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12TH SYMPOSIUM ON METEOROLOGICAL OBSERVATIONS AND INSTRUMENTATION

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SESSION 1: AIRCRAFT MEASUREMENTS (THIS SESSION IS DEDICATED TO DR. TIM CRAWFORD: NOAA/ARL IDAHO FALLS)

- [1.1](#) AIRCRAFT MEASUREMENTS OF TURBULENCE: LENGTH SCALES, SPECTRA, BUDGETS, AND THE PREDICTION PROBLEM. Owen R. Cote, Air Force Research Laboratory, Hanscom AFB, MA; and J. R. Roadcap, D. E. Wroblewski, R. J. Dobosy, and T. L. Crawford
- 1.2* J. I. MacPherson, Institute for Aerospace Research, National Research Council of Canada, Ottawa, ON, Canada; and R. L. Desjardins, E. Pattey, and D. J. Pennock
- [1.3](#) REFRACTIVE TURBULENCE IN THE UPPER TROPOSPHERE AND LOWER STRATOSPHERE: ANALYSIS OF AIRCRAFT MEASUREMENTS USING STRUCTURE FUNCTIONS. Donald Wroblewski, Boston University, Boston, MA; and O. R. Cote, J. M. Hacker, T. L. Crawford, and R. J. Dobosy
- 1.4* AIRBORNE WIND LIDAR TO EVALUATE AIR/OCEAN EXCHANGES AT HIGH WIND SPEEDS. G. David Emmitt, Simpson Weather Associates, Inc., Charlottesville, VA; and C. O'Handley

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- [3.2](#) THE DEVELOPMENT OF THE CANADIAN AIRCRAFT METEOROLOGICAL DATA RELAY (AMRAD) PROGRAM - AN UPDATE. Gilles Fournier, Environment Canada, Ottawa, ON, Canada
- [3.3](#) ADVANCES IN TETHERED BALLOON SOUNDING TECHNOLOGY. Ronald A. Shellhorn, Vaisala, Boulder, CO
- [3.4](#) A NEW TALL-TOWER METEOROLOGICAL MONITORING SYSTEM. Matthew J. Parker, Westinghouse Savannah River Company, Aiken, SC

SESSION 4: IMPROVED WEATHER MEASUREMENT TECHNIQUES

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- 4.2* FISCHER-PORTER RAIN GAUGE UPGRADE. Eric Tseo, Coastal Environmental Systems, Seattle, WA
- [4.3](#) NEW VAISALA RS92 GPS RADIOSONDE OFFERS HIGH LEVEL OF PERFORMANCE AND GPS WIND DATA AVAILABILITY. Jaakko Hirvensalo, Vaisala, Helsinki, Finland; and J. Währn and H. Jauhianen

SESSION 5: METEOROLOGICAL MEASUREMENT NETWORKS I

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- [5.2](#) A NEW COMPOSITE OBSERVING SYSTEM STRATEGY FOR GROUND BASED GPS METEOROLOGY. Seth I. Gutman, NOAA/FSL, Boulder, CO; and S. Sahm, J. Stewart, S. Benjamin, T. Smith, and B. Schwartz
- [5.3](#) SIMULATIONS OF SPATIAL AND TEMPORAL VARIATIONS OF ELECTRIC FIELD AT THE SURFACE BENEATH THUNDERSTORMS (AS WOULD BE MEASURED BY A NETWORK OF ELECTRIC-FIELD METERS). Frank W. Gallagher, III, University of Oklahoma, Norman, OK; and W. H. Beasley, A. R. Bansemer, L. G. Byerley, J. A. Swenson, and I. G. Bogoev
- [5.4](#) UNITED STATES CLIMATE REFERENCE NETWORK (USCRN) PRECIPITATION INTERCOMPARISON STUDY. C. Bruce Baker, NOAA/NESDIS/NCDC, Asheville, NC; and M. Gifford

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- [6.2](#) AUTOMATED QUALITY CONTROL OF ATMOSPHERIC RADIATION MEASUREMENT PROGRAM (ARM) DATA FROM THE SOUTHERN GREAT PLAINS (SGP), NORTH SLOPE ALASKA (NSA), AND TROPICAL WESTERN PACIFIC (TWP) CLOUD AND RADIATION TESTBED (CART) SITES. Karen L. Sonntag, University of Oklahoma, Norman, OK; and A. R. Dean, C. M. Shafer, R. A. Peppler, and C. P. Bahrman
- [6.3](#) THE FEASIBILITY OF FIELD TRANSFORMATION FUNCTIONS FOR AIR HUMIDITY MEASUREMENTS. X. Lin, University of Nebraska, Lincoln, NE; and K. G. Hubbard and C. B. Baker
- [6.4](#) CLIMATE REFERENCE NETWORK SITE RECONNAISSANCE: LESSONS LEARNED AND RELEARNED. Kelly T. Redmond, DRI, Reno, NV; and M. J. Janis and K. G. Hubbard
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- [7.2](#) THE REPRESENTATIVENESS OF SKIN TEMPERATURE MEASUREMENTS AT OKLAHOMA MESONET SITES. Jeffrey B. Basara, Oklahoma Climatological Survey and Univ. of Oklahoma, Norman, OK; and D. R. Cheresnick and P. K. Hall, Jr.
- [7.3](#) OPERATIONS OF THE JOINT USDA/OCE/WAOB AND MSU/DREC AGRICULTURAL WEATHER AND DATA CENTER. Thomas Puterbaugh, USDA/NRCS/WAOB, Washington, DC; and R. P. Motha, G. L. Schaefer, T. B. Freeland, Jr., H. C. Pringle, III, and H. L. Crowley

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- [8.2](#) TECHNIQUE FOR VERIFYING RADIOSONDE SOLAR RADIATION CORRECTION ALGORITHM. James Fitzgibbons, NOAA/NWS, Silver Spring, MD; and J. Facundo
- [8.3](#) FLIGHT TEMPERATURE COMPARISONS BETWEEN THE NASA THREE THERMISTOR REFERENCE RADIOSONDE AND THE NATIONAL WEATHER SERVICE QUALIFIED GPS RADIOSONDES. Carl A. Bower, Jr., NOAA/NWS, Silver Spring, MD; and J. J. Fitzgibbon

- 8.4* THE RADIATION ERROR OF RADIOSONDE THERMISTORS DETERMINED FROM THE ATM RADIOSONDE. Francis J Schmidlin, NASA/GSFC/Wallops Flight Facility, Wallops Island, VA; and A. G. Schauer
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- [9.3](#) COMPARISONS OF LDAR NETWORK HEIGHT AND DENSITY DATA WITH WSR-88D ECHO TOP AND SCIT REFLECTIVITY DATA. Nicholas W. S. Demetriades, Vaisala-GAI Inc., Tucson, AZ; and R. L. Holle and M. J. Murphy
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- [10.2](#) APPLICATION OF WIND PROFILES FROM UV LIDAR IN NOWCASTING FOR MAUNA KEA OBSERVATORIES. Steven Businger, University of Hawaii; and I. Dors, S. Turco, J. McHugh, J. Ryan, T. Cherubini, J. B. Moore, C. Nardell, and P. Hays
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- [10.4](#) NCAR INTEGRATED SOUNDING SYSTEM OBSERVATIONS AT IHOP. William O. J. Brown, NCAR, Boulder, CO; and J. O. Pinto, T.-Y. Yu, D. B. Parsons, and T. Weckwerth
- [10.5](#) PRELIMINARY PERFORMANCE CHARACTERISTICS OF A 28 M² APERTURE—449 MHZ WIND PROFILING RADAR. Herb Winston, Vaisala Incorporated, Boulder, CO; and D. E. Wolfe
- [10.6](#) A LOW-POWERED S-BAND PRECIPITATION PROFILER FOR HYDROLOGICAL APPLICATIONS . Kenneth S. Gage, NOAA/AL, Boulder, CO; and W. L. Ecklund, W. L. Clark, Jr., D. A. Carter, C. R. Williams, and P. E. Johnston

SESSION 11: REMOTE SENSING MEASUREMENTS: OBSERVATIONS AND APPLICATIONS II

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- [11.2](#) EXPERIMENTAL EXTENSION OF THE MEASUREMENT RANGE OF A BOUNDARY LAYER WIND PROFILER TO ABOUT 9 KM. P. W. Chan, Hong Kong Observatory, Hong Kong, China; and K. K. Yeung
- [11.3](#) CALIBRATION OF SCANNING RADARS USING VERTICALLY POINTING PROFILERS AND SURFACE DISDRMETERS. Christopher R. Williams, CIRES/Univ. of Colorado, Boulder, CO; and P. E. Johnston, W. L. Clark, K. S. Gage, D. A. Carter, and P. A. Kucera
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- [14.3](#) A NEW LOW MAINTENANCE DEW POINT SENSOR FOR THE NATIONAL WEATHER SERVICE AUTOMATED SURFACE OBSERVING SYSTEM. Jennifer M. Dover, NOAA/NWS, Sterling, VA; and B. Childs
- 14.4* DETECTING ICE PELLETS, SNOW PELLETS AND HAIL ON ASOS USING AN ACOUSTIC SENSOR. Charles G. Wade, NCAR, Boulder, CO
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- [15.3](#) OBSERVATIONS AND CONCLUSIONS FROM THE SURFACE LAYER STABILITY TRANSITION EXPERIMENTS. Gail-Tirrell Vaucher, Army Research Laboratory, WSMR, NM
- [15.4](#) HOW METEOROLOGICAL STANDARDS CAN HELP YOU. Paul M. Fransoli, J3AQM, LLC, Las Vegas, NV
- [15.5](#) VISIBILITY SENSOR ACCURACY: WHAT'S REALISTIC?. John D. Crosby, Enviro Tech Sensors Inc., Clarksville, MD

POSTER SESSION P1: POSTERS

- P1.1* A NEW REFERENCE RADIOSONDE FOR PRECISE UPPER AIR MEASUREMENTS. William H. Bauman, III, Yankee Environmental Systems, Inc, Turners Falls, MA; and W. M. Stein and M. C. Beaubien
- [P1.2](#) THE IMPORTANCE OF RECORDING PRE-LAUNCH RADIOSONDE DATA. Kathryn Beierle, NCAR, Boulder, CO; and J. Wang and E. Chamberlain
- [P1.3](#) DEVELOPING A MODEL FOR TRANSITIONING RADIOSONDES IN THE NWS UPPER AIR NETWORK. Joseph Facundo, NOAA/NWS, Silver Spring, MD
- [P1.4](#) INTERCOMPARISON OF THREE SOUNDING TECHNIQUES EMPLOYED DURING THE EPIC2001 FIELD PROGRAM. Allen J. Schanot, NCAR, Boulder, CO
- [P1.5](#) FLYING INTO TYPHOON HAIYAN WITH UAV AEROSONDE. Po-Hsiung Lin, National Taiwan University, Taipei, Taiwan; and C.-S. Lee, T.-C. Yen, and H.-C. Lee
- [P1.6](#) COMPLETING INSTRUMENT METADATA AND ADJUSTING BIASES IN THE RADIOSONDE RECORD TO ALLOW DETERMINATION OF GLOBAL PRECIPITABLE WATER TRENDS. Steven R. Schroeder, Texas A&M University, College Station, TX
- [P1.7](#) THE IMPACT OF NEARBY STRUCTURES AND TREES ON SIGMA THETA MEASUREMENTS. Thomas E. Bellinger, Illinois Department of Nuclear Safety, Springfield, IL
- [P1.8](#) A COMPARISON OF WINDS MEASURED BY A 915 MHZ WIND PROFILING RADAR AND A DOPPLER LIDAR. William J. Shaw, PNNL, Richland, WA; and L. S. Darby and R. M. Banta

- P1.9* RAINFALL ESTIMATES OVER SOUTH AMERICA. Galdino V. Mota, University of Utah, Salt Lake City, UT; and E. Zipser and B. Xi
- [P1.10](#) OBSERVATIONS OF THE METEOROLOGY OF TWO NEVADA BASINS. Stephen A. Cohn, NCAR, Boulder, CO; and J. Hallett, J. Lewis, and W. O. J. Brown
- [P1.11](#) THE OKLAHOMA MESONET'S SKIN TEMPERATURE NETWORK. Chris Fiebrich, Oklahoma Climatological Survey, Norman, OK; and J. E. Martinez, J. L. Brotzge, and J. M. Basara
- [P1.12](#) A STATION DENSITY STRATEGY FOR THE UNITED STATES CLIMATE REFERENCE NETWORK (USCRN). Michael J. Janis, Southeast Regional Climate Center, Columbia, SC; and K. G. Hubbard and K. T. Redmond
- [P1.13](#) DEVELOPMENT OF A CLIMATOLOGICAL DATABASE FOR DRYLAND AGRICULTURAL RESEARCH. H. Scott Oviatt, USDA/ARS, Pendleton, OR
- P1.14* A COMPARISON OF FRACTIONAL CLOUD COVER DETERMINATIONS BY A SKY IMAGER WITH VISUAL ESTIMATIONS BY TRAINED NATIONAL WEATHER SERVICE OBSERVERS. Gary B. Hodges, CIRES/Univ. of Colorado, Boulder, CO; and J. A. Augustine
- [P1.15](#) ADOPTING A STATEWIDE SURFACE METEOROLOGICAL NETWORK FOR DEVELOPING A HANDS-ON INSTRUMENTATION COURSE AT NORTH CAROLINA STATE UNIVERSITY. Dev dutta S. Niyogi, North Carolina State University, Raleigh, NC; and V. K. Saxena
- [P1.16](#) CALIBRATION ISSUES USING IMPACT DISDROMETERS FOR CALIBRATION OF DOPPLER RADAR PROFILERS. Wallace L. Clark, NOAA/AL, Boulder, CO; and K. S. Gage, D. A. Carter, C. R. Williams, P. E. Johnston, and A. Tokay
- [P1.17](#) COMPREHENSIVE RELATIONSHIP BETWEEN ATMOSPHERIC-LAND SURFACE INTERACTION FOR ENERGY, WATER VAPOR FLUXES OVER TROPICAL ASIAN MONSOON ENVIRONMENT. Toda Motomu, Japan Society for the Promotion of Science, Inashiki-gun, Ibaraki, Japan; and N. Ohte, Y. Kosugi, and T. Watanabe
- [P1.18](#) OPERATION OF A MOBILE WIND PROFILER IN SEVERE CLUTTER ENVIRONMENTS. J. R. Jordan, ETL/NOAA, Boulder, CO; and J. L. Leach and D. E. Wolfe
- P1.19* MULTI-INSTRUMENT WIND COMPARISONS FROM THE EPIC 2001 FIELD EXPERIMENT. Michelle N. Ryan, Science & Technology Corporation, Boulder, CO; and D. E. Wolfe and J. Intrieri
- [P1.20](#) A NEW DATA ACQUISITION SYSTEM FOR THE U.S. ARMY FM-CW RADAR: STILL A GREAT WAY TO SEE HALF-METER RESOLUTION. Scott A. McLaughlin, Applied Technologies, Inc., Longmont, CO
- [P1.21](#) DEVELOPMENT AND EVALUATION OF AN EXTENSIVE CALIBRATION PROCEDURE FOR UV FILTER RADIOMETERS. Alexander Los, Kipp & Zonen BV, Delft, Netherlands
- [P1.22](#) A NEW AUTOMATED METHOD OF MFRSR-BASED OPTICAL DEPTH ANALYSIS. John A. Augustine, NOAA/ARL, Boulder, CO; and C. I. Medina
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- P1.24* A QUICK DEPLOYMENT AIRFIELD AUTOMATED WEATHER DISPLAY SYSTEM. Timothy Edward Parker, Coastal Environmental Systems, Seattle, WA
- P1.25* A RAPID METEOROLOGICAL RESPONSE CAPABILITY FOR EMERGENCY MANAGEMENT. Mark C. Beaubien, Yankee Environmental Systems, Inc, Turners Falls, MA; and W. H. Bauman and D. C. Sautter
- P1.26* PAPER WITHDRAWN
- [P1.27](#) RETRIVAL AND VALIDATION OF THE REFRACTIVE INDEX STRUCTURE FUNCTION FROM 50MHZ RADAR DATA. Elizabeth A. Boll, AFRL, Kirtland AFB, NM; and R. J. Lefevre and S. A. Early

JOINT SESSION J9: SATELLITE MEASUREMENTS: HYDROLOGICAL IMPACT AND LAND SURFACE DATA ASSIMILATION (JOINT WITH THE 17TH CONFERENCE ON HYDROLOGY AND THE 12TH SYMPOSIUM ON METEOROLOGICAL OBSERVATIONS AND INSTRUMENTATION)

- J9.1* USE OF SATELLITE DATA ASSIMILATION TO INFER LAND SURFACE THERMAL INERTIA. William M. Lapenta, NASA/MSFC, Huntsville, AL; and R. McNider, A. Biazar, R. Suggs, G. Jedlovec, and S. Dembek
- J9.2* TOWARD THE REAL-TIME OBSERVATION OF HYDROLOGIC LAND SURFACE FLUXES FROM SPACE: DATA ASSIMILATION USING THE ENSEMBLE KALMAN FILTER. Steven A. Margulis, MIT, Cambridge, MA; and D. Entekhabi, D. McLaughlin, and S. Dunne
- [J9.3](#) INTEGRATION OF SPACEBORNE PRECIPITATION AND SURFACE BRIGHTNESS TEMPERATURE MEASUREMENTS USING AN ENSEMBLE KALMAN FILTER. Wade T. Crow, USDA/ARS, Beltsville, MD
- J9.4* ASSESSING THE IMPACT OF HORIZONTAL ERROR CORRELATIONS IN FORCING DATA. Rolf H. Reichle, NASA/GSFC, Greenbelt, MD; and R. D. Koster
- [J9.5](#) MODELING MULTIYEAR SURFACE EVAPOTRANSPIRATION WITH REMOTE SENSING DATA. Marvin L. Wesely, ANL, Argonne, IL; and J. Song
- J9.6* ENHANCING THE VALIDATION OF REMOTE SENSING DATA. Michael P. Crane, USGS, Sioux Falls, SD; and T. DeFelice
- J9.7* DETECTION OF WATER VAPOR PROFILES AND THIN MOISTURE LAYERS FROM ATMOSPHERIC RADIO OCCULTATIONS. Manuel de la Torre Juárez, JPL/Caltech, Pasadena, CA; and P. M. Nilsson
- J9.8* COMPARISON OF SEAWINDS SCATTEROMETER DATA WITH A HYDROLOGIC PROCESS MODEL FOR THE ASSESSMENT OF SNOW MELT DYNAMICS. Venkataramana Rao Sridhar, University of Washington, Seattle, WA; and K. C. McDonald and D. P. Lettenmaier
- [J9.9](#) ASSIMILATION OF NEAR-SURFACE SOIL MOISTURE INTO THE THREE LAYER VARIABLE INFILTRATION CAPACITY LAND-SURFACE MODEL. Laura M. Parada, University of California, Berkeley, CA; and X. Liang
- [J9.10](#) THE VALIDATION OF A LAND DATA ASSIMILATION SYSTEM (LDAS) USING OKLAHOMA MESONET DATA. Kodi Lynn Nemunaitis, Oklahoma Climate Survey and University of Oklahoma, Norman, OK; and J. B. Basara