



Tropical Weather and Climate Dynamics (TWCD) Workshop

9-11 October, 2013

Agenda

October 9 (Wednesday)

8:00-8:45 Registration

8:45-8:50 Opening remark (Kevin Hamilton)

8:50-9:00 Group photo

Plenary Session (session chair: H.-H. Hsu)

9:00-9:25 **Krishnamurti, T. N.** : Recent Rapid Arctic Ice Melting.

9:25-9:50 **Krishnamurti, Ruby**: Source-sink flows on a beta plane with application to the freshwater input into the Bay of Bengal.

09:50-10:10 **Wang, Bin**: Recent Intensification of Northern Hemisphere Summer Monsoon.

10:10-10:30 **Schneider, Ed.**: The Role of Air-Sea Coupling and Atmospheric Weather Noise in Tropical Low Frequency Variability

10:30-11:00 Break

Plenary Session (session chair: J.-P. Li)

11:00-11:15 **Jin, Fei-Fei**: Dynamics of ENSO Diversity.

11:15-11:30 **Ding, Yihui**: Role of the Warm and Wet Transport Belt of Asian Summer Monsoon in the Beijing “7.21” and “638” heavy rainstorms.

11:30-11:45 **Chou, Chia**: Global and regional perspective on global-warming-induced changes in the frequency and intensity of precipitation extremes in the tropics.

11:45-12:00 **Li, Tim**: Mechanism for MJO initiation.

12:00-1:30 Lunch

Session 1. Intraseasonal-to-interdecadal variability (I) (session chair: J.-S. Kug)

1:30-1:45 **Fu, Xiuhua Joshua**, June-Yi Lee, Pang-Chi Hsu, Hiroshi Taniguchi, Bin Wang, Wanqiu Wang, and Scott Weaver: Assess multi-model MJO forecast skill during CINDY/DYNAMO campaign.

1:45-2:00 **Mani, Neena Joseph**, June Yi Lee, Duane Waliser and Bin Wang: Potential predictability of the MJO in the ISVHE multimodel framework.

2:00-2:15 **Kazuyoshi, Kikuchi** : An Introduction to Combined Fourier-Wavelet Transform and Its Application to Convectively Coupled Equatorial Waves.

2:15-2:30 **Liu, Fei**, and Bin Wang: A theoretical multi-scale interaction model for the intraseasonal variability.

2:30-2:45 **Kubota Hisayuki**, Kunio Yoneyama, and Hamada Jun-Ichi: Importance of the maritime continent convection for the preconditioning of the Madden-Julian Oscillation during CINDY2011.

2:45-3:00 **Puy, Martin**, Matthieu LENGAIGNE, Eric GUILYARDI, Jérôme VIALARD : The large scale origin of westerly and easterly intraseasonal wind events in the equatorial Pacific.

3:00-3:30 Break

Session 1. Intraseasonal-to-interdecadal variability (II) (session chair: Chia Chou)

3:30-3:45 **Hsu, Huang-Hsiung**, Chi-Cherng Hong, Tao-Chi Chang and Ming-Ying Lee: Influence of the Tropical Atlantic on the western north Pacific subtropical high.

3:45-4:00 **Ding, Qinghua**, Eric J. Steig, David S. Battisti, and John M. Wallace: Influence of ENSO diversity on the recent climate variability in the polar region.

4:00-4:15 **Wettstein, J. Justin**: Tropical (and extratropical) influences on the North Pacific jet.

4:15-4:30 **Schwendike, Juliane**, Michael Reeder, Gareth Berry and Christian Jakob: Local Changes in the Hadley and Walker Circulations in the last 30 years.

4:30-4:45 **Wu, Zhiwei**, Hai Lin, Jianping Li, Zhihong Jiang and Tingting Ma: Heat Wave Frequency Variability over North America: Two Distinct Leading Modes.

4:45-5:00 **Kug, Jong-Seong** and Yoo-Geun Ham: What controls phase-locking of ENSO to boreal winter in coupled GCMs?

6:00pm-8:00pm Welcome reception

October 10 (Thursday)

Session 2. Typhoons and high-impact weather (I) (session chair: J.-Y. Lee)

9:00-9:15 **Wang, Zhuo**: Thermodynamic control of convective organization and tropical cyclogenesis.

9:15-9:30 **Huang, Yi-Hsuan**, and Chun-Chieh Wu: Dynamics of Secondary Eyewall Formation.

9:30-9:45 **Chen, Xin**, YongQing Wang, and Wei Zhong: Development of Intense Helicity and Vortical Hot Towers in Hurricane Bonnie (1998).

9:45-10:00 **Kucas, Matthew**: Operational research collaborations at the Joint Typhoon Warning Center.

10:00-10:30 Break

Session 2. Typhoons and high-impact weather (II) (session chair: Emile-Greay, Julien)

10:30-10:45 **Wu, Liguang**, Jia Liang, Huijun Zong, and Jingjing Duan: Sudden Track Changes of Tropical cyclones over Western North Pacific.

10:45-11:00 **Schwendike, Juliane**, Jeffrey D. Kepert, and Hamish Ramsay: Why is the tropical cyclone boundary layer not well-mixed?

11:00-11:15 **Li, Yan**, Bin Wang, and Liguang Wu: Multi-scale Interactive Genesis of TC05A (2011) over the Equatorial Indian Ocean: An Observational Analysis.

11:15-11:30 **Ye, Chengzhi** and Yunying Li: A numerical study of the characteristics of strong moisture transport as a result of the interaction of tropical storm Bills with the South China Sea monsoon.

11:30-11:45 **Cao, Xi**, Tim Li, Wen Chen, and Melinda Peng: Relative role of dynamic and thermodynamic impacts of the ISO on tropical cyclone development.

12:00-1:30 Lunch

Session 3. Monsoon variability and predictability (I) (session chair: Justin Wettstein)

1:30-1:45 **Wu, Renguang**, Xiao Feng, Zhiping Wen, Jiepeng Chen: Contributions of different factors to interannual variations of September-October rainfall in Hainan of China.

1:45-2:00 **Duan, Anmin**, Meirong Wang, Yonghui Lei, and Yangfan Cui: Trends in summer rainfall over China associated with the Tibetan Plateau sensible heat source during 1980-2008.

2:00-2:15 **Liu, Boqi**, Guoxiong Wu, Jiangyu Mao, and Jinhai He: Genesis of the South Asian High and its impact on the Asian summer monsoon onset.

2:15-2:30 **Dong, Si**, Yihui Ding: Decadal change in the correlation pattern between the Tibetan Plateau winter snow and the East Asian summer precipitation during 1979-2011.

2:30-2:45 **Zhu, Congwen**, Kang Xu, and Jinhai He: Two Types of El Niño-related Southern Oscillations and Their Different Impacts on the East Asian Monsoon Rainfall.

2:45-3:15 Break

Session 3. Monsoon variability and predictability (II) (session chair: R.-G. Wu)

3:15-3:30 **Lee, June-Yi** : Boreal summer tropical-extratropical teleconnection: variability, predictability, and future change.

3:30-3:45 **Wei, Wei**, Renhe ZHANG, Min WEN, Xinyao RONG, and Tim Li: Role of Interannual East/West Mode of the South Asian High in Interaction of Summer Monsoons over India and East Asia.

3:45-4:00 **Gong, DaoYi**, Dong Guo, Rui Mao, Jing Yang, Miao Hu, and Miaoni Gao: Interannual linkage between Arctic Oscillation and tropical Indian Ocean precipitation during boreal winter.

4:00-4:15 **Yang Jing**: Unstable relationship between spring Arctic oscillation and East Asian summer monsoon.

4:15-4:30 **Zhu, Zhiwei**, Tim Li, and Jinhai He: Phase relationship between spring and summer decadal rainfall changes in South China.

4:30-4:45 **Yim, So-Young**, Bin Wang, Jian Liu, and Zhiwei Wu: A comparison of regional monsoon variability using monsoon indices.

4:45-5:00 **Matthew England**: The role of the Indonesian Throughflow on regional climate.

5:00-5:15 **Chikamoto, Yoshimitsu**: Impact of salinity data assimilation on interannual-to-decadal climate predictability.

October 11 (Friday)

Session 4. Climate modeling, prediction and future projection (I) (session chair: L.-G. Wu)

9:00-9:15 **Li Jianping**: Seasonal Prediction Models for East Asia Climate.

9:15-9:30 **Weller, Evan** and Wenju Cai: Realism of Climate Modes in CMIP5 models: the implication for climate projections.

9:30-9:45 **Kim, Hyung-Jin**, B. Wang, S. Watanabe, A. Noda, M. Watanabe, and M. Kawamiya: Robust signal of recent Northern Hemisphere summer monsoon intensification in CMIP5.

9:45-10:00 **Jia Xiao Jing**, Hai Lin, June-Yi Lee, and Bin Wang: Season-dependent forecast skill of the dominant atmospheric circulation patterns.

10:00-10:15 **Yang, Hongwei**, and Bin Wang: Application of Bayesian Model Averaging on Multi-model Ensemble Seasonal Prediction.

10:15-10:45 Break

Session 4. Climate modeling, prediction and future projection (II) (session chair: K. Kikuchi)

10:45-11:00 **Liu, Ping**, Tim Li, Bin Wang, Minghua Zhang, Jing-jia Luo, Yukio Masumoto, Xiacong Wang, and Erich Roeckner: MJO change with A1B global warming estimated by the 40-km ECHAM5.

11:00-11:15 **Liu, Jian**, Bin Wang, So-Young Yim, and Eduardo Zorita: Forced response of monsoon precipitation to natural and anthropogenic forcing over the past millennium.

11:15-11:30 **Brown, Jaclyn**, and Co-authors: Exploring Qualitative Regional Climate Projections: a Case Study for Nauru.

11:30-11:45 **Xiang, Baoqiang**, Bin Wang, Axel Lauer, June-Yi Lee, Qinghua Ding: Upper Tropospheric Warming Intensifies Sea Surface Warming.

11:45-12:00 **Lee, Sun-Seon**, Sarah M. Kang, and Kyung-Ja Ha: Local Hadley circulation change during the boreal winter and its possible causes.

12:00-1:30 Lunch

Session 5: Role of air-sea interaction in climate (I) (session chair: Z. Wang)

1:30-1:45 **Stuecker, F. Malte**, Axel Timmermann, Fei-Fei Jin, Shayne McGregor, and Hong-li Ren: A combination mode of the annual cycle and the El Nino/Southern Oscillation.

1:45-2:00 **Graham, Felicity**, Jaclyn N Brown, Neil Holbrook, Simon Marsland, Clothilde Langlais, and Andrew Wittenberg: Effectiveness of the Bjerknes Stability (BJ) index in representing ocean dynamics.

2:00-2:15 **Dommenges, Dietmar**, Sabine Haase, Tobias Bayr and Claudia Frauen: Analysis of the Slab-Ocean El Nino Atmospheric Feedbacks in Observed and Simulated ENSO Dynamics.

2:15-2:30 **Chu, Jung-Eun**, Jong-Ghap Jhun, and Kyung-Ja Ha: Biennial coupled IOD-ENSO-IOBW cycle: Observation and CMIP5s.

2:30-3:00 Break

Session 5: Role of air-sea interaction in climate (II) (session chair: J. Fu)

3:00-3:15 **Emile-Greay, Julien**, and Co-authors: Paleoclimate constraints on simulated ENSO behavior.

3:15-3:30 **Claudia, Frauen** and Dietmar Dommenges: Analysis of the Nonlinearity of El Niño Southern Oscillation Tele-connections.

3:30-3:45 **Brown, Jaclyn**: Structure and Variability of the Equatorial SST and Edge of the Western Pacific Warm Pool under Climate Change.

3:45-4:00 **Jiang, Xianan**, Prince Xavier, Nick Klingaman, Duane Waliser, Jon Petch, and Steve Woolnough: Exploring Key Processes in Modeling the Madden-Julian Oscillation.

4:00-4:15 **Murakami, Hiroyuki**, Bin Wang, Tim Li, and Akio Kitoh: Projected Increase in Tropical Cyclones near Hawaii.

4:15-4:30 **Zhang, Lei**, and Tim Li: Strengthening of the Walker circulation under global warming in Aqua-planet simulations.

6:00pm-8:00pm Reception

October 12 (Saturday)

9:00-12:00 Special group discussion on East Asia Climate (invitation only)