

Front page – 4/c

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INTERNATIONAL SYMPOSIUM
Evapotranspiration: Challenges in Measurement and Modeling
from Leaf to the Landscape Scale and Beyond
April 7-10, 2014 – Raleigh, North Carolina

PROGRAM

Monday, April 07, 2014

8:00AM REGISTRATION

8:00AM Refreshments

8:30AM OPENING AND KEYNOTE SESSION

Location: Roosevelt/Lincoln

Symposium Introduction: Devendra Amatya

Opening Welcome: James Vose, USDA Forest Service, Raleigh, NC

Keynote Speaker 1:

**Evaluating Evaporation Everywhere, All of the Time: Lessons Learned
about Ecosystem Evaporation from Long-term, Global Flux Networks**

Dennis Baldocchi, University of California-Davis, Berkeley, CA United States (D. Baldocchi)

Keynote Speaker 2:

**Global estimates of ET for climate studies using multi-sensor
remote sensing data**

Eric Wood, Princeton University, Princeton, NJ United States (E. F. Wood)

Questions and Answers

10:10AM Refreshment Break

Monday, April 07, 2014

10:30AM-12:35PM SPECIAL SESSIONS #1, #2, #3 (Concurrent)

10:30AM Special Session #1 - Evapotranspiration of Biofuel Crops

Location: Jefferson

Moderator: Jami Nettles

Time	Control ID/Paper #	Title and Authors
10:30AM		Introduction
10:35AM	1875295	Estimating Potential Evapotranspiration and Evapotranspiration of Switchgrass and its Intercropping in a Young Pine Forest in North Carolina Coastal Plain Devendra Amatya, USDA Forest Service, Cordesville, SC United States (D. M. Amatya, H. Ssegane, G.M. Chescheir, J.E. Nettles, T.W. Appelboom, R.W. Skaggs)
10:55AM	1880082	Evapotranspiration Parameter Estimation Model Development with Advanced Geospatial Technology Kyle Dalton, University of Georgia, Athens, GA United States (K. Dalton, S.S. Panda, D.M. Amatya, R. Jackson, J.E. Nettles, G.M. Chescheir)
11:15AM	1870582	Simulating Evapotranspiration Dynamics of a Middle Rotation Pine Plantation using DRAINMOD-FOREST Shiyang Tian, North Carolina State University, Raleigh, NC United States (S. Tian, M.A. Youssef, G. Sun, D.M. Amatya, J.C. Domec, G.M. Chescheir, R.W. Skaggs, A. Noormets, J.S. King, S. McNulty, M. Gavazzi)
11:35AM	1887391	Water Footprint of Biofuels: Current Understanding, Trends, and Challenges May Wu, Argonne National Laboratory, Lemont, IL United States (M. Wu)
11:55AM	1968607	Pines vs Eucalyptus in the Upper Coastal Plain: How much Water are they Using and Where are They Getting It? C. Rhett Jackson, Warnell School of Forestry and Natural Resources, University of Georgia, Athens, GA United States (C. Rhett Jackson, Douglas P. Aubrey, Jeffrey J. McDonnell, Chelcy F. Miniati, John Blake)
12:15PM	1879777	Evapotranspiration and Other Surface Balance, Plant Variables, and Biomass Production of Switchgrass in Central Nebraska Suat Irmak, University of Nebraska, Lincoln, NE United States

Monday, April 07, 2014

10:30AM Special Session #2 - Evapotranspiration and Sublimation in High Mountain Environments - from alpine shrubs to ski runs

Location: Caucus

Moderator: Carmen de Jong

Time	Control ID/Paper #	Title and Authors
10:30AM		Introduction
10:35AM	1879008	Intra-Annual Variations in Forest Transpiration in a Species-Rich Southern Appalachian Forest Steven Brantley, US Forest Service, Otto, NC United States (S.T. Brantley, K.A. Novick, A.C. Oishi, J.M. Vose, C.F. Miniati)
10:55AM	1886231	Evaporation and Sublimation from a High-Elevation Catchment in the Colorado Rocky Mountains, USA Mark Williams, University of Colorado, Boulder, CO United States (M.W. Williams, R. Cowie, J. Knowles, M. Zeliff)
11:15AM	1892498	Variability and Uncertainties of Evapotranspiration Estimates in Alpine Catchments Mathew Herrnegger, University of Natural Resources, Vienna, Austria (M. Herrnegger, H.P. Nachtnebel)
11:35AM	1887374	Land Abandonment Increases Evapotranspiration in Mountain Grassland Thijs van den Bergh, University of Basel, Basel, Switzerland (T.V. Bergh, E. Hiltbrunner, C. Korner)

- 11:55AM 1887421 **Mass-Balance of Snow Cover as Affected by Climate Variability and by Anthropogenic Pressure**
Sergey Sokratov, Moscow State University, Moscow, Russian Federation (S. Sokratov, A.L. Shnyparkov, Y.G. Seliverstov)
- 12:15PM 1873257 **Modeling Long term Soil Moisture and Evapotranspiration Dynamics in a Temperate Grassland in Inner Mongolia, China**
Lu Hao, Nanjing University of Information Science and Technology, Nanjing, Jiangsu China (L. Hao, G. Sun, Y. Liu, G. Zhou)

Monday, April 07, 2014

10:30AM Special Session #3 - Evapotranspiration Research in the State of Florida

Location: Sessions

Moderator: W. Barclay Shoemaker

Time	Control ID/Paper #	Title and Authors
10:30AM		Introduction
10:35AM	1846404	Controls on Evapotranspiration Across the Mangrove Ecotone in Everglades National Park, FL Jordan Barr, Everglades National Park, Homestead, FL United States (J.G. Barr, J.D. Fuentes, M.S. DeLonge)
10:55AM	1863300	Testing a Dry Pixel Calibration for Remote Sensing of Evapotranspiration over 4 Sites in Florida Aaron Evans, Florida Atlantic University, West Palm Beach, FL United States (A.H. Evans)
11:15AM	1856563	Estimating Crop Coefficients from Soil Water Based Irrigation Data for Avocado Kati Migliaccio, UF-TREC, Homestead, FL United States (K. Migliaccio, J. Crane)
11:35AM	1877025	Evapotranspiration in the Big Cypress National Preserve W. Barclay Shoemaker, U.S. Geological Survey, Davie, FL United States (W. Shoemaker)
11:55AM	1875303	Micrometeorological Measurement of Urban Evapotranspiration - Water-Budget Validation and Transferability of Data David Sumner, USGS, Orlando, FL United States (D.M. Sumner, C.R. Hinkle, K.E. Becker, J. Li)
12:15PM	1877008	Quantifying Evaporation Rates from Lake Okeechobee, Florida Mike Wacker, U.S. Geological Survey, Davie, FL United States (M. Wacker, W.B. Shoemaker)

12:25PM – 1:45PM – LUNCH (On your own)

Monday, April 07, 2014

1:45PM-3:15PM TECHNICAL SESSIONS #1, #2, #3 (Concurrent)

1:45PM TS #1 - ET Processes, Biophysical Controls, and Feedback Mechanisms, Part A

Location: Jefferson

Moderator: Devendra Amatya

Time	Control ID/Paper #	Title and Authors
1:45PM		Introduction
1:50PM	1876859	Contrasting the Interannual Variability of Evapotranspiration in a Temperate Oak woodland, a Freshwater Marsh and a Conventional Cropland Housen Chu, University of Toledo, Toledo, OH United States (H. Chu, J. Chen, J. Gottgens, G. Sun)
2:05PM	1880677	Evapotranspiration Monitoring in the Mediterranean Saltmarsh Scrubs of the Rhône River Delta, (South-Eastern France) Albert Olioso, INRA, Avignon Cedex 9, France (A. Olioso, B. Gallego-Elvira, P. Chauvelon, O. Boutron, O. Marloie, S. Garrigues)

2:20PM 1865734 **Transpiration and Canopy Conductance of Loblolly Pine with Fertilization and Throughfall Exclusion: Early Results from PINEMAP.**
Eric Ward, North Carolina State University, Raleigh, NC United States (E.J. Ward, J. Domec, G. Sun, S. McNulty, J. King, A. Noormets)

2:35PM 1879921 **Chamber Based Evapotranspiration Fluxes from a Hydrological and Permafrost Gradient on the Arctic Coastal Plane**
Jessica Young, University of Alaska, Fairbanks, AK United States (J. Young, N. Raz Yaseef, T. Rahn, L. Cohen, B. D. Newman)

Monday, April 07, 2014

1:45PM TS #2 - Measurement and Estimation Techniques, Part A - Remote Sensing

Location: Caucus

Moderator: Xinhua Xiao

Time	Control ID/Paper #	Title and Authors
1:45PM		Introduction
1:50PM	1875494	Mapping ET at High Resolution using AggieAir Airborne Multispectral Imagery Manal Elarab, Utah State University, Logan, UT United States (M. Elarab, A. Torres-Rua, M. Mckee)
2:05PM	1858045	Frequent Near-Neutral Atmospheric Conditions over a Boreal Bog Improve the Estimation of Daily Evapotranspiration using Basic Weather Observations Pierre-Erik Isabelle, INRS - Eau, Terre et Environnement, Québec, QC Canada (P. Isabelle, D.F. Nadeau, A.N. Rousseau)
2:20PM	1829687	Estimating Evapotranspiration from Drained and Undrained Agricultural Fields using Remote Sensing Kul Khand, South Dakota State University, Brookings, SD United States (K. B. Khand, J. Kjaersgaard, C. Hay, X. Jia)
2:35PM	1877750	Thermal Remote Sensing for Estimating Crop Water Use Saleh Taghvaeian, Oklahoma State University, Stillwater, OK United States (S. Taghvaeian, J.L. Chavez)
2:50PM	1963030	A New Approach to Measure Soil Evaporation as a Component of Evapotranspiration Xinhua Xiao, North Carolina State University, Raleigh, NC United States (X. Xiao, T.J. Sauer, J.W. Singer, R. Horton, J.L. Heitman)
3:05PM		Questions & Answers

Monday, April 07, 2014

1:45PM TS #3 - Estimates and Mathematical Modeling of ET, Part A

Location: Sessions

Moderator: Sven Boese

Time	Control ID/Paper #	Title and Authors
1:45PM		Introduction
1:50PM	1887373	Model-Data Fusion of Global Carbon and Water Cycles Sven Boese, Max-Planck-Institute for Biogeochemistry, Jena, Germany (S. Boese, N. Carvalhais, M. Jung, M. Reichstein)
2:05PM	1823016	NOAA Introduces its Multi-Generational Reference Evapotranspiration Product Mike Hobbins, NOAA-Earth System Research Laboratory, Boulder, CO United States (M. Hobbins, G.B. Senay, J.P. Verdin)
2:20PM	1887614	Estimation of Crop Water Consumption for the Conterminous United States Narayanan Kannan, Tetra Tech, Stephenville, TX United States (N. Kannan, K. Narayanan, R. John, P. Sujoy, M. Carrie, C. Limin)
2:35PM	1879790	Coupling Carbon and Water Cycles at Watershed and Global Scales Jane Liu, University of Toronto, Toronto, ON Canada (J. Liu, J.M. Chen, G. Mo, L. He, Z. Wang, B. Chen)
2:45PM		Questions & Answers

3:15PM – 3:30PM – Break/Refreshments

Monday, April 07, 2014

3:30PM – 5:00PM – TECHNICAL SESSIONS #4, #5, and #6 (Concurrent)

3:30PM TS #4 - Measurement and Estimation Techniques, Part B - Sap Flux

Location: Jefferson

Moderator: Anand Jayakaran

Time	Control ID/Paper #	Title and Authors
3:30PM		Introduction
3:35PM	1865276	Development of an Above Ground, Counterbalance Weighing Lysimeter for Measuring Evapotranspiration Amanda Hiott, Clemson University, Blackville, SC United States (A.J. Hiott, J.O. Payero, K.R. Kirk, Y.J. Han, A. Khalilian, C. Harvey)
3:50PM	1802895	Examining Sap Flux and Water Table Relationships in a Coastal South Carolina Isolated Wetland Anand Jayakaran, Clemson University, Georgetown, SC United States (A.D. Jayakaran, J.A. Duberstein, S. Hutchinson, K.W. Krauss, W.H. Conner, J.A. Palazzolo)
4:05PM	1860712	Lysimetric Determination of Evapotranspiration for Water Melon under Irrigated Agriculture Ahmed Murtala, Kwara State Polytechnic, Ilorin, Kwara State, Nigeria, Ilorin, Kwara/North central Nigeria (A.A. Murtala, O.R. Obalowu)
4:20PM	1861014	Comparison of Different Methods of Scaling/Resolution of SEBS Derived Fluxes for Natural Systems and Vegetative Surfaces Vivek Sharma, UNL, Lincoln, NE United States (V. Sharma, S. Irmak)
4:35PM		N/A
4:50PM		Questions & Answers

Monday, April 07, 2014

3:30PM TS #5 - Practical Applications of ET, Part A

Location: Caucus

Moderator: Gary Marek

Time	Control ID/Paper #	Title and Authors
3:30PM		Introduction
3:35PM	1880135	Improving Agro-Ecosystem Water Use and Productivity through Crop Structural Modification Darren Drewry, Jet Propulsion Laboratory, Pasadena, CA United States (D. Drewry, P. Kumar, S. Long)
3:50PM	1883280	Multi-Year Assessment of a Land Surface Model: Impact of the Uncertainty on Soil Parameters on the Evapotranspiration of a Mediterranean Crop Site Sébastien Garrigues, INRA, Avignon, France (S. Garrigues, J. C. Calvet, S. Lafont, E. Martin, A. Chanzy, O. Marloie, S. Moulin, C. Doussan, V. Desfonds, N. Bertrand, D. Renard)
4:05PM	1823058	An Evaporative Demand Drought Indicator (EDDI) Mike Hobbins, NOAA-Earth System Research Laboratory, Boulder, CO United States (M. Hobbins, A. Wood, D. McEvoy, J. Huntington)
4:20PM	1863610	Estimating ET and Crop Water Use Efficiency in a High Carbon Dioxide World Armen Kemanian, The Pennsylvania State University, University Park, PA United States (A.R. Kemanian, C.O. Stockle)
4:35PM	1866310	Crop Growth Modelling and the Implications of Different Crop ET Estimates Heidi Webber, University of Bonn, Bonn, Germany (H. Webber, T. Gaiser, E. Teixeira, E.E. Rezaei, G. Krauss, G. Zhao, F. Ewert)
4:35PM		Questions & Answers

Monday, April 07, 2014

3:30PM TS #6 - Climate Change and its impacts on ET and water resources, Part A

Location: Sessions

Moderator: Asko Noormets

Time	Control ID/Paper #	Title and Authors
3:30PM		Introduction
3:35PM	1874163	Effects of Climate Change During Drought and Extreme Weather on Evapotranspiration Guy Fipps, Texas A&M Agrilife Extension Service, College Station, TX United States (G. Fipps, C. Swanson)
3:50PM	1861928	Assessing the Future Change of Precipitation and Reference Evapotranspiration over Florida Using Ranked CMIP5 Model Ensemble Syewoon Hwang, University of Florida, Gainesville, FL United States (S. Hwang)
4:05PM	1879668	Future Evapotranspiration Trends and the Drought Impacts under Climate Change Yongqiang Liu, Center for Forest Disturbance Science, Athens, GA United States (Y. Liu, G. Sun, L. Hao, T. Shi)
4:20PM	1881388	Global Evapotranspiration and Water Use Efficiency Induced by Climate Changes in the 21st Century Shufen Pan, Auburn University, Auburn, AL United States (S. Pan, H. Tian, J. Yang, Q. Yang, C. Lu)
4:35PM	1879621	Examining Drivers of Long-Term Trends in Evapotranspiration in Forested Small Catchments in the Northeastern USA Matthew Vadeboncoeur, University of New Hampshire, Durham, NH United States (M. Vadeboncoeur, H. Asbjornsen, M. Green, J. Campbell)
4:50PM		Questions & Answers

Tuesday, April 08, 2014

8:00AM REGISTRATION

8:00AM Refreshments

8:30AM OPENING AND PLENARY SESSION 1

Location: Roosevelt/Lincoln

Welcome – Program Committee Co-Chair: Suat Irmak

Plenary Session Speaker 1:

The Challenge of Lignocellulosic Bioenergy in a Water Limited World

John King, North Carolina State University, Raleigh, NC United States (J. King)

Plenary Session Speaker 2:

Three decades of ET Estimation: A Learning Experience

Richard Snyder, University of California, Davis, CA United States (R. L. Snyder)

Questions & Answers

9:45AM – 10:00AM – Refreshments/Break

Tuesday, April 08, 2014

10:00AM-12:05PM SPECIAL SESSIONS #4, #5, #6 (Concurrent)

10:00AM Special Session #4 - Water Use of Planted Forests

Location: Jefferson

Moderator: Jami Nettles

Time	Control ID/Paper #	Title and Authors
10:00AM		Introduction
10:05AM	1887318	Water Management and Productivity in Planted Forests Jami Nettles, Weyerhaeuser Co, Columbus, MS United States (J.E. Nettles)
10:25AM	1963033	Paired Watersheds and Plots: Characterising Land Use ET in South-eastern Australia Leon Bren, University of Melbourne, Creswick, VIC Australia (L. Bren)
10:45AM	1861534	New Insights into ET Processes from Ground-Based Studies of Interception, Forest Floor Evaporation and Transpiration in Southern Australian Forests Richard Benyon, The University of Melbourne, Parkville, VIC Australia (R. Benyon)
11:05AM	1879375	Estimating Potential Evapotranspiration for a Planted Pine Forest and a Grassland Site in Uruguay George Chescheir, North Carolina State University, Raleigh, NC United States (G.M. Chescheir, D.M. Amatya, C. Munka, J. Gandara, R.W. Skaggs)
11:25AM	1864919	Low-Budget, High-Resolution: Coupling Soil Moisture and Shallow Water Table Monitoring to Quantify Water Use in Southeastern (US) Pine Forests under Varying Land Management David Kaplan, University of Florida, Gainesville, FL United States (D. Kaplan, D. McLaughlin, M. Cohen)

11:45AM 1873033 **Modeling the Potential Effects of Freeze-Tolerant Eucalyptus Plantations on Stand and Watershed Evapotranspiration and Water Balances in the Southern U.S.**
 Ge Sun, USDA Forest Service, Raleigh, NC United States (G. Sun, C.F. Miniati, J.M. Vose, P. Caldwell, O.M.R. Cabrala)

Tuesday, April 08, 2014

10:00AM Special Session #5 -Evapotranspiration Estimation and its Importance in Irrigated Agriculture

Location: Caucus
 Moderator: Hamid Farahani

Time	Control ID/Paper #	Title and Authors
10:00AM		Introduction
10:05AM	1863768	Role of Evapotranspiration Estimates in Impacting Decisions Across a Product Supply Chain and the Need for Uncertainty Estimates Edward Barnes, Cotton Incorporated, Cary, NC United States (E. Barnes)
10:25AM	1865722	An Online County-Specific Evapotranspiration Calculator for South Carolina Jose Payero, Clemson University, Blackville, SC United States (J.O. Payero, C. Harvey, A. Khalilian)
10:45AM	1868839	Evapotranspiration-Based Irrigation Scheduling in the Mid-South Daniel Fisher, USDA Agricultural Research Service, Stoneville, MS United States (D.K. Fisher)
11:05AM	1865669	Modeling ET and Water Productivity in Irrigated Cotton Using the FAO AquaCrop Model Ahmad Khalilian, Clemson University, Blackville, SC United States (A. Khalilian, X. Qiao, J. Payero, H.J. Farahani)
11:25AM	1872959	Calibration and Validation of SWAT Evapotranspiration Estimates for Irrigated Crops in the Texas High Plains Using Lysimetric Data Gary Marek, USDA-ARS, Bushland, TX United States (G. Marek, P.H. Gowda, S.R. Evett)
11:45AM	1866192	Modeling Effect of Crop Water Stress on Evapotranspiration and Energy Balance in an Irrigated Corn Field Zhiming Qi, McGill University, Sainte-Anne-de-Bellevue, QC Canada (Z. Qi, L. Ma, L. Ahuja, Q. Fang, T. Trout)

Tuesday, April 08, 2014

10:00AM Special Session #6 - Development of a Geographically-Distributed International Research Capacity for a Sustainable Bioenergy Industry

Location: Sessions
 Moderator: John King

Time	Control ID/Paper #	Title and Authors
10:00AM		Introduction
10:05AM	1963026	Parameterization of Process-based Models to Project the Effects of Climate Change on Water Use and Carbon Assimilation of Switchgrass (<i>Panicum virgatum</i> L.) when Grown as a Forest Intercrop Jean-Christophe Domec, North Carolina State University, Gradignan, France (J.C. Domec, J.M. Albaugh, C.A. Maier, E.B. Sucre, Z.H. Leggett, J.S. King)
10:25AM	1838014	Creating a Geographically Distributed Network of Research Capacity for Development of Climatically Robust, Sustainable Bioenergy Systems: Locations, Species Composition, Measurements, Models and Long-Term Funding John King, North Carolina State University, Raleigh, NC United States (J. King)
10:45AM	1963034	Ecophysiology of Water-Use Efficiency and Drought Tolerance in Poplar: Synthesis and Future Opportunities Régis Fichot, Univ of Orleans, Orléans, France (R. Fichot, F. Brignolas)

- 11:05AM 1877579 **Combining Leaf, Tree and Stand Level Measurements to Quantify Evapotranspiration and Water Use of SRWC Bioenergy Systems**
Milan Fischer, Global Change Research Centre, Academy of Sciences of the Czech Republic, Czech Republic (M. Fischer, M. Trnka, M. Orsag, J. Domec, G. Poznikova, Z. Zalud, J. King)
- 11:25AM 1881323 **Potential Impacts of Cellulosic Biofuel Production on Water Use and Yield in the United States: Perspectives from a Process-Based Ecosystem Model**
Hanqin Tian, Auburn University, Auburn, AL United States (H. Tian, C. Lu, S. Pan, Q. Yang, G. Sun, J. King)
- 11:45AM **Questions & Answers**

12:00 Noon – 1:30PM – LUNCH (On your Own)

Tuesday, April 08, 2014

1:30PM – 3:00PM – TECHNICAL SESSION #7, #8, #9 (Concurrent)

1:30PM TS #7 - ET Processes, Biophysical Controls, and Feedback Mechanisms, Part B

Location: Jefferson

Moderator:

- | Time | Control ID/Paper # | Title and Authors |
|--------|--------------------|--|
| 1:30PM | | Introduction |
| 1:35PM | 1865738 | Can Water Vapor Isotopes be used Partition Evapotranspiration in South Florida?
Troy Bernier, Florida Atlantic University, Boca Raton, FL United States (T.P. Bernier) |
| 1:50PM | 1873815 | Evapotranspiration of Aquatic Plants: Case of Algae
Grace Feng Ting, Peking University, Shenzhen, China PRESENTER: Dr. Geng Shu (G. Feng Ting, M.P. Siew, G. Shu) |
| 2:05PM | 1878547 | Leaf Area and Soil Controls on Growing Season Evapotranspiration in a Boreal Forest – a Modeling Study over a Stand Rotation
Samuli Launiainen, Finnish Forest Research Institute, Joensuu, Finland (S. Launiainen, G.G. Katul, P.Kolari, A. Lauren) |
| 2:20PM | 1881457 | Nitrogen Controls on Evapotranspiration and Water Yield
Chaoqun Lu, Auburn University, Auburn, AL United States (C. Lu, H. Tian) |
| 2:35PM | 1855899 | Impact of Nitrogen Fertilizer on Maize Evapotranspiration Crop Coefficients under Fully-Irrigated, Limited Irrigation, and Rainfed Settings
Daran Rudnick, University of Nebraska-Lincoln, Lincoln, NE United States (D.R. Rudnick, S. Irmak) |
| 2:50PM | | Questions & Answers |

Tuesday, April 08, 2014

1:30PM TS #8 - Measurement and Estimation Techniques, Part C - Field scale

Location: Caucus

Moderator: Osvaldo Cabral

- | Time | Control ID/Paper # | Title and Authors |
|--------|--------------------|---|
| 1:30PM | | Introduction |
| 1:35PM | 1826776 | The Factors Influencing Field-Scale Measurements of Evapotranspiration
Joseph Alfieri, USDA Agricultural Research Service, Beltsville, MD United States (J. G. Alfieri, W.P. Kustas, J.H. Prueger, S.R. Evett, C.M.U. Neale, J.L. Chavez) |

1:50PM	1815545	Challenges in the Measurement of Sub-Canopy Evaporation in a Flooded Forest Scott Allen, Louisiana State University, Baton Rouge, LA United States (S.T. Allen, M.L. Reba, B. Edwards, R.F. Keim)
2:05PM	1873816	Soil Evaporation Measurements and Modeling in a Sugarcane Plantation Osvaldo Cabral, Embrapa Meio Ambiente, Jaguariúna, São Paulo Brazil (O.M. Cabral, M.R. Osvaldo, C. Santiago, C. Humberto, R.H. Freitas)
2:20PM	1882523	New Development in Scintillometry: Direct Measurement of ET at Field - to Regional Scales Oscar Hartogensis, Wageningen University, Wageningen, Netherlands (O. Hartogensis, B.V. Kesteren, H. Dzekala, M. Philipp, T. Rose, C. Watts, J.C. Rodriguez)
2:35PM	1877111	Salt Cedar Evapotranspiration: Field Measurements and Estimation through Different Approaches Clayton Lewis, Utah State University, Logan, UT United States (C. Lewis, C.M.U. Neale, H.M. Geli, I.M. Ferguson)
2:50PM		Questions & Answers

Tuesday, April 08, 2014

1:30PM TS #9 - Practical Applications of ET, Part D - Forests

Location: Sessions

Moderator: Rhett Jackson

Time	Control ID/Paper #	Title and Authors
1:30PM		Introduction
1:35PM	1875434	Hydrologic Effects of Brush Management in Central Texas John Banta, U.S. Geological Survey, San Antonio, TX United States (J.R. Banta, R.N. Slattery)
1:50PM	1963020	Increases in Forest Evapotranspiration have Decreased Water Yield in the Southern Appalachians Peter Caldwell, Coweeta Hydrologic Laboratory, Otto, NC United States (P. Caldwell)
2:05PM	1887601	Effects of Forest Management on Water Yield: East Deer Creek Watershed, Colville National Forest, Washington Anurag Srivastava, Washington State University, Puyallup, WA United States (A. Srivastava, W.J. Elliot, J.Q. Wu)
2:20PM	1877217	Assessment of Long-Term PET and ET of Two Different Forests in Atlantic Coastal Plain Devendra Amatya, USDA Forest Service, Cordesville, SC United States (D.M. Amatya, Z. Dai, S. Tian, G. Sun, C. Trettin)
2:35PM	1879417	Comparing Evapotranspiration Between Model Predictions and Eddy Covariance Measurements in Ponderosa Pine Forests, Northern Arizona Wonsook Ha, Northern Arizona University, Flagstaff, AZ United States (W. Ha, A. E. Springer, T.E. Kolb, S. Dore, S.R. Masek Lopez, F.C. O'Donnell, R.M. Morales, G.W. Koch)
2:50PM		Questions & Answers

3:00PM Break/Refreshments

Tuesday, April 08, 2014

3:30PM – 5:00PM – TECHNICAL SESSIONS #10, #11, #12 (Concurrent)

3:30PM TS #10 - Measurement and Estimation Techniques, Part D - Urban

Location: Jefferson

Moderator: Cor Jacobs

Time	Control ID/Paper #	Title and Authors
3:30PM		Introduction
3:35PM	1879637	Evapotranspiration from Sites in a Heterogeneous Urban Environment Kimberly DiGiovanni, Drexel University, Philadelphia, PA United States (K.A. DiGiovanni, F. Montalto, S. Gaffin)
3:50PM	1880478	Evaluating the Role of Evapotranspirative Processes for Stormwater Management in Coastal South Carolina Watersheds with Shallow Groundwater Daniel Hitchcock, Clemson - Baruch Institute, Georgetown, SC United States (D. R. Hitchcock, A.D. Jayakaran, J. Palazzolo)
4:05PM	1878950	Assessment of Urban Evapotranspiration in The Netherlands Cor Jacobs, Wageningen UR, Alterra, Wageningen, Netherlands (C.M. Jacobs, J. Elbers, R. Brolsma, O. Hartogensis, E.J. Moors, M. Rodríguez-Carretero Márquez, B.W. van Hove)
4:20PM	1882496	Predicting Actual Evapotranspiration through Artificial Neural Networks in an Urban Environment Lauren Smalls-Mantey, Drexel University, Philadelphia, PA United States (L. Smalls-Mantey, K. DiGiovanni)
4:35PM		N/A
4:50PM		Questions & Answers

Tuesday, April 08, 2014

3:30PM TS #11 - Practical Applications of ET, Part B

Location: Caucus

Moderator: Forrest Melton

Time	Control ID/Paper #	Title and Authors
3:30PM		Introduction
3:35PM	1862476	Evapotranspiration based Irrigation Water Management Strategy for Peanut under Water Scarcity and Climate Variability Conditions Debjani Halder, Indian Institute of Technology Kharagpur, Kharagpur, West Bengal India (D. Halder, P.K. Panda)
3:50PM	1880551	Application of Satellite Mapping of Evapotranspiration for Agricultural Water Resource Management in California Forrest Melton, NASA ARC-CREST, Moffett Field, CA United States (F. Melton, L. Johnson, C. Lund, A. Guzman, K. Post, D. Adhikari, S. Hiatt, C. Rosevelt, S. Keefauver, G. Miller, A. Michaelis, R. Nemani)
4:05PM	1881273	Monitoring Evapotranspiration of Tropical Fruit Crops Using Geo-spatial Techniques and Modeling Christopher Neale, University of Nebraska, Lincoln, NE United States (C. Neale, R.W.D. Bosquilia, D.R.P. Leite, J.A. Frizzzone, H.M. Geli, J.I. Corcoles, S. Vieira-Lima)
4:20PM	1865575	Irrigation System Performance Evaluation using Remote Sensing during Wet and Drought Years Jonna Van Opstal, Utah State University, Logan, UT United States (J. Van Opstal, C.M.u. Neale)
4:35PM		N/A
4:50PM		Questions & Answers

Tuesday, April 08, 2014

3:30PM TS #12 - Climate Change and its impacts on ET and water resources, Part B

Location: Sessions

Moderator: Anna Ukkola

Time	Control ID/Paper #	Title and Authors
3:30PM		Introduction
3:35PM	1886480	Mapping Spatial Trends in the Long Term County-Wide Crop Water Demand for Major Crops in Kansas Aavudai Anandhi, Kansas State University, Manhattan, KS United States (A.A. Anandhi, P.H. Gowda, S.A. Hutchinson, P. Prasad, C. Rice)
3:50PM	1856360	Landscape-Climatic Contrasts Evaporation of a Snow Moisture Alexandr Onuchin, V.N. Sukachev Institute of Forest SB RAS, Krasnoyarsk, Russian Federation (A. Onuchin, A.V. Musokhranova, D.A. Prysov)
4:05PM	1855761	Trends and Interannual Variability in Water-Balance ET across Australia Anna Ukkola, Macquarie University, Sydney, NSW Australia (A. Ukkola, I.C. Prentice, A.I.J.M. van Dijk, N.R. Viney)
4:20PM	1856078	Plant Water Relations in an Ombrotrophic Bog - Scaling Water use from Sphagnum to Spruce under Climate Change Treatments Jeffrey Warren, Oak Ridge National Laboratory, Oak Ridge, TN United States (J. Warren, J. Childs, A. Jensen, D. Weston, S. Wullschlegler)
4:35PM		N/A
4:50PM		Questions & Answers

Tuesday, April 08, 2014

5:30PM – 7:30PM – POSTER SESSION / RECEPTION

Student Poster Competition

Location: Roosevelt/Lincoln

Moderator: Jeffrey Warren

Poster #	Control ID/Paper #	Title and Authors
1	1827440	Estimation of the Key Unknown Parameters of Heat and Moisture Fluxes using Variational Assimilation Methodology Abedehalsadat Abdolghafoorian, George Washington University, Arlington, VA United States (A. Abdolghafoorian, I. Farhadi, S.M. Bateni)
2	1869286	Web Based Program for Estimating Evapotranspiration, Crop Water Requirements and Irrigation Water Demand A. Alazba, King Saud University, Riyadh, Saudi Arabia (A.A. Alazba, N.A. Alrdyan)
3	1857580	Combining the Bulk Transfer Formulation and Surface Renewal Analysis to Avoid the Parameter kB-1. A Study Case to Estimate the Sensible Heat Flux over a homogeneous Canopy using the Radiative Temperature of the Surface as Input Francesc Castellvi, UdL, Lleida, Spain (F. Castellvi)
4	1865646	Quantifying the Relative Uncertainties in Future Rainfall, Temperature and Evapotranspiration Projections across the USA using CMIP5 Seungwoo Chang, University of Florida, Gainesville, FL United States (S. Chang, W. Graham, S. Hwang)
5	1873738	Aquaporin-Mediated Reduction in Loblolly Pine Root Hydraulic Conductivity Impacts Whole Stand Water Use and Carbon Assimilation Jean-Christophe Domec, NCSU, Gradignan, France (J. Domec, A. Noormets, J.S. King, A. Radecky, G. Sun, S. McNulty, G. Miao)
6	1887641	Bushland Evapotranspiration and Agricultural Remote Sensing System Prasanna Gowda, USDA-ARS CPRL, Bushland, TX United States (P.H. Gowda, D. Porter, T. Marek, J. Moorhead, D. Holman, G. Paul, P. Colaizzi)
7	1887642	Bushland Reference ET Calculator Prasanna Gowda, USDA-ARS CPRL, Bushland, TX United States (P.H. Gowda, T.A. Howell, D.O. Porter, T.H. Marek)
8	1880902	Hydrologic Controls on Carbon and Water Exchange in Central Florida Ecosystems Scott Graham, University of Central Florida, Orlando, FL United States (S. Graham, K.E. Becker, C.R. Hinkle)

- 9 1871916 **Estimation Regional daily ET Based on Surface Temperature-Vegetation Cover Index (TVCI)**
Jianmao Guo, Nanjing University of Information Science & Technology, Nanjing, Jiangsu China (J. Guo, L. Hao, T. Shi)
- 10 1877307 **Influence of Varying Local Climatic Factors and Vegetation Types on Estimates of Potential Evapotranspiration in Forested Watersheds on the Coastal Plain of South Carolina**
Charles Harrison, USDA Forest Service, Cordesville, SC United States (C.A. Harrison, D.M. Amatya, C.C. Trettin)
- 11 1823043 **What Drives the Spatial and Temporal Variability of Evaporative Demand Across CONUS?**
Mike Hobbins, NOAA-Earth System Research Laboratory, Boulder, CO United States (M. Hobbins)
- 12 1876706 **Estimating Evapotranspiration from Paddy Rice Field with the Dual Source Model in Southern China**
Jichao Hu, Nanjing University of Information Science and Technology, Nanjing, Jiangsu China (J. Hu, G. Sun)
- 13 1876046 **Evapotranspiration Over Diverse Land Use area in Northern Thailand**
Wonsik Kim, National Institute for Agro-Environmental Sciences, Tsukuba, Ibaraki Japan (W. Kim, D. Komori, J. Cho, T. Oki)
- 14 1866109 **Evapotranspiration Estimate in Shallow Water Table Conditions Due to Subsurface Water Management**
Kelsey Kolars, North Dakota State University, Fargo, ND United States (K. Kolars, X. Jia)
- 15 1879429 **Evaluating Effects of Managing Loblolly Pine (Pinus taeda L.) Plantations Intercropped with Switchgrass (Panicum virgatum L.) for Biofuel Production on Soil Moisture and Temperature**
Zakiya Leggett, Weyerhaeuser Company, Vanceboro, NC United States (Z. Leggett, J. Laing, E. Sucre)
- 16 1827213 **Evaluating Evaporative Fraction - Soil Moisture Relationship Over North America FluxNet Sites**
Linda Li, George Washington University, Washington, DC United States (L. Li, L. Farhadi)
- 17 1874846 **A Seasonal Evapotranspiration Model for an Apple Orchard with a Partial Vegetation Cover in Northwestern China**
Chunwei Liu, Nanjing University of Information Science and Technology, Nanjing, China (C. Liu, S. Kang, G. Sun)
- 18 1876713 **Impact of Climate Change on Drainage Outflow in No-Till Field Conditions of a Humid Region in Atlantic Canada**
Raheleh Malekian, Isfahan University of Technology, Tehran, Islamic Republic of Iran (R. Malekian, R.E. Hashemi, R. Gordon, A. Madani)
- 19 1873929 **Accuracy Assessment of NOAA's Reference Evapotranspiration Maps in the Texas High Plains**
Jerry Moorhead, Agricultural Research Service, Bushland, TX United States (J. Moorhead, P. Gowda, G. Paul, M. Hobbins, G. Senay, T. Marek, D. Porter)
- 20 1873948 **Spatial Variability in Sensitivity Coefficient of Grass and Alfalfa Reference Evapotranspiration in the Texas High Plains**
Jerry Moorhead, Agricultural Research Service, Bushland, TX United States (J. Moorhead, P. Gowda, G. Marek, D. Porter, T. Marek, T. Howell)
- 21 1880315 **Interactions Between Transpiration, Tree Mortality and Canopy Temperature in Semiarid Woodlands**
Laura Morillas, University of New Mexico, Albuquerque, NM United States (L. Morillas, D. Krofcheck, R. Lefevre, M. Litvak)
- 22 1880788 **Uncertainty of Numerically Simulated Surface Fluxes and Sensitivity to Atmospheric Boundary Layer Parameterization**
Christopher Nunalee, North Carolina State University, Raleigh, NC United States (C. Nunalee, S. Basu)
- 23 1879180 **Subcanopy Evapotranspiration within a Southern Appalachian Forest Chronosequence**
A. Oishi, USDA Forest Service, Otto, NC United States (A. C. Oishi, K.A. Novick, S.T. Brantley, S.H. Laseter, P.V. Bolstad, J.M. Vose, C.F. Miniati)
- 24 1876741 **Can FAO-56 Crop Coefficient Approach Provide Universal Method for Water use Estimates of Short Rotation Coppice Grown under Various Climatic Conditions?**
Matej Orsag, Global Change Research Centre, Academy of Sciences of the Czech Republic, Brno, Czech Republic (M. Orsag, M. Fischer, M. Trnka, Z. Zalud, J. King)

- 25 1876353 **Scintillometry for Evapotranspiration Estimates over Different Agricultural Covers in the Central Europe**
Gabriela Poznikova, Global Change Research Centre, Academy of Sciences of the Czech Republic, Brno, Czech Republic (G. Poznikova, M. Fischer, M. Trnka, A. Zalud)
- 26 1826955 **Temporal Dynamics of Sap Flow Rate of of Hedysarum Mongolicum in the Semiarid Mu Us Region of China in Response to Environmental Factors**
Duo Qian, Beijing Forestry University, Beijing, China (D. Qian, S. Li, B. Wang, T. Zha)
- 27 1875185 **Partitioning Ecosystem Canopy Transpiration to Evaluate the Sensitivity Stomatal Conductance to Changing Climate Indicators**
Andrew Radecki, North Carolina State University, Raleigh, NC United States (A. Radecki, A. Noormets, J. King, G. Miao, J.C. Domec)
- 28 1871263 **Estimation of Reference Crop Evapotranspiration by FAO- Penman– Monteith Method and Sensitivity Analysis of the Climatic Variables (Case Study: Synoptic Stations of Semnan Province)**
Hossein Sadeghi, Irrigated Agriculture Research and Extension Center of Washington State University, Prosser, WA United States (R. Solgi, S.F. Mousavi, M. Rahimi, S.H. Sadeghi, T. Peters)
- 29 1872465 **Analysis of Environmental Factors Influencing Evapotranspiration and NEE over Two Rice Paddy Fields in East Asia**
Tingting Shi, Nanjing University of Information Science & Technology, Nanjing, Jiangsu Province China (T. Shi, G. Sun, B.J. Tsuang, L. Hao, Y. Liu, J.L. Tsai)
- 30 1883285 **On the Attribution of the Changing Hydrological Cycle in Poyand Lake Basin, China**
Shanlei Sun, North Carolina State University, Nanjing, China (S. Sun, H. Chen, W. Ju, G. Sun, M.Yu, W. Hua, Y. Yin)
- 31 1873754 **Integration of Terrestrial Remote Sensing Methods in Drought Stress Management**
János Tamás, University of Debrecen, Debrecen, Hajdú-Bihar Hungary (A. Nagy, P. Riczu, E. Bozsik, J. Tamás)
- 32 1865859 **SWAT Model Calibration Incorporating GLEAM ET data**
Ken Tobin, Texas A&M International University, Laredo, TX United States (K. Tobin, M.E. Bennett)
- 33 1887171 **Study on Spatial and Temporal Variability for Stem sap Flow of Abies taxoniana**
Yongbo Wu, Nanjing Forestry University, Nanjing, China (Y. Wu, J. Xue, Y. Deng)
- 34 1857556 **An Evapotranspiration Product for Arid Region Based on Three-Temperature Model and MODIS data**
Yu Jiu Xiong, Sun Yat-Sen University, Guangzhou, Guangdong China (Y. Xiong, G.Y. Qiu)
- 35 1876471 **Improving Spatial Resolution for Crop Evapotranspiration Based on Multi-Scale Satellite Data**
Xiaochun Zhang, Wuhan University, Wuhan, Hubei China (X. Zhang, Y. Chen, X. Wang)
- 36 1863667 **Development and Validation of Mathematical Model for Calculating Daily Reference Evapotranspiration**
Ahmed Abdelnaby, Purdue University, West Lafayette, IN United States (A.A. Abdelnaby, B.A. Engel, M.A. Rasha, M.H. Ramadan, S.M. Radwan)

Wednesday, April 09, 2014

8:00AM REGISTRATION

8:00AM Refreshments

8:30AM OPENING AND PLENARY SESSION 2

Location: Roosevelt/Lincoln

Welcome – Program Committee Co-Chair: Ge Sun

Plenary Session Speaker 3

Global Water Condition and Evapotranspiration

Wossenu Abteu, South Florida Water Mgmt District, West Palm Beach, FL United States (W. Abteu)

Plenary Session Speaker 4

Extended Budyko Framework for Estimating Evapotranspiration over Different Time Scales

Lu Zhang, CSIRO Land and Water, Canberra, ACT Australia (L. Zhang)

Questions & Answers

9:45AM Refreshments/Break

Wednesday, April 09, 2014

10:00AM – 11:30AM – TECHNICAL SESSIONS #13, #14, #15 (Concurrent)

10:00AM TS #13 - Estimates and Mathematical Modeling of ET, Part B

Location: Jefferson

Moderator: TBA

Time	Control ID/Paper #	Title and Authors
10:00AM		Introduction
10:05AM	1874049	Calibration of the Hargreaves and Samani Solar Radiation Estimation Model for the Southeastern U.S. Garry Grabow, NC State University, Raleigh, NC United States (G. Grabow, M.D. Dukes, G. Miller, H. Aldridge)
10:20AM	1855792	Trend Sensitivity Analysis of Reference Crop Evapotranspiration and Its Influence Variables in Some Synoptic Stations of Iran Hossein Sadeghi, Irrigated Agricultural Station of WSU, Prosser, WA United States (H. Sadeghi, Y. Mooshekhian, M. Bannayan Aval, A. Mosaedi, M. Ghabaei Sough)
10:35AM	1830003	Medium-Range Reference Evapotranspiration Forecast in the Southeast USA Di Tian, University of Florida, Gainesville, FL United States (D. Tian, C.J. Martinez)
10:50AM	1887608	Application of the WEPP Model to Simulate the Water Balance of a Forested Watershed, Interior US Pacific Northwest Joan Wu, Washington State University, Puyallup, WA United States PRESENTER: Anurag Srivastava (J.Q. Wu, S. Dun, W.J. Elliot, T.E. Link, K.L. Kavanagh, A. Srivastava)
11:05AM	1963022	Subsurface Hydrology: The missing Link in Modeling Actual Evapotranspiration Sadegh Ghazanfari, Graduate Univ of Advanced Technology, Kerman, Islamic Republic of Iran (S. Ghazanfari, S. Pande, M.J.M. Cheema, A. Alizadeh, A. Farid)
11:20AM		Question & Answers

Wednesday, April 09, 2014

10:00AM TS #14 - Advances in Thermal Remote Sensing-based ET mapping, Part A

Location: Caucus

Moderator: Jose Chavez

Time	Control ID/Paper #	Title and Authors
10:00AM		Introduction
10:05AM	1862294	A Remote Sensing of ET method based on Surface Aerodynamic Temperature Jose Chavez, Colorado State University, Fort Collins, CO United States (J.L. Chavez)
10:20AM	1865519	Seasonal Evapotranspiration using a Two-Source Energy Balance Model and Gridded Weather Forcing and Reference Evapotranspiration Data Hatim Geli, Utah State University, Logan, UT United States (H.M. Geli, C.S. Lewis, C.M.U. Neale)
10:35AM	1875544	Evaluation of EVASPA, a Tool for Mapping Evapotranspiration from Space Albert Olioso, INRA, Avignon Cedex 9, France (A. Olioso, B. Gallego-Elvira, M. Bahir, A.G. Garcia, J. Hunink, A. Baille, G. Boulet, O. Boutron, P. Chauvelon, D. Courault, C. DiBella, S. Garrigues, Y. Inoue, O. Marloie, B. Martin, O. Merlin, M. Mira, S. Reyes-Castillo, V. Rivalland, M. Weiss)
10:50AM	1862456	Measuring Multi-scale Evapotranspiration by Thermal Remote Sensing and Three-temperatures Model — Theory, Verification, and Application Guo Qiu, Shenzhen Graduate School of Peking University, Shenzhen, China (G.Y. Qiu)
11:05AM	1880696	Evaluation of the Operational Simplified Surface Energy Balance Approach for ET Mapping using Multiple Datasets: Lysimeter to Basin Water Balance Gabriel Senay, USGS, Sioux Falls, SD United States PRESENTER: Dr. Ramesh Singh (G. B. Senay, P. Gowda, M. Velpuri, R. Singh, J. Verdin)
11:20AM		Question & Answers

Wednesday, April 09, 2014

10:00AM TS #15 - Practical Applications of ET, Part C

Location: Sessions

Moderator: Khaled Bali

Time	Control ID/Paper #	Title and Authors
10:00AM		Introduction
10:05AM	1865759	Estimating Alfalfa Crop Evapotranspiration (ETc) Under Standard and Deficit Irrigation Practices Khaled Bali, University of California Cooperative Extension, Holtville, CA United States (K. Bali, D.H. Putnam, R.L. Snyder, C. Little)
10:20AM	1862438	Turfgrass ET from Small Weighing Lysimeters in Colorado Mark Crookston, Northern Water, Berthoud, CO United States (M.A. Crookston, M. Hattendorf)
10:35AM	1865288	Effects of Water Deficits on Growth, Yield and Water Productivity of Drip-Fertigated Onion Seed (<i>Allium cepa</i> L.) in Semi-Arid Climate of India Sachin Dingre, Mahatma Phule Krishi Vidyapeeth, Rahuri, Maharashtra India (S.K. Dingre, P.S. Kashyap)
10:50AM	1860757	Determination of a Suitable Evapotranspiration Estimation Method for a Sub-humid Region Rabindra Panda, Indian Institute of Technology Bhubaneswar, Bhubaneswar, Odisha India (R.K. Panda, P.S. Kashyap)
11:05AM	1874751	Long-term Evapotranspiration Climatology in the Human-Dominated River Basin System using the Noah Land Surface Model and Complementary Relationship Venkataramana Sridhar, Boise State University, Boise, ID United States (V. Sridhar, W.T.A. Jaksa)
11:20AM		Question & Answers

11:30AM – 12:45PM

Luncheon

Location: Roosevelt/Lincoln
Moderator: Prasanna Gowda

Invited Speaker Terry A Howell, H2H Engineering & Education,
Lago Vista, Texas

“Lysimeters for Evapotranspiration Research (Memories and Things Perhaps Forgotten or Buried)”

Student Poster Award Presentation
Moderator: Sukanta Basu/Devendra Amatya

Wednesday, April 09, 2014

12:45PM – 2:15PM – TECHNICAL SESSIONS #16, #17, #18 (Concurrent)

12:45PM

TS #16 - Measurement and Estimation Techniques, Part E

Location: Jefferson
Moderator: Sudhanshu Panda

Time	Control ID/Paper #	Title and Authors
12:45PM		Introduction
12:50PM	1792082	Comparison of Four Single-Source Surface Energy Balance-Based Models for Estimating Remotely Sensed Daily Evapotranspiration Rates Nishan Bhattarai, SUNY College of Environmental Science and Forestry, Syracuse, NY United States (N. Bhattarai, L.J. Quackenbush, S.B. Shaw)
1:05PM	1880050	Calculation of E, T, and ET using a Two-Source Energy Balance Model and Wireless IRTs Aboard a Center Pivot Paul Colaizzi, USDA-ARS, Bushland, TX United States (P.D. Colaizzi, S.A. O'Shaughnessy, S. R. Evett, P. H. Gowda)
1:20PM	1892451	Estimated Distributed Percolation Fluxes From Energy Balance ET, Surface, and Groundwater Models Integration Jorge Guzman, ARS-USDA, El Reno, OK United States (J.A. Guzman, P.H. Gowda, D.N. Moriasi, G. Paul, P.J. Starks, J.L. Steiner)
1:35PM	1879864	Towards a Web Map Service for Spatio-temporal Assessment of Evapotranspiration Adinarayana Jagarlapudi, Indian Institute of Technology Bombay, Mumbai, Maharashtra India (A. Jagarlapud, P. Aher, S. Sawanti)
1:50PM	1880167	Evapotranspiration Parameter Estimation Model Development with Landsat Imagery Sudhanshu Panda, University of North Georgia, Oakwood, GA United States (S.S. Panda, G. Sun, D.M. Amatya)
2:05PM		Questions & Answers

Wednesday, April 09, 2014

12:45PM TS #17 - Estimates and Mathematical Modeling of ET, Part C

Location: Caucus
Moderator: Avudai Anandhi

Time	Control ID/Paper #	Title and Authors
12:45PM		Introduction
12:55PM	1873878	A Comparison Between Evapotranspiration Estimation Methods for Maize under Different Levels of Water Stress Marcelo Abritta, University of Wyoming, Powell, WY United States (M.A. Abritta, A. Garcia y Garcia)

1:05PM	1880221	AgMIP Plans for Testing of Multiple Crop Models Against Data on Evapotranspiration and Crop Water Use Kenneth Boote, University of Florida, Gainesville, FL United States (K.J. Boote, J.L. Hatfield, C.O. Stockle, J.W. Jones)
1:20PM	1874715	Re-examination of the BMN Model for Estimating ETo .for a Developing Country Ayorinde Olufayo, Federal University of Technology, Akure, Akure, Ondo Nigeria (A.A. Olufayo, P.G. Oguntunde)
1:35PM	1877596	Forced Evapotranspiration: A Comparison of Cactus and a Water Pond with a Microwave Abraham Rojano, UACh, Chapingo, Mexico Mexico (A. Rojano, R.M. Salazar, T.S. Espinosa, F.A. Rojano)
1:50PM	1863580	Evaluating and Estimating DRAINMOD's Effective Rooting Depth for Corn Michael Talbot, University of Minnesota, St. Paul, MN United States (M.T. Talbot, G.R. Sands, J.A. Coulter)
2:05PM		Questions & Answers

Wednesday, April 09, 2014

12:45PM TS #18 - Advances in Thermal Remote Sensing-based ET mapping, Part B

Location: Sessions

Moderator: Prasanna Gowda

Time	Control ID/Paper #	Title and Authors
12:45PM		Introduction
12:50PM	1879659	Concurrent Lysimetric Evaluation of METRIC for Estimating Hourly ET on Irrigated and Dryland Crops in a Semi-arid Environment Prasanna Gowda, USDA-ARS Conservation and Production Research Laboratory, Bushland, TX United States (P.H. Gowda, G. Paul, P.D. Colaizzi, T.A. Howell, T.H. Marek)
1:05PM	1880998	Comprehensive Lysimetric Evaluation and Sensitivity Analysis of METRIC with High Resolution Airborne Imagery George Paul, Texas A&M AgriLife Research, Amarillo, TX United States (G. Paul, P.H. Gowda, P. Prasad, T.A. Howell, T. Marek)
1:20PM	1863953	Estimating Evapotranspiration of the Colorado River Basin Using Landsat Satellite Images Ramesh Singh, USGS EROS, Sioux Falls, SD United States (R. Singh, G.B. Senay, R.L. Scott, J.P. Verdin)
1:35PM	1964595	Assessing and Mitigating the Water Availability of the Southeastern U.S. with Increased Irrigation W Lee Ellenburg, Univ of Alabama in Huntsville, Huntsville, AL United States (W. Ellenburg, R.T. McNider, J.F. Cruise)
1:50PM	1887639	An Integrated Remote Sensing Based Energy Balance and Crop Growth Modeling Approach to Estimate Irrigation Water Distribution and Field Application Efficiency Across a Command Area Vm Bindhu, Indian Institute of Technology Madras, Chennai, India (V.M. Bindhu, B. Narasimhan)
2:05PM		Questions & Answers
2:15PM		Break/Refreshments

Wednesday, April 09, 2014

2:35PM – 4:05PM – TECHNICAL SESSIONS #19, #20, #21 (Concurrent)

2:35PM TS #19 - ET processes, biophysical controls, and feedback mechanisms, Part C

Location: Jefferson

Moderator: Michael Gavazzi

Time	Control ID/Paper #	Title and Authors
2:35PM		Introduction
2:40PM	1879871	Tree Sapflow, Stand Transpiration, and Watershed Evapotranspiration in a Mixed Pine-Hardwood Forest in the Piedmont of North Carolina, USA Johnny Boggs, Forest Service, Raleigh, NC United States (J. Boggs, G. Sun, J. Domec, S. McNulty)
2:55PM	1879623	Evapotranspiration Partitioning in Polygonal Arctic Ecosystems Naama Raz Yaseef, Lawrence Berkeley National Laboratory, Berkeley, CA United States (N. Raz Yaseef, J. Young, T. Rahn, L. Cohen, B.D. Newman)
3:10PM	1879727	Forest Canopy Interception over a Broad Range of Precipitation Events and Intensities in a Coastal Plain Loblolly Pine Plantation, North Carolina, US Michael Gavazzi, SRS, EFETAC, Raleigh, NC United States (M. Gavazzi, G. Sun, S. McNulty, E. Treasure, N. Williams)
3:25PM	1875109	Energy and Water Balance of Contrasting Land uses of Forested Wetlands in North Carolina's Lower Atlantic Coastal Plain David Zietlow, NCSU, Raleigh, NC United States (D. Zietlow, A. Noormets, G. Sun)
3:40PM	1874773	Tracking Land-Atmosphere Interactions Impacted by Irrigation and Climate Change in the Pacific Northwest U.S Venkataramana Sridhar, Boise State University, Boise, ID United States (V. Sridhar, K. Anderson)
3:55PM		Questions & Answers

Wednesday, April 09, 2014

2:35PM TS #20 - Measurement and Estimation Techniques, Part F

Location: Caucus

Moderator: Eric Harmsen

Time	Control ID/Paper #	Title and Authors
2:35PM		Introduction
2:40PM	1879945	Recent Evapotranspiration Research Activities in Puerto Rico Eric Harmsen, University of Puerto Rico, Mayaguez, Puerto Rico United States (E.W. Harmsen, V.J. Reventos)
2:55PM	1880246	Evaluating Alternative Meteorological Data Sources for Potential Use in Irrigation Management Thomas Marek, Texas A&M AgriLife Research, Amarillo, TX United States (T. Marek, D. Porter, P. Gowda, T. Howell, J. Moorhead, G. Marek)
3:10PM	1880141	Leaf Area Index Based Model Development for Remote Measurement of Potential Water Loss through Evapo-transpiration of Kadzu during the Growing Season Sudhanshu Panda, University of North Georgia, Oakwood, GA United States (S.S. Panda, P.D. Sekhar)
3:25PM	1866031	Estimating Evapotranspiration by Monitoring Subsurface Displacement Colby Thrash, Clemson University, Clemson, SC United States (C.J. Thrash, L. Murdoch, L. Germanovich)
3:40PM	1927042	Measuring and Modelling ET in Subirrigated Fields in Eastern Canada Chandra Madramootoo, McGill University, Ste. Anne de. Bellevue, QC Canada (C. Madramootoo, A. Singh)
3:55PM		Questions & Answers

Wednesday, April 09, 2014

2:35PM TS #21 – Background, Scientific Framework, and Applications for the Emerging ASABE/Irrigation Association

Location: Sessions

Moderator: Brent Meacham

Time	Control ID/Paper #	Title and Authors
2:35PM		Introduction
2:40PM	1971168	Implications for Landscape Water Management – An End User Perspective B. Meacham
2:55PM	1968622	SLIDE: Simplified Landscape Irrigation Demand Estimation for Woody Plants in Complex Biophysical Urban Environments R. Kielgren
3:10PM	1971178	The Math of Mixed Species Landscapes: The Whole is Less than the Sum of the Parts R.C. Beeson Jr.
3:25PM	1971186	Estimating Water Requirements of Desert Plants and Achieving Adoption of the New Standard D. Pittenger
3:40PM		N/A
3:55PM		Questions & Answers

4:05PM – 5:30PM – WRAP-UP Session –

Location: Roosevelt/Lincoln

Moderator: Jami Nettles

Invited Speaker: Dr. Robert E. Billy
Chief Environmental Scientist, Weyerhaeuser Company

Invited Speaker: Dr. David Brauer
Research Leader and Manager of the Ogallala Aquifer Program,
USDA-ARS

Highlights of Symposium and Remarks

Ge Sun, USDA Forest Service

Suat Irmak, University of Nebraska-Lincoln

Carmen deJong, University of Savoy, France

Devendra Amatya, USDA Forest Service

Where we go from here?

Publications,

Next Symposium etc.

Thursday, April 10, 2014

Field Trips

- 1) 8:00 AM – 6: 00 PM: Carteret Switchgrass Bioenergy/Hydrology Study Site, NC
- 2) 8:00 AM – 6: 00 PM Parker Tract Eddy Flux Water & Carbon Flux Study Site, NC

Technical Review/Publications Committee

Prasanna H. Gowda, PhD - Chair

Jami Nettles, PhD

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Front Cover: Photos showing forest, irrigation circles and a reference ET station were obtained from USDA Forest Service, USGS Website, and USDA-ARS Conservation and Production Research Laboratory, respectively.

Back cover – 4/c