

## Program for the 42<sup>nd</sup> Annual Climate Diagnostics and Prediction Workshop

Norman, Oklahoma, October 23-26, 2017

### Monday, October 23, 2017

7:30 – 9:30            **Registration**

8:30 – 9:30            **Welcoming Remarks**

**Session 1:    Recent Events I**  
**Chair: Mike Halpert, NOAA CPC**

9:30 – 9:50            *California from drought to deluge: Dipole reversal and S2S forecast*  
Simon Wang, **Emily Becker**, Jinho Yoon, Rob Gillies, Utah State University,  
GIST Korea, NOAA/CPC, Utah State U

9:50 – 10:10          *Diagnosing the atypical extreme precipitation events under weakly forced  
synoptic setting: The West Virginia flood (June 2016) and beyond*  
**Binod Pokharel**, S.-Y. Simon Wang, Yen-Heng Lin, Lin Zhao, and Robert  
Gillies, Utah State University

10:10 – 10:40        **Break**

**Session 2:    Recent Events II**  
**Chair: TBA**

10:40 – 11:00        *Changes in the statistics of U.S. tornado reports (INVITED)*  
**Michael K. Tippett**, Columbia University

11:00 – 11:20        *The role of anomalous wave activity in high-impact weather events during the  
2015-16 winter*  
**Samuel Lillo**, David Parsons, School of Meteorology, University of Oklahoma

11:20 – 11:40        *An Overview of the 2016-17 La Niña and return to Neutral conditions*  
**Michelle L'Heureux**. NOAA CPC

11:40 – 12:00        *Relation between a Rossby Wave-Breaking Event and Enhanced Convective  
Activities over the western North Pacific observed in August 2016*  
**Kazuto Takemura**, Yutaro Kubo and Shuhei Maeda, Tokyo Climate Center,  
Japan Meteorological Agency

12:00 – 1:15pm      **Lunch**

**Session 3:    Recent Events III**  
**Chair: TBA**

- 1:15 – 1:35            *The sudden onset of the current 2017 Northern High Plains Drought*  
**Muthuvel Chelliah** and David Miskus, NOAA CPC
- 1:35 – 1:55            *An Analysis of Climate anomalies in the Australian and Indian Ocean regions during June-November 2016 [Placeholder Title]*  
**Catherine Ganter**, BoM Australia
- 1:55 – 2:15            *Causality and sub-seasonal predictability of the 2016 Yangtze River extreme rainfall*  
**Xing Yuan**, Shanshan Wang, Zeng-Zhen Hu, Institute of Atmospheric Physics, Chinese Academy of Sciences; Institute of Arid Meteorology, CMA; NOAA/CPC
- 2:15 – 2:35            **Break**
- Session 4:    S2S Extremes: General Session I**  
**Chair: TBA**
- 2:35 – 2:55            *Advancing Atmospheric River Forecasts into Subseasonal-to-Seasonal Timescales (INVITED)*  
**Cory Baggett**; Elizabeth Barnes; Eric Maloney; Bryan Mundhenk, Colorado State University
- 2:55 – 3:15            *Multi-model global assessment of subseasonal-to-seasonal atmospheric river prediction skill*  
**Michael J. DeFlorio**, NASA Jet Propulsion Laboratory/California Institute of Technology
- 3:15 – 3:35            *Evaluating the Joint Influence of the MJO and the Stratospheric Polar Vortex on Northern Hemisphere Winter Weather Patterns*  
**Matthew R. Green**, The University of Oklahoma
- 3:35 – 3:50            **Discussion (Facilitator: TBA)**
- 4:00 – 5:00            **National Weather Center tours**
- 5:30 – 7:30            **Ice Breaker**

**Tuesday, October 24, 2017**

**Session 5:    S2S Extremes: Severe Weather**  
**Chair: TBA**

- 8:30 – 8:50            *The Impact of ENSO on Winter and Early Spring U.S. Tornado Outbreaks (INVITED)*  
**Ashton Robinson Cook**, NOAA NWS Storm Prediction Center

- 8:50 – 9:10            *Developing a Experimental Week 2-4 Severe Weather Outlook for the United States*  
**Hui Wang**, Alima Diawara, Arun Kumar, and Dave DeWitt,  
 NOAA/NWS/NCEP/CPC
- 9:10 – 9:30            *Gulf of Mexico Influence on Sub-seasonal and Seasonal Severe Thunderstorm Frequency*  
**Maria J. Molina**, John T. Allen, Vittorio A. Gensini, Department of Earth and Atmospheric Sciences, Central Michigan University, Department of Geographic and Atmospheric Science, Northern Illinois University
- 9:30 – 9:50            *Beyond Day 4-8: Subseasonal severe storm prediction based on hemispheric teleconnections and the MJO*  
**Casey Crosbie**, NWS/FAA
- 9:50 – 10:10           **Discussion (Facilitator: TBA)**
- 10:10 – 10:40           **Break**
- Session 6:    S2S Extremes: General Session II**  
**Chair: TBA**
- 10:40 – 11:00           *Short-term climate extremes using the North American Multi-Model Ensemble*  
**Emily Becker**, CPC/INNOVIM
- 11:00 – 11:20           *Are the more extreme seasonal climate conditions easier to predict?*  
**Cheng-Ta Chen**, Teng-Ping Tseng, and Shou-Li Lin, National Taiwan Normal University, Department of Earth Sciences
- 11:20 – 11:40           *Evaluating the MJO forecast skill in the NCEP GEFS 35-day Experiments*  
**Wei Li**, Xiaqiong Zhou, Yuejian Zhu, Malaquias Peña, Dingchen Hou, Hong Guan, Eric Sinsky and Christopher Melhauser, EMC/NCEP
- 11:40 – 12:00           *Progress in dynamical model tools for forecasting heat waves in week 2*  
**Evan Oswald**, Jon Gottschalck, CPC/INNOVIM
- 12:00 – 1:20pm        **Lunch**
- Session 7:    S2S Extremes: Tropical Cyclones**  
**Chair: TBA**
- 1:20 – 1:40            *Impacts of Extratropical Rossby Wave Breaking on Atlantic Tropical Cyclones (INVITED)*  
**Zhuo Wang**, University of Illinois at Urbana-Champaign
- 1:40 – 2:00            *Influence of Convectively Coupled Equatorial Waves, the MJO, and ENSO on the Environment of Tropical Cyclones in Coupled Atmosphere-Ocean Subseasonal Prediction Systems*  
**Matthew A. Janiga**, UCAR

- 2:00 – 2:20      *Evaluations of Western North Pacific Tropical Cyclone Forecasts from the NCEP GEFSv11 Reforecasts*  
**Hsiao-Chung Tsai**, Pang-Cheng Chen, Tzu-Ting Lo, Meng-Shih Chen, and Ren-Feng Liu, Department Water Resources and Environmental Engineering, Tamkang University and Central Weather Bureau, Taiwan
- 2:20 – 2:40      *Machine Learning Approaches for Diagnosis of Tropical Cyclone Errors*  
**Michael B. Richman** and Lance M. Leslie, University of Oklahoma
- 2:40 – 3:10      **Break**
- Session 8:      Climate Services**  
**Chair: TBA**
- 3:10 – 3:30      *Relationship between El Niño strength and Southern Africa precipitation: Forecasting applications and decision-making*  
**Catherine Pomposi**, University of California Santa Barbara
- 3:30 – 3:50      *Delivering and Improving Impact-Based Seasonal Outlooks for South Central Texas*  
**Larry Hopper** and Ty Dickinson, Austin-San Antonio NWS WFO
- 3:50 – 4:10      *Improving Impact-Based Seasonal Outlooks for South Central Texas*  
**Ty Dickinson** and Larry Hopper, University of Oklahoma
- 4:10 – 4:30      *Regional drought early warning, impacts, and assessment for water and agriculture in the Lower Rio Grande Valley, 2016-2017*  
**David Brown**, USDA Southern Plains Climate Hub
- 4:30 – 4:50      *Assessing User Needs and Model Accuracy of Seasonal Climate Forecasts for Winter Wheat Producers in the Southern Great Plains*  
**Toni Klemm**; Renee McPherson, Ph.D., University of Oklahoma / South Central Climate Science Center
- 4:50 – 5:10      *Refocusing and Evolving Subseasonal-to-Seasonal Services in NOAA's National Weather Service*  
Fiona Horsfall, **Marina Timofeyeva**, Viviane Silva, Mary Rose Mangan, Jenna Meyers, and James Zdrojewski, NOAA NWS AFSO Climate Services Branch
- 5:30 – 7:30      **Poster Session**

**Wednesday, October 25, 2017**

**Session 9:      High Latitude Variability I**  
**Chair: TBA**

- 8:30 – 8:50      *Diagnosing extremes and trends of seasonal temperatures in Alaska (INVITED)*  
**John E. Walsh** and Brian Brettschneider, University of Alaska, Fairbanks

- 8:50 – 9:10            *Searching for Arctic Temperature Trends and Extremes from Original Station Records*  
**Taneil Uttal**, NOAA
- 9:10 – 9:30            *New pathway of tropical influences on Arctic subseasonal warming events in the troposphere*  
**Yen-Heng Lin**, S.Y. Simon Wang, Department of Plants, Soils and Climate, Utah State University
- 9:30 – 9:50            *Predictability of Sudden Stratospheric Warmings in Operational Subseasonal-to-Seasonal Forecasting Models*  
**Jason C. Furtado**, School of Meteorology, University of Oklahoma, Judah Cohen, Emily Becker, Dan Collins
- 9:50 – 10:10          *Stratospheric Influence on the Mechanisms of MJO-AO Teleconnections in the S2S models*  
**Laura M. Ciasto**, NOAA Climate Prediction Center and INNOVIM, LLC
- 10:10 – 10:40          **Break**
- Session 10: High Latitude Variability II**  
**Chair: TBA**
- 10:40 – 11:00          *Processes associated with air-sea ice coupling biases in CMIP5 (INVITED)*  
**Qinghua Ding**, Michelle L’Heureux, Kirstin Harnos, Nathaniel Johnson, and Mitch Bushuk, USCB, CPC/NOAA, GFDL/NOAA
- 11:00 – 11:20          *Potential Impacts of New Arctic Air-Ice-Ocean Interaction Processes on Climate Diagnostics*  
**Ola Persson**, CIRES/Univ. of Colorado/NOAA/ESRL/PSD
- 11:20 – 11:40          *Seasonal NAO predictability: the role of sea ice, the stratosphere and large-scale SSTs*  
**Mingfang Ting**, Lamont-Doherty Earth Observatory, Columbia University
- 11:40 – 12:00          **Discussion (Facilitator: TBA)**
- 12:00 – 1:20pm        **Lunch**
- Session 11: Drought and Pluvial Events I**  
**Chair: TBA**
- 1:20 – 1:40            *Subseasonal prediction of warm season drought in North America (INVITED)*  
**Hailan Wang**, Siegfried D. Schubert, Yehui Chang, Randal D. Koster, NASA Global Modeling and Assimilation Office
- 1:40 – 2:00            *An Empirical Method to Generate Probabilistic Drought Intensification Forecasts over Sub-Seasonal Time Scales*  
**Jason Otkin**, University of Wisconsin-Madison / CIMSS / SSEC

- 2:00 – 2:20      *Predicting Global Drought Conditions using the North American Multi-Model Ensemble*  
**Jeremy P. Anthony**, US Air Force
- 2:20 – 2:40      *Investigation of Land Atmosphere Feedbacks in Oklahoma using Local Coupling Metrics*  
**Ryann Wakefield**, University of Oklahoma School of Meteorology
- 2:40 – 3:00      *Diagnosing extreme drought characteristics across the globe*  
**Ehsan Najafi**, Indrani Pal, Naresh Devineni, Reza Khanbilvardi, NOAA-Cooperative Remote Sensing Science and Technology Center (NOAA-CREST), City University of New York
- 3:00 – 3:30      **Break**
- Session 12: S2S Predictability**  
**Chair: TBA**
- 3:30 – 3:50      *The Subseasonal Experiment (SubX)*  
**Kathy Pegion**, GMU/COLA
- 3:50 – 4:10      *An evaluation of weeks 3&4 through extended NCEP GEFS*  
**Yuejian Zhu**, NWS/NCEP/EMC
- 4:10 – 4:30      *CFS Hindcast Skill and MJO Propagation across the Maritime Continent*  
**Carl Schreck**, Anantha Aiyyer, Matthew Janiga, Cody Yearly, NCICS/NCSU, NCSU, UCAR, and NCSU
- 4:30 – 4:50      *Ensemble-based revision forecasting tool*  
**Malaquias Peña**, University of Connecticut
- 4:50 – 5:10      *Assesment of NMME Skill over Southwest Asia and Horn of Africa*  
**Ryan D. Smith**, Robb M. Randall, Ray B. Kiess, Jeremy P. Anthony, 14th Weather Squadron, USAF
- 6:00 – 8:00      **Banquet at the Sam Noble Oklahoma Museum of Natural History**  
**Keynote: Harold Brooks (NSSL)**

**Thursday, October 26, 2017**

**Session 13: Drought and Pluvial Events II**  
**Chair: TBA**

- 8:30 – 8:50      *Improving CPC's Handling of Long-term Trends in Seasonal Forecasts*  
**Stephen Baxter**, NOAA/NWS/NCEP/CPC
- 8:50 – 9:10      *Future Projections of U.S. Drought and Pluvial Events Characteristics*  
**Elinor R Martin**, University of Oklahoma

- 9:10 – 9:30      *Primary Atmospheric Drivers of Pluvial Years in the United States Great Plains*  
**Paul X. Flanagan**, University of Oklahoma; School of Meteorology
- 9:30 – 9:50      *Long-term Variation of US Land Surface Hydrological Extremes*  
**Yun Fan** and Huug van den Dool, NOAA/NWS/NCEP/CPC
- 9:50 – 10:10      *Seasonal and interannual variability of land-atmosphere coupling across the Southern Great Plains of North America*  
**Jeffrey B. Basara** and Jordan I. Christian, School of Meteorology, University of Oklahoma
- 10:10 – 10:40      **Break**
- Session 14: Climate Diagnostics, Prediction, and Analyses**  
**Chair: TBA**
- 10:40 – 11:00      *Developing seasonal predictions of lightning potential for Alaska with application to the summer wildfire season*  
**Peter Bieniek**, University of Alaska Fairbanks
- 11:00 – 11:20      *Warm Season Forecast Experiments with Different Treatments on Ground Water and Evaporative Parameterizations in the NCEP Coupled Forecast System*  
**Rongqian Yang** and Mike Ek, EMC/NCEP
- 11:20 – 11:40      *Modulated impact of heavy snowpack on 2017 streamflow in Southwestern rivers*  
**David S. Gutzler**, University of New Mexico
- 11:40 – 12:00      *Projections of U.S. Summer Heat Waves out to 2040*, **Anthony G. Barnston**, IRI, and Bradfield Lyon, University of Maine
- 12:00              **Workshop Adjourns**