

**Fourth CMMAP Meeting
UCLA
January 15-17, 2008**



IPAM

Mission is to connect mathematicians with scientists.

Funded as an “NSF Mathematical Sciences Institute” -- one of seven.

Started in 2000, renewed in 2005.

Building designed in 1973 by Frank Gehry.



Introductions

- ◆ **John Calderazo and Sue Ellen Campbell, CSU**
- ◆ **Minoru Chikira, Frontier Research Center for Global Change**
- ◆ **Eric Maloney, CSU**
- ◆ **Roberto Mechoso, UCLA**
- ◆ **Olivier Pauluis, NYU**
- ◆ **V. Ramanathan, Scripps (later today)**
- ◆ **Karen Schuchardt, PNNL**
- ◆ **Christiana Stan, COLA**
- ◆ **Joao Teixeira, JPL**
- ◆ **Dwayne Waliser, JPL**

Jay

Fourth CMMAP Team Meeting, January 15 - 17, 2008

Tuesday, January 15, 2008		
8:30	David Randall, Jay Fein, Bjorn Stevens, Cindy Carrick	Opening remarks/Agenda/Logistics
8:45	David Randall	Updates
9:15	Tak, Rachel & Anna	Low Cloud Feedbacks
9:45	Rajul Pandya	Science in Service of Society: Realizing the Promise of Climate Research
10:15		Break
10:30	Cindy Carrick	Reporting -- Your favorite CMMAP Task
11:00	Scott Denning & Christine Aguilar	Summary of Progress in Education & Diversity
11:30	Bill Collins	CAM Diagnostics for the SuperCAM
11:45		Lunch on your own
1:00	Bjorn Stevens	Microphysical Issues in the Representation of Shallow Cumulus Convection
1:45	David Randall & Scott Denning	Breakout Orientation
2:00		Breakout #1 (MJO & KT to NWP and Climate Centers)
3:00		Break
3:15		Breakout #1 Continues
4:15	V. Ramanathan	Global Dimming & Anomalous Solar Absorption: New Studies with Unmanned Aircraft Systems
5:15		Adjourn for the day
6:30		Team Dinner at the Faculty Center Sequoia Room

Fourth CMMAP Team Meeting, January 15 - 17, 2008

Wednesday, January 16, 2008

8:30	Kelley Wittmeyer	CMMAP Website Discussion
9:00		Breakout #2 (UG & Grad ed + Div., Deep & shallow)
10:00		Break
10:15		Breakout Session #2 continues
11:15	Wayne Schubert et al.	Summary of Progress in Knowledge Transfer
11:45		Lunch on your own
1:15		Breakout #3 (Low cloud feedback, & Model dev)
3:15		Break
3:30	John Helly & Karen Schuchardt	CyberInfrastructure Issues
4:30		Adjourn
5:00	Richard Somerville	The Intergovernmental Panel on Climate Change and the Challenges of Climate Policy, Equity & Ethics
7:00		Executive Committee Dinner with Jay
7:00		Additional breakout/work time if needed

Fourth CMMAP Team Meeting, January 15 - 17, 2008

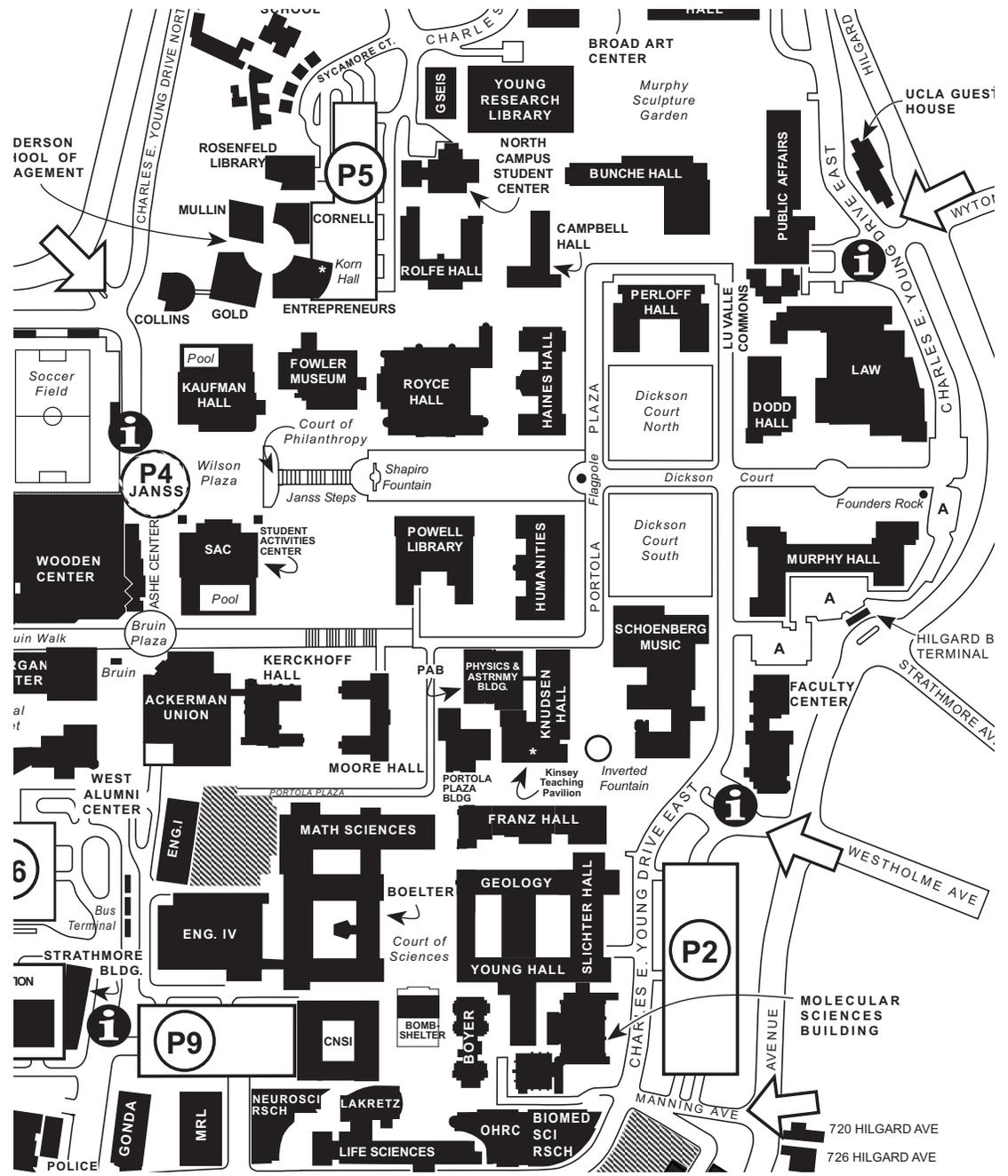
Thursday, January 17, 2008		
8:30	Connie Uliasz	Ethics Discussion
9:00		Breakout #4 (K12 + outreach, & Cyberinf)
10:00		Break
10:15		Breakout #4 Continues
11:30		Lunch on your own
1:00		Reports from Breakout Sessions (10 mins each)
2:20	David Randall	Wrap-up
3:00		End of meeting

Fourth CMMAP Team Meeting, January 15 - 17, 2008

List of Breakout Sessions:

Where	Breakout Session #1 Tuesday PM	Breakout Session #2 Wednesday AM	Breakout Session #3 Wednesday PM	Breakout Session #4 Thursday AM
Main Meeting Room	MJO <i>Khairoutdinov and Moncrieff</i>	Undergraduate and graduate education, and teaching future teachers, and Increasing the diversity of climate scientists <i>Denning and Aguilar</i>	Low-cloud feedbacks <i>Stevens and Bretherton</i>	K-12 Education and outreach to the public and policymakers <i>Denning & Aguilar</i>
Breakout room	KT to NWP and Climate Centers <i>Collins</i>	Deep and shallow convection <i>Moeng and Krueger</i>	Model Development (formerly Future Tools) <i>Randall and Arakawa</i>	CyberInfrastructure Working Group <i>Helly</i>

Bjorn



DERSON
SCHOOL OF
MANAGEMENT

Soccer
Field

WOODEN
CENTER

ACKERMAN
UNION

WEST
ALUMNI
CENTER

STRATHMORE
BLDG.

POLICE

CHARLES E. YOUNG DRIVE NORTH

ROSENFIELD LIBRARY
MULLIN
CORNELL
* Korn Hall
COLLINS GOLD ENTREPRENEURS

KAUFMAN HALL
FOWLER MUSEUM
ROYCE HALL
HAINES HALL
WILSON PLAZA
JANSS
SAC
STUDENT ACTIVITIES CENTER
ASHE CENTER
BRUIN PLAZA
WOODEN CENTER
ACKERMAN UNION
KERCKHOFF HALL
MOORE HALL

ACKERMAN UNION
KERCKHOFF HALL
MOORE HALL
MATH SCIENCES
BOELTER
ENG. IV
CNSI
GONDA
MRL

NEUROSCI
RSCH
LAKRETZ
LIFE SCIENCES

CHARLES
SYCAMORE CT.
GSEIS
YOUNG RESEARCH LIBRARY
NORTH CAMPUS STUDENT CENTER
BUNCHE HALL
CAMPBELL HALL
ROLFE HALL

PERLOFF HALL
DICKSON COURT NORTH
DICKSON COURT SOUTH
SCHOENBERG MUSIC
PHYSICS & ASTRONOMY BLDG.
KNUDSEN HALL
* Kinsey Teaching Pavilion
PAB
PORTOLA PLAZA BLDG.
FRANZ HALL
BOELTER
GEOLOGY
YOUNG HALL
SLICHTER HALL

MATH SCIENCES
BOELTER
GEOLOGY
YOUNG HALL
SLICHTER HALL
BOYER
OHRC
BIOMED SCI
RSCH

BROAD ART CENTER
Murphy Sculpture Garden
PUBLIC AFFAIRS
LAW
DODD HALL

PERLOFF HALL
DICKSON COURT NORTH
DICKSON COURT SOUTH
SCHOENBERG MUSIC
MURPHY HALL
FACULTY CENTER

MOLECULAR SCIENCES BUILDING
720 HILGARD AVE
726 HILGARD AVE

HILGARD DRIVE EAST
UCLA GUEST HOUSE
WYTON

CHARLES E. YOUNG DRIVE EAST
HILGARD B TERMINAL
STRATHMORE AV.
WESTHOLME AVE

MANING AVE

P5

P4

ENG. I

P9

P2

i

i

i

i

i

i

WALK

BRUIN

6

BUS TERMINAL

ION

Cindy

Research Working Groups

- ◆ **Model development (formerly “future tools”)**
- ◆ **MJO**
- ◆ **“Deep and shallow”**
- ◆ **Low-cloud feedback**

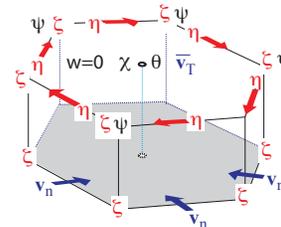
Q3D

- ◆ **“Uncoupled” tests have gone as far as they can, for now.**
- ◆ **Current focus is on coupling strategies.**

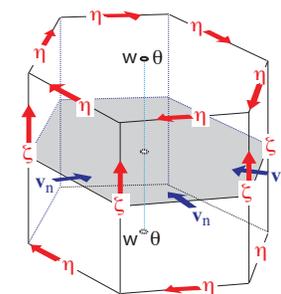
VVM

- Model is being tested by several people.
- Paper on first version of VVM has come out.
- Paper on “unified system” has been submitted.
- Parallelization is nearly finished.
- Hexagonal version is under construction by Celal.
- Geodesic version is under construction by Ross.

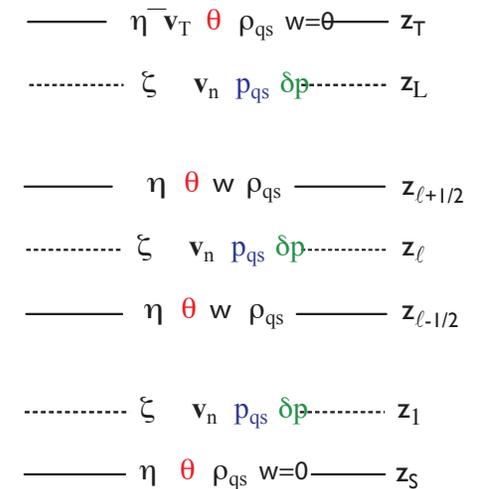
Upper Boundary



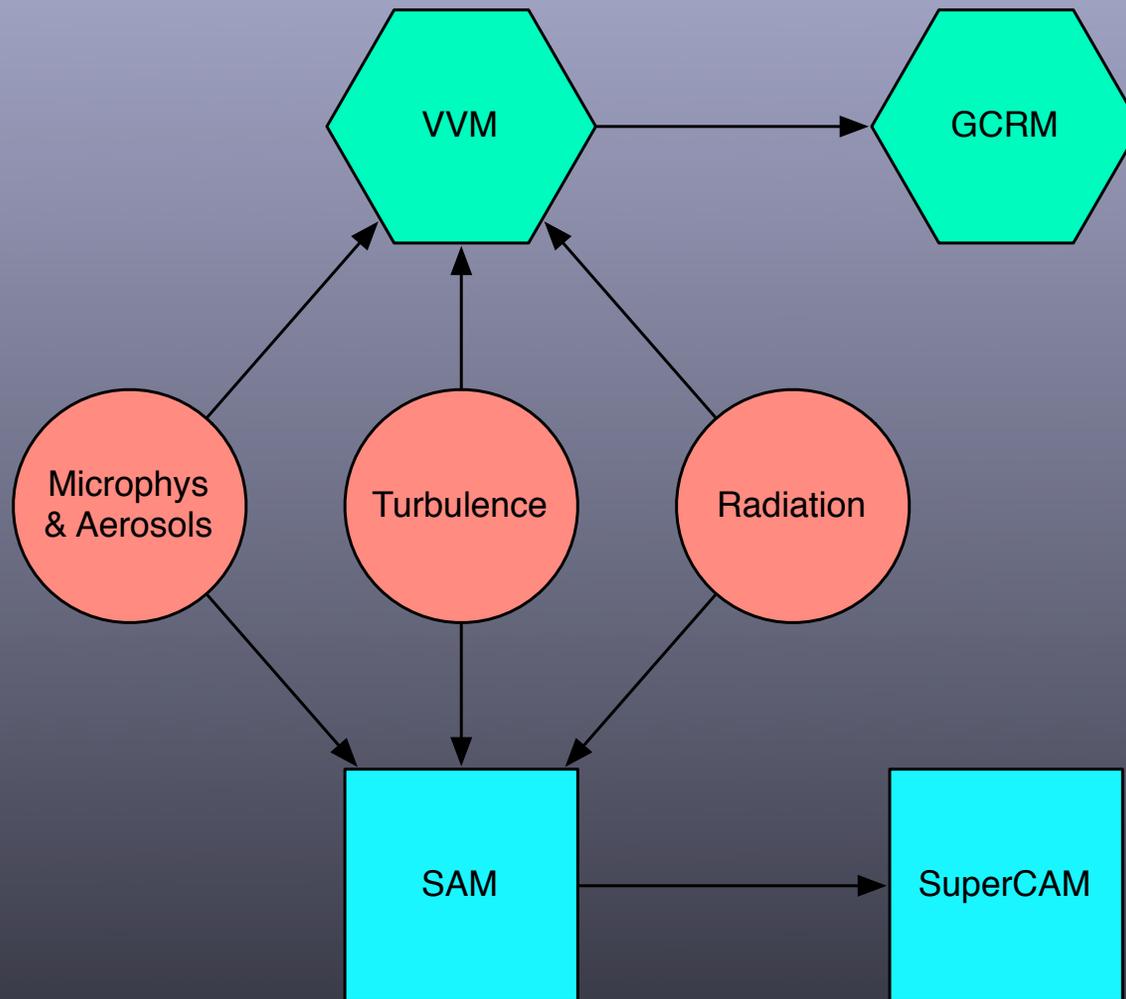
Interior



Charney-Phillips Vertical Grid



Testing parameterizations



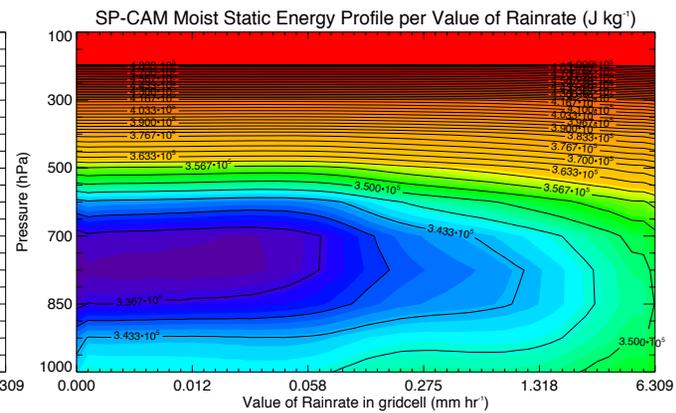
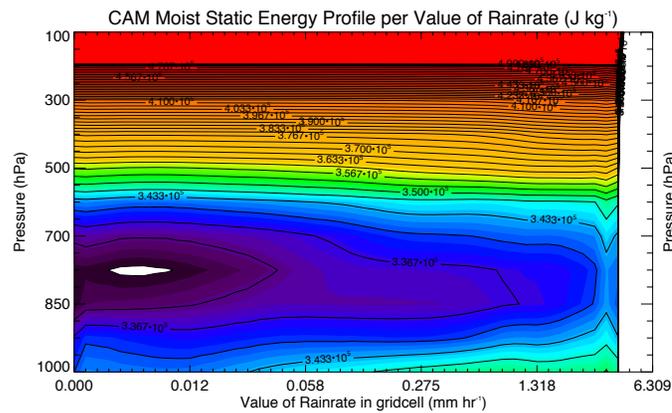
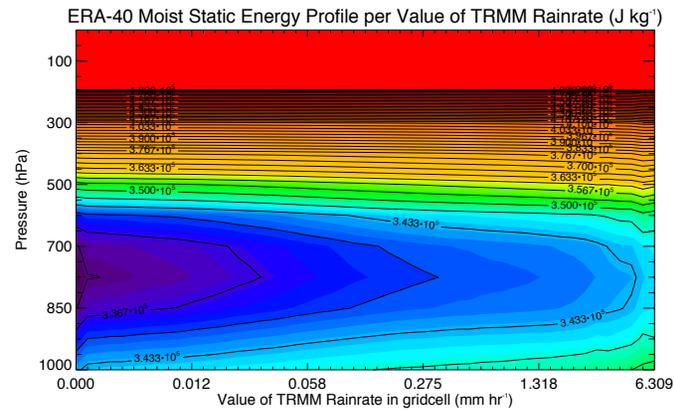
Conventional parameterizations

- ◆ **New cumulus parameterization (Minoru Chikira)**
- ◆ **Progress on new PBL parameterization (Lappen & Randall)**

Computing

- ◆ **Major allocations received from NERSC and INCITE.**
- ◆ **MSI Pre-proposal submitted.**
- ◆ **Partnering with MRI proposal by Henry Tufo of CU/NCAR.**

MJO



Publications

- ◆ **Major progress on new journal**
- ◆ **Book publisher is being determined**

CCSM

- ◆ **Role of MJO in ENSO**

- ◆ **AMWG meeting in February**

Diversity

- ◆ **Recruiting trips**

 - ▲ **Hampton University**

 - ▲ **SACNAS in Kansas City (Society for Advancement of Chicanos and Native Americans in Science)**

- ◆ **Gabriel Williams**

Education

- ◆ **Second Colorado Global Climate Conference coming up**
- ◆ **Two more CMMAP grad students will be teaching at Colorado College this spring.**
- ◆ **Dave Swartz's Award**

Colorado Global Climate Conference

- Intro by Colorado Governor Bill Ritter
- Keynote by Piers Sellers
- Workshops:
 - Climate system
 - Climate models
 - Mitigation & Adaptation
 - Alternative energy
 - Climate policy
 - Climate ethics
- Inquiries/Demos
 - LSOP
 - Energy & Engines
 - Career Fair
 - Visualization



500 people, April 18, 2008, Rocky Mountain HS



Changing Climates @ CSU

infusing global change into every part of CSU's undergrad curriculum

2007 Colloquium (Teaching the faculty)

- How Climate System Work
 - Understanding Climate Change
 - Paleoclimate
 - Climate Modeling
 - Ecological Effects
 - Human Costs
 - Economic Costs
 - Alternative Energy
 - Climate Policy & Economics
- 2008: Freshman Composition (5000 students!) with writing prompts



Project Management

- ◆ **External Advisory Panel met last September.**
- ◆ **Year 2 reporting exercise is coming up.**
- ◆ **Year 2 site visit is coming up.**
- ◆ **Construction contractor for CMMAP building at CSU will be selected in about 2 weeks.**