

Partnerships and Knowledge Transfer

CMMAP NSF Site Review, May 15 2008

Identify stakeholders

Broad definition of CMMAP's KT stakeholders:

- Climate modeling centers, who will benefit from our modeling technology, and our book and journal.
- NWP centers, same reason.
- Climate scientists generally, whose own research will be helped by our research findings, and our book and journal.
- IPCC (climate scientists and government representatives)

Stakeholder	Existing Two-Way Communication	Future Plans
NCAR (National Center for Atmospheric Research)	C.-H. Moeng - boundary layer M. Moncrieff - MJO W. Grabowski - MMF A. Heymsfield - cloud microphysics H. Morrison - cloud microphysics	NCAR scientists will continue their research collaborations with the Center's scientists.
CCSM (Community Climate System Model user group)	W. Collins - collaborates on the CAM S. Denning, J. Kinter, D. Bader - serve on the CCSM Advisory Board L. Donner and M. Zhang - co-chairs of the AMWG	Enhance interaction with CAM. Initiate projects to quantify and understand physical differences between standard and MMF enabled models.
FRCGC (Frontier Research Center for Global Change)	H. Miura, T. Nasuno, and M. Satoh - collaborate on GCRMs.	We plan to involve CMMAP graduate students in analysis of some of the NICAM output.
ECMWF (European Centre for Medium Range Forecasts)	M. Miller - interacts with CMMAP scientists on medium range forecasting. M. Ahlgrimm - former CMMAP PhD student, is currently working at the European Centre.	Work to engage additional ECMWF scientists. D. Randall will visit ECMWF twice this year.

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BMRC (Bureau of Meteorology Research Center)	C. Jakob - evaluation of global cloudiness simulations.	C. Jakob has left BMRC for Monash University. We plan to initiate interactions with H. Hendon of BMRC.
NCEP (National Centers for Environmental Prediction)	S. Lord and L. Uccellini - use of MMFs and GCRMS to improve operational weather forecasting. Ruiyu Sun - VOCALS modeling	Ruiyu Sun will visit Utah twice per year to report on the PreVOCA project, how results from CMMAP research could be transferred to NCEP. Pete Bogenschutz will visit NCEP in late 2008 to describe his work on the assumed PDF closure method for use in coarse-grid CRMs. MMF will participate in model comparison with NCEP. Large-domain LES will be used to test NCEP models.

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PNNL (Pacific Northwest National Laboratory)	<p>Steve Ghan - cloud-aerosol interactions in the MMF.</p> <p>Karen Schuchardt - SciDAC</p> <p>Roger Marchand - comparison of MMF with CloudSat observations.</p>	<p>The new version of SAM will be coupled with to the Community Atmosphere Model, and a simulation of the global distribution of aerosol will be performed.</p>
GFDL (Geophysical Fluid Dynamics Laboratory)	<p>L. Donner - MMFs and conventional parameterizations.</p> <p>Donner also collaborates on the CMMAP book project.</p>	<p>No change.</p>
LLNL (Lawrence Livermore National Laboratory)	<p>S. Klein (PCMDI, Program for Climate Model Diagnostics and Intercomparison) collaborates on the role of clouds in climate change.</p>	<p>Future interactions should involve both S. Klein and D. Bader. Bader is the Chief Scientist of CCPP under DOE and Director of PCMDI at LLNL.</p>

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CCSR (Center for Climate System Research)	A. Sumi, T. Nakajima, M. Kimoto and M. Satoh - development and improvement of climate simulations.	No change.
Met. Service of Canada	H. Baker collaborates on the testing of new radiation parameterizations.	No change.
NASA/LaRC (Langley Research Center)	K.-M. Xu and B. Wielicki - turbulence parameterizations and the use of satellite data for model evaluation. Anning Cheng and Kuan-Man Xu - effects of resolution and turbulent closure on the simulation of boundary-layer clouds	Kuan-Man Xu and Anning Cheng will perform further tests with the VVM-IPHOC and will release the code in October 2008.
NASA/GSFC (Goddard Space Flight Center)	W.-K. Tao - MMFs and data assimilation. M. Ahlgrim and J. Spinhirne developed a GLAS simulator that generated backscatter from modeled cloud properties to facilitate more accurate comparison to observed clouds.	Tao and colleagues plan continue improving microphysics by using high-resolution satellite data. Tao is participating in MJO forecasting using the Goddard MMF.

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LBNL (Lawrence Berkeley National Laboratory)	Bill Collins is an active collaborator on many aspects of CMMAP.	Develop interactions with M. Wehner on the vector vorticity model, CRM, DOE impacts, and super computing at NERSC.
IGES (Institute for Global Environment and Society)	Kinter - Journal Advisory Board Chair. Sent MMF to COLA. COLA participated in "Modeling Summit."	IGES and CMMAP will work together to launch and publish the Journal.
Scientists at Climate Modeling Centers, NWP Centers, and climate scientists interested in the book.	Richard Somerville (UCSD), Leo Donner (GFDL) and Wayne Schubert (CSU) are the editors for the book. The Editors communicate via the Center's Knowledge Transfer meetings, and are in contact with the book's subject authors.	The editors will maintain a dialogue with the chapter authors and the book publisher.