

14th CMMAP Team Meeting

January 22-24, 2013



Introductions

Minoru Chikira - JAMSTEC/CSU

Wendy Parker - Ohio University

Joe Berry - Carnegie Institution

Gordon Bonan - NCAR

Ned Patton - NCAR

Mariana Vertenstein - NCAR

Cheryl Craig - NCAR

Jim Edwards - NCAR

Richard Neale - NCAR

Graham Feingold - NOAA

Nolan Doesken - Colorado State Climatologist, CSU

Dorota Jarecka - University of Warsaw - NCAR visitor
and Wojciech's former PhD student

Yan Jin - George Mason University

Emily Riley - University of Miami

Chengzhu Zhang - Scripps

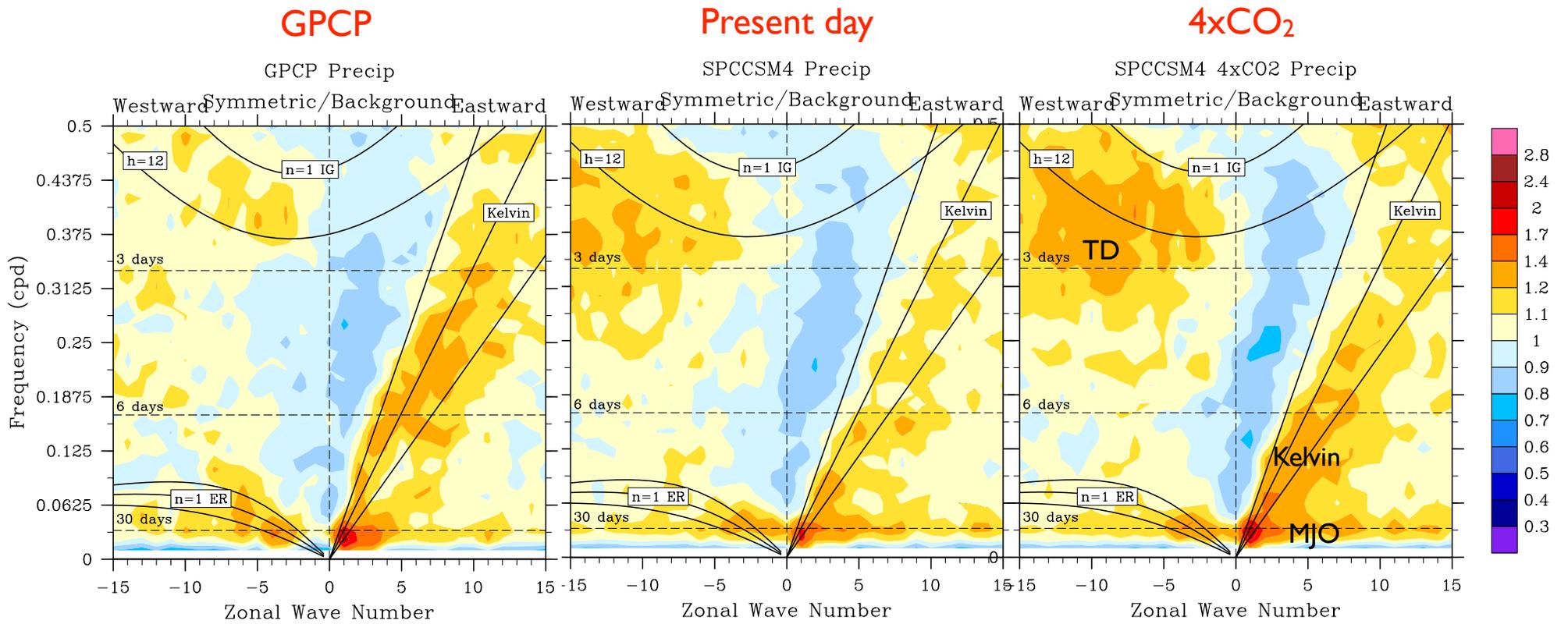


ED Retreat, last week



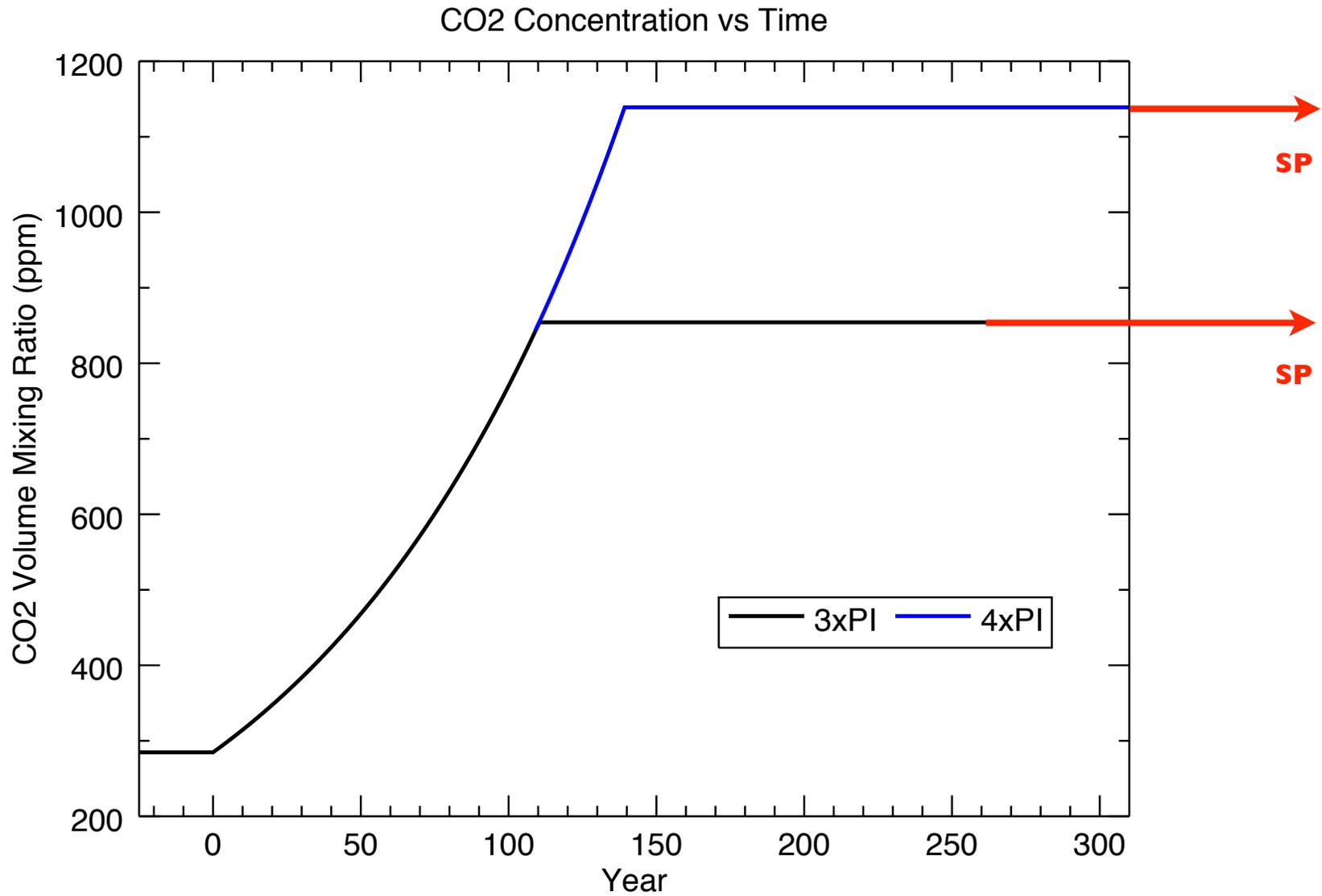
Research Objectives, Renewal

1. Further development of global models with diverse representations of cloud processes.
2. Further development and testing of improved parameterizations of microphysics, turbulence, and radiation.
3. Application of CMMAP models to study multiscale interactions of the atmosphere and land-surface.
4. Application of CMMAP models to study the coupled climate system.
5. Community-based evaluation of results produced by CMMAP models, through the use of diverse observations.
6. Management, analysis and visualization of very large model output datasets.

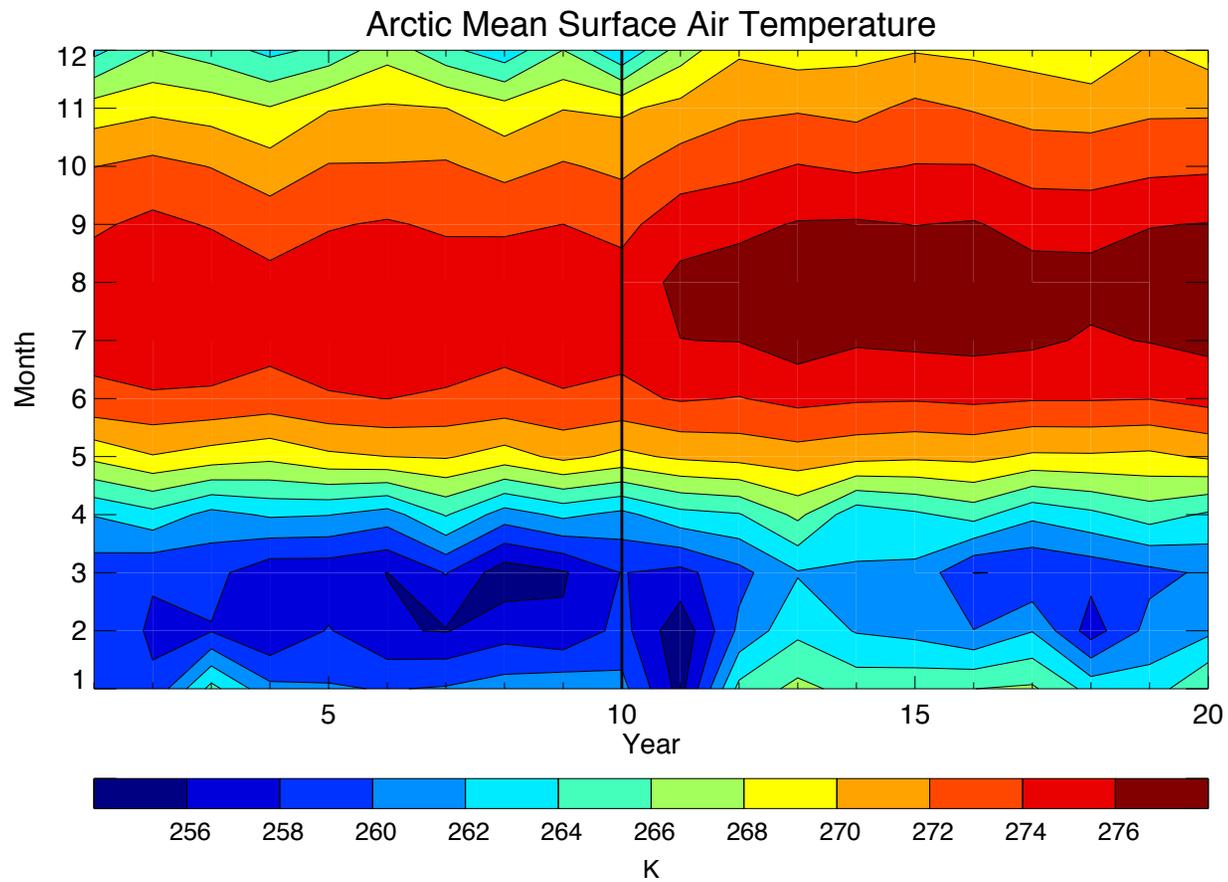


Simulation by Stan and Xu

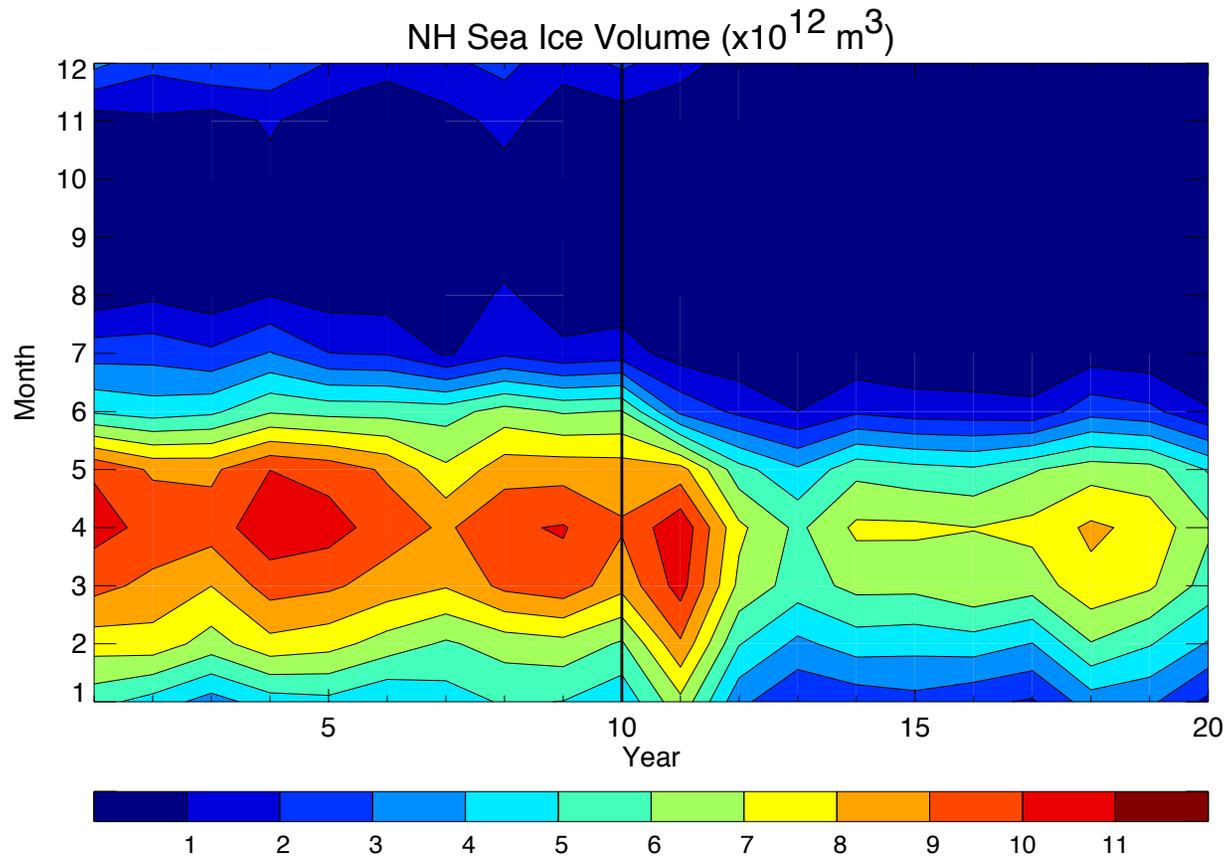
Super-Parameterized Continuations



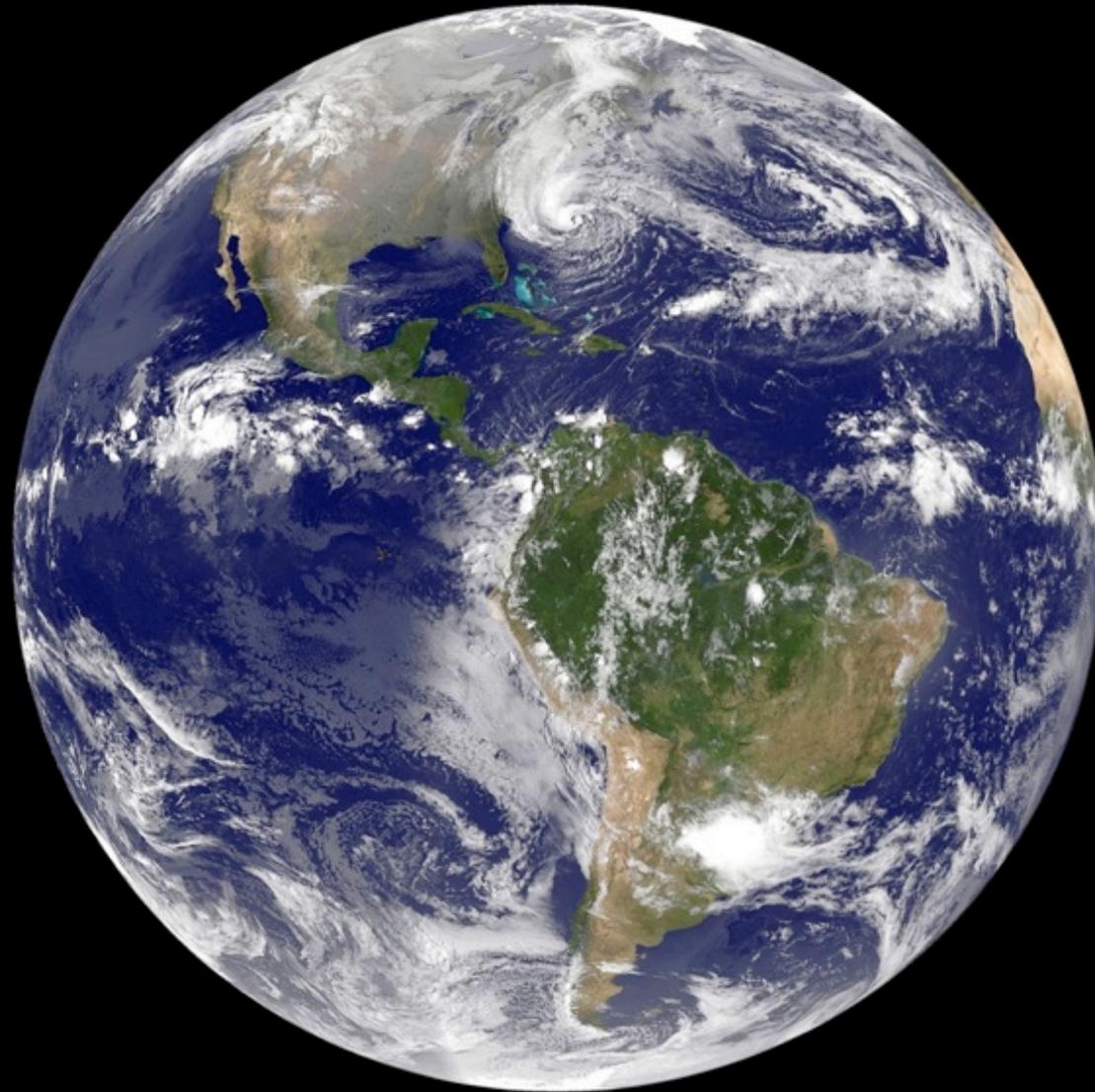
The Arctic warms up



More sea ice melts



Initiatives



Evaluation of Turbulence Parameterizations

- ◆ Led by Dave Randall and Steve Krueger
- ◆ Participation by IHOP, DHOC, CLUBB, and THOR
- ◆ Tests in SAM, SP-CAM, CAM, and the GCRM
- ◆ Evaluation based on:
 - ▲ Numerical results
 - ▲ Theoretical merits,
 - ▲ Computational performance
- ◆ DOE funding



Multiscale Methods for Accurate, Efficient, and Scale-Aware Models of the Earth System

- ◆ Led by Bill Collins
- ◆ Atmosphere and ocean, including “scale-aware cloud and convection”
- ◆ SciDAC lab proposal with University collaborators
 - ▲ LANL, LBNL, LLNL, ORNL, PNL, SNL
 - ▲ CSU, NCAR, UCLA, UWM
- ◆ DOE funding



CPT proposal

- Led by Steve Krueger
- Collaboration with NCEP
- Major changes to GFS physical parameterizations
 - Turbulence
 - Convection
 - Radiation



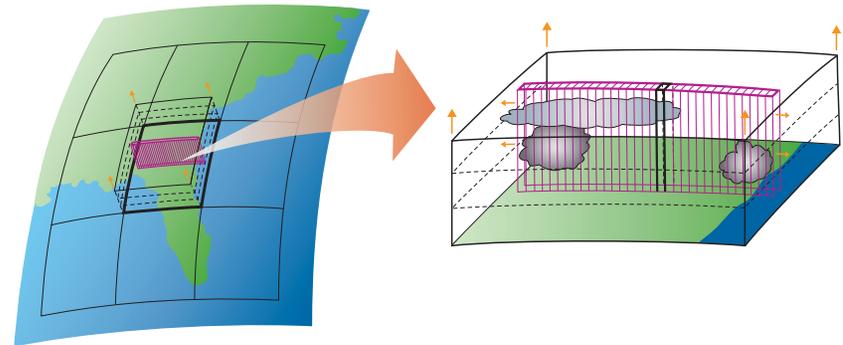
Two new MMFs both created by Marat

- ◆ Super-parameterized GFS (NCEP global model) being tested in MJO forecasts for IITM (the Indian Institute for Tropical Meteorology)
- ◆ Super-parameterized ECMWF model under development by Marat, at ECMWF's request, with a view to seasonal forecasting applications



Five MMFs altogether

- CMMAP's, in several versions
 - ▲ In-house
 - ▲ PNNL
 - ▲ NCAR
 - ▲ COLA/George Mason
 - ▲ U.Washington
- GSFC
- ESRL
- IITM
- ECMWF



Legacy away from CSU

- LaRC
- GSFC
- University of Washington
- PNNL
- NCAR
- UCLA
- CU Brooklyn
- Scripps
- University of Utah
- ECMWF
- LBNL
- Harvard
- COLA
- George Mason University
- Stony Brook
- ESRL
- IITM
- UC Irvine



Please keep it going. Start to plan now, if you haven't already started.

Nightfall



Preparing for ramp-down

Year 8, which starts on July 1 of this year, is the last year of full funding for CMMAP.

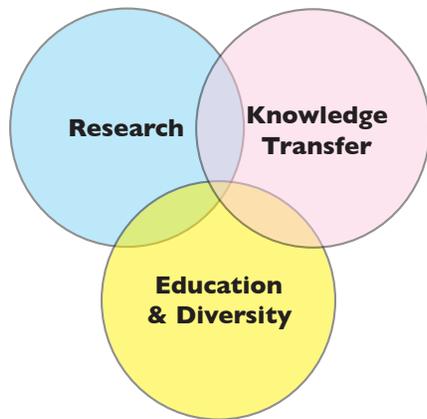
We go to 80% of full funding in Year 9, and 63% of full funding in Year 10.

And then we go to zero.

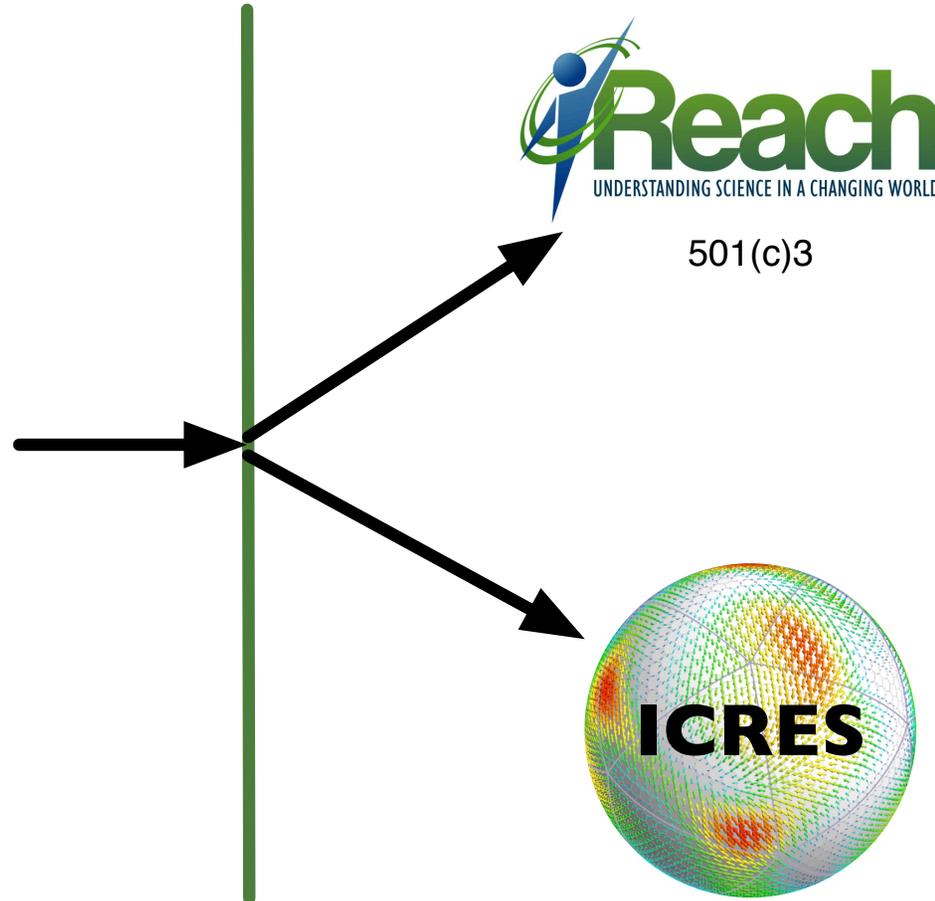
Cuts will be distributed across all parts of the project. The EC will plan this out.

We hope to provide preliminary budget guidance for Years 9 and 10 by Fall of 2013.

Sustainability at CSU



CMMAP



K16 education
& knowledge transfer

501(c)3

Research,
graduate education
& knowledge transfer

CSU

End of
STC funding

Institute for Climate Research, Education & Service

- *Purpose-built* hardware/software system for computation, data archival, and a super-fast network connection
- Support for 15-20 graduate student modelers-in-training
- Two international workshops per year
- Visiting scientists
- Research and administrative staff



Detailed discussions are under way with the CSU administration.

Questions about this?



14th CMMAP Team Meeting

January 22-24, 2013

Tuesday, January 22, 2013		
8:30	David Randall	Opening remarks, Agenda, Logistics, and Updates
9:00	Kate Thayer-Calder	Everything You Always Wanted to Know About Downdrafts
9:45		Break
10:00	Scott Denning	Land Surface Hour
11:00	Wendy Parker	Let's not confirm our models...
Noon		Lunch on your own
1:30	Nolan Doesken	Colorado Climate Center
2:00	Breakout - Team Leads	Breakout Session # 1- Physical Processes and Knowledge Transfer
3:00		Break
3:15		Breakout Session # 1- Continues
4:15	Peter Bogenschutz	Successes and Challenges on Implementing a Unified PDF-based Cloud Scheme into Multiple CMIP5 Models
5:15		Break before Dinner
6:00		Team Dinner - The Mediterranean

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Wednesday, January 23, 2013		
8:30	Minoru Chikira	Eastward propagating Intraseasonal Oscillation represented by Chikira-Sugiyama cumulus parameterization: Analysis of moisture variation under weak temperature gradient balance
9:30	Breakout - Team Leads	Breakout Session #2 (Dynamical Frameworks and Multiscale Land Surface)
10:15	Break	
10:30	Breakout Session # 2 Continues	
11:45	Lunch on your own	
1:15	Graham Feingold	On the Stability of the Aerosol-Cloud-Precipitation System
2:15	Breakout - Team Leads	Breakout Session #3 (Cyber Infrastructure and Coupled Models and Climate Change)
3:00	Break	
3:15	Breakout Session #3 continues	
4:30	Wendy Parker	Ethics Activity
5:15	Meeting Ends for the Day	
	Dinner on your own and EC dinner	

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Thursday, January 24, 2013		
8:30	Jeff Morisette	Dept of Interior North Central Climate Center - Overview and Potential Interaction with CMMAP
9:15	Melissa Burt/Scott Denning	Summary of Education and Diversity Retreat
9:45	Break	
10:00	Breakout - Team Leads	Clouds and Climate
12:00	Lunch on your own	
1:30	Breakout - Team Leads	Working Group Summaries and Action Items
3:00	END OF MEETING	

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List of Breakout Sessions:

	Breakout Session #1 Tuesday PM	Breakout Session #2 Wednesday AM	Breakout Session #3 Wednesday PM	Thursday AM
Main Meeting Room Columbine	Physical Processes	Dynamical Frameworks	Coupled Models and Climate Change	Clouds and Climate
Breakout Room Balsam	Knowledge Transfer	Multiscale Land Surface	Cyber Infrastructure	

Katherine Thayer-Calder

