

JEFFREY A. ANDRESEN

Professor

Department of Geography, Environment, and Spatial Sciences
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Specializations:

Agricultural Meteorology, Applied Climatology

Education:

Ph.D., 1987, Agricultural Meteorology, Purdue University
M.S., 1983, Agricultural Meteorology, Purdue University
B.S., 1981, Meteorology, Northern Illinois University

Professional Experience:

Professor, State Climatologist for Michigan, Department of Geography, Michigan State University, 2014 - present.

Associate Professor, State Climatologist for Michigan, Department of Geography, Michigan State University, 2002 - 2014.

Assistant Professor, Department of Geography, Michigan State University, 1996 - 2002.

Academic Specialist, Department of Geography, Michigan State University, January 1991-August 1996.

Agricultural Meteorologist, World Agricultural Outlook Board, U.S. Department of Agriculture, Washington, DC, September 1987 - December 1990.

Agricultural Meteorologist, Midwest Agricultural Weather Service Center, U.S. Department of Commerce, NOAA, West Lafayette, IN. April 1987 -September 1987.

Professional Affiliations:

American Geophysical Union
American Meteorological Society
American Society of Agronomy
Association of American Geographers
Association of State Climatologists

Honors and Awards:

MAEA Outstanding Extension Specialist; Epsilon Sigma Team Extension Award; Outstanding Service to Fruit Industry Award; Distinguished Group Extension Program; Specialist Citation Award, Michigan Association of Extension Agents; Outstanding Service, U.S. Dept. of Agriculture.

Research Interests:

The focus of my research is the influence and impact of weather and climate on agricultural activities. Current and recent past themes include; climatological trends and potential impacts, agronomic impacts associated with potential future changes in climate, irrigation water use in agriculture, weather and risk management in agricultural production systems, winter hardiness and mortality of crops and insects, and the measurement and use of leaf wetness data for determination of plant disease risk.

Research and Scholarly Activities

Refereed Publications:

Ogweno, V., Moore, N., & **Andresen, J.**, 2026. Semi-supervised machine learning for montane vegetation mapping: Integrating PlanetScope imagery with climatic and topographic gradients to characterize short-term land cover transitions in Mount Kenya's montane ecosystems. *Remote Sensing Applications: Society and Environment*, 101886.

Kiefer, M.T. **J.A. Andresen**, and W.J. Baule, 2025. An Assessment of Temperature from Multiple Gridded Climate Datasets in a Region with Strong Physiographic Gradients: Michigan, United States. *J. Applied and Service Climatology*, Volume 2025, Issue 001, DOI: <https://doi.org/10.46275/JOASC.2025.09.001>

Wang, T., S. Zhong, and **J. Andresen**, 2024. Impacts of spring freeze events on a perennial tree fruit crop across the central and eastern USA. *Intl J. Biometeorology* 0020-7128: 1432-1254. <https://doi.org/10.1007/s00484-025-02887-7>.

Wilson, A.B., J.M. Baker, E.A. Ainsworth, **J.A. Andresen**, J.A. Austin, J.S. Dukes, E. Gibbons, B.O. Hoppe, O.E. LeDee, J. Noel, H.A. Roop, S.A. Smith, D.P. Todey, R. Wolf, and J.D. Wood, 2023: Ch. 24. Midwest. In: *Fifth National Climate Assessment*. Crimmins, A.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, B.C. Stewart, and T.K. Maycock, Eds. U.S. Global Change Research Program, Washington, DC, USA, 1–xxx. <https://doi.org/10.7930/NCA5.2023.CH24>

Kiefer, M.T. **J.A. Andresen**, D.G. McCullough, J.B. Wieferich, J. Keyzer and S.A. Marquie, 2023. Microclimatic Variability of Cold-Season Minimum Temperatures in Michigan, United States: A Study with Implications for Insect Mortality. *J. App. Met. and Clim.*, 62, 1187-1203, <https://doi.org/10.1175/JAMC-D-23-0067.1>.

Agyei, B., **Andresen, J.**, & Singh, M. P., 2023. Evaluation of a Handheld Near-infrared Spectroscopy Sensor for Rapid Corn Kernel Moisture Estimation. *Crop, Forage & Turfgrass Management* 00, 00–00. <https://doi.org/10.1002/cft2.20235>.

Dubelko, M. R. Schutzki, **J. Andresen** and B. Cregg, 2022. Compost addition, but not tillage, affects establishment of urban highway plantings. *Urban Forestry & Urban Greening* Volume 75 127688, <https://doi.org/10.1016/j.ufug.2022.127688>.

Kiefer, M.T., **J.A. Andresen**, D.W. Rozeboom, and X. Bian, 2022: Development of a wind and Pasquill stability class climate dataset for the North American Great Lakes Region. *Int. J. Climatol.*, 42, 5306-5320, <https://doi.org/10.1002/joc.7534>.

Baule W.J., **J.A. Andresen**, and J.A. Winkler, 2022. Trends in Quality Controlled Precipitation Indicators in the United States Midwest and Great Lakes Region. *Frontiers in Water* 4: *Front. Water* 4:817342, doi: 10.3389/frwa.2022.817342.

Bunting EL, Wanyama D, Goodwin R, Weil N, Sabbatini P and **Andresen J**, 2021. Vitis vinifera Production in Michigan: Factors and Trends Driving Cultivation Patterns. *Front. Plant Sci.* 12:704690. doi: 10.3389/fpls.2021.704690

Kiefer, M.T., **J.A. Andresen**, D.G. McCullough, W.J. Baule, and M. Notaro, 2021. Extreme minimum temperatures in the Great Lakes region of the United States: A climatology with implications for insect mortality. *Int'l. J. Climatology* Online, <https://doi.org/10.1002/joc.7434>

Perdinan; Winkler, J.A.; **Andresen, J.A.** 2021. Evaluation of Multiple Approaches to Estimate Daily Solar Radiation for Input to Crop Process Models. *Atmosphere* 2021, 12, 8. <https://dx.doi.org/10.3390/atmos12010008>

Briley, L, R. Kelly, E.D. Blackmer, A.V. Troncoso, R.B. Rood, **J.A. Andresen**, and M.C. Lemos, 2020. Increasing the Usability of Climate Models through the Use of Consumer-Report-Style Resources for Decision-Making. *Bull. Am. Met. Soc.* 101(10):E1709. doi:10.1175/BAMS-D-19-0099.1

Fiebrich, C.A., K.R. Brinson, R. Mahmood, S.A. Foster, M. Schargorodski, N.L. Edwards, C.A. Redmond, J.R. Atkins, **J.A. Andresen**, X. Lin, 2020. Toward the Standardization of Mesoscale Meteorological Networks. *J. Atmos. and Oceanic Tech.* 37: 2033-2049. DOI: <https://doi.org/10.1175/JTECH-D-20-0078.1>

Wanyama, D., E.L. Bunting, R. Goodwin, N. Weil, P. Sabbatini, and **J.A. Andresen**, 2020. Modeling Land Suitability for *Vitis vinifera* in Michigan Using Advanced Geospatial Data and Methods. *Atmosphere* 2020 11(4), 339. <https://doi.org/10.3390/atmos11040339>

Fernandez, R.T., N. A. Pershey, **J.A. Andresen**, and B. M. Cregg, 2019. Water Conserving Irrigation Practices, Plant Growth, Seasonal Crop Coefficients, and Nutrition of Container-Grown Woody Ornamentals. *Water* 2019, 11, 2070; doi:10.3390/w11102070.

Kiefer, M., **J. Andresen**, D. Doubler, and A. Pollyea, 2019. Development of a gridded reference evapotranspiration dataset for the Great Lakes region, *Journal of Hydrology: Regional Studies*, Volume 24, 100606, ISSN 2214-5818, <https://doi.org/10.1016/j.ejrh.2019.100606>.

Andresen, J.A. and W.J. Baule, 2018. Temperate Fruit Trees and Grapes. In: *Agronomy Monographs*, 60: *Agroclimatology: Linking Agriculture to Climate*. Eds.: J. Hatfield, M. Sivakumar, J. Prueger, ASA, CSSA, and SSSA, Madison, WI, <https://doi.org/10.2134/agronmonogr60.2016.0016>

Gunn, K., W. Baule, J. Frankenberger, J. Gamble, B. Allred, **J. Andresen**, and L. Brown, 2018. Modeled Climate Change Impacts on Subirrigated Maize Yield in Northwest Ohio. *Agricultural Water Management* 206, 56-66. DOI: 10.1016/j.agwat.2018.04.034.

Kistner, E., O. Kellner, **J. Andresen**, D. Todey, and L. Morton. 2017. Vulnerability of specialty crops to short-term climatic variability and adaptation strategies in the Midwestern USA. *Climatic Change*. DOI: 10.1007/s10584-017-2066-1.

Liu, X., E. Jacobs, A. Kumar, L. Biehl, **J. Andresen**, and D. Niyogi. 2017. "The Purdue Agro-climatic (PAC) dataset for the U.S. Corn Belt: Development and Initial Results." *Climate Risk Management* 15:61-72. <http://dx.doi.org/10.1016/j.crm.2016.10.005>

Baule, W., B. Allred, J. Frankenberger, D. Gamble, **J. Andresen**, K. Gunn, and L. Brown, 2017. Northwest Ohio crop yield benefits of water capture and subirrigation based on future climate change projections. *Ag. Water Management* 189: 87–97. <https://doi.org/10.1016/j.agwat.2017.04.019>

Mahmood, R., Boyles, R., Brinson, K., Fiebrich, C., Foster, S., Hubbard, K., Robinson, D., **Andresen, J.** and Leathers, D., 2016. Mesonets: Meso-Scale Weather and Climate Observations for the US. *Bulletin of the American Meteorological Society*, DOI: <http://dx.doi.org/10.1175/BAMS-D-15-00258.1>.

Liu, X., Jacobs, E., Kumar, A., Biehl, L., **Andresen, J.**, and D. Niyogi, 2016. The Purdue Agro-climatic (PAC) dataset for the U.S. Corn Belt: Development and initial results. *Climate Risk Management* 15: 61-72. <https://doi.org/10.1016/j.crm.2016.10.005>.

Gunn, K., W. Baule, J. Frankenberger, D. Gamble, B. Allred, **J. Andresen**, and L. Brown, 2016. Corn yield under subirrigation and future climate scenarios in the Maumee River Basin. *Transactions of 10th International Drainage Symposium*, Vol. 10.

Liu, X., **J. Andresen**, H. Yang, and D. Niyogi, 2015. Calibration and validation of the Hybrid-Maize crop model for regional analysis and application over the U.S. Corn Belt. *Earth Interactions* 19:9. DOI: 10.1175/EI-D-15-005.1

Niyogi, D., X. Liu, **J. Andresen**, Y. Song, A. K. Jain, O. Kellner, E. S. Takle, and O. C. Doering, 2015. Crop models capture the impacts of climate variability on corn yield, *Geophys. Res. Lett.*, 42, doi:10.1002/2015GL063841.

Haigh, T., Takle, E., **Andresen, J.**, Widhalm, M., Carlton, J. S., & Angel, J., 2015. Mapping the decision points and climate information use of agricultural producers across the US Corn Belt. *Climate Risk Management*, 7, 20-30.

Prokopy, L.S., Carlton, J.S., Arbuckle Jr, J.G., Haigh, T., Lemos, M.C., Mase, A.S., Babin, N., Dunn, M., **Andresen, J.**, Angel, J. and Hart, C., 2015. Extension's role in disseminating information about climate change to agricultural stakeholders in the United States. *Climatic Change*, 130(2), pp.261-272.

Pershey, N.A., B.M. Cregg, **J.A. Andresen**, and R.T. Fernandez, 2015. Irrigating Based on Daily Water Use Reduces Nursery Runoff Volume and Nutrient Load Without Reducing Growth of Four Conifers. *Hortscience* 50(10):1553–1561.

Linda S. Prokopy, C.E. Hart, R. Massey, M. Widhalm, J. Klink, **J.A. Andresen**, J. Angel, T. Blewett, O.C. Doering, R. Elmore, B.M. Gramig, P. Guinan, B.L. Hall, A. Jain, C.L. Knutson, M. Carmen Lemos, L. Wright Morton, D. Niyogi, R. Power, M.D. Shulski, C.X. Song, E.S. Takle, and D. Today, 2015. Using a team survey to improve team communication for enhanced delivery of agro-climate decision support tools. *Agricultural Systems* 138: 31–37. doi:10.1016/j.agsy.2015.05.002.

Hall, B., A. Curtis, M. Timlin, M. Woloszyn, Z. Zaloudek, S. Hilberg, P. Guinan, **J. Andresen**, M. Longstroth, and R. Wolf, 2015. A community frost/freeze susceptibility operational guidance tool. *J. Operational Meteor.* 3: 21-29, doi: <http://dx.doi.org/10.15191/nwajom.2015.0303>.

Whittinghill, L.J., D.B. Rowe, **J.A. Andresen**, and B.M. Cregg, 2015. Comparison of stormwater runoff from sedum, native prairie, and vegetable producing green roofs. *Urban Ecosystems* 18:13–29, DOI 10.1007/s11252-014-0386-8. <http://link.springer.com/article/10.1007/s11252-014-0386-8/fulltext.html>

Moore, N., **Andresen, J.**, B. Lofgren, B. Pijanowski, D. Kim, 2014. Projected Land Cover Change Effects on East African Rainfall Under Climate Change. *International Journal of Climatology*. DOI: 10.1002/joc.4117, <http://onlinelibrary.wiley.com/doi/10.1002/joc.4117/pdf>.

Schultze S.R., P. Sabbatini, and **J.A. Andresen**, 2014. Spatial and Temporal Study of Climatic Variability on Grape Production in Lake Michigan Shore AVA. *American Journal of Enology and Viticulture* 65: 179-188. <http://ajevonline.org/content/65/2/179.full.pdf+html?sid=f8a0d4d0-5741-42d9-9559-d72ed7567f31>

Ddumba, S.D., **J.A. Andresen**, and S.S. Snapp, 2014. Characteristics and Adaptive Potential of Sweetpotato Cultivars Grown in Uganda. Accepted for publication in *International Journal of Agriculture and Forestry* 4(2): 135-143 DOI:10.5923/j.ijaf.20140402.14.
<http://article.sapub.org/10.5923.j.ijaf.20140402.14.html>

Yu, L., S. Zhong, X. Bian, W. Heilman, and **J. Andresen**, 2014. Temporal and spatial variability of frost-free seasons in the Great Lakes region of the United States. *International Journal of Climatology* 34: 3499–3514. DOI: 10.1002/joc.3923.
<http://onlinelibrary.wiley.com/doi/10.1002/joc.3923/pdf>

Takle, E., C. Anderson, **J. Andresen**, J. Angel, R. Elmore, B. Gramig, P. Guinan, S. Hilberg, D. Kluck, R. Massey, D. Niyogi, J. Schneider, M. Shulski, D. Todey, and M. Widhalm, 2014. Climate Forecasts for Corn Producer Decision-Making. *Earth Interact.* 18: 1–8. E-doi: <http://dx.doi.org/10.1175/2013EI000541.1> .

Morrison, W.R., **J.A. Andresen**, Z. Szendrei, 2013. The development of the asparagus miner (*Ophiomyia simplex* Loew; Diptera: Agromyzidae) in temperate zones: a degree-day model. Accepted for publication in *Pest Management Science* 70: 1105–1113. DOI: 10.1002/ps.3654.
<http://onlinelibrary.wiley.com/doi/10.1002/ps.3654/abstract>

Aichele, S. and **J. Andresen**, 2013. Spatial and temporal variations in land development and impervious surface creation in Oakland County, Michigan, 1950-2005" . *Journal of Hydrology*, 485: 96–102. <http://dx.doi.org/10.1016/j.jhydrol.2012.12.049> .

Andresen, J., S. Hilberg, and K. Kunkel, 2012. Historical Climate and Climate Trends in the Midwestern USA. Great Lakes Integrated Sciences and Assessments Center Paper #12002 (Prepared for the Midwest Technical Input Report, U.S. National Climate Assessment). online: http://glisa.msu.edu/docs/NCA/MTIT_Historical.pdf.

Getter, K.L., D. B. Rowe, **J.A. Andresen**, and I.S. Wichman. 2012. Seasonal heat flux properties of an extensive green roof in a Midwestern U.S. climate. *Energy and Buildings* 43: 3548–3557. (<http://dx.doi.org/10.1016/j.enbuild.2011.09.018>)

Moore, N., G. Alagarwamy, B. Pijanowski, P. Thornton, B. Lofgren, J. Olson, **J. Andresen**, P. Yanda, and J. Qi, 2012. East African food security as influenced by future climate change and land use change at local to regional scales. *Climatic Change* 110: 823- 844
DOI: 10.1007/s10584-011-0116-7.

Moore N, N. Torbick, B. Pijanowski, B. Lofgren, J. Wang, D-Y Kim, **J. Andresen**, and J. Olson, 2011. Adapting MODIS-derived LAI and fractional cover into the RAMS model for East Africa, *Int. J. Clim.*, 30: 1954-1969.

Thornton P K, Jones P G, Alagarwamy G, **Andresen J**, Herrero M., 2010. Adapting to climate change: agricultural system and household impacts in East Africa. *Agricultural Systems* 103: 73-82.

Winkler, J., S. Thornsbury, M. Artavia, F. Chmielewski, D. Kirschke, S. Lee, M. Liszewska, S. Loveridge, P. Tan, S. Zhong, **J. Andresen**, J. Black, R. Kurlus, D. Nizalov, N. Olynk, Z. Ustrnul, C. Zavalloni, J. Bisanz, G. Bujdosó, L. Fusina, Y. Henniges, P. Hilsendegen, K. Lar, L. Malarzewski, T. Moeller, R. Murmylo, T. Niedzwiedz, O. Nizalova, H. Prawiranata, N. Rothwell, J. van Ravensway, H. vonWitzke, and M. Woods, 2010. A conceptual framework for multi-regional climate change assessments for international market systems with long-term investments. *Climatic Change* DOI 10.1007/s10584-009-9781-1A.. Available on www at: <http://www.springerlink.com/content/46031101m502k681/>

- N.W. Siegert, D.G. McCullough, R.C. Venette, A.E. Hajek and **J.A. Andresen**, 2009. Assessing the Climatic Potential for Epizootics of the Gypsy Moth Fungal Pathogen *Entomophaga maimaiga* in the North Central United States" by. *Canadian Journal of Forest Research* 39: 1958-1970.
- Warsaw, A.L., R.T. Fernandez, B.M. Cregg and **J.A. Andresen**. 2009. Container-grown Ornamental Plant Growth and Water Runoff Nutrient Content and Volume Under Four Irrigation Treatments. *HortScience* 44(6):1573–1580. 2009.
- Getter, K.L., D.B. Rowe, G.P. Robertson, B. M. Cregg, and **J.A. Andresen**, 2009. Carbon sequestration potential of extensive green roofs. *Env. Science and Technology* 43: 7564-7570.
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- Olson, J.M., G. Alagarswamy, **J.A. Andresen**, D.J. Campbell, J. Ge, M. Huebner, B. Lofgren, D.P. Lusch, N. Moore, B.C. Pijanowski, J. Qi, N. Torbick, and J. Wang. Integrating Diverse Methods to Understand Climate-Land Interactions at Multiple Spatial and Temporal Scales, 2008. *Geoforum* 39: 898-911.
- N.W. Siegert, D.G. McCullough, A.E. Hajek and **J.A. Andresen**, 2008. Effect of Microclimatic Conditions on Primary Transmission of the Gypsy Moth Fungal Pathogen *Entomophaga maimaiga* (Zygomycetes: Entomophthorales) in Michigan. *Great Lakes Entomologist* 41: 111-128.
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- C. Zavalloni, **J. A. Andresen**, and J.A. Flore , 2006. Phenological Models of Flower Bud Stages and Fruit Growth of 'Montmorency' Sour Cherry Based on Growing Degree-Day Accumulation. *J. Am. Soc. Hort. Sci.* 131(5):601-607.
- C. Zavalloni, **J. A. Andresen**, and J.A. Flore J.A. Winkler J.R. Black and T.L. Beedy, 2006. The Pileus Project: Climatic Impacts on Sour Cherry Production in the Great Lakes Region in Past and Projected Future Time Frames. *Acta Hort* 707: 101-108.
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Smitley, D.R., **J.A. Andresen**, R. Priest, R. Mech, and D.G. McCullough, 1998. Winter Mortality of Gypsy Moth (Lepidoptera: Lymantriidae) Eggs in Michigan. *Environmental Entomology* 27(3):700-708.

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Books and Book Chapters:

Bouma, E., **J. Andresen**, A. Schilder, and J. Wise, 201X. Weather and Crop Protection. Roodbont Pub., Zutphen, Netherlands. 98pp, in press.

Olson, J., G. Alagarswamy, **J. Andresen**, N. Moore, and P. Miller, 2016. Crop and Water Management Under Climate Change Scenario Analysis. Report to U.S. Agency for International Development for Strategic Objective Agreement No. 621-0013-05. DOI: 10.13140/RG.2.2.21235.43042.

Winkler, J.A., **Andresen, J.A.**, Hatfield, J.L., Bidwell, D., & Brown, D. (Eds.). (2014). Climate Change in the Midwest: A Synthesis Report for the National Climate Assessment. Washington, DC: Island Press. 249 pp.

Winkler, J.A., **J.A. Andresen**, R.W. Arritt, J.A. Beecher, A.D. Gronewold, K.R. Hall, J.L. Hatfield, S.D. Handler, B. Lofgren, S.D. Mackey, S. Nicholls, J. Patz, J. Posey, S.C. Pryor, and C.W. Swanston, 2014. An introduction to the synthesis report. In: Climate Change in the Midwest: A Synthesis Report for the National Climate Assessment, J.A. Winkler, J.A. Andresen, J.L. Hatfield, D. Bidwell, and D. Brown, eds., Island Press, 1-7.

Andresen, J.A. and A.M. Pollyea, 2014. Section 3.8: Michigan. In From Too Much to Too Little: How the central U.S. drought of 2012 evolved out of one of the most devastating floods on record in 2011, Central U.S. 2012 Drought Assessment, B.A. Fuchs, D.A. Wood, and D. Ebbeka, eds. National Drought Mitigation Center (NDMC), University of Nebraska–Lincoln. Available on line at <http://drought.unl.edu/Portals/0/docs/CentralUSDroughtAssessment2012.pdf> , ISBN-13 978-1-56161-039-6.

Andresen, J.A., S.D. Hilberg, and K.E. Kunkel, 2013. Historical climate and climate trends in the Midwestern United States. In: Climate Change in the Midwest: A Synthesis Report for the National Climate Assessment, J.A. Winkler, J.A. Andresen, J.L. Hatfield, D. Bidwell, and D. Brown, eds., Island Press, 8-36.

Andresen, J.A., G. Alagarswamy, G. Guentchev, Perdinan, K. Piromsopa, A. Pollyea, G. Soter, J. Van Ravensway, and J. Winkler, 2013. Potential Impacts of Future Climate on Row Crop Production in the Great Lakes Region. Chapter 6 in '*Climate change impacts, risk, vulnerability, and adaptation in the Midwestern United States*', S.C. Pryor, ed. , Indiana University Press, Bloomington, IN, pp 82-91.

Winkler, J., **J. Andresen**, J. Bisanz, R. Black, G. Guentchev, J. Nugent, K. Piromsopa, N. Rothwell, C. Zavalloni, J. Clark, H. Min, A. Pollyea, H. Prawiranata, and R. Torre, 2013. Michigan's Tart Cherry Industry: Vulnerability to Climate Variability and Change. Chapter 8 in '*Climate change impacts, risk, vulnerability, and adaptation in the Midwestern United States*', S.C. Pryor, ed. , Indiana University Press, Bloomington, IN, pp104-116.

Andresen, J.A. Historical Climate Trends in Michigan and the Great Lakes Region, 2012. In: In T. Dietz and D. Bidwell [Eds]. *Climate Change in the Great Lakes Region: Navigating an Uncertain Future*. East Lansing: Michigan State University Press, pp 17-34.

Andresen, J.A., W.J. Northcott, H. Prawiranata, and S.A. Miller, 2009. The Influence of Land Cover Type on Surface Hydrology in Michigan. Chapter 11 in Understanding Climate Change: Climate Variability, Predictability, and Change in the Midwestern United States, S. C. Pryor, ed., ISBN 978-0-253-35344-3, Indiana University Press, Bloomington, IN.

Andresen, J.A. and J.A. Winkler, 2009. Weather and Climate. Chapter 19 in Michigan Geography and Geology, R.J. Schaetzl, D. Brandt, and J.T. Darden. (eds). Pearson Custom Publishing, Boston, MA. ISBN: 0536987165.

Epstein, D. **J. Andresen**, G. Bird, J. Flore, L. Gut, P. McManus, J. Nugent, R. Isaacs, A. Schilder, M. Whalon, R. Sirrine, and J. Sanchez, 2007. Tart Cherry Systems. Chapter 6 of 'Building a Sustainable Future: Ecologically Based Farming Systems', D. Mutch, S. Deming, L. Johnson, D. Lehnert, L. Probyn, K. Renner, J. Smeenk, S. Thalmann, and L. Worthington, eds. MSU Extension Bulletin E-2983, Michigan State University, East Lansing, MI, 140 pp.

Andresen, J., 2006. Shortcomings and Limitations in Analytical Tools and Methods of Provision of Operational Agrometeorological Services. In Strengthening Operational Agrometeorological Services at the National Level. Proceedings of the Inter-Regional Workshop, March 22-26, 2004, Manila, Philippines. Washington, D.C., USA: United States Department of Agriculture; Geneva, Switzerland: World Meteorological Organization; Rome, Italy: Food and Agriculture Organization of the United Nations. Raymond P. Motha, M.V.K. Sivakumar, and Michele Bernardi (Eds.) . Technical Bulletin WAOB-2006-1 and AGM-9, WMO/TDNo.1277. 238 pp

Andresen, J.A., J.E. Sanchez, and G.W. Bird, 2002. The Agricultural Ecosystem: The Natural Environment. Chapter 1 in: Fruit Ecology and Management, J.N. Landis, J.E. Sanchez, G.W. Bird, C.E. Edson, R.H. Lehnert, A.M.C. Schilder, and S.M. Swinton, eds. MSU Extension Bulletin E-2759, Michigan State University, East Lansing, MI.

Funded Grants (extramural):

Andresen, J., L. Kelley, and B. Mackellar. "Improvements of Soybean Irrigation Scheduling Methods". \$12,036, 1/1/2015 - 03/31/2016.

Andresen, J. Development and Implementation of IPM Decision Support Tools for Michigan Fruit Growers. Michigan Department of Agriculture & Rural Development Specialty Crop Block Grant Program (through Cherry Marketing Institute and Michigan Tree Fruit Commission), \$71,743, 10/31/2015 - 3/31/2017.

Andresen, J. "Strategic Modernization of the Enviro-Weather Automated Weather Network for Fruit Production in Michigan." Project funded by Cherry Marketing Institute. \$38,231, 10/1/2014-9/30/2016.

Andresen, Jeffrey, Olsen, Larry. Enviro-weather decision-making tools for the Michigan Christmas Tree industry. Michigan Cherry Committee, \$2,000, 7/1/2015 - 6/30/2016. (new, co-PI, IDC \$0)

Andresen, Jeffrey, Olsen, Larry. Strategic Modernization of Enviro-Weather Stations Serving the Michigan Grape and Wine Industries. Michigan Grape and Wine Industry Council, \$3,912, 1/1/2015 - 12/31/2015.

Andresen, Jeffrey ; Bishop, Beth ; Olsen, Larry. Enviro-weather decision-making tools for the Michigan Christmas Tree industry. Michigan Cherry Committee, \$1,217, 1/1/2015 - 12/31/2015.

Andresen, J., B. Bishop, and L. Olsen. Enviro-weather decision-making tools for the grape and wine industry. Michigan Grape and Wine Industry Council, \$4,357, 1/1/2014 - 12/31/2014.

Schilder, A., J. Andresen, and C. Vandervoort. Optimizing fungicide use and timing based on weather conditions. MI Dept. of Ag and Rural Development. \$10,745, 1/1/2014 - 9/30/2017.

Andresen, J. Strategic Modernization of Enviro-Weather System for Fruit Production in Michigan. Michigan Department of Agriculture & Rural Development Specialty Crop Block Grant Program (through Cherry Marketing Institute and Michigan Tree Fruit Commission), \$79,088, 10/31/2014 - 3/31/2016.

Andresen, Jeffrey ; Bishop, Beth ; Olsen, Larry. Enviro-weather decision-making tools for the Michigan Apple Industry. \$2,132.00, 1/1/2014 - 12/31/2016.

Andresen, Jeffrey ; Bishop, Beth ; Olsen, Larry. Enviro-weather decision-making tools for the Michigan cherry industry. Michigan Cherry Committee, \$3,500, 6/1/2014 - 5/31/2015.

Basso, B., D. Hyndman, J. Zhao, J. Parker, J. Andresen, G. Robertson, A. Kendall, and J. Rice. Developing and promoting water-, nutrient-, and climate-smart technologies to help agricultural systems adapt to climate and societal changes. USDA/NIFA, \$4,994,270, 3/1/2014 - 2/29/2020.

Andresen, Jeffrey ; Bishop, Beth ; Olsen, Larry. Enviro-weather decision-making tools for the Michigan Christmas Tree industry. Michigan Cherry Committee, \$1,217, 1/1/2015 - 12/31/2015.

Olson, J. N. Moore, and J. Andresen. Vulnerability Assessment of Irrigated Agriculture to Climate Change Impacts - The Case of Irrigated Rice Cultivation in Morogoro. U.S. Agency for International Development (subaward through University of Dar es Salaam), 09/01/2013 – 08/31/2017, \$398,480.

Andresen, J. Use of Water Mist to Protect Tree Fruit from Frost Damage. USDA NCR-SARE, 1/1/2014 – 12/31/2014, \$9,865.

Andresen, J. The Impact of Climate Variability and Change on Sweet Potatoes in Uganda. U.S. Agency for International Development. 5/1/2012 - 6/30/2013, \$19,999.

Andresen, Jeffrey ; Bishop, Beth ; Olsen, Larry. Enviro-weather decision-making tools for the Michigan cherry industry. Michigan Cherry Committee, 7/1/2012 - 6/30/2013, \$4,328.

Andresen, Jeffrey ; Bishop, Beth ; Olsen, Larry. Enviro-weather decision-making tools for the Michigan Apple Industry, 7/1/2012 - 7/31/2013, \$2,152.

Andresen, J., B. Bishop, and L. Olsen. Enviro-weather decision-making tools for the grape and wine industry. Michigan Grape and Wine Industry Council, 7/1/2012 - 6/30/2013, \$4,328.

Andresen, J., B. Bishop, and L. Olsen. Support of the Enviro-weather Information System. Michigan Grape and Wine Industry Council, 7/1/2012 - 6/30/2013, \$1,077.

Andresen, J., L. Olsen, and B. Bishop. Enviroweather Decision-Making Tools for the Grape and Wine Industry. Michigan Grape and Wine Council. 12/01/2011 – 11/30/2012, \$4,304.

Schilder, A. J. Andresen, and T. Aichele. Validation of disease prediction models for anthracnose fruit rot and mummy berry in blueberries. Michigan State Horticultural Society, 10/01/2011-09/30/2012, \$4,000.

Crawford, E., J. Andresen, J. Olson, and N. Moore. Modeling Household Food Security Given Climate Change Uncertainty in Zambia and Kenya. U.S. Agency for International Development. 10/01/2011 – 09/30/2014, \$699,391.

Andresen, J. Useful to Usable: Transforming Climate Variability and Change Information for Cereal Crop Producers, (Purdue University subcontract). U.S. Dept. Agriculture (NIFA) 4/15/2010 – 4/15/2014, \$ 361,296.

Gut, L. and J. Andresen. Strengthening Fruit Pest Predictive Models by Incorporating Effects of Weather on Reproductive Behavior. U.S. Dept. Agriculture (NIFA), 08/01/2011 – 07/31/2013, \$99,031.

Andresen, J. and A. Kravchenko. Impacts of climate change on agricultural ecosystems of Altai region, Russia. U.S. Civilian Research Dev. Foundation, 12/1/2010 – 11/30/12, \$52,981.

Stasiak, M. and J. Andresen. Northeast Wisconsin Fruit IPM Improvement Program. Wisconsin Cherry Growers. Inc., 01/01/2011- 11/30/2012, \$61,150.

Olson, J., N. Moore, and J. Andresen. Addressing the Impact of Climate Change on Agricultural Systems in East Africa. Rockefeller Foundation, 1/1/2010 – 12/31/2012, \$430,000.

T. Dietz, J. Andresen, J. Arvai, J. Hyndman, S. Nicholls, P. Robertson, J. Rose, J. Stevenson, J. Winkler, C. Pistis, and M. Staton. Great Lakes Regional Integrated Sciences and Assessments Center: Michigan State University Subcontract. National Oceanic and Atmospheric Administration (subcontract through University of Michigan), 09/01/2010-08/31/2014, \$ 782,507.

J.A. Andresen. Analysis and Assessment of the Criteria for Issuing an Air Stagnation Advisory. USDA/U.S. Forest Service., 9/1/2009 - 8/31/2010, \$39,070.

Winkler, J., S. Thornsbury, P. Tan, J. Andresen, J. Black, S. Loveridge, S. Zhong, J. Zhao, and A. Iezzoni. Towards an Integrated Framework for Climate Change Impact Assessments for International Market Systems with Long-Term Investments. National Science Foundation 9/1/2009 through 8/31/2014, \$1,499,763

Kravchenko, A., S. Snapp, A. Grandy, J. Winkler, and J. Andresen. Row crop ecosystems in a changing climate: Enhancing ecosystem services at field, farm and watershed scales. U.S. Dept. Agriculture (NIFA), 10/1/2009 - 9/30/2013, \$484,668.

Hernandez, T. and J. Andresen. Improving Water Management in Container Nurseries by Scheduling Irrigation Based on Real-Time Sensor Derived Plant Water Use. Michigan Department of Agriculture Horticulture Fund. 7/1/2009 - 6/30/2010, \$20,000.

Isaacs, R., Rothwell, N., Longstroth, M., Andresen, J. US Dept. of Agriculture. Validation and implementation of a degree day model for grape berry moth management in NC States. 9/1/2009 - 8/31/2011, \$84,344.

Andresen, J.A. . Annual Maintenance and Upkeep of Weather Equipment in Support of MNDR's RAWS Network. Michigan Dept. of Natural Resources. April-December 2008, \$4,320.

Campbell, D.J., J.M. Olson, J. Qi, J.A. Andresen, and R.S. Glew. Dynamic Interactions Among People, Livestock, and Savanna Ecosystems Under Climate Change. National Science Foundation. January 2007-December 2009, \$1,466,271.

Fernandez, R.T., B.M. Cregg, and J.A. Andresen. Water Conservation Practices for Michigan Container Nurseries. Michigan Department of Agriculture Horticulture Fund. 6/1/2006 - 5/31/2009, \$60,000.

Winkler, J.A., S.D. Thornsbury, P.N. Tan, J.A. Andresen, S.T. Loveridge, and R.J. Black. "Agents of Change: A Multidisciplinary Protocol for Assessing Climate Impacts, Vulnerability, and Adaptation. National Science Foundation, August 2006 – February 2008, \$124,736.

Andresen, J.A. and T.M. Aichele. Use of a Geographic Information System for Wine Vineyard Site Selection in Leelanau and Berrien Counties, Michigan. Michigan Grape & Wine Industry Council. January 2005 – December 2005, \$12,302.

Schilder, A. and J.A. Andresen. Development of Scouting and Weather-Based Decision Guides for Disease Control in Blueberries. U.S. Dept. of Agriculture, Aug 2005 – July 2008, \$198,000.

Bartholic, J, S. Batie, A. Odelaja, W. Northcott, J. Andresen, S. Li, M. Kaplowitz. Restoring Great Lakes Basin Water Through the Use of Conservation Credits and a Water Balance Analysis. Great Lakes Protection Fund, 01/01/05 – 12/31/06, \$540,000.

P.J. Sousounis, J.A. Andresen, J.R. Black, D.F. Holecek, and J.A. Winkler. Improving the Utility of Regional Climate Change Information from a Stakeholder Perspective. U.S. Environmental Protection Agency, January 2003- December 2005, \$1,859,276.

J.A. Andresen and T.M. Aichele. Operational Irrigation Water Use Simulation for Michigan. Michigan Department of Environmental Quality, April 2002-September 2007, \$190,173.

J.A. Andresen. Determination of Wetness Duration Using Radar-Derived Precipitation Estimates. U.S. Wheat & Barley Scab Initiative Program (USDA/ARS). May 2001-April 2004, \$105,063.

J.A. Andresen and D.P. Lusch. Facilitating Michigan's Source Water Assessment Program for Community Water Supplies. Michigan Department of Environmental Quality, April 2001-September 2001, \$89,000.

D.J. Campbell, J.A. Andresen, J.M. Olson, B.C. Pijanowski, and J.A. Winkler. Climate and Land Use Change Processes in East Africa. National Science Foundation, September 2001- August 2002, \$67,000.

R. Isaacs, J.A. Andresen, C.E. Edson, M.A. Longstroth, E.A. Elsner, and G.E. Thornton. Statewide IPM Program for Grape Berry Moth in Michigan Vineyards. Michigan State Horticultural Society Trust Fund, January 1999 - December 2001, \$16,303.

J.A. Andresen, D.G. Brown, and J.A. Winkler. Assessing Climate Change Impacts in the Upper Great Lakes Region: Michigan State University Effort. University of Michigan/U.S. Dept. of Energy, Nov, 1998 - October 2001. \$67,164.

D.G. McCullough, L.S. Bauer, J.A. Andresen, C.W. Ramm, and N. Koller. Improvement of Decision-Making Methods for Gypsy Moth Suppression Programs. U.S. Forest Service, U.S.F.S. NA-97-0075. April 1997 - March 2000, \$94,146.

J.A. Andresen. ,” Customized Weather Information in Support of the Michigan Department of Agriculture's Gypsy Moth Suppression Program, 1994 – 2001. Michigan Department of Agriculture, April 1994 - August 2001, \$22,732.

J.T. Ritchie, J.A. Andresen, and D.P. Lusch. Improving Michigan's Annual Irrigation Water Use Assessment Through Simulation GIS, Remote Sensing, and Survey. Michigan Department of Agriculture, MDA contract 791N7000035, April 1996 - September 1997, \$80,000.

J.A. Andresen and J.A. Winkler. . Maximum and Minimum Temperature Variations in a Perturbed Climate and Implications for Specialized Agriculture in the Great Lakes Region. Year 2: Comparison of Daily Simulations from Several Different Global Change Models. U.S. Dept. Of Energy, National Institute for Global Environmental Change, Midwest Regional Center, July 1996 - June 1998, \$70,851.

J.A. Winkler and J.A. Andresen. Maximum and Minimum Temperature Variations in a Perturbed Climate and Implications for Specialized Agriculture in the Great Lakes Region. U.S. Dept. Of Energy, National Institute for Global Environmental Change, Midwest Regional Center, July 1994 - June 1996, \$74,687.

J.A. Winkler and J.A. Andresen, Upgrade of Climatological Laboratory Facilities at Michigan State University. National Science Foundation, Geography and Regional Science Foundation. September 1994 - August 1995, \$17,000 (plus \$17,000 Michigan State University match).

J.A. Andresen and F.V. Nurnberger. Specialized Weather Information for the Michigan Cherry Industry. Cherry Marketing Institute, Inc., June 1994 - May 1995, \$6,680.

A. Jones, J.A. Andresen, J.A. Flore, and J.W. Johnson. A Weather, Disease, and Insect Forecasting System for Management of Fungicide Residue on Cherries. U.S. Dept. Of Agriculture Special Fruit Practices Grant, “Safeguarding the Supply of Specialty Crops for Consumers”, July 1994 - June 1996, \$180,000.

J.P. Palutikof, J.A. Winkler, J.A. Andresen, C. Goodess, J.R. Harman, and F.V. Nurnberger. Extreme Climate Events Under a Perturbed Climate: Impacts in Agriculture. NATO Grants for International Collaboration in Research. March 1992 - March, 1994, \$7,000.

Funded Grants (intramural):

Lang, G., J. Andresen, and W. Shane. "Competitive Orchards 2020: Integrating Tree Fruit Cropping Physiology, Canopy Architectures, Climate Modification Technologies, and Pest Management Strategies". Project funded by MSU Project GREEN. \$75,959, 5/1/2015-6/30/2017.

J. Andresen and L. Olsen. "Establishment of a Weather-Based Information System for Pest, Natural Resource, and Agricultural Production Management in Michigan." . Project funded by State of Michigan (through Michigan Ag. BioResearch), MSU Project GREEN Director's Action Team March 2006. Funded 1 July 2007 through 30 June 2016. \$1,681,500.

Fernandez, R., Cregg, B., Andresen, J. Water Management for Container Nurseries to Improve Irrigation Efficiency and Reduce Runoff and Off-Site Agrichemical Movement. MSU Project GREEN Competitive Research Program, \$40,193, 4/1/12 – 6/30/13.

Northcott, B., J. Andresen, R. Perry, J. Flore, and B. Bishop. Development of Web-Based Operational Guidance for Irrigation of Tree Fruit and Grapes in Michigan. State of Michigan (through Michigan Ag. Exp. Station) in association with the Michigan Plant Industries Coalition Generating Research and Extension to Meet Economic and Environmental Needs (GREEN) Project. 1 April 2009 through 6 June 2011, \$56,186.

R.T. Fernandez, A.L. Warsaw, B.M Cregg, and J.A. Andresen. 'Water Conservation Practices for Michigan Container Nurseries. . State of Michigan (through Michigan Ag. Exp. Station). In association with the Michigan Plant Industries Coalition Generating Research and Extension to Meet Economic and Environmental Needs (GREEN) Project, \$60,000.

J. Winkler, J. Andresen, R. Black, D. Holecek, D. Hyndman, S. Loveridge, S. Nicholls, B. Northcott, J. Rose, P. Tan, S. Thornsby, and M. Turetsky. Integrated Risk and Impact Assessment Associated with Climate Variability and Change in the Great Lakes Region: Environmental Research Initiative Support for Signature Areas. Submitted to MSU ESPP Environmental Research Initiative Program, March 2006. Funded July 2007 through June 2008, \$50,000.

J. Andresen, T. Aichele, J.Bartholic, R. Goldy, T. Loudon, S. Miller, and B. Northcott. Development of Irrigation Management Software in Support of Michigan Agriculture. State of Michigan (through Michigan Ag. Exp. Station). In association with the Michigan Plant Industries Coalition Generating Research and Extension to Meet Economic and Environmental Needs (GREEN) Project, March 2004 - June 2006, \$30,597.

J.A. Andresen and J.Bartholic. "Estimation of Water Use for Agriculture in Michigan: Past, Present, and Future". State of Michigan (through Michigan Ag. Exp. Station). In association with the Michigan Plant Industries Coalition Generating Research and Extension to Meet Economic and Environmental Needs (GREEN) Project, March 2001 - June 2003, \$30,135.

R. Goldy, J.Andresen, W. Kirk, M. Ngouajio, and S. Snapp. "Irrigation Monitoring and Water Needs For Michigan-Grown Vegetables". State of Michigan (through Michigan Ag. Exp. Station). In association with the Michigan Plant Industries Coalition Generating Research and Extension to Meet Economic and Environmental Needs (GREEN) Project, March 2001 - June 2003, \$24,000.

J.A. Andresen. "An Automated Weather Information System for Integrated Pest Management in Michigan". State of Michigan (through Michigan Ag. Exp. Station). In association with the Michigan Plant Industries Coalition Generating Research and Extension to Meet Economic and Environmental Needs (GREEN) Project, December 1998 - June 2002, \$165,664.

D.J. Campbell, J.A. Andresen, and J.A. Winkler. An Integrated Assessment of Human-Biophysical Processes Related to Climate Change and Land Use Change in East Africa. Michigan State University, GATI Environment, Resource Management, and Sustainability Program. August 1999-May 2000. \$6,000.

J.A. Andresen. Characterization of the Spatial Variability of Leaf Wetness Duration Periods: A Pilot Study. Michigan Agricultural Experiment Station, January-June, 1999, \$3,000.

Michigan Agricultural Experiment Station. "Climatological Variability in Michigan: A Search for Changes and Trends". , principal investigators. September 1996 - June 1997, \$15,738.

J.A. Andresen and J.R. Harman. Climatological Characteristics of the Spring Warm-Up in the Central and Eastern United States. Michigan Agricultural Experiment Station. September 1995 - May 1996, \$17,500.

J.A. Andresen and J.R. Harman. Climatological Characteristics of the Spring Warm-Up in the Great Lakes Region. Michigan Agricultural Experiment Station, September 1994 - May 1995, \$17,500.

J.A. Andresen, J.R. Harman, F.V. Nurnberger, and J.A. Winkler. Low Temperature Risk in Fruit-Growing Areas of the Great Lakes. Michigan Agricultural Experiment Station, September 1993 - May 1994, \$17,500.

J.A. Andresen, J.R. Harman, F.V. Nurnberger, and J.A. Winkler. Low Temperature Risk in Fruit-Growing Areas of the Great Lakes: Climatology and Prospects in a Changing Global Climate. Michigan Agricultural Experiment Station, September 1992 - May 1993, \$17,500.

J.A. Andresen, F.V. Nurnberger, J.R. Harman, and J.A. Winkler. Diurnal Climatology of Agriculturally Important Weather Variables in Michigan. Michigan Agricultural Experiment Station, February 1992 - February 1993, \$3,320.

J.A. Andresen, J.R. Harman, F.V. Nurnberger, and J.A. Winkler. Springtime Cold Damage to Fruit Trees in Michigan. Michigan Agricultural Experiment Station, January 1992 - May 1992, \$17,508.

Conference and Professional Meeting Presentations (since 2002):

J. Andresen, 2015. Highlights of ASABE and AASC Standards for Mesonet Measurement, Instrumentation, and Data Processing. Midwest Mesonets for Climate Monitoring and Assessment Workshop. Midwest Regional Climate Center, Champaign, IL, 28-29 September, 2015.

J. Andresen, 2015. Impacts of Extreme Cold on Specialty Crops and Livestock. Midwest Climate and Agriculture Workshop. Midwest Regional Climate Center, Champaign, IL, 29 September, 2015.

J. Andresen, 2015. Weather and Climate Decision Support Tools with Michigan's Enviroweather System. Midwest Climate and Agriculture Workshop. Midwest Regional Climate Center, Champaign, IL, 30 September, 2015.

J. Andresen, 2015. Enviroweather: A Weather-Based Information System for Pest, Natural Resource, and Crop Production Management in Michigan. Midwest Climate and Agriculture Workshop. Midwest Regional Climate Center, Champaign, IL, 1 October, 2015.

J. Andresen, 2015. Climate change and implications for disease management in the North Central Region. American Phytopathological Society of America annual meeting, East Lansing, MI 9-12 June 2015.

J. Andresen, 2015. Development of a Potential Evapotranspiration Database for the Great Lakes Region. American Geophysical Union US/Canada Joint Assembly. Montreal, Quebec, May 6-8, 2015.

J. Andresen, A. Jain, D. Niyogi, G. Alagarswamy, L. Biehl, P. Delamater, O. Doering, A. Elias, R. Elmore, B. Gramig, C. Hart, O. Kellner, X. Liu, E. Mohankumar, L. Prokopy, C. Song, D. Today,

and M. Widhalm, 2014. Assessing the Impact of Climatic Variability and Change on Maize Production in the Midwestern USA. Association of American Geographers Annual Meeting, Tampa, FL, 8-12 April, 2014.

Andresen, J.A., 2014. Impacts of Temperature on Specialty Crop Production. Workshop on Environmental Impacts of Temperature on Ag. Production Systems. USDA National Laboratory for Ag. and the Environment, Ames, IA, 13-14 August, 2014.

Andresen, J.A., 2014. 'Enviro-weather: A Pest and Crop Management Information System for Michigan and the Great Lakes Region'. International Symposium on Weather and Climate Extremes, Food Security and Biodiversity, George Mason University, Fairfax, VA, 20-24 October 2014.

J. Andresen, A. Jain, D. Niyogi, G. Alagarswamy, L. Biehl, P. Delamater, O. Doering, A. Elias, R. Elmore, B. Gramig, C. Hart, O. Kellner, X. Liu, E. Mohankumar, L. Prokopy, C. Song, D. Today, and M. Widhalm, 2013. Assessing the Impact of Climatic Variability and Change on Maize Production in the Midwestern USA. Annual Meeting Am. Geophysical Union, San Francisco, CA, 9-13 December 2013.

Andresen, J.A., 2013. Historical and Projected Climatic Changes in the Midwestern USA and Potential Impacts on Livestock Production Systems. Midwest Swine Nutrition Conference, 4-6 September, Indianapolis, IN.

Andresen, J.A., 2013. Useful to Usable (U2): Transforming Climate Variability and Change Information for Cereal Crop Producers. Association of American Geographers Annual Meeting, Los Angeles California, 9-13 April, 2013.

Ddumba, S.D., J. Andresen, N. Moore, R. Mwanga, J. Olson, S. Snapp, J. Winkler, 2013. Assessing the impact of climate change on sweet potato production in East Africa. Association of American Geographers Annual Meeting, Los Angeles California, 9-13 April 2013.

Andresen, J.A., 2013. Climate Change and Tree Fruit Production. International Fruit Tree Association Annual Meeting, Boston, MO, 26-28 February, 2013.

Andresen, J.A., 2013. Exploring Climate Land Interactions in the EaCLIPSE Project. Invited seminar for Dept. of Geography, Western Michigan University, Kalamazoo, MI, 15 February, 2013.

Andresen, J. G. Alagarswamy, B. Northcott, and A. Pollyea, 2012. Impacts of Weather and Climate on Corn and Soybean Production in the Midwestern USA 1900-2010. Proc. 2012 American Society of Agronomy Annual Meeting, Cincinnati, OH, 21-23 October 2012.

Andresen, J., R. Black, G. Bujdosó, F. Chmielewski, R. Kurlus, P. Matzneller, T. Niedzwiedz, N. Rothwell, G. Soter, J. Winkler, and C. Zavalloni, 2012. Simulation of the Impacts of Climate Variability and Change on Sour Cherry Production. Proc. 32nd Annual Meeting of the International Geographical Union, Köln, Germany, 26-30 August 2012.

Andresen, J., L. Olsen, T. Aichele, B. Bishop, J. Brown, J. Landis, S. Marquie, and A. Pollyea: 2012. Enviro-weather: A Weather-based pest and crop management information system for Michigan. Proc. 7th International Integrated Pest Management Symposium, Memphis, TN, 27-29 March 2012.

Pollyea, A.M., J.A. Andresen, and W.J. Northcott, 2012. Spatial and temporal trends of soil moisture in the Great Lakes region of the USA, 1900-2008. Presentation at the Annual Meetings of the AAG, 24 FEB 2012, New York, NY.

Andresen, J. Past and Potential Future Impacts of Climate on Crop Production in the Great Lakes Region. Presented at the Climate Prediction Applications Science Workshop, Des Moines, IA, 1 March 2011.

Andresen, J. GLISA: The Great Lakes Integrated Sciences and Assessments Center. Presented at the Climate Prediction Applications Science Workshop, Des Moines, IA, 1 March 2011.

Andresen, J., 2010. 'Past and Potential Future Impacts of Climate on Agriculture in the Great Lakes Region', Presentation at the Midwest Climate Change Adaptation Workshop, Bloomington, IN 13-14 October 2010.

Andresen, J., N. Moore, D. Kim, and S. Hession, 2010. 'Historical and Projected Changes in East African Meteorological Drought', Presentation at the American Association of Geographers Annual Meeting, Washington, DC, 16 April, 2010.

G. Alagarwamy, J. Andresen, D. Campbell, R. Glew, N. Goble, C. Han, M. Herrero, S. Hession, S. Karanja, D. Kim, J. Maitima, S. Misana, N. Moore, S. Mugatha, C. Mong'ong'o, S. Mwansasu, A. Naizghi, J. Ogutu, J. Olson, J. Qi, C. Qin, M. Said, T. Smucker, P. Thornton, E. Wangui, M. Williams, and P. Yanda, 2010. 'Dynamic Interactions among People, Livestock, & Savanna Ecosystems under Climate Change (or) The Eclipse Project', Presentation at the American Association of Geographers Annual Meeting, Washington, DC, 16 April, 2010.

Andresen, J., 2009. 'Climate Change and Potential Impacts on Agriculture in the Great Lakes Region', Presentation to the Michigan Farm Bureau 2009 Annual Meeting, Grand Rapids, MI 21 January 2009.

Andresen, J. 2009. 'The Pileus Project: Climate Change Impact Assessment in the Great Lakes Region of North America', Invited Seminar at Dept. of Resource Economics, Univ. of West Virginia, Morgantown, WV, 13 February 2009.

Andresen, J. 2009. 'The Enviro-Weather System: Weather-Driven IPM and Natural Resource Management in Michigan'. USDA NC1018 Research Group Annual Meeting, Grand Rapids, MI, 7 July 2009.

Andresen, J. 2009. 'Is Climate in the Great Lakes Region Changing? Some Data, Thoughts, and Projections' Presentation to the Michigan Dept. of Environmental Quality, East Lansing, MI, 16 September 2009.

Andresen, J. and J. Winkler, 2008. 'Lessons from the Pileus Project'. Presentation to the National Academy of Science, Washington, DC, 5 March 2008.

Andresen, J., 2008. 'Recent Climatological Trends in the Great Lakes Region', Presentation at the National Weather Service Midwest Regional Climate Workshop, Madison, WI, 22 May 2008.

Andresen, J.A., 2008. 'The Enviro-Weather System: Weather-Driven IPM and Natural Resource Management in Michigan'. North Central Region Integrated Pest Management Program, Midwest Weather Working Group. Minneapolis, MN, 24-25 July 2008.

Andresen, J. and J. Winkler, 2008. 'Water- and Climate-related Research Activities at MSU', Presentation to MSU ESPP program meeting, 3 October 2008, East Lansing, MI.

Andresen, J., 2008. 'Potential impacts of climate change on agriculture in the Great Lakes region', Assessing the Implications of Climate Change in SE Michigan, Wayne State University, Detroit, MI, 21 October 2008.

Andresen, J.A., 2007. Climate Change – Is Climate becoming more variable? Proc. Manitoba Agronomists Annual Conference. University of Manitoba, Winnipeg, MB, 11-12 December, 2007.

Andresen, J.A., 2007. Historical Climate Trends in Michigan and the Great Lakes Region. Proc. International Symposium on Climate Change in the Great Lakes Region: Decision Making Under Uncertainty. MSU Environmental Science and Public Policy Program, Michigan State University, East Lansing, MI, 15-16 March, 2007.

Andresen, J.A., 2007. Historical Climatic Trends in Michigan and the Great Lakes Region. Invited seminar presented at 5th Great Lakes Meteorology Conference, Valparaiso University, Valparaiso, IN, 13 March 2007.

Andresen, J.A., C. Zavalloni, J.R. Black, J.A. Winkler, J.M. Bisanz, and J.A. Flore, 2007. The *Pileus* Project: Impacts of Climate Variability and Climate Change on Sour Cherry Production in the Great Lakes Region, Mitchell 2nd International Cherry Symposium, Traverse City, MI, 15-16 January, 2007.

Andresen, J.A., J.A. Winkler, C. Zavalloni, J.R. Black, G. Guentchev, K. Pirasimposa, A.M. Pollyea, and J.M. Bisanz, 2007. The *Pileus* Project: Impacts of Climate Variability and Climate Change on Sour Cherry Production in the Great Lakes Region, 8th International Symposium on Modelling Fruit and Orchard Management, International Society of Horticultural Science, Einsiedeln, Switzerland, 1-5 July 2007.

C. Zavalloni, Andresen, J.A., J.R. Black, J.A. Winkler, G. Guentchev, K. Pirasimposa, A.M. Pollyea, and J.M. Bisanz, 2007. Impacts of Climate on Sour Cherry Production in the Great Lakes Region of the USA in Past and Projected Future Time Frames, 8th International Symposium on Modelling Fruit and Orchard Management, International Society of Horticultural Science, Einsiedeln, Switzerland, 1-5 July 2007.

Andresen, J.A., M. Trent, S. Marquie, and J.M. Brewer, 2007. Managing weather-related risk with the Enviro-weather system. Michigan State University Extension 2007 Fall Conference, East Lansing, MI, 15-17 October 2007.

Andresen, J.A. and W. Northcott, 2007. The Influence of Land Cover Type on Surface Hydrology in Michigan (and agricultural applications). Conference on regional climate variability, predictability, and change in the midwest, Indiana University, Bloomington, IN 15-17, October 2007.

Andresen, J.A. and J.A. Winkler, 2007. The *Pileus* Project: Climate Change Impact Assessment in the Great Lakes Region of North America. Conference on regional climate variability, predictability, and change in the midwest, Indiana University, Bloomington, IN 15-17, October 2007.

Andresen, J.A., 2007 Irrigation of Fresh Market Tomatoes. Proc. 2007 Great Lakes Expo, Michigan Horticultural Society, Grand Rapids, MI, 3-6 December 2007.

Andresen, J., J. Winkler, C. Zavalloni, R. Black, and J. Bisanz. "Development of Techniques and Tools to Help Assess the Impact of Climate Variability and Change on an Intensively Managed Crop". Presentation at Conference on Adaptation to Climatic Change and Variability: Emerging Issues and Experiences in India and the US. New Delhi, India, 6 JAN 2006.

Andresen, J., "Agrometeorological Approaches for Sustainable Agricultural Development Under anticipated climatic variability and an overview of the Michigan Climatological Resources Program. Invited seminar at Dept. of Agrometeorology, Haryana University, Hisar, India, 9 JAN 2006.

Andresen, J., C. Zavalloni, R. Black, J. Winkler, J. Flore, and J. Bisanz. "The Pileus Project: Impacts of Climate Variability and Change on Sour Cherry Production in the Great Lakes Region". Invited presentation at International Tart Cherry Symposium, Traverse City, MI, 19 JAN 2006.

Andresen, J., "A Summary of Climate Resources Collected and Developed in the Climate Land Interaction Project". Presentation at Climate Land Interaction Project International Meeting, Nairobi, Kenya, 2 FEB 2006.

Andresen, J., "Enviro-Weather: A Weather-based IPM System for Michigan". Presentation to Macomb County Extension, Richmond, MI, 24 FEB 2006.

Andresen, J., "Climate Change and Horticultural Impacts in the Great Lakes Region: An Introduction to the Pileus Project". Presentation to Oceana County Extension, Hart, MI, 27 FEB 2006.

Andresen, J., "Managing Weather and Risk". Presentation to MI Christmas Tree Grower's Association, Mt. Pleasant, MI, 4 MAR 2006.

Andresen, J., "Enviro-Weather: A Weather-based IPM System for Michigan". Presentation to West Central Michigan District Extension Program, Walker, MI, 20 MAR 2006.

Andresen, J., "Irrigation Scheduling Workshop for Michigan Growers". Presentation/workshop at Montcalm County Extension, Stanton, MI, 21 MAR 2006..

Andresen, J., "Irrigation Scheduling Workshop for Michigan Growers". Presentation/workshop at St. Joseph County Extension, Centreville, MI, 28 MAR 2006.

Andresen, J., D. Conway, C. Hanson, S. Hession, M. Huebner, B. Lofgren, N. Moore, J. Palutikof. "Linking Social Processes to Climate Change: Climate Change and Vegetation". Presentation at the 102nd Annual Meeting of the Association of American Geographers, Chicago, IL, 8 MAR 2006.

Andresen, J., A. Pollyea, and J. Harman. "Cut Off Lows in the Great Lakes Region: Climatology and Precipitation Contribution". Presentation at the 102nd Annual Meeting of the Association of American Geographers, Chicago IL, 11 MAR 2006.

Van Ravensway, J., J. Winkler, J. Bisanz, K. Piromsopa, G. Guentchev, J. Clark, H. Prawiranata, H. Min, R. Torre, J. Andresen, C. Zavalloni, and R. Black). "Incorporating Climate into a Decision-Support Tool for Specialized Agriculture". Presentation at the 102nd Annual Meeting of the Association of American Geographers, Chicago IL, 9 MAR 2006.

Andresen, J. "Climate Change and Variability in the Great Lakes Region". Invited presentation for MSU Center for Advanced Study and International Development, East Lansing, MI, 22 OCT 2006.

Andresen, J. "Agricultural Productivity and Climate in Michigan". Presentation at USDA/CSREES North Central Regional Research Meeting (NC-1018), Kansas City, MO, 26 OCT 2006.

Andresen, J. "Climate Change: Is Climate Becoming More Variable?" . Invited oral presentation to Dept. of Soil Science, Univ. of Manitoba, Winnipeg, Canada, 12 DEC 2006.

J.A. Andresen, T.M. Aichele, and A. Pollyea. Determination of Wetness Duration for Regional Plant Disease Management Using a Geographic Information System. Proc. 15th Am. Met. Soc. Conf. on Applied Climatology, 20-23 June 2005, Savannah, GA. American Meteorological Society, Boston, MA.

Andresen, J.A. and J.M. Olson. The Climate Land Interaction Project (CLIP). Presented at the NSF Biocomplexity in the Environment 2005 Meeting, Arlington, VA, 21-23 March 2005.

Andresen, J.A. "Integrated Analysis of Regional Land Climate Interactions in East Africa". Invited seminar for Northern Illinois University Dept. of Geography, 25 February 2005.

Andresen, J., 2004. Use of Radar-Derived Precipitation Estimates in a Water Balance Approach for Simulation of Agricultural Water Use in Michigan. Annual Meeting of Assoc. Am. Geographers, 14-19 March, 2004, Philadelphia, PA. Assoc. Am. Geographers, Washington, DC.

Campbell, D., B. Pijanowski, J. Qi, J. Andresen, and J. Olson, 2004. Coupling Land and Climate Systems: Linkages to Completing the Critical Loop in East Africa. Annual Meeting of Assoc. Am. Geographers, 14-19 March, 2004, Philadelphia, PA. Assoc. Am. Geographers, Washington, DC.

Andresen, J.A. and J.A. Winkler, J.R. Black, D.F. Holocek, P. J. Sousounis, J.M. Bisanz, and S. Nicholls 2004. The Pileus Project: Climate Change Impact Assessment of two Industries in the Great Lakes Region of North America. Second International Conference on Climate Impacts Assessment, 28 June-2 July, Grainau, Germany. Sponsored by NOAA Office of Global Programs and National Science Foundation.

C. Zavalloni, J.A. Andresen, J.A. Flore, J.R. Black, T.L. Beedy, and J.A. Winkler, 2004. Climatic impacts on tart cherry (*Prunus cerasus* L.) production in Michigan in past and projected future time frames. VII International Symposium on Computer Modelling in Fruit Research, 21-25 June 2004, Copenhagen, Denmark.

Andresen, J.A. and T.M. Aichele, 2003. Simulation of plant disease risk on a regional basis. Proc. American Society of Agronomy Annual Meeting, 5 Nov 2003, Denver, CO. Am. Soc. Ag., Madison, WI.

Andresen, J.A., Aichele, T.M., and C.R. Nugent, 2003. Agricultural Water Use by Agriculture: 2003 Research Summary. 2003 Horticultural Expo, Michigan Horticultural Society, 8-10 December 2003, Grand Rapids, MI.

Andresen, J.A., Aichele, T.M. and A.M. Pollyea, 2003. Determination of Wetness Duration Using Radar-Derived Precipitation Estimates. Proc. 2003 National Fusarium Head Blight Forum, 13-15 December 2003, Bloomington, MN. U.S. Wheat and Barley Scab Initiative (USDA/ARS), East Lansing, MI.

Andresen, J.A., 2002. Elements of the Michigan Automated Weather Network. MESONET 2002 International Institute, 23-26 June 2002, Oklahoma City, OK. University of Oklahoma, Norman, OK.

Baker, K.M., J.A. Andresen, and W.W. Kirk, 2002. Recent Climatic Trends in Potato Late Blight Disease Risk in the Upper Great Lakes Region. Proc. Am. Met. Soc. 13th Conf. on Applied Climatology, 13-16 May 2002, Portland OR, pp 311-316. Am. Meteorological Society, Boston, MA.

Extension/Outreach Publications:

Gunn, K.M., Baule, W.J., Frankenberger, J.R., Gamble, D.L., Allred, B.J., **Andresen, J.A.** and Brown, L.C., 2016. Corn yield under subirrigation and future climate scenarios in the Maumee River Basin. In *2016 10th International Drainage Symposium Conference*, 6-9 September 2016, Minneapolis, Minnesota (pp. 1-6). American Society of Agricultural and Biological Engineers.

Frankenberger, J., Allred, B., Brown, L., Gamble, D., Gunn, S., Baule, W., **Andresen, J.** 2016. On-Farm Water Recycling as an Adaptation Strategy for Drained Agricultural Lands in the Western Lake Erie Basin. In: Project Reports. D. Brown, W. Baule, L. Briley, E. Gibbons, and I. Robinson, eds. Available from the Great Lakes Integrated Sciences and Assessments (GLISA) Center. Online at http://glisa.umich.edu/media/files/projectreports/GLISA_ProjRep_Purdue.pdf

Andresen, J.A., no date. Historical and Projected Future Climate Changes in Michigan and the Great Lakes Region. Michigan State University Extension Climate Change and Agriculture Fact Sheet Series. Submitted to Michigan State University Extension Bulletin Series, In review.

Andresen, J. and A. Pollyea, 2015. Michigan 2012 Drought Summary. Sec. 3.7 in Fuchs, B., D. Wood, and D. Ebbeka. "From Too Much to Too Little: How the central U.S. drought of 2012 evolved out of one of the most devastating floods on record in 2011". Drought Mitigation Center Faculty Publications. 118. <http://digitalcommons.unl.edu/droughtfacpub/118>.

Andresen, J.A. and A.M. Pollyea, 2014. Winter Weather Update. *Extension News for Agriculture*, Michigan State University Extension, East Lansing, MI. Available on www at: http://msue.anr.msu.edu/news/winter_weather_update_for_2013_2014.

Andresen, J.A., 2013. Historical and Projected Climatic Changes in the Midwestern USA and Potential Impacts on Livestock Production Systems. Proc. 2013 Midwest Swine Nutrition Conference, 4-6 September, Indianapolis, IN.

Andresen, J.A. 2012 Growing Season Summary. In 2012 Michigan Corn Hybrids Compared, MSU Extension Bulletin E-431, K. Thelen, W.D. Widdicome, and L. Williams, eds. Michigan State University Extension, East Lansing, MI, December 2012.

Andresen, J.A., 2012. 2012: A Year of Extremes. *Great Lakes Christmas Tree Journal* 7(4):24-29.

Andresen, J.A. and A.M. Pollyea, 2012. What is Evapotranspiration and Why Does it Matter? *Extension News for Agriculture*, Michigan State University Extension, East Lansing, MI. Available on www at: http://msue.anr.msu.edu/news/what_is_evapotranspiration_and_why_it_matters.

Andresen, J.A., C.N. Layman, J.E. Doll, and M. Baranski, 2012. Climate and Climate Change Basics. Climate Change and Agriculture Fact Sheet Series—MSU Extension Bulletin E3151. Michigan State University Extension, East Lansing, MI.

Andresen, J., L. Olsen, B. Bishop, T. Aichele, S. Marquie, J. Brown, S. Miller, A. Pollyea, and J. Landis, 2012. Enviro-Weather: A Weather-based Information System for Pest, Natural Resource, and Agricultural Production Management in Michigan. The Climate Observer July 3, 2012, Midwestern Regional Climate Center, Champaign, IL. Available on www at: http://mrcc.isws.illinois.edu/cliwatch/eNews/observer_201206_full.html?utm_source=eNews+2012-0703&utm_medium=email&utm_campaign=eNews.

Longstroth, M. and **J. Andresen**, 2012. With a backwards spring, Mother Nature pitches a change-up after a fastball. *Extension News for Agriculture*, Michigan State University Extension, East Lansing, MI. Available on www at: http://msue.anr.msu.edu/news/with_a_backwards_spring_mother_nature_pitches_a_change-up_after_a_fastball/.

Nagelkirk, M., **J. Andresen**, and A. Pollyea, 2012. Recent Freeze Threatens Wheat Crop. *Extension News for Agriculture*, Michigan State University Extension, East Lansing, MI. Available on www at: http://msue.anr.msu.edu/news/recent_freeze_threatens_wheat_crop/

Andresen, J.A., 2011. 2011 Growing Season Weather Summary, in 2011 Michigan Corn Hybrids Compared, Extension Bulletin E-431, K. Thelen, W.D. Widdicombe, and L. Williams, eds. Michigan State University Extension, East Lansing, MI, December 2011.

Thelen, M. and **J. Andresen**, 2011. Will Your Corn Reach Maturity? Michigan State University Extension *News for Agriculture*, Michigan State University Extension, East Lansing, MI. Available on www at:
http://news.msue.msu.edu/news/article/will_your_corn_reach_maturity.

Andresen, J.A., 2011. Heat Wave Conditions Persist in the Great Lakes Region. Michigan State University Extension *News for Agriculture*, Michigan State University Extension, East Lansing, MI. Available on www at: http://news.msue.msu.edu/news/article/the_heat_is_on.

Andresen, J.A., 2010. 2010 Growing Season Weather Summary, in 2010 Michigan Corn Hybrids Compared, Extension Bulletin E-431, K. Thelen, W.D. Widdicombe, and L. Williams, eds. Michigan State University Extension, East Lansing, MI, December 2010

Andresen, J.A., 2010. Icelandic volcanoes and Michigan weather. *Field Crop Advisory Team Alert* 25(3): 6-7. Michigan State University Extension, East Lansing, MI. Available on www at: <http://ipmnews.msu.edu/fieldcrop/LinkClick.aspx?fileticket=NSYetxnln5k%3d&tabid=56>.

Andresen, J.A., 2009. Some Reflections on the Cool 2009 Growing Season. *Michigan Soybean News* 3: 4-5.

Andresen, J.A., 2009. Monitoring for the risk of frost and freezing temperatures. *Fruit Crop Advisory Team Alert* 24(4): 6-8. Michigan State University Extension, East Lansing, MI. Available on www at: www.ipm.msu.edu/cat09fruit/F05-05-09sm.pdf.

Andresen, J.A., 2009. 2009 Growing Season Weather Summary, in 2009 Michigan Corn Hybrids Compared, Extension Bulletin E-431, K. Thelen, K. Dysinger, and L. Williams, eds. Michigan State University Extension, East Lansing, MI, December 2009.

Thornton, P., P. Jones, A. Farrow, G. Alagarswamy, and **J. Andresen**, 2008. Crop Yield Response to Climate Change in East Africa: Comparing Highlands and Lowlands. *International Human Dimensions Programme Update* 2: 23-27.

Andresen, J.A., 2008. Climate Change in Michigan and the Great Lakes Region: Historical and Projected Future Trends. *Great Lakes Christmas Tree Journal* 3(1): 4-12.

Andresen, J. and A. Pollyea, 2008. Widespread frost/freeze event across Michigan on May 28. *Vegetable Crop Advisory Team Alert* 23(7): 3-4. Michigan State University Extension, East Lansing, MI. Available on www at: <http://www.ipm.msu.edu/cat08veg/pdf/V06-04-08.pdf>.

Andresen, J.A., 2007. Climate Change – Is Climate becoming more variable? Proc. Manitoba Agronomists Annual Conference. University of Manitoba, Winnipeg, MB, 11-12 December, 2006, (Invited paper).

Andresen, J.A., 2007. Irrigation of Fresh Market Tomatoes. Proc. 2007 Great Lakes Expo, Michigan Horticultural Society, Grand Rapids, MI, 3-6 December 2007. (invited paper)

Andresen, J., 2007. Development of drought conditions in Michigan. *Field Crop Advisory Team Alert* 22(15). Michigan State University Extension, East Lansing, MI. Available on www at: www.ipm.msu.edu/cat07field/fc08-09-07.htm#7.

Nugent, J., **J. Andresen**, J. Bisanz, J.R Black, N. Rothwell, J.A.Winkler, and C. Zavalloni, 2007: Impacts of climate change on tart cherry production in the Great Lakes region. *Good Fruit Grower Magazine*, 58(6) (March 15 issue).

Andresen, J.A. 2006. Shortcomings and Limitations in Analytical Tools and Methods of Provision of Operational Agrometeorological Services. Proc. from WMO Inter-Regional Workshop on Strengthening Operational Agrometeorological Services at the National Level, 22 – 26 March

2004 , Manila, Philippines (invited). WMO Technical Bulletin Series No. 1277. World Meteorological Organization, Geneva, Switzerland

Black, J.R., J. Yan, X. Cao, and **J.A. Andresen**. 2006. Procedures to calibrate future climate scenario tart cherry yield probability distributions based upon matching historical periods. Michigan Agricultural Experiment Station Research Report Series.

Andresen, J.A. and A.M. Pollyea, 2006. The heat wave of 2006: An epilogue. *Field Crop Advisory Team Alert* 21(15). Michigan State University Extension, East Lansing, MI. Available on www at: <http://www.ipm.msu.edu/cat06field/fc08-10-06.htm#5>.

N.W. Siegert, D.G. McCullough, and **J.A. Andresen**, 2005. Degree day accumulation maps for improved timing of insect pest management. Published online by MSU Integrated Pest Management Program at: <http://ipm.msu.edu/landscapeipm/gddarticle.htm>.

R. Leep, **J. Andresen**, D. Min, and A. Pollyea, 2004. Late Summer and Fall Cutting Management of Alfalfa. *Michigan Dairy Review* Vol 9, No. 4: 10-12. (also available via www at: <http://www.agweather.geo.msu.edu/agwx/articles/article-09.html>)

Schilder, A.M.C., R. Isaacs, **J.A. Andresen**, P.S. McManus, and N. Mallampalli, 2002. Managing the community of pests and beneficials: Environmental effect on insects and diseases. Chapter 2 in: *Fruit Ecology and Management*, J.N. Landis, J.E. Sanchez, G.W. Bird, C.E. Edson, R.H. Lehnert, A.M.C. Schilder, and S.M. Swinton, eds. MSU Extension Bulletin E-2759, East Lansing, MI, Michigan State University.

Andresen, J.A., T. Moen, J.T. Ritchie, R. van Til, 2000. Estimated Water Use for Agricultural Irrigation in Michigan: 1997-1999. Michigan Dept. of Environmental Quality Research Report, Surface Water Quality Division, Lansing, MI.

Andresen, J.A. and C.E. Edson, 2000. Spatial Variability of Leaf Wetness. Research Progress Report, In: *Southwest Michigan Research and Extension Center 2000 Annual Report*, Michigan State University Extension/Michigan Agricultural Experiment Station, East Lansing, MI, pp 168-170.

Baker, K.M., Kirk, W.W., **Andresen, J.A.**, and J.M. Stein. 2000. In-canopy weather monitoring network for late blight risk management. *MSU Vegetable Advisory Team Alert* 15(3).

Andresen, J.A., 1999. Basic Concepts of Weather Forecasting and Sources of Weather Information for Farm Marketers and Fruit Growers. 1999 Annual Report Michigan State Horticultural Society: 37-41. Michigan State Horticultural Society, Morrice, MI.

Allen, M., R.H. Leep, and **J.A. Andresen**, 1998. Timing Spring Alfalfa harvest: The Final Word? *Michigan Dairy Review* 25:2 pp34-37.

Taylor, E.L. and **J.A. Andresen**, 1997. Climatic Change: Impacts on Grain Yields, Price Variability, and Risk Management. Module 2 of *Managing Risks and Profits Workshop Series*, S.G. Wisner and D.E. Baldwin, eds. Series available on the internet at www-agecon.ag.ohio-state.edu/mrp or via satellite from Data Transmission Network Inc., Omaha, NE.

Zabadal, T.J. and **J.A. Andresen**, 1997. Vineyard Establishment I: Site Selection, Vineyard Design, Obtaining Grapevines, and Site Preparation. Michigan State University Extension Bulletin Series E-2644.

Andresen, J.A. Hesterman, O.B., D. D. Harpstead, F.V. Nurnberger, and M.L. Nagelkirk, 1994. Using Climatological Information for Corn Hybrid Selection in Michigan. Michigan Cooperative Extension Service Bulletin E-2471.

Andresen, J.A. and B.R. Krieger, 1994. Weather and Integrated Pest Management. *IPM Report* 3:2. Michigan State University Pesticide Research Center, East Lansing, MI.

Instruction and Teaching

Courses Taught:

Introduction to Meteorology (GEO 203)

- 3 semester credits
- taught F01(new prep), F03, F05, F07

Physical Geography (GEO 206)

- 3 semester credits
- taught S97 (new prep), F99, F08

Agricultural Climatology (GEO 402)

- 3 semester credits
- taught F98 (new prep), F00, F02, F04, F06, F08, F10, F12, F14, F16, F18, F20

Climates of the World (taught initially as GEO 492)

- 3 semester credits
- taught F08, F09, S10, F12, F17, F19, F21

Seminar in Physical Geography (GEO 871)

- 3 semester credits
- taught (as team) F04

Graduate Student Advisees and Committees:

<u>Advisees</u>	<u>Degree</u>	<u>Year Completed</u>	<u>Department</u>
Steve Aichele	Ph.D.	2009	Geography
Kathleen Baker	Ph.D.	2002	Geography
William (BJ) Baule	Ph.D.	2022	Geography
Saul Daniel Ddumba	Ph.D.	2018	Geography
Colleen Garrity	M.A.	1999	Geography
Colin Nugent	M.A.	2004	Geography
Aaron Pollyea	M.S.	2012	Geography
Ishara Rijal	Ph.D.	2017	Geography
Lydia Rill	M.S.	2016	Geography
Karsten Shein	Ph.D.	2005	Geography
Diane Wang	M.S.	2021	Geography
David Young	M.S.	inactive	Geography
<u>Committee Member</u>	<u>Degree</u>	<u>Year</u>	<u>Department</u>
Abhijeet Abhishek	M.S.	2018	Env. Engineering
Susana Albarenque	Ph.D.	current	Plant, Soil, and Microbial Sciences
Matt Anderson	M.S.	2005	Crop and Soil Sciences

Bruno Basso	Ph.D.	2000	Crop and Soil Sciences
Devan Berry	M.S.	2009	Plant Pathology
Greg Bierly	Ph.D.	1996	Geography
Adam Cinderic	M.S.	2012	Geography
Eric Cronk	M.S.	2012	Horticulture
Zach Curtis	Ph.D.	2018	Env. Engineering
Olivia Davidson	M.S.	2021	Geology
Maddy Dubelko	M.S.	2021	Horticulture
Phil Dwyer	Ph.D.	2004	Plant Pathology
Albert Fulton	M.S., Ph.D.	2019	Geography
Leslie Fusina	M.A.	2008	Geography
Galia Gaidarova-Guentchev	Ph.D.	2007	Geography
Jianjun Ge	Ph.D.	2007	Geography
Kristin Getter	M.S., Ph.D.	2006,2009	Horticulture
Gabe Henderson	Ph.D.	2014	History
Sarah Hession	Ph.D.	2011	Geography
Jeremiah Johnson	M.S.	inactive	Horticulture
Anthony Kendall	Ph.D.	2009	Geology
Jennifer Kettle	M.S.	2015	Geography
McKenzie Kulseth	M.S.	2019	Geography
Bin Liu	Ph.D.	2000	Horticulture
Lin Liu	Ph.D.	2020	Geology
Xing Liu	M.S.	2013	Agronomy (Purdue Univ.)
Amy Lobben	Ph.D.	1999	Geography
Roberto Lopez	M.S., Ph.D.	2004,2007	Horticulture
Tom Moen	Ph.D.	1999	Resource Development
Perdinan	Ph.D.	2012	Geography
Nick Pershey	M.S.	2011	Horticulture
Jamie Picardy	M.S.	2001	Geography
Scott Piggott	M.S.	2009	Biosystems Engineering
Allyson Rumler	M.S.	2021	Plant, Soil, and Microbial Sci.
Crosby Savage	M.A.	2008	Geography
Nathan Siegert	Ph.D.	2004	Entomology
Ryan Shadbolt	M.A., Ph.D.	2003,2009	Geography
Guanyuan Shuai	Ph.D.	current	Geology
Julie Stachecky	M.S.	1999	Crop and Soil Sciences
Yahn-Jauh Su	Ph.D.	2017	Geography

Somyra Surapur	M.S.	2014	Crop and Soil Sciences
Ben Tirrell	M.S.	current	Plant, Soil, and Microbial Sciences
Claudia Walters	Ph.D.	1997	Geography
Scott Warner	Ph.D.	2021	Plant Biology
Aaron Warsaw	M.S.	2009	Horticulture
Leigh Whittinghill	Ph.D.	2012	Horticulture
Dwight Wilhelm	Ph.D.	inactive	Geography
Nick van Woert	M.S.	2004	Horticulture
Marta Vinocur	M.S.	1997	Crop and Soil Sciences
Jenni van Ravensway	M.A.	2008	Geography
Jie Yan	M.S.	2006	Agricultural Economics
Cha-Yii Yu	Ph.D.	2002	Biosystems Engineering

Theses Under Direction:

Diane Wang, M.S. "The Climatology of Springtime Freeze Events in the Central and Eastern USA", completed May 2021.

Daniel Ddumba, Ph.D. "Impacts of Climate Change on Sweet Potato Production in Eastern Africa", completed March 2019.

Ishara Rijal, Ph.D. "Use of Water Misting to Reduce Frost Risk for Tree Fruit", completed May 2017.

Lydia Rill, M.S. "Climatology of Springtime Freeze Events in the Great Lakes Region and Their Impact on Sour Cherry Yields in Historical and Projected Future Time Frames" Completed August 2016.

Aaron Pollyea, M.S.. "Spatial and temporal trends of soil moisture in the Great Lakes region of the USA, 1900-2008." Completed May 2013.

Steve Aichele, Ph.D. "The Effects of Suburban Land-Use Change and Climate on Watershed Hydrology in Oakland County, Michigan, 1975-2005" Completed August, 2009.

Karsten Shein, Ph.D. "On the Use of a Regional-Scale Numerical Model in Wind Energy Applications". Completed July 2005.

Colin Nugent, M.S. "Estimating Seasonal Agricultural Irrigation Water Use in Michigan: Field-Level Evaluation of the Michigan Water Use Reporter." Completed July 2004.

Kathleen M. Baker, Ph.D. "Spatial and Temporal Modeling for Risk Assessment and Management of Potato Late Blight (*Phytophthora infestans*) in Michigan." Completed March, 2002.

Colleen M. Garrity, M.S. "Climatological Constraints of a Double-Cropping System in the Upper Great Lakes Region: An Assessment of Risks and Potential." Completed July, 1999.

Outreach and Service Activities

Outreach Summary:

As director of the MSU Agricultural Weather Office and by virtue of my appointment with MSU Extension, I am responsible for providing weather-related information and professional expertise to the university and to the general public. This outreach activity takes a wide variety of forms including dissemination of weather data and information through print and Internet media, public speaking engagements, professional consultation, continuing education activities, and interviews with the news media. These activities serve as a means of identifying new research questions and topics which are considered to be a priority by the community the university serves.

Outreach Activities

Administrative:

Director, Enviro-weather Project/System, 2016-present

Co-Director, Enviro-weather Project/System, 2006-2016

State Coordinator (for MI), Community Collaborative Rain, Snow, and Hail Network (CoCoRaHS), 2008-present

Member, Michigan Climate Action Council (Governor-appointed), December 2007-2009

Director, MSU Agricultural Weather Office, 1991-present

Director, Michigan Automated Weather Network, 1997-2007

Program Leader (Agricultural Weather), MSU Center for Integrated Plant Systems, 1997-2002

Sectoral Co-Chair (Agriculture), U.S. Global Change Research Program, Upper Great Lakes Region, 1998-2000

Administrator, MSU Agricultural Weather Web Home Page (<http://agweather.geo.msu.edu>), 1996-present

Administrator, Agricultural Weather Menu on MSU Extension CEENET (Cooperative Extension Network), 1991- 1997

Regularly Published Columns:

"Weather News", featured daily in MSU Extension Crop Advisory Team Alerts for Fruit, Vegetable, Field Crop, and Turf/Landscape editions, 1991-present.

"Michigan Weather", featured bi-monthly in Michigan Farm Bureau News, 1991-present.

"Michigan Weather News", featured monthly in Michigan Farm and Country Journal, 1997-present.

"Michigan Weather", featured monthly in Michigan Farmer, 1992-1997.

"Michigan Weather News", featured weekly in MSU College of Ag. and Natural Resources Rapid Information Delivery Team bulletin, 1995-1997.

General:

Featured speaker or lecturer at more than 100 events across the state of Michigan, 1996-present.

Regular contributor, Michigan Agricultural Statistics Service Crop-Weather weekly, 1995-present.

Advisor/instructor for Michigan Dept. Of Agriculture Gypsy Moth Suppression Program, 1994-2005.

Review panel member, Review of SE Regional Climate Consortium University of Florida USDA/RMA Partnership, 'Risk Reduction for Specialty Crops in the Southeastern U.S.A.', January, 2009.

Program Chair, MSU International Agriculture Program, Tibetan delegation for Weather Modification and Operational Meteorology in the U.S. training session, 10-25 September, 2001.

Instructor, Science Olympiad Program (grades 7-10), Earth and Atmospheric Sciences Division, 1998-present.

Co-Chair, Agriculture Sector, Upper Midwest Regional Assessment on the Potential Consequences of Climate Variability and Change for the United States. U.S. Global Change Research Program, 1998-present.

Invited participant, Expert Panel on Agricultural Implications of Climate Change. U.S. Dept. of Energy/National Institute for Global Environmental Change, Chicago, IL, 26-27 January, 2000.

Invited participant, 'Use of Automated Weather Stations for Agricultural Applications: Past Trends and Future Needs'. World Meteorological Organization Expert Meeting on Requirements and Representation of Data from Automatic Weather Stations (, De Bilt, Netherlands, 19-23 April, 1999.

Invited participant, Expert Panel on Agricultural Implications of Climate Change. U.S. Dept. of Energy/National Institute for Global Environmental Change, Chicago, IL, 12-14 December, 1996.

Developer, specific minimum temperature forecast (for ag. sites within Michigan) for National Weather Service Forecast Office, White Lake, MI, 1994-1995.

Invited participant, United Nations Food and Agricultural Organization Expert Consultation on the Coordination and Harmonization of Databases and Software for Agroclimatic Applications, Rome, Italy, December, 1993.

Committee Memberships**Department/School:**

- MSU Dept. of Geography Technology Committee, 2001-2004
- MSU Dept. of Geography Advisory Committee, 2000-2002.
- MSU Dept. of Geography Graduate Awards Committee, 2000.
- MSU Dept. of Geography Outreach Committee, 1994-2000

- MSU Dept. of Geography Undergraduate Curriculum Committee, 1997-2000.
- MSU Dept. Of Geography Computer Committee, 1994-1995.

College:

- College of Social Science Grievance Hearing Board, 2009-2010
- College of Social Science Faculty Teaching Nomination Committee, 2000.
- College of Social Science Hearing Board for undergraduate Student Grievances and Disciplinary Cases, 1997-1998.

University:

- Faculty Grievance Panel, 2012.
- MSU Ag. and Natural Resources Fruit Industry Committee, 1993-1995.
- MSU Extension Area of Expertise Team (Fruit Commodity Group), 1995-2002.

National/International:

- Appointed U.S. Representative from Region IV to World Meteorological Organization's Agrometeorological Services Implementation/Coordination Team under the CAgM Focus Area 3 on Natural Hazards and Climate Change/Variability in Agriculture, 2016-present.
- Appointed representative, Annex 9 Extended Subcommittee on Climate Change Impacts, U.S./Canada Great Lakes Water Quality Agreement, 2013-present.
- Appointed U.S. Representative from Region IV to World Meteorological Organization's Agrometeorological Services Implementation/Coordination Team under the Agrometeorological Services for Agricultural Production Open Program Area Group, 2004-2006.
- Participant, Inter-Regional Workshop on Strengthening Operational Agrometeorological Services at the National Level, sponsored by the World Meteorological Organization (WMO) in Manila, Philippines, 22-26 March 2004.
- World Meteorological Organization Team for Integrated Observing Systems (Expert Team on Requirements of Data From Automated Weather Stations), representing the Commission for Agricultural Meteorology, 2001-2003.
- American Meteorological Society's Committee on Agricultural and Forest Meteorology, 1993-1997.
- NC-94/NC-1179 USDA/CSRS regional research committee, 'Weather and Climate Research for Agricultural Decision Making in the North Central United States', 2001-present.
- Michigan Department of Environmental Quality Irrigation Water Usage Team, 1995-present.

Invited Book Reviews

Andresen, J.A. 2004. Book Review of Agrometeorology: Principles and Applications of Climate Studies in Agriculture, Hawthorne Press ISBN: 1-56022-972-1 In *Agricultural Systems* 84:359-363.

Book review of C.E. Rosenzweig and D.J. Hillel, 'Climate Change and the Global Harvest. Potential Impacts of the Greenhouse Effect on Agriculture' (1998), published in the Bulletin of the American Meteorological Society, Vol. 80 pp 703-704 (1999). American Meteorological Society, Boston, MA.

Ad Hoc Reviews

Journal Reviews:

Agricultural and Forest Meteorology
Agricultural Systems
Agronomy Journal
Annals, Assoc. American Geographers
Bulletin of the American Meteorological Soc.
Climate Research
Geophysical Research Letters
Journal of Agricultural Science
Journal of Applied Meteorology
Journal of Geophysical Research
Journal of Production Agriculture

Grant Reviews:

USDA Small Business Research Initiation Program
National Aeronautics and Space Administration
National Science Foundation
National Science Foundation, South Dakota EPSCor Program
National Weather Service High Plains Climate Center Competitive Grant Program
Michigan State University All-University Research Initiation Grant Program