY15. A wide range of research projects, biological studies, and other forms of technical assistance have been funded by these programs in the past, and competition for the funds generally is very high.

Proposals should originate as a result of joint collaboration among Service Project Officers and USGS Principal Investigators, with an emphasis on key Service information needs. SSP projects typically span several years. The Southeast Region targets SSP funding to support projects that help FWS field staff prioritize and decide where, how much, and what kinds of conservation or management actions are needed to support sustainable populations of:

- threatened and endangered species,
- candidate species,
- other Federal trust species with declining population status,
- Southeast Association of Fish and Wildlife Agency (SEAFWA)/FWS priority petitioned species, and
- species that serve as a proxy for a broader suite of species, ecological communities, or habitat types.

Priority will be given to projects where results will benefit one or more focus species at a landscape scale, rather than being specific to the research site or one station. Projects must address FWS decision making related to the themes listed below and must demonstrate a collaborative effort between USGS and FWS (e.g. the agency project manager or designee does more than just sign off on reports). For proposals to receive the highest possible ranking, they should address one or more of the following themes.

A. Evaluation of aquatic resource needs and aquatic ecosystem responses to changes in water quality, quantity, timing and distribution in the context of defining water resource needs now and in the future.
B. Life history, status, and trends information with direct relevance for management decisions for focus species (see above).
C. Monitoring and evaluation of focus species (see above) and/or their habitats to determine if management actions achieve desired biological objectives or to test assumptions for the purpose of improving conservation delivery.

Cross-regional projects provide a great approach for expanding the geographic and topical relevance of a particular information need. The growing significance of climate change, the Southeast Region's interests in advancing capacities for strategic conservation, and the commitment to implement partner-based science priorities, as defined by Landscape Conservation Cooperatives (LCCs), represent important dimensions to regional research needs.

FAU
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# end

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