

**Workshop on Tropical Dynamics and the MJO
January 14-16, 2014 East-West Center,
University of Hawaii, Honolulu Hawaii**

Day 1, Tuesday January 14, 2014

MJO Dynamics (Chairs: Eric Maloney and Dave Randall)

9:00-9:15 *Introduction and Logistics, Eric Maloney*

9:15-9:40 Bin Wang Understanding of essential dynamics of the Madden-Julian Oscillation

9:40-10:05 Adam Sobel, Shuguang Wang, Daehyun Kim Moist static energy and the MJO

10:05-10:30 Mike Pritchard Critical sensitivities of the superparameterized Madden-Julian Oscillation consistent with moisture mode dynamics.

10:30- 10:45 *Break*

10:45-11:10 Eric Maloney. Process-oriented model diagnostics based on the moisture and MSE budgets

11:10-11:35 Minoru Chikira Eastward propagating intraseasonal oscillation represented by Chikira-Sugiyama cumulus parameterization: Understanding moisture variation under weak temperature gradient balance

11:35 – 12:00 Stipo Sentic, Sharon L. Sessions, Zeljka Fuchs Weak temperature gradient simulations of MJO convection

12:00 - 12:25 Charlotte DeMott Why does ocean coupling improve the simulated MJO?

12:25-1:40 *Lunch*

MJO Dynamics (cont'd) (Chairs: In-Sik Kang and Mike Pritchard)

1:40-2:05 Boualem Khouider Realistic MJO initiation and dynamics in a General Circulation Model

2:05-2:30 Ji-Hyun Oh, Xianan Jiang, Duane Waliser, Mitchell Moncrieff, and Richard Johnson Characterizing 3D Structure of Convective Momentum Transport Associated with the MJO based on Contemporary Reanalyses

2:30-2:55 David Zermeno and Chidong Zhang The Role of Shallow Convective Moistening during the Life Cycle of the MJO in the Tropical West Pacific

2:55-3:20 Lei Zhou, In-sik Kang, and Bin Wang Tropical wave modes modified by semi-empirical parameterizations of moisture: an implication for Madden-Julian Oscillation

3:20-3:35 Break

3:35-4:00 Xianan Jiang, Duane Waliser, Bin Guan, Prince Xavier, Jon Petch, Nick Klingaman, and Steve Woolnough Exploring Key Processes in Representing the Madden-Julian Oscillation in Climate Models

4:00-4:25 Nathan Arnold, Mark Branson, Zhiming Kuang, David Randall, Eli Tziperman The MJO Response to Warming in Two Super-Parameterized GCMs

4:25-4:50 Stefan Tulich Hindcast simulations of an ensemble of MJO events using a superparameterized version of the global WRF model

4:50-5:15 Romain Pilon, Chidong Zhang, William C Skamarock, Mitchell W. Moncrieff, Jimmy Dudhia Tracking propagation of the Madden-Julian Oscillation in YOTC MJO events

5:15-5:30 Discussion

6:30 - ? Dinner at Duke's on Waikiki. \$55/ person. Please pay Claire or Eric.

Day 2, Wednesday January 15, 2014

Tropical Convection (Chair: Adam Sobel and Steve Woolnough)

9:00-9:25 David Raymond Moisture Quasi-Equilibrium and the Control of Tropical Convection

9:25-9:50 Kerry Emanuel, Allison A. Wing, and Emmanuel M. Vincent Radiative-Convective Instability

9:50-10:15 In-Sik Kang and Young-Min Yang The GCMs with implicit and explicit cloud-rain processes for simulation of extreme precipitation frequency

10:15-10:35 *Break*

10:35- 11:00 Susan van den Heever The Role of Tropical Cold Pools

11:00-11:25 Chris Holloway Convective aggregation in observations, idealised models, and something in between

11:25-11:50 Emily Riley, Brian E. Mapes, and Stefan N. Tulich The effects of organization on convective and large-scale interactions using cloud resolving simulations with parameterized large-scale dynamics

11:50 – 12:15 Ji Nie and Zhiming Kuang A new multi-plume convective parameterization model based on the buoyancy-sorting mechanism

12:15 – 1:30 *Lunch*

Tropical Dynamics (Chair: Charlotte DeMott and Boualem Khouider)

1:30-1:55 Steve Woolnough, Guiying Yang, Thomas Toniazzo and Nick Klingaman Equatorial Waves in the Aquaplanet Versions of the UM.

1:55-2:20 Brian Mapes, Patrick Kelly, Siwon Song A new moist model: full dynamics driven by constant 3D forcing, plus linear matrix anomaly convection. Part 1

2:20-2:45 Patrick Kelly, Brian Mapes, Siwon Song A new moist model: full dynamics driven by constant 3D forcing, plus linear matrix anomaly convection. Part 2

2:45-3:10 Sharon Sessions, Mike Herman, Stipo Sentic, David J. Raymond Idealized weak temperature gradient simulations: focusing on the horizontal advection of environmental moisture

3:10-3:30 *Break*

3:30-3:55 Benjamin Lintner, Matthew J. Niznik, Baird Langenbrunner, and J. David Neelin South Pacific Convergence Zone (SPCZ) variability and biases in a hierarchy of models

3:55-4:20 Alex Gonzalez, Gabriela Mora Rojas, Richard K. Taft, Wayne H. Schubert Deep and shallow Hadley circulations in the tropical eastern Pacific

4:20–4:45 H. Annamalai Moist static energy diagnostics for monsoon research

4:45-5:10 Kazuyoshi Kikuchi An Introduction to Combined Fourier-Wavelet Transform and Its Application to Convectively Coupled Equatorial Waves

5:10-5:30 Discussion

Day 3, Thursday January 16, 2014

Tropical Cyclones (Chair: Stefan Tulich and Sue van den Heever)

9:00-9:25 Wayne Schubert, Gabriel J. Williams, Richard K. Taft, Brian D. McNoldy, Alex O. Gonzalez Shock-Like Structures in the Tropical Cyclone Boundary Layer and the ITCZ Boundary Layer

9:25-9:50 Michael Bell Dynamics of Tropical Cyclone Intensification from Convective and Stratiform Processes

9:50-10:15 Annette M. Foerster and Michael M. Bell Buoyancy in Tropical Cyclones

10:15-10:35 Break

10:35- 11:00 Saska Gjorgjievska and David Raymond Interaction Between Dynamics and Thermodynamics During Tropical Cyclogenesis

11:00-11:25 Shannon McElhinney and Michael Bell Observations of Supergradient Winds in the Tropical Cyclone Boundary Layer

MJO Initiation and CINDY/DYNAMO (Chair: Brian Mapes and Sharon Sessions)

11:25-11:50 Kunio Yoneyama Characteristics of vertical moistening observed during CINDY/DYNAMO

11:50 – 12:15 Juliana Dias, George Kiladis, Kazu Kikuchi Diversity of the MJO since 1974 compared with events during CINDY/DYNAMO

12:15 – 1:30 Lunch

MJO Initiation and DYNAMO cont'd (Chair: TBD)

1:30-1:55 Richard Johnson, Paul E. Ciesielski, and James H. Ruppert, Jr. MJO Moistening Processes Deduced from DYNAMO Sounding Data

1:55-2:20 James Ruppert and Richard Johnson The Diurnal Cycle of Moistening by Shallow Convection during DYNAMO

2:20-2:45 Tomoki Miyakawa, Masaki Satoh, Hiroaki Miura, Hirofumi Tomita, Hisashi Yashiro, Akira T. Noda, Yohei Yamada, Chihiro Kodama, Masahide Kimoto, and Kunio Yoneyama Simulations of MJO cases using NICAM on the K-computer

2:45-3:10 Hiroaki Miura, Tomoki Miyakawa, Masaki Satoh Extended Madden-Julian Oscillation simulations by NICAM for the CINDY/DYNAMO period

3:10-3:30 Break

3:30-3:55 Tomoe Nasuno, Tim Li, Kazuyoski Kikuchi, Hiroaki Miura, Tomoki Miyakawa, Masaki Satoh Moistening processes before the convection initiation of Madden-Julian Oscillation events during the CINDY2011/DYNAMO period

3:55-4:20 Patrick Haertel Transforming Circumnavigating Kelvin Waves that Initiate and Dissipate the Madden Julian Oscillation

4:20-4:45 Xiouhua Fu, June-Yi Lee, Juan Li, Kazu Kikuchi, Bin Wang, Wanqiu Wang and Scott Weaver The Effects of Air-Sea Coupling on the MJO Vary Event-by-Event in the DYNAMO/CINDY Period

4:45-5:10 Aneesh Subramanian, Guang Zhang, Diagnosing MJO forecast biases in the NCAR Community Atmosphere Model using nudging during the DYNAMO field campaign

5:10-5:30 Discussion

Workshop on Advances in Tropical Dynamics

Tuesday January 14 - Thursday January 16, 2014

Honolulu, Hawaii

Information for Participants

Location

The workshop will take place at the Hawaii Imin International Conference Center at Jefferson Hall, located on the East-West Center campus, adjacent to the University of Hawaii. A map of the East-West campus can be found on page 3.



1777 East-West Road
Honolulu, Hawaii 96848
(808) 944-7111

<http://www.eastwestcenter.org/about-ewc/conference-center>

Meeting Space Details

We will be on the second floor of the conference center in the following rooms. A map of second floor rooms can be found on page 4.

- Meeting room: Asia
- Catered breaks: Rhamin

Wireless internet access will be available during the meeting. *(Additional instructions will be on-site.)*

- Username: trop114
- Password: 114trop

The Asia room will open at 8:45am daily for our meeting. Power is accessible for laptops at each seat in this room.

Area Info & Getting Around

- Average high temps: 75°- 85° F. It is generally drier on the south-western (leeward) side of the island, wetter on the north-eastern (windward) side.
- Should be good weather for walking if its not too rainy. Depending on where you are staying, a walk from the Waikiki area to the East-West Center would take somewhere around 30-50 minutes.
- Oahu's city transportation system is aptly named "TheBus." Fares are reasonable, routes are extensive and there are special visitor passes for multiple day uses. For more information on fares, bus routes to popular attractions and other useful information visit <http://www.thebus.org>.
- Another affordable option is the trolley. The routes and destinations are not as extensive as TheBus but the trolley goes to most major tourist attractions and offer tickets for unlimited rides over a certain number of days. For more information visit <http://www.waikikitrolley.com> or call (808) 593-2822.
- Taxis are a great way to travel when in a group and the cost can be shared. You can find taxi stands at most major shopping malls, in the business district and at the airport. Note that rather than hailing a cab, finding taxi stands at major shopping malls and businesses as well as calling for pick-ups via hotel concierge or phone is the norm in Hawaii.

Contact Information

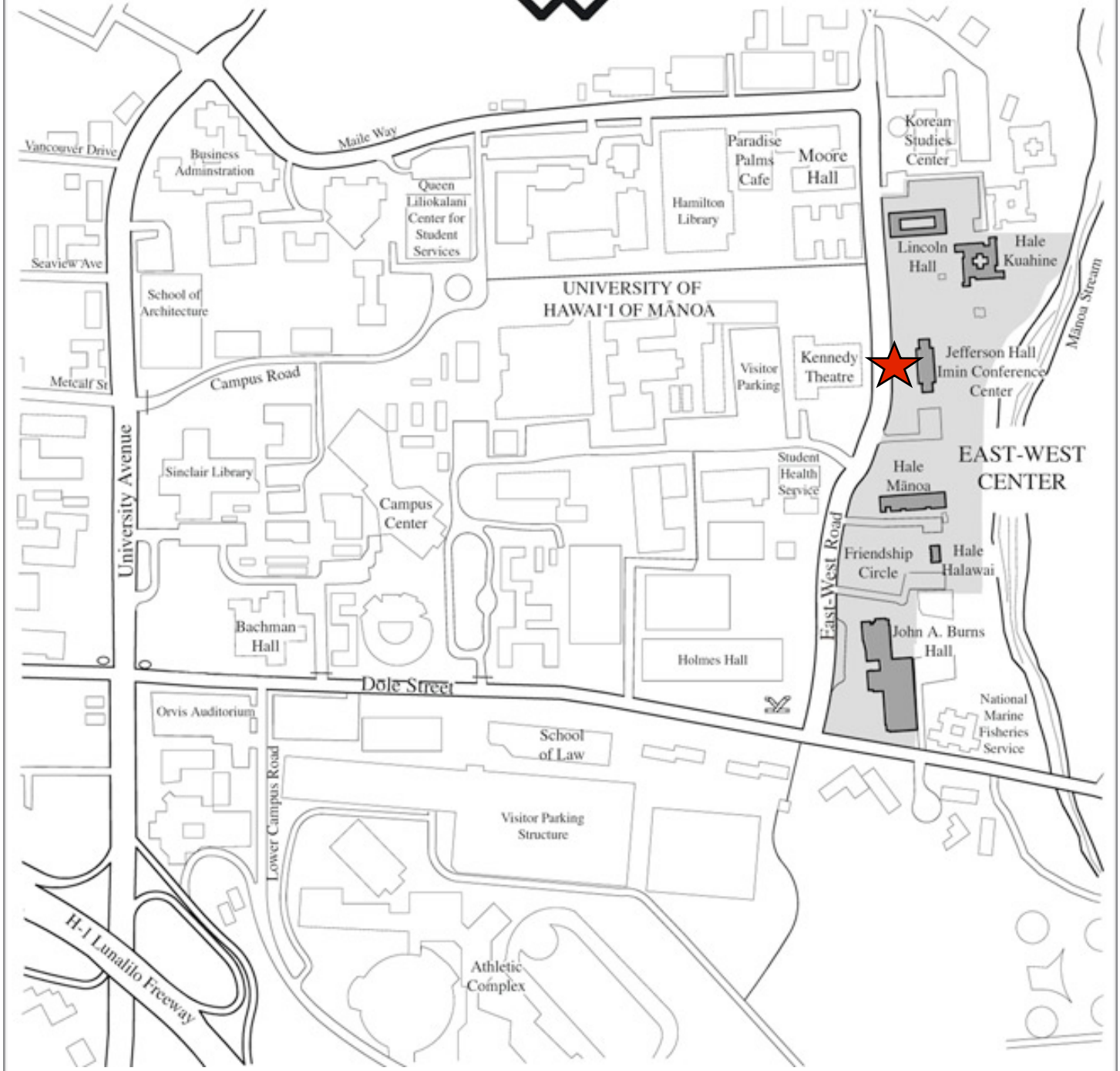
If there is anything I can help with, please let me know! Enjoy the workshop.

Claire Fleming, CMMAP Events Coordinator
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Our contact at the East-West Center is:

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EAST-WEST CENTER



Map of second floor at Hawaii Imin Int'l Conference Center

Meeting room: Asia

Catered breaks: Rhamin

Poster session on Wednesday Jan 15: Kaniela

