# Justin L. Huntington, PhD

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## **INTERESTS**

Quality research and applications that incorporate the use of remote sensing, land surface energy and water balance modeling, and geospatial data analysis for improved environmental and hydrologic process understanding, monitoring, and prediction.

## PROFESSIONAL PREPERATION

University of Nevada, Reno	Hydrology	Ph.D., 2011
University of Nevada, Reno	Hydrology	M.S., 2003
University of Nevada, Reno	Environmental Science	B.S., 2000

Ph.D. dissertation: "Evapotranspiration from Irrigated Agriculture and Phreatophyte Shrubs in Nevada, and the Role of Surface and Groundwater Interactions on Projected Baseflows in Snow Dominated Regions"

M.S. thesis: "A Water Resource Investigation using GIS and Remote Sensing Methods, Washoe Valley, Washoe County, Nevada"

#### PROFESSIONAL EXPERIENCE

2015 - pres.	Principle, Huntington Hydrologic, Carson City, Nevada
2014 - pres.	Associate Research Professor, Hydrology, Desert Research Institute
	(DRI), Reno, Nevada; Adjunct, Natural Resources and Environmental
	Sciences, University of Nevada, Reno
2012 - 2014	Assistant Research Professor, Hydrology, DRI, Reno, Nevada
2010 - 2012	Assistant Research Hydrologist, DRI, Reno, Nevada
2006 - 2010	Hydrologist, Nevada Division of Water Resources, Carson City,
	Nevada
2004 - 2006	Research Assistant, DRI
2002 - 2004	Research Assistant, Geophysics Graduate Program, Boise State
	University, Boise, Idaho
2000 - 2002	Hydrologist, Boise National Forest, Boise, Idaho
1998 - 2002	Hydrology Intern, Washoe County Department of Water Resources,
	Reno, Nevada

- 29. McGwire, K., Weltz, M., Snyder, K., **Huntington**, J., Morton, C., and D. McEvoy. (2017). Satellite Assessment of Early Season Forecasts for Vegetation Conditions of Grazing Allotments in Nevada, U.S.A. *Rangeland Ecology and Management, in press*.
- 28. **Huntington**, J., Hegewisch, K., Daudert, B., Morton, C., Abatzoglou, J., McEvoy, D., and T., Erickson. (2017). Climate Engine: Cloud Computing of Climate and Remote Sensing Data for Advanced Natural Resource Monitoring and Process Understanding. *Bulletin of the American Meteorological Society, in press*
- 27. Carroll, R., **Huntington**, J., Snyder, K., Niswonger, R., Morton, C., and T. Stringham, (2017). Evaluating Mountain Meadow Groundwater Response to Pinyon-Juniper and Temperature in a Great Basin Watershed. Ecohydrology, 10:e1792. doi:10.1002/eco.1792
- 26. **Huntington**, J., McGwire, K., Morton, C., Snyder, K., Peterson, S., Erickson, T., Niswonger, R., Carroll, R., \*Smith, G., and R. Allen. (2016). Assessing the Role of Climate and Resource Management on Groundwater Dependent Ecosystem Changes in Arid Environments with the Landsat Archive. *Remote Sensing of Environment*.
- 25. Snyder, K., Wehan, B., Filippa, G., **Huntington**, J., Stringham, T., and D. Snyder. (2016). Extracting Plant Phenology Metrics in a Great Basin Watershed: Methods and Considerations for Quantifying Phenophases in a Cold Desert. *Sensors*, 16(11), 1948
- 24. Crago, R., Szilagyi, J., Qualls, R., and J. **Huntington**. (2016). A Rescaling of the Complementary Relationship for Land Surface Evaporation. *Water Resources Research*,52(11), 8461-8471.
- 23. Hobbins, M., Wood, A., \*McEvoy, D., **Huntington**, J., and C.G. Morton. (2016). Evaporative Demand Drought Index: Part I Theory and Formulation. *Journal of Hydrometeorology*.
- 22. \*McEvoy, D., **Huntington**, J., Hobbins, M., Wood, A., and C.G. Morton. (2016). Evaporative Demand Drought Index: Part II Application and Assessment. *Journal of Hydrometeorology*.
- 21. Hobbins, M.T. and J.L. **Huntington.** (2016). *Evapotranspiration and Evaporative Demand*, Chapter 44, Handbook of Applied Hydrology, edited by V. P. Singh, McGraw-Hill Education, New York.
- 20. \*McEvoy, D.J., **Huntington**, J.L., Mejia, J.F., and M.T. Hobbins. (2015). Improved Seasonal Drought Forecasts using Reference Evapotranspiration Anomalies. *Geophysical Research Letters*, 377–385, doi:10.1002/2015GL067009.
- 19. \*Liebert, R., **Huntington**, J.L., Morton, C., Sueki, S., and K. Acharya. (2015). Estimating Water Salvage from Leaf Beetle Induced Tamarisk Defoliation in the Lower Virgin River Using Satellite Based Energy Balance. *Journal of Ecohydrology, doi: 10.1002/eco.1623*
- 18. \*Suiki, S., Acharya, K., **Huntington**, J.L., \*Liebert, R., Healey, J., Jasoni, R., and M. Young. (2015). Defoliation Effect of Tamarisk Biocontrol agent, *Diorhabda carinulata*, on Evapotranspiration and Groundwater Levels. *Journal of Ecohydrology*, *doi:* 10.1002/eco.1604.
- 17. Carroll, R., Pohll, G., Morton, C., and J.L., **Huntington**. (2015). Calibrating Basin-Scale Groundwater Models to Remotely Sensed Estimates of Groundwater Evapotranspiration. *Journal of the American Water Resources Association, doi: 10.1111/jawr.12285*
- 16. \*McEvoy, D.J., Mejia, J.F., and J.L. **Huntington**. (2014). Use of an Observation Network in the Great Basin to Evaluate Gridded Climate Data. *Journal of Hydrometeorology*.

- 15. Roy, D. P., Wulder, M. A., Loveland, T. R., Woodcock, C. E., Allen, R. G., Anderson, M. C., Helder, D., Irons, J. R., Johnson, D. M., Kennedy, R., Scambos, T., Schaaf, C. B., Schott, J. R., Sheng, Y., Vermote, E. F., Belward, A. S., Bindschadler, R., Cohen, W. B., Gao, F., Hipple, J. D., Hostert, P., Huntington, J., Justice, C. O., Kilic, A. Kovalskyy V., Lee Z. P., Lymburner L., J. Masek, J. McCorkel, Shuai Y., Trezza R., Vogelmann J., Wynne R.H., and Zhu Z. (2014). Landsat-8: Science and product vision for terrestrial global change research. *Remote Sensing of Environment, 145: 154-172*.
- 14. \*Beamer, J., **Huntington**, J.L., \*Morton, C., and G. Pohll. (2013). Estimation of annual Groundwater Evapotranspiration from Phreatophyte Vegetation in the Great Basin using Remotely Sensed Vegetation Indices and Ground Based Flux Tower measurements. *Journal of the American Water Resources Association*, 49(3): 518-533. doi: 10.1111/jawr.12058.
- 13. \*Morton, C., **Huntington**, J.L., Pohll, G., Allen, R., McGwire, K., and S. Bassett. (2013). Assessing Calibration Uncertainty and Automation for Estimating Evapotranspiration from Agricultural Areas Using METRIC. *Journal of the American Water Resources Association*, 49(3): 549-562. doi: 10.1111/jawr.12054.
- 12. \*Jaksa, W., Shridhar, V., and J.L. **Huntington**. (2013). Evaluation of the Complementary Relationship using Noah Land Surface Model and North American Regional Reanalysis (NARR) Data to Estimate Evapotranspiration in Semiarid Ecosystems. *Journal of Hydrometeorolog. doi:* 10.1175/JHM-D-11-067.1.
- 11. Sridhar, V., \*Jaksa, W., and J.L. **Huntington**. (2013). *Spatial Mapping of Evapotranspiration Using the Complementary Relationship*. Natural Ecosystems. ed. Nova Science Publishers, pp. 187-204, ISBN: 978-1-62417-138-3.
- 10. Allen, R.G., Burnett, B., Kramber, W., **Huntington**, J.L., Kjaersgaard, J., Irmak, A., Kelly, C., and R. Trezza. (2013). Automated Calibration of the METRIC-Landsat Evapotranspiration Process. *Journal of the American Water Resources Association*, 49(3): 563-576. doi: 10.1111/jawr.12056.
- 9. **Huntington**, J.L. and R.G. Niswonger. (2012). Role of surface-water and groundwater interactions on projected summertime streamflow in snow dominated regions: An integrated modeling approach, *Water Resources Research*, 48, W11524, doi:10.1029/2012WR012319.
- 8. \*McEvoy, D.J., **Huntington**, J.L., Abatzoglou, J., and L. Edwards. (2012). An Evaluation of Multi-scalar Drought Indices in Nevada and Eastern California. *Earth Interactions*.
- 7. Mejia, J., **Huntington**, J.L., \*Hatchett, B., D. Koracin, and R.G. Niswonger. (2012). Linking Global Climate Models to an Integrated Hydrologic Model Using an Individual Station Downscaling Approach. *Journal of Contemporary Water Research and Education*. 147:1, 17-27.
- 6. Irmak, A., Allen, R., Kjaersgaard, J.L., **Huntington**, J., Kamble, B., Trezza, R., and I. Ratcliffe. (2012). *Operational Remote sensing of ET and Challenges*. Remote Sensing and Modeling. ed. InTech. ISBN:978-953-307-808-3
- 5. \*Huntington, J.L., J. Szilagyi, S. Tyler, and G. Pohll. (2011). Evaluating the Complementary Relationship for Estimating Evapotranspiration from Arid Shrublands. *Water Resources Research*. 47, W05533, doi:10.1029/2010WR009874.
- 4. Groeneveld, D.P., J.L. \*Huntington, and D.D. Barz. (2010). Floating Brine Crusts, Reduction of Evaporation, and Possible Replacement of Fresh Water to Control Dust from Owens Lakebed, California. *Journal of Hydrology.* 392:211-218.

- 3. \*Epstein, B.J., G.M., Pohll, J.L. \***Huntington**, and R.H. Carrol. (2010). Development and Uncertainty Analysis of an Empirical Recharge Prediction Model for Nevada's Desert Basins. *Journal of the Nevada Water Resources Association*. 5:1,1-22.
- 2. \*Stevick E., G. Pohll, and J.L. \***Huntington**. (2005). Locating new production wells using a probabilistic based groundwater model. *Journal of Hydrology*. 303(1-4), pp 231-246.
- 1. \*Morse, B. S., G. Pohll, J.L. \***Huntington**, and R. Rodriguez Castillo. (2003). Stochastic capture zone analysis of an arsenic-contaminated well using the generalized likelihood uncertainty estimator (GLUE) methodology. *Water Resources Research*, 39(6), 1151, doi:10.1029/2002WR001470.

# PROCEEDINGS PAPERS

- 5. Carroll, R., **Huntington**, J.L., Niswonger, R., Snyder, K., Morton C., and T. Stringham. (2015). Evaluating Mountain Meadow Groundwater Response to Climate and Vegetation using Integrated Modeling and Remote Sensing. *Proceedings Paper, MODFLOW and More, Golden, Colorado, May 31- June 3.*
- 4. Mejia, J.F., Niswonger, R.G., and J.L. **Huntington**. (2014). Uncertainty Transfer in Modeling Layers: From GCM to downscaling to hydrologic surface-groundwater modeling. Proceedings of the 7th International Congress on Environmental Modelling and Software, June 15-19, San Diego, California, USA. ISBN: 978-88-9035-744-2.
- 3. **Huntington**, J.L., Niswonger, R.G., Rajagopal, S. Zhang, Y., \*Gardner, M., Morton, C., Reeves, D.M., McGraw, D., and G.M. Pohll. (2013). Integrated Hydrologic Modeling of Lake Tahoe and Martis Valley Mountain Block and Alluvial Systems, Nevada and California. *Proceedings Paper, MODFLOW and More 2013, June 2-5, 2013, Golden, Colorado.*
- 2. Allen R.G., Hendrickx, J., Bastiaanssen, W., Kjaersgaard, J., Irmak, A., and J.L. \*Huntington. (2010). Status and Continuing Challenges in Operational Remote Sensing of Evapotranspiration. Proceedings Paper IRR10-9971, 5th National Decennial Irrigation Conference Sponsored jointly by ASABE and Irrigation Association, Phoenix, Arizona, December 5-8.
- 1. \*Huntington, J.L., and R. Allen. (2009). Evapotranspiration and Net Irrigation Water Requirements for Nevada. *Proceedings of the ASCE-EWRI World Environmental and Water Resources Congress, Kansas City, MO, May 17-21, doi:10.1061/41036(342)420.*

# PUBLICATIONS IN PEER REVIEW

- Friedrich, K., Grossman, R., **Huntington**, J., Blanken, P., Lenters, J., Holman, K., Gochis, D., Livneh, B., Prairie, J., Skeie, E., Healey, N., Dahm, K., Pearson, C., Finnessey, T., Hook, S., and T. Kowalski. (2017). Reservoir Evaporation in the Western United States: Current Science, Challenges, and Future Needs. Bulletin of the American Meteorological Society, in revision.
- Niswonger, R., Morway, Triana, E., and J. **Huntington**. (2017). Managed Aquifer Recharge through Dormant-Field Irrigation in Agricultural Regions. Water Resources Research, in revision.

- Pilliod, D., Rohde, A., Charnley, S., Davee, R., Dunham, J., Gosnell, H., Grant, G., Hausner, M., **Huntington**, J., and C. Nash. (2017). Beaver-related Restoration Practices in Rangeland Streams of the Western U.S.A. Restoration Ecology, in review.
- Hausner, M., **Huntington**, J., Nash, C., Morton, C., Hedgewisch, K., Daudert, B., McEvoy, D., Abatzoglou, J., and D., Polloid. (2017). Assessing the Success of Riparian Restoration Projects using Remote Sensing and Climate Data. Restoration Ecology, in review.
- Nadler, C., Allander, K., Pohll, G., Morway, E., Naranjo, R., and J. **Huntington**. (2017) Evaluation of Capture Bias Associated with Use of Nonlinear Groundwater Flow Models. Groundwater, in review.
- Shukla, S., McEvoy, D., Hobbins, M., Husak, G., **Huntington**, J., Funk, C., and J. Verdin. (2017). Examining the Value of Seasonal Reference Evapotranspiration Forecasts to Support FEWS NET's Food Insecurity Outlooks. Journal of Applied Meteorology and Climatology, in review.

## **PUBLICATIONS IN PROGRESS**

- Morton, C.G, **Huntington**, J.L., Allen, R.G., Kilic. A., and A. Joros. (drafted). More Landsat Satellites Equates to More Reliable Monitoring of Water Consumption. *Remote Sensing*.
- \*\*James, R., **Huntington**, J.L., Pearson, C., and B. Lyles. (drafted). Assessing Emissivity Effects on Estimated Evaporation using Aerodynamic-Bulk Mass Transfer Methods. *Sensors*.
- **Huntington**, J.L., Pearson, C., Morton, C., Lyles, B., Moreo, M., and R. Liebert. (drafted). Remote Sensing of Open Water Evaporation using Aerodynamic-Bulk Mass Transfer Methods. *Remote Sensing*.

# PEER REVIEWED REPORTS

- 13. **Huntington**, J., Morton, C., and M. Bromley. (2016). Remote Sensing of Groundwater Discharge from Chicago Valley, Shoshone Area, and Tecopa/California Valley Area, California. Report prepared for The Nature Conservancy, 28 p.
- 12. **Huntington**, J., Morton, C., and M. Bromley. (2016). Landsat Derived Phreatophyte Groundwater Evapotranspiration, Crescent Valley, Pine Valley, Carico Lake, and Grass Valley, Central Nevada. Report prepared for Barrick Gold, 28 p.
- 11. **Huntington**, J., Morton, C., McEvoy, D., Bromley, M., Hedgewisch, K., Allen R., and S. Gangopadhyay. (2016). Historical and Future Irrigation Water Requirements for Select Reclamation Project Areas, Western U.S., 97 p.
- 10. **Huntington**, J.L., Gangopadhyay, S., Spears, M., Allen, R. King, D., Morton, C., Harrison, A., \*McEvoy, D., and A. Joros. (2015). West-Wide Climate Risk Assessments: Irrigation Demand and Reservoir Evaporation Projections. *U.S. Bureau of Reclamation, Technical memorandum No.* 68-68210-2014-01, 196 p., 841 app., <a href="http://www.usbr.gov/WaterSMART/wcra/">http://www.usbr.gov/WaterSMART/wcra/</a>
- 9. **Huntington**, J.L., Morton, C.G., \*Bromley, M., \*Liebert, R., and K. Paudel. (2015). Landsat Evapotranspiration from Phreatophyte and Irrigated Areas, Boulder Flat, Humboldt River Basin, Nevada. *Desert Research Institute Publication, prepared for Barrick Gold Corporation*, 49 p.

- 8. Rajagopal, S., **Huntington**, J.L., Niswonger, R., Pohll, G., \*Gardner, M., Morton, C., Zhang, Y., and D.M., Reeves. (2015). Integrated Surface and Groundwater Modeling of Martis Valley, California, for Assessment of Potential Climate Change Impacts on Basin-Scale Water Resources. *Desert Research Institute Publication No. 41261*, prepared for U.S. Bureau of Reclamation, 54 p.
- 7. **Huntington**, J.L., \*Liebert, R., Morton, C.G., and \*M. Bromley. (2014). Landsat Evapotranspiration from Agricultural Lands of the Muddy River Area, Nevada, 2007-2012. *Desert Research Institute Publication, prepared for Southern Nevada Water Authority*, 38 p.
- 6. **Huntington**, J.L., Morton, C.G., \*Bromley, M, and R. \*Liebert. (2013). Analysis of Evapotranspiration for the Muddy River Springs Area. *Desert Research Institute Technical Memo*, prepared for Southern Nevada Water Authority, 51 p.
- 5. \*Huntington, J.L. and D. \*McEvoy. (2011). Climatological Estimates of Open Water Evaporation from Selected Truckee and Carson River Basin Water Bodies, California and Nevada. *Desert Research Institute Publication No. 41254*, prepared for the Truckee River Federal Water Master, 43 p.
- 4. \*Huntington, J.L. and R. Allen. (2010). Evapotranspiration and Net Irrigation Water Requirements for Nevada. *Nevada State Engineer's Office Publication*, 266 p.
- 3. Jeton, A.E., Watkins, S.A., Lopes, T.J., and J.L. \***Huntington**. (2006). Evaluation of Precipitation Estimates from PRISM for the 1961–90 and 1971–2000 Data Sets, Nevada. *Scientific Investigations Report 2005-5291. U.S. Geological Survey, Carson City, NV.*
- 2. Pohll, G., Bohm, B., \*Stevick, E., and J.L. \*Huntington. (2004). Evaluation of Groundwater Supplies in the Fernley Area, NV. *Desert Research Institute, Division of Hydrologic Sciences Report. No. 41201*.
- 1. \*Huntington, J.L. (2002). Equivalent Clear Cut Analysis using TauDEM, Shafer Butte Watershed, Idaho. *Boise National Forest Report*, 21 p.

## PROFESSIONAL CONSULTING REPORTS

- **Huntington**, J.L. (2015). Groundwater Recharge and Discharge Estimates using Remote Sensing and Empirical Recharge Models, Dixie Valley, Nevada. *Prepared for Churchill County*, *Nevada*, 60 p.
- **Huntington**, J.L. and S. Tyler. (2015). Comment on Possible Drivers of Measured Shallow Groundwater Level Changes in Playa Areas of Dixie Valley, Nevada. *Prepared for Churchill County, Nevada, 11 p.*
- **Huntington**, J.L. (2010). Review and Analysis of Recharge and Discharge Estimates for Dry Valley, Washoe County, Nevada. *Prepared for United Management Corporation*, 16p.
- **Huntington**, J.L. (2006). Water Resources Investigation, Lemon Valley, Nevada. *Prepared for Washoe County, Nevada, 26 p.*

- Drozdoff, L., Ensminger, J., Barbee, J., Boyle, D., Walker, M., **Huntington**, J., and C. Cage. (2015). *Nevada Drought Forum: Recommendations Report Presented to Governor Brian Sandoval*, 281 p.
- Allen, R., Anderson, M., Bolten, J., Cestti, R., Fisher, J., Hain, C., Harshadeep, N., **Huntington**, J., Hobbins, M., Hook, S., Johnson, L., Kilic, A., Kustas, W., Lee, C., Melton, F., Morse, T., Tracy, J., and J., Verdin. (2015). Evapotranspiration Mapping for Water Security: Recommendations and Requirements. *Recommendations of the Participants of the 2015 Workshop on Evapotranspiration Mapping for Water Security, Washington, D.C., September 15-17*, 2015, submitted to the National Academies of Science, Engineering, and Medicine's Earth Science and Application Decadal Survey, 12 p.
- **Huntington**, J.L. (2014). Water Transfers from Alfalfa to Cities. *Progressive Forage Magazine*, 15(6), 19.
- Caldwell, T., **Huntington**, J., Joros, A., Howard, T., and B. Scanlon. (2014). Improving Irrigation Water Use Estimates with Remote Sensing Technologies: An Initial Feasibility Study for Texas. *University of Texas, Bureau of Economic Geology Report prepared for Texas Water Development Board*, 67 p.

## **INVITED ORAL PRESENTATIONS**

- 27. **Huntington**, J.L., et al. (2017). Monitoring Drought and Groundwater Dependent Ecosystems in the Cloud. From Archives to Answers. Seminar Series, University of Texas, Austin, Jackson School of Geosciences, Austin, Texas, April 28.
- 27. **Huntington**, J.L., et al. (2017). Monitoring Drought and Groundwater Dependent Ecosystems in the Cloud. From Archives to Answers. Webinar for the Nevada Water Resources Association, Reno, March 28.
- 26. **Huntington**, J.L., et al. (2017). Monitoring Drought and Groundwater Dependent Ecosystems in the Cloud. From Archives to Answers. National webinar for The Nature Conservancy, Reno, January 18.
- 25. **Huntington**, J.L., et al. (2016). Monitoring Drought, Evaporative Demand, and Groundwater Dependent Ecosystems in the Cloud. From Archives to Answers. Presentation to the National Operations Center, Bureau of Land Management Assessment, Inventory, and Monitoring (AIM) Strategy team, Denver, Colorado, December 16.
- 24. **Huntington**, J.L, Daudert, B., Morton, C., McEvoy, D., Abatzoglou, J., Hegewisch, K., VanSant, D., Landsfeld, M., Husak, G., Verdin, and M., Friedrich, (2016). Monitoring Drought with Google Earth Engine: From Archives to Answers. Google Earth Engine User Summit, Mountain View, CA, June 14 16, Invited Plenary Speaker, https://goo.gl/8FOCMf
- 23. Carroll, R., **Huntington**, J.L., Lutz, A., Snyder, K., and R. Niswonger. (2015). Vegetation and Hydrologic Response to Climate in the Great Basin. *American Geophysical Union* 2015 Fall Conference, San Francisco, CA, December 14-18.
- 22. Snyder, K., Carroll, R., **Huntington**, J., and T. Stringham. (2015). Desatoya Mountains Project and the Porter Canyon Experimental Watershed. *Envirolssues Inc. Great Basin Landscape Conservation Cooperative Webinar Series, November 10.*

- 21. **Huntington**, J.L. et al. (2015). Drought Monitoring through Cloud Computing and Visualization of Remote Sensing and Meteorological Datasets. *Consortium of Universities for the Advancement of Hydrologic Science, Inc (CUASHI) Webinar Series on The Western US Drought on the Ground and from Space: Combining in situ and remotely sensed data to understand and mitigate drought, October 16.*
- 20. Morton, C.G. and J.L., **Huntington**. (2015). Cloud Computing of Remote Sensing and Climate Data. Remote Sensing Workshop, *Tahoe Science Conference September 21 23*, 2015.
- 19. **Huntington**, J.L. (2015). Drought Status and New Place Based Assessment Tools for Nevada. *Governor's Drought Summit, Carson City, NV, September 21-23*.
- 18. Drexler, J.Z., J.L., **Huntington**, R.G. Niswonger, and L. Flint. (2015). Montane Peatlands as Gauges for Drought and Climate Change in California. *Tahoe Science Conference*, *September 22*.
- 17. **Huntington**, J.L., Abatzoglou, J.T., Hegewisch, K.C., Daudert, B., Morton, C. \*VanSant, D. (2015). ClimateEngine.org: Cloud Computing and Visualization of Climate and Remote Sensing Data. *International Workshop on Evapotranspiration Mapping for Water Security, World Bank, Washington D.C., September 15-17.*
- 16. **Huntington**, J.L., Morton, C., McGwire, K, M., Bromley, Peterson, S., Carroll, R., Hegewisch, K., Daudert, B., McEvoy, D., Allen, R., Abatzoglou, J., Melton, F., VanSant, D., Niswonger, R., Erickson, T., and K., Snyder. (2015). Monitoring Perennial Yield, Groundwater Discharge, and ET from Irrigated Agriculture with the Landsat Archive. *International Workshop on Evapotranspiration Mapping for Water Security, World Bank, Washington D.C., September 15-17.*
- 15. **Huntington**, J.L., Daudert, B., Morton, C., McEvoy, D., Joros, A., Abatzoglou, J., Hegewisch, K., Peterson, A., VanSant, D., Allen, R., Kilic, A., Hobbins, M., and J. Verdin. (2015). Cloud Computing for Drought Monitoring with Google Earth Engine. *U.S. Drought Monitor Forum, Desert Research Institute, Reno, NV, April 14-16*.
- 14. **Huntington**, J.L., Morton, C., McGwire, K., McEvoy, D., Niswonger, R., and S. Peterson. (2015). Groundwater Appropriation, Groundwater Dependent Ecosystems, and 3M Plans in the Great Basin. *Great Basin Consortium, Boise, Idaho, February 17-19*.
- 13. Niswonger, R., **Huntington**, J., Carroll, R., Snyder, K., and T. Stringham, (2015). Modeling Surface Expressions of Groundwater in the Great Basin: Porter Canyon, Nevada. *Great Basin Consortium, Boise, ID, February 17-19*.
- 12. \*McEvoy, D. J., Hobbins, T., **Huntington**, J. L., Wood, A. (2014). Tracking Flash Drought with Land-Atmospheric Feedbacks. *American Meteorological Society Annual Meeting: Atlanta, GA, February 2-6.*
- 11. **Huntington**, J.L. (2014). Drought Evolution and Landsat Monitoring Tools. *Western Governors' Association Drought Forum, Las Vegas, NV, December 8-9.*
- 10.\*McEvoy, D., M. Hobbins, J.L., **Huntington**, J. Mejia, C. Hain, M. Anderson, and J. Verdin. (2014). Exploring the use of physically based evaporative demand anomalies to improve seasonal drought prediction. *American Geophysical Union 2014 Fall Conference, San Francisco, CA, December 15-19*.
- 9. Hegewisch. K, B. Daudert. A. \*Peterson, J. **Huntington**, J. Abatzoglou. (2014). Google Drought: Drought Monitoring Through Visualization of Remote Sensing and Observational Datasets. *Google Hyperwall Presentation. American Geophysical Union Fall Meeting, San Francisco, CA*.

- 8. **Huntington**, J.L. et al. (2014). Monitoring Groundwater Dependent Ecosystems and Agriculture in the Great Basin from Clouds and Space. *New Mexico Institute of Mining and Technology Hydrology Colloquia, March 31*.
- 7. **Huntington**, J.L, and R.G. Allen. (2013). Climate Change, Drought, and Potential Irrigation Challenges for Alfalfa. *Western Alfalfa and Forage Symposium, Reno, NV, Dec. 11-13*.
- 6. Niswonger, R.G., **Huntington**, J.L., Dettinger, M.D., Rajagopal, S., \*Gardner, M., Morton, C., Reeves, D., and G. Pohll, (2013). Multi-Scale Simulations of Past and Future Projections of Hydrology in Lake Tahoe Basin, California-Nevada. *American Geophysical Union, Fall Meeting, San Francisco, CA, December 9-13.*
- 5. **Huntington**, J.L., et al. (2012). Recent Applications for Estimating Crop Consumptive Use across the Western U.S. using Traditional and Remote Sensing Methods. *U.S. Society for Irrigation and Drainage Annual Conference, Reno, NV, November 13-16.*
- 4. **Huntington**, J.L., et al. (2012). Role of Surface and Groundwater Interactions on Streamflow and Evapotranspiration in the Great Basin. *Great Basin Climate Forum*, *Desert Research Institute*, *October 17*.
- 3. Niswonger, R. and J.L. **Huntington**. (2011). Effects of Climate-Induced Earlier Drainage on Watershed Fluxes in Snow Dominated Regions. *American Geophysical Union 2011 Fall Conference*. *American Geophysical Union*. San Francisco, CA.
- 2. \*Huntington, J.L., and R.G. Allen. (2011). Penman-Monteith Based ET Estimates for Irrigated Agriculture Historical and Future Periods. *Climate Change and Agriculture Conference. Soil and Water Conservation Society, Nevada and California Chapter. Reno, NV.*
- 1. \*Huntington, J.L., and R.G. Niswonger. (2010). Climate Change Impacts to Watershed Hydrology using an Integrated Hydrologic Model. *American Geophysical Union Fall Conference, American Geophysical Union. San Francisco, CA*.

#### ORAL PRESENTATION ABSTRACTS

- 57. Hobbins, M.T., McEvoy, D.J., **Huntington**, J.L, Ray, A. Yocum, H., Rangwala, I., Dewes, C., and Lukas, J. (2017). The Evaporative Demand Drought Index (EDDI): a new drought monitoring and early warning tool, American Meteorological Society Annual Meeting, Seattle, WA, 22-26 January.
- 56. Hobbins, M., Shukla, S., McNally, A., McEvoy, D., **Huntington**, J., Husak, F., Funk, C., Senay, G., Verdin, J., and T. Jansma. (2016). What role does evaporative demand play in driving drought in Africa? *American Geophysical Union Fall Meeting, San Francisco, CA, December 12-16, 2016.*
- 55. Shukla, S., Hobbins, M., McEvoy, D., Husak, G, Dewes, C., McNally, A., **Huntington**, J., Funk, C., and J. Verdin. (2016). Monitoring and Forecasting Reference Evapotranspiration for Food Security Assessments. *American Geophysical Union Fall Meeting, San Francisco, CA, December 12-16, 2016*.
- 54. Landsfeld, M., Hegewisch, K., Daudert, B., Morton, C., Husak, G., Friedrichs, M., Funk, C., **Huntington**, J., Abatzoglou, J., and J. Verdin. (2016). Generating Southern Africa Precipitation Forecast Using the FEWS Engine, a New Application for the Google Earth Engine. *American Geophysical Union Fall Meeting, San Francisco, CA, December 12-16, 2016.*

- 53. **Huntington**, J. L., McEvoy, D. J., McCurdy, G. D., Lyles, B. F. (2016). NICE Net and Reference Evapotranspiration in Nevada, Western States Water Council Irrigation Management Information Systems Workshop: San Diego, CA, August 25, 2016
- 52. **Huntington**, J , Morton, C., Melton, F., Guzman, A., and R., Allen, (2016). Towards Development of a Complete Landsat Evapotranspiration and Energy Balance Archive to Support Agricultural Consumptive Water Use Reporting and Prediction in the Central Valley, California. *Toward Sustainable Groundwater in Agriculture*, 2<sup>nd</sup> International Conference Linking Science and Policy, June 28-30, San Francisco, California.
- 51. Melton, F., Guzman, A., Johnson, L., Morton, C., and J. **Huntington**, (2016). Operational Mapping of Evapotranspiration over Agricultural Land in the California Central Valley. *Toward Sustainable Groundwater in Agriculture*, 2<sup>nd</sup> *International Conference Linking Science and Policy, June 28-30, San Francisco, California.*
- 50. Hobbins, M., McEvoy, D., **Huntington**, J., Wood, A., Morton, C., Verdin, J., and R., Andrea, (2016). The Evaporative Demand Drought Index: a new drought early warning and monitoring index for drought and wildfire prediction. *14<sup>th</sup> Annual Climate Prediction Applications Science Workshop, Burlington, Vermont.*
- 49. Hobbins, M., McEvoy, D., **Huntington**, J., Wood, A., Morton, C., and J. Verdin. (2016). EDDI examines the current California drought: early warning and monitoring of agricultural and hydrologic drought with the new Evaporative Demand Drought Index. *American Meteorological Society Annual Meeting, New Orleans, LA, January 10-14*.
- 48. Snyder, K., Carroll, R., **Huntington**, J., and T. Stringham. (2015). Desatoya Mountains Project and the Porter Canyon Experimental Watershed. *Envirolssues Inc. Great Basin Landscape Conservation Cooperative Webinar Series, November 10.*
- 47. Melton, F., **Huntington**, J., Guzman, A., Johnson, L., Morton, C., Nemani, R., Post, K., Rosevelt, C., Shupe, J., Spellenberg, R., and A., Vitale. (2015). Mapping Evapotranspiration over Agricultural Lands in the California Central Valley. *American Geophysical Union, Fall Meeting, San Francisco, CA, December 14-18*.
- 46. McEvoy, D. J., **Huntington**, J.L., and M. T. Hobbins. (2015). Optimization of evaporative demand models for seasonal drought forecasts. *American Geophysical Union 2015 Fall Conference, San Francisco, CA, December 14-18*.
- 45. Vitale, A., Morton, C., **Huntington**, J.L., Melton, F.S., Guzman, A., and D. J. McEvoy, (2015). Development of a complete Landsat evapotranspiration and energy balance archive to support agricultural consumptive water use reporting and prediction in the Central Valley, CA. *American Geophysical Union 2015 Fall Conference, San Francisco, CA*.
- 44. Hobbins, M. T., McEvoy, D.J., **Huntington**, J.L., Wood, A.W., Morton, C., and J. P. Verdin, 2015: The current California drought through EDDI's eyes: early warning and monitoring of agricultural and hydrologic drought with the new Evaporative Demand Drought Index. *American Geophysical Union 2015 Fall Conference, San Francisco, CA*.
- 43. Hegewisch, K.C., Daudert, B., Morton, C. \*VanSant, D. **Huntington**, J.L, Abatzoglou, J.T. (2015). Climate Engine: Cloud Computing and Visualization of Climate and Remote Sensing Datasets. *GIS Day, University of Idaho, Moscow, ID, November 18*.
- 42. \*VanSant, D., K.C. Hegewisch, J.T. Abatzoglou, J.L. **Huntington**, B. Daudert, C. Morton. (2015). Climate Engine: Cloud computing for visualization and analysis of climate and remote sensing. 6th Annual Northwest Climate Science Conference, Coeur d'Alene, ID, November 3-5.

- 41. **Huntington**, J.L., C. Morton, K. McGwire, K. Hegewisch, B. Daudert, J. Abatzoglou, D. \*McEvoy, D. \*VanSant, R. Niswonter, S. Peterson. (2015). Quantifying Groundwater Dependent Ecosystem Changes Associated with Water Availability and Management in Arid Environments using the Landsat Archive. *Landsat Science Team Meeting, Sioux Falls, South Dakota, July 7-9*.
- 40. Carroll, R., **Huntington**, J.L., Niswonger, R., Snyder, K., Morton C., and T. Stringham. (2015). Evaluating Mountain Meadow Groundwater Response to Climate and Vegetation using Integrated Modeling and Remote Sensing. *Proceedings Paper, MODFLOW and More, Golden, Colorado, May 31-June3*.
- 39. McEvoy, D., **Huntington**, J., and M. Hobbins. (2015). Analysis of the Relationship Between California Surface Water Deficits and the Evaporative Demand Drought Index. *American Geophysical Union, Chapman Conference, Irvine, California, April* 20-22.
- 38. Hobbins, M., McEvoy, D., **Huntington**, J., Wood, A., and J. Verdin. (2015). Monitoring the California Drought with a novel drought index: the Evaporative Demand Drought Index (EDDI). *American Geophysical Union, Chapman Conference, Irvine, California, April* 20-22.
- 37. Morton, C., **Huntington**, J., Melton, F., Guzman, A., and R. Allen. (2015). Implementation of Automated METRIC Algorithms on the NASA Earth Exchange for Rapid Consumptive Water Use and Drought Impact Mapping in California's Central Valley. *American Geophysical Union, Chapman Conference, Irvine, California, April 20-22*.
- 36. Hegewisch, K., Daudert, B., Morton, C., Peterson, A., Joros, A., McEvoy, D., Erickson, T., **Huntington**, J., and J. Abatzoglou. (2015). Google Drought Monitoring Through Cloud Computing and Visualization of Remote Sensing and Meteorological Datasets: Examples for California. *American Geophysical Union, Chapman Conference, Irvine, California, April* 20-22.
- 35. **Huntington**, J.L., C. Morton, K. McGwire, A. Joros, S. Peterson, N. Gorelick, D. Thau, and R. Allen. (2014). Cloud Computing of Landsat Imagery and Gridded Weather Data for Evaluating Groundwater Dependent Ecosystems in Nevada. *Nevada Water Resources Association Annual Conference, Las Vegas, NV, February 3-6*.
- 34. Hobbins, M., D. McEvoy, J.L., **Huntington**, A. Wood, J. Verdin. (2014). Evaporative Demand Drought Index: The Physical Basis. *American Geophysical Union 2014 Fall Conference, San Francisco, CA, December 15-19*.
- 33. Rajagopal, S., R. Niswonger, J.L., **Huntington**, M. Gardner, C.G. Morton, S. Maples, D. Reeves, and G. Pohll. (2014). High Resolution Integrated Hydrologic Modeling for Water Resource Management: Tahoe Basin Case Study. *American Geophysical Union 2014 Fall Conference, San Francisco, CA, December 15-19*.
- 32. **Huntington**, J.L., C., Morton, M., Bromley, R., Liebert, T., Minor, and R., Allen. (2014). Landsat Water Use Mapping of Crop and Phreatophyte Areas in Nevada. *Nevada Water Resources Association Fall Symposium, Reno, NV, October 15-16*.
- 31. Rajagopal, S., J.L., **Huntington**, D.M., Reeves, C.G., Morton, and G. Pohll. (2014). Development and Calibration of Basin-Scale Watershed Models of the Upper Truckee for Assessment of Climate Change Impacts on Water Resources. *Nevada Water Resources Association Fall Symposium, Reno, NV, October 15-16.*
- 30. **Huntington**, J.L., Morton, C., McGwire, K., Allen, R., Gorelick, N., Thau, D., and A. Joros. (2014). Monitoring Groundwater Dependent Ecosystems in the Great Basin from Space and Clouds. *AWRA Summer Specialty Conference, Reno, NV, June 30-July 2*,

- 29. Rajagopal, S., J.L., **Huntington**, R., Niswonger, D., Reeves, C., Morton, M., Gardner, and G., Pohll. (2014). The Value of Integrated Hydrologic Modeling for Water Resource Management: Tahoe Basin case study. *American Water Resources Association Summer Specialty Conference, Reno, NV, June 30-July 2*.
- 28. **Huntington**, J.L., C. Morton, K. McGwire, A. Joros, S. Peterson, N. Gorelick, D. Thau, and R. Allen. (2014). Cloud Computing of Landsat Imagery and Gridded Weather Data for Evaluating Groundwater Dependent Ecosystems in Nevada. *Nevada Water Resources Association Annual Conference, Las Vegas, NV, February 3-6.*
- 27. Allen, R., **Huntington**, J. L., Kilic, A., debruin, H., Joros, A. (2013). Conditioning of NLDAS, NARR and arid weather station data to improve their representation of well-watered (reference) environments associated with irrigated agriculture. *American Meteorological Society Annual Meeting, Austin, TX, January 5-10.*
- 26. **Huntington**, J.L., Mihvec, T., Allen, R., Spears, M., Rajagopal, S., Gangopadhyay, S., Eckhart, D. (2013). Development of a Reservoir Meteorological Network for Estimating Evaporation to Aid in Operations, Policies, and Procedures. *American Meteorological Society Annual Meeting, Austin, TX, January 5-10*.
- 25. Morton, C.M., **Huntington**, J.L., Minor, T., Allen, R., Melton, F. (2013). Towards Rapid and Accurate Remote Sensing of Evapotranspiration from Irrigated Lands with Landsat for Improved Hydrologic Modeling, Operations, and Procedures. *Nevada Water Resources Association Annual Conference, Reno, NV, January 28-31.*
- 24. Rajagopal, S., **Huntington**, J.L., Niswonger, R., Reeves, M., and Pohll, G. (2012). Quantifying Integrated Hydrologic Model Input and Parameter Uncertainty using Markov Chain Monte Carlo Simulations. *American Geophysical Union Fall Conference, San Francisco, CA*.
- 23. Carroll, R., Pohll, G., **Huntington**, J.L., and Morton, C. (2012). Calibrating Basin-Scale Groundwater Models to Remotely Sensed Estimates of Groundwater Evapotranspiration. *American Geophysical Union Fall Conference, San Francisco, CA*.
- 22. Morton, C., **Huntington**, J.L., Minor, T., Allen, R., and F. Melton. (2012). Improving the Efficiency of Operational ET Estimates using METRIC. *Western States Evapotranspiration Workshop, Boise, ID, October 24-26.*
- 21. **Huntington**, J.L., and \*D. McEvoy. (2012). Climatological Estimates of Open Water Evaporation from Selected Truckee & Carson River Basin Water Bodies, California & Nevada. *Nevada Water Resources Association Annual Conference, March 5-8, Las Vegas, NV*.
- 20. **Huntington**, J.L., Morton, C. \*Gilbertson, L., Minor, T., Pohll, G., and R. Allen. (2012). Recent Applications Mapping Consumptive Use via Remote Sensing in Nevada. *Nevada Water Resources Association Annual Conference, March 5-8, Las Vegas, NV*.
- 19. **Huntington**, J.L., \*Morton, C., \*Beamer, J., Sullivan, A., Lyles, B., Allen, R., and G. Pohll. (2011). Estimating Evapotranspiration from Irrigated Agriculture and Groundwater Discharge Areas in Nevada using Remote Sensing and Weather Station Data. *American Water Resources Association, Annual Water Resources Conference, Albuquerque, NM*.
- 18. Sullivan, A. and J.L., **Huntington**. (2011). Remote Sensing of Consumptive Use in the Walker River Basin, Nevada. *American Water Resources Association*, 2011 Annual Water Resources Conference, Albuquerque, NM.
- 17. Allen, R., Irmak, A., **Huntington**, J.L., Trezza, R., Kjaersgaard, J., Hendrickx, J. (2011). Coping with Misbehaving Land-use Types (mountains, trees, desert, playas, open water)

- with METRIC and other Satellite-based Energy Balance Models. *American Water Resources Association*, 2011 Annual Water Resources Conference, Albuquerque, NM.
- 16. **Huntington**, J.L., \*Morton, C., \*MacCabe, S., and T. Minor. (2011). Development of a Web Service for Hydrologic and Environmental Monitoring in the Truckee River Basin: A Portal for Historical Remote Sensing Products. *Nevada Water Resources Association Truckee River Symposium, Reno, Nevada, September 27-29.*
- 15. \*McEvoy D., Edwards L.M., and J.L., **Huntington**. (2011). Utility of precipitation indices as indicators of drought in Nevada. 19th Conference on Applied Climatology/36th Annual Meeting of the American Association of State Climatologists and Practical Solutions for a Warming World: AMS Conference on Climate Adaptation, July 17-21). 2<sup>nd</sup> Place Student Oral Presentation.
- 14. **Huntington**, J.L., Sullivan, A., Minor, T., Mihevc, T., Lyles, B., McCurdy, G., Allen, R.G., Pohll, G.M., and J., Thomas. (2011). Towards Updating & Enhancing Existing Agricultural Consumptive Use & Basin Water Budgets throughout the State of Nevada. *Nevada Water Resources Association Annual Conference, Nevada Water Resources Association. Reno, NV.*
- 13. \*Hatchett, B.J., Mejia, J.F., **Huntington**, J.L., Koracin, D., and R., Niswonger. (2011). Evaluation of three climate downscaling techniques in forcing a coupled hydrological model in a snow-dominated watershed in the Lake Tahoe basin. *91st American Meteorological Society Meeting, American Meteorological Society. Seattle, WA*.
- 12. \*Huntington, J.L., Allen, R.G., Kjaersgaard, J., and R., Trezza. (2010). Challenges in Creating Landsat resolution ET Information for All Land Uses in Desert and Agriculture Examples with METRIC. *The USBR-Alliance University Applied Remote Sensing of Evapotranspiration Conference, The USBR-Alliance University, Las Vegas, NV.*
- 11. Paul, R., and J.L., \*Huntington. (2010). Assessment of Remote Sensing Techniques for the Characterization of Lake and Reservoir Clarity. *Nevada Water Resources Association* 2010 Annual Conference, Nevada Water Resources Association. Las Vegas, NV.
- 10. \*Huntington, J.L., and R.G., Allen. (2010). Evapotranspiration and Net Irrigation Water Requirements for Nevada. *Nevada Water Resources Association 2010 Annual Conference, Nevada Water Resources Association. Las Vegas, NV.*
- 9. \*Huntington, J.L., R.G., Allen. (2009). Evapotranspiration and Net Irrigation Water Requirements for Nevada. World Environmental and Water Resources Congress 2009. *American Society of Civil Engineers, Environmental and Water Resources Institute, Kansas City, KS*.
- 8. Reeves, D.M., \*Humphrey, S., Pohll, G., Oppliger, G., and J.L., \***Huntington**. (2009). Evaluation of parametric uncertainty on drawdown predictions from the interbasin groundwater transfer at Honey Lake Valley, Nevada. *Nevada Water Resource Association Annual Conference, Reno, NV*.
- 7. Flint L., Flint, L., and J.L. \*Huntington. (2008). Regional evaluation of changes in potential evapotranspiration under a changing climate and influences on recharge and runoff. *Computational Methods in Water Resources, 17th International Conference, July 6-10, San Francisco, CA.*
- 6. Boyle, D., \***Huntingiton**, J.L., Toll, D., Bowser, S., Frevert, D., Stodt, R., Clark, D., Arsenault, K.R., and A. Pinhero. (2006). Improving US Bureau of Reclamation Water Supply, Demand Monitoring and Forecasting Using NASA Earth Data Products for the Carson and Truckee River Basins. *American Meteorology Society 86th Annual Meeting*,

- Jan. 29 Feb. 2, 2006, Atlanta, GA.
- 5. \*Huntington, J.L., Boyle, D.P., Lamorey, G.W., Bassett, S.D., and D., Toll. (2006). Toward improving streamflow simulation in the Truckee River basin using MODIS fractional snow cover information. *Nevada Water Resource Association Annual Conference, Mesquite, NV*.
- 4. \*Epstein, B., \***Huntington**, J.L., and G. Pohll. (2004). Quantification of the Uncertainty Associated with Precipitation and Recharge Estimates of Desert Basins in Nevada. *American Geophysical Union, Hydrology Days Meeting, March 10 –12, Fort Collins, CO.*
- 3. Pohll, G.M., Berger, D., \*Huntington, J.L., and B., Epstein. (2004). Quantification of the errors associated with recharge estimates to desert basins in Nevada. *Nevada Water Resource Association, Mesquite, NV*.
- 2. \*Huntington, J.L., and J. McNamara. (2004). Estimation and Validation of Fractional Snow Cover on Mauna Kea and Mauna Loa, Hawaii. *American Geophysical Union, Western Pacific Geophysical Meeting, August 16-20, Honolulu, HI*.
- 1. \*Huntington, J.L. (2002). Applications of Remote Sensing for Water Resource Investigations. *Oregon State University Conference on Advances in GIS Relating to Water Resource Issues, May 5-7, Ontario, OR.*

## POSTER PRESENTATIONS ABSTRACTS

- 55. Volk, J., Turner, M., **Huntington**, J., Gardner, M., Tyler, S., and L. Sheneman. (2016). Parameter optimization of a hydrologic model in a snow-dominated basin using a modular Python framework. *American Geophysical Union Fall Meeting, San Francisco, CA, December 12-16, 2016.*
- 54. Hegewisch, K., Daudert, B., Morton, C., McEvoy, D., **Huntington**, J., and J. Abatzoglou. (2016). Climate Engine Monitoring Drought with Google Earth Engine. *American Geophysical Union Fall Meeting, San Francisco, CA, December 12-16, 2016.*
- 53. Hausner, M., McEvoy, D., Morton, C., Smith, G., Fesenmyer, K., and J.L. **Huntington**. (2016). Evaluating the effect of restoration practices on riparian vegetation using remote sensing data. *American Geophysical Union Fall Meeting, San Francisco, CA, December 12-16*, 2016.
- 52. Sheffield, A., Marrs, A., Wall, T., Cayan, D., Kalansky, J., Redmond, K., **Huntington**, J., and D. McEvoy. (2016). Creating a Regional Drought Early Warning System (DEWS) for California and Nevada: Building Off of Information Gathered and Lessons Learned after 5 Years of Drought. *American Geophysical Union Fall Meeting*, San Francisco, CA, December 12-16, 2016.
- 51. Rajagopal, S., **Huntington**, J.L., Niswonger, R., Morton, C., Gardner, M., and M.Reeves. (2015). The Interplay of Snow, Surface water, and groundwater Reservoirs for Integrated Water Resources Management. *American Geophysical Union, Fall Meeting, San Francisco, CA, December 14-18*.
- 50. Landsfeld, M., Daudert, B., Friedrich, M., Morton, C., Hegewisch, K., Husak, G., Funk, C., Peterson, P., **Huntington**, J., Abatzoglou, J., and J. Verdin. (2015). An Agro-Climatological Early Warning Tool Based on the Google Earth Engine to Support

- Regional Food Security Analysis. American Geophysical Union, Fall Meeting, San Francisco, CA, December 14-18.
- 49. Melton, F., **Huntington**, J., Guzman, A., Johnson, L., Morton, C., Nemani, R., Post, K., Rosevelt, C., Shupe, J., Spellenberg, R., and A., Vitale. (2015). Mapping Evapotranspiration over Agricultural Lands in the California Central Valley. *American Geophysical Union, Fall Meeting, San Francisco, CA, December 14-18*.
- 48. McEvoy, D. J., **Huntington**, J.L., and M. T. Hobbins. (2015). Optimization of evaporative demand models for seasonal drought forecasts. *American Geophysical Union 2015 Fall Conference, San Francisco, CA, December 14-18.*
- 47. Rajagopal, S., **Huntington**, J.L., Niswonger, R., Morton, C., \*Gardner, M., and M.Reeves. (2015). The Interplay of Snow, Surface water, and groundwater Reservoirs for Integrated Water Resources Management. *American Geophysical Union, Fall Meeting, San Francisco, CA, December 14-18*.
- 46. Landsfeld, M., Daudert, B., Friedrich, M., Morton, C., Hegewisch, K., Husak, G., Funk, C., Peterson, P., **Huntington**, J., Abatzoglou, J., and J. Verdin. (2015). An Agro-Climatological Early Warning Tool Based on the Google Earth Engine to Support Regional Food Security Analysis. *American Geophysical Union, Fall Meeting, San Francisco, CA, December 14-18*.
- 45. \*McEvoy, D. J., **Huntington**, J.L., and M. T. Hobbins. (2015). Analysis of the Relationship between California Surface Water Deficits and the Evaporative Demand Drought Index. *Poster presentation at American Geophysical Union Chapman Conference: California Drought: Causes, Impacts, and Policy. April 20-22.*
- 44. Hobbins, M. T., \*McEvoy, D.J., **Huntington**, J.L., Wood, A.W., and J.P. Verdin. (2015). Monitoring the California Drought with a novel drought index: the Evaporative Demand Drought Index (EDDI). *American Geophysical Union Chapman Conference: California Drought: Causes, Impacts, and Policy. April* 20-22.
- 43. Morton, C., J.L. **Huntington**, F.S. Melton, A. Guzman, and R.G. Allen. (2015). Implementation of Automated METRIC Algorithms on the NASA Earth Exchange for Rapid Consumptive Water Use and Drought Impact Mapping in California's Central Valley. *American Geophysical Union Chapman Conference, Irvine, CA, April 20-22*.
- 42. Hegewisch, K., B. Daudert, C. Morton, A. Peterson, A. Joros, D. McEvoy, T. Erickson, J.L. **Huntington**, and J.T. Abatzoglou, (2015). Google Drought Monitoring Through Cloud Computing and Visualization of Remote Sensing and Meteorological Datasets: Examples for California. *American Geophysical Union Chapman Conf.*, *Irvine*, *CA*, *April* 20-22.
- 41. \*McEvoy, D., M. Hobbins, J.L., **Huntington**, J. Mejia, C. Hain, M. Anderson, and J. Verdin. (2015). Exploring the use of physically based evaporative demand anomalies to improve seasonal drought prediction. *Nevada Water Resources Association*. **2nd**<sup>st</sup> **Place Student Poster**.
- 40. Carroll, R., **Huntington**, J., Guoping, T., Niswonger, R., Lutz, A., Snyder, K., and T. Stringham, (2015). Integrated Modeling in the Great Basin to Investigate Linkages Between Vegetation and Hydrology. *Great Basin Consortium, Boise, Idaho, February* 17-19.
- 39. McGwire, K., **Huntington**, J., Morton, C., Peterson, S., and M. Schade, (2015). The BLM Riparian Toolbar: An ArcMap Plugin for Regional Analysis of Vegetation Response. *Great Basin Consortium, Boise, Idaho, February 17-19.*
- 38. \*Sterle K., Simpson, K., McCarthy, M., Pohll, G., Kauneckis, D., Singletary, L., Niswonger,

- R., Rajagopal, S., Dettinger, M., **Huntington**, J., and S. Emm, (2015). Enhancing Resiliency of Snow-Fed Arid Land River Systems: A Collaborative Modeling Approach. *Great Basin Consortium, Boise, Idaho, February 17-19*.
- 37. \*Liebert, R., **Huntington**, J.L., and C. Morton. (2014). Estimating Open Water Evaporation for Lake Mead with Remote Sensing. *Nevada Water Resources Association Annual Conference, Las Vegas, NV, February 3-6.* 1st Place Student Poster.
- 36. \*\*Dunkerly, C., \*\*Chapman, A., and J.L., **Huntington**. (2014). Examining Aridity-Induced Bias in Reference Evapotranspiration Calculations for Agriculture. *Nevada Water Resources Association Annual Conference, Las Vegas, NV, February 3-6.*
- 35. \*Bromley, M., Morton, C., **Huntington**, J.L., Minor, T., and T. Albright. (2014). Analyzing Differences in Crop ET During Wet and Dry Years in the Walker Basin Using Remotely Sensed Data. *Nevada Water Resources Association Annual Conference, Las Vegas, NV, February 3-6.*
- 34. \*Wagner, K., Swanson, S., McMahon, A., **Huntington**, J.L., and R.G. Niswonger. (2014). Groundwater and Surface Water Interactions at Pond and Plug Restoration Sites in the Northern Sierra Nevada Mountain Range. *Nevada Water Resources Association Annual Conference, Las Vegas, NV, February 3-6.*
- 33. **Huntington**, J.L, Morton, C., McGwire, K., Joros, A., Peterson, S., Gorelick, N., Thau, D., and R. Allen (2013). Utilizing Cloud Computing of Landsat Imagery and Gridded Weather Data for Evaluating Groundwater Dependent Ecosystems in Nevada. *Great Basin Consortium Conference, Reno, NV, December 9-10.*
- 32. **Huntington**, J.L., \*\*Dunkerly, C., \*\*Chapman, A., McCurdy, G., Wolff, AJ., Lyles, B., and R. Allen (2013). Highlights from the Nevada Integrated Climate and Evapotranspiration Network NICE Net. *Great Basin Consortium Conference*, *Reno*, *NV*, *December 9-10*.
- 31. **Huntington**, J.L., Szilagyi, J., Tyler, S., and G., Pohll. (2013). Evaluating the Complementary Relationship for Estimating Evapotranspiration from Arid Shrublands. *American Meteorological Society Annual Meeting, Austin, TX, January 5-10.*
- 30. \*McEvoy, D., **Huntington**, J.L., and J., Abatzoglou. (2013). A Comparison of the Standardized Precipitation Evapotranspiration Index Using Thronthwaite and Penman-Monteith Parameterizations for Potential Evapotranspiration. *American Meteorological Society Annual Meeting, Austin, TX, January 5-10*.
- 29. \*Sauceda, D., Mejia, J., and J.L., **Huntington**. (2013). Vulnerability and Resilience of Urban Water Systems under UncertainClimate Change Scenarios. *American Meteorological Society Annual Meeting, Austin, TX, January 5-10*.
- 28. **Huntington**, J.L., Morton, C., McGraw, D., and G., Pohll. (2013). Remote Sensing of Evapotranspiration for Groundwater Recharge Estimation from Irrigated Lands. *Nevada Water Resources Association Annual Conference, January 28-31, Reno, NV*.
- 27. Reeves, D.M., J. Huntington, S. Rajagopal, R. Niswonger, M. Gardner, Y. Zhang, and G. Pohll, (2013). Development of integrated surface water ground water models of Martis Valley and Lake Tahoe basins for assessment of climate change impacts on water resources. Nevada Water Resources Association annual meeting, oral presentation at Nevada Water Resources Annual Meeting, Reno, NV, January 30, 2013.
- 26. \*Gardner, M., **Huntington**, J.L., Niswonger, R., Reeves, M., and G., Pohll. (2013). Hydrogeologic Framework Development for Integrated Hydrologic Modeling of Mountain Block Alluvial Systems in Lake Tahoe & Martis Valley, Nevada & California. *Nevada Water Resources Association Annual Conference, January* 28-31, Reno, NV.

- 25. \*Liebert, R., **Huntington**, J.L., Paudel, K., Acharya, K., and R., Jasoni. (2013). Remote Sensing of Reduced Evapotranspiration from Tamarisk Defoliation Along the Lower Virgin and Muddy Rivers. *Nevada Water Resources Association Annual Conference, January* 28-31, *Reno, NV.* 1st Place Student Poster.
- 24. **Huntington**, J.L., Rajagopal, S., Allen, R., Mihevc, T., Schumer, R., Caldwell, T., and H., deBruin. (2012). Energy Balance Comparison and Closure at a Moist Desert Playa: The Importance of Ground Heat Storage and Flux Estimation. *American Geophysical Union* 2012 Fall Conference, San Francisco, CA.
- 23. \*Gardner, M., **Huntington**, J.L., Niswonger, R., Reeves, M., and G., Pohll. (2012). Hydrogeologic Framework Development for Integrated Hydrologic Modeling of Mountain Block Alluvial Systems in Lake Tahoe and Martis Valley, Nevada and California. *American Geophysical Union 2012 Fall Conference, San Francisco, CA*.
- 22. Tansey, M., Flores-Lopez, F., Young, C., and J.L., **Huntington**. (2012). Assessment of Climate Change Impacts on Agricultural Water Demands and Crop Yields in California's Central Valley. *American Geophysical Union 2012 Fall Conference, San Francisco, CA*.
- 21. **Huntington**, J.L., and R. Niswonger. (2012). Role of Surface and Groundwater Interactions on Projected Baseflows in the Tahoe Region: An Integrated Modeling Approach. *Tahoe Science Conference, Sierra Nevada College, May* 22-24.
- 20. **Huntington**, J.L., B. Lyles, G. McCurdy, T. Mihevc, \*\*A.J. Wolff, A. Sullivan, and R. Allen. (2012). Development of the Nevada Integrated Climate & Evapotranspiration Network "NICE Net". *Nevada Water Resources Association Annual Conference, March 5-8, Las Vegas, NV*.
- 19. \*Gilbertson, L., **Huntington**, J.L., Morton, C., and G. Pohll. (2012). Estimating Agricultural Water Use from Remote Sensing in Amargosa Valley: Will Solar Power Use More? *Nevada Water Resources Association Annual Conference, March 5-8, Las Vegas, NV. Student Poster Presentation. 1st Place Student Poster.*
- 18. \*McEvoy D., **Huntington**, J.L., and L.M. Edwards (2012). Utility of precipitation indices as indicators of drought in Nevada and Eastern California. *Nevada Water Resources Association Annual Conference, March 5-8, Las Vegas, NV. Student Poster Presentation.* 2<sup>nd</sup> Place Student Poster.
- 17. Allen, R.G., **Huntington**, J.L., Irmak, A., deBruin, H., and J. Kjaersgaard. (2012). Conditioning of NLDAS, NARR and arid weather station data for estimating evapotranspiration under well-watered conditions. *American Geophysical Union, Chapman Conference on Remote Sensing of the Terrestrial Water Cycle, Kona, HI, February 19-22,*
- 16. \*Gilbertson, L., Pohll, G., **Huntington**, J.L., and S., Silliman. (2012). An Intercomparison of Evapotranspiration Estimation Methods for the Godomey Well Field in Benin, West Africa. *Chapman Conference on Remote Sensing of the Terrestrial Water Cycle, Kona, HI, February 19-22*.
- 15. \*Gilbertson, L., Pohll, G., **Huntington**, J.L., and S. Silliman. (2011). Using Vegetation Indicies from MODIS to Estimate Evapotranspiration for the Godomey Well Field in Benin. *American Geophysical Union 2011 Fall Conference, San Francisco, CA*.
- 14. \*Beamer, J.P., \*Morton, C., **Huntington**, J.L., and G., Pohll. (2011). Annual Evapotranspiration estimation using Landsat and Flux tower data. *Nevada Water Resources Association 2011 Annual Conference, Nevada Water Resources Association. Reno, NV.* 1<sup>st</sup> Place Student Poser.

- 13. Sullivan, A., \*Gilbertson, L., \*Morton, C., and J.L., **Huntington**. (2011). Quantifying Agricultural Consumptive Use Using Remote Sensing to Support Water Rights Changes in the Walker River Basin. *Nevada Water Resources Association 2011 Annual Conference, Nevada Water Resources Association. Reno, NV*.
- 12. \*Comartin, L., Reeves, D.M., Pohll, G., and J.L., \***Huntington**. (2010). A basin-scale model of Pahrump Valley, Nevada for water resources management. *National Ground Water Association Summit, Denver, CO, April 11-15*.
- 11. \*Huntington, J.L., \*Morton, C., \*Beamer, J., Minor, T., Allen, R., Sullivan, A., Pohll, G., Lyles, B., and J., Thomas. (2010). Western Nevada Water Resources Evaluation Program. *The USBR Alliance University Applied Remote Sensing of Evapotranspiration Conference, The USBR-Alliance University, Las Vegas, NV.*
- 10. \*Huntington, J.L., and R.G., Niswonger. (2010). Potential Water Resource Impacts from a Changing Climate in Sierra Nevada Watersheds Using and Integrated Model, GSFLOW. Nevada Water Resources Association 2010 Annual Conference, Las Vegas, NV.
- 9. \*Huntington, J.L., Niswonger, R.G., Markstrom, S., Regan, R., and G. Pohll (2009). Using GSFLOW and Hydrologic Tracers to Assess Surface and Groundwater Interactions, Residence Times, and Flowpaths in Two Lake Tahoe Watersheds. *American Geophysical Union Fall Conference, American Geophysical Union. San Francisco, CA*.
- 8. \*Humphrey, S., Reeves, D., Pohll, G., Oppliger, G., and J.L., \***Huntington**. (2008). A stochastic approach to a groundwater flow model for the southern Honey Lake Valley in Lassen County, California and Washoe County, Nevada. *Nevada Water Resource Association Annual Conference. Mesquite, Nevada*.
- 7. \*Huntington, J.L., \*Caldwell, T., \*Naranjo, R., \*Burak, S., and S., Tyler. (2007). Trends in Pan Evaporation and Application of the Complimentary Relationship of Evaporation in the Great Basin, USA. *American Geophysical Union Fall Conference, San Francisco*.
- 6. \*Huntington, J.L., \*Burak, S., \*Caldwell, T., \*Naranjo, R., and S., Tyler. (2007). Testing Bouchet's Hypothesis for Estimating Actual Evapotranspiration for Selected Sites in Nevada. Nevada Water Resource Association Annual Conference, Reno, NV. 1st Place Student Poster.
- 5. \*Huntington, J.L., Boyle, D.P., Lamorey, G.W., and S.D., Bassett. (2006). Improving US Bureau of Reclamation water supply, demand monitoring and forecasting using NASA Earth Science Data. *Joint 8th Federal Interagency Sedimentation and 3rd Hydrologic Modeling Conference, Reno, NV*.
- 4. \*Procsal, M., \***Huntington,** J.L., McNamara, J., and C., Luce. (2005). Modeled Snow Water Equivalent and Remotely Sensed Snow Covered Area to Develop A Dimensionless Depletion Curve in The Dry Creek Experimental Watershed, Boise, Idaho. *Western Snow Conference*, April 11 14, Great Falls, Montana.
- 3. \*Huntington, J.L., Boyle, D., Lamorey, G., and D., Toll. (2005). Evaluation of a Hydrologic Model Applied to the Walker River Basin, Nevada, Using a Long Term Gridded Evapotranspiration Dataset. Bureau of Reclamation ET Workshop: State-of-the-Art Review of Evapotranspiration (ET) Remote Sensing Science and Technology, February 8 10, Fort Collins, Colorado.
- 2. \*Huntington, J.L., \*Shivakumar, P., and D., Boyle. (2004). Estimation of Fractional Snow Cover Using Landsat MODIS Normalized Snow Index Regression Equations for Improved Streamflow Forecasting: An Example from Del Norte, Colorado. Science & Technology Center for Sustainability of Semi-Arid Hydrology and Riparian Areas

(SAHRA) Annual Meeting, Albuquerque, NM, October 13th – 15th.

1. \*Morse, B.S., Pohll, G.M., and J.L., \*Huntington. (2001). Understanding the uncertainties of capture zone analysis: A Bayesian approach. *American Geophysical Union 2001 Fall Conference, San Francisco, CA*.

# ACADEMIC ADVISMENT (committee chair, member, supervisor, or mentor)

0	Jennifer Johnson	Ph.D., Water Resources, U of Idaho, 2014-pres (member)
0	John Volk	Ph.D., Hydrology, UNR GEOL, 2014-pres (member)
0	Dan McEvoy	Ph.D., Atmospheric Science, UNR ATMS, 2009-2015 (member)
0	Matt Bromley	M.S., Geography, UNR GEOG, 2013-pres (member)
0	Ryan Liebert	M.S., Hydrogeology, UNR NRES, 2012-2015 (chair)
0	Sue Burak	M.S., Hydrology, UNR NRES, 2013-2015 (chair)
0	Karly Wagner	M.S., Hydrology, UNR NRES, 2013-2015 (member)
0	Lydia Peri	M.S., Hydrology, UNR GEOL, 2013-2015 (member)
0	Dan Sauceda	M.S., Atmospheric Science, UNR ATMS, 2012-2015 (member)
0	John Volk,	M.S., Hydrology, UNR GEOL, 2012-2014 (member)
0	Murphy Gardner	M.S., Hydrogeology, UNR GEOL, 2011-2014 (member)
0	Lindsay Gilbertson	M.S. Hydrogeology, UNR GEOL, 2011-2013 (member)
0	Jordan Beamer	M.S. Hydrogeology, UNR GEOL, 2011-2013 (mentor)
0	Charles Morton	M.S. Geography, UNR GEOG, 2011-2013 (mentor)
0	Brian Epstein	M.S. Hydrology, UNR GEOL, 2005-2008 (mentor)
0	Riley James	B.S., Physics, Occidental College, 2015-pres (supervisor)
0	Christian Dunkerly	B.S., Biology, UNR BIOL, 2009-2014 (supervisor/thesis advisor)
0	Jeff Brito	A.S., Western Nevada College, 2015-pres (supervisor)
0	Zachary Hood	A.S., Western Nevada College, 2015-pres (supervisor)
0	Lucas Wright	Carson High School, 2015-pres (supervisor)
0	Zachary Mahannah	Reno High School, 2015-pres (supervisor)
0	Austin Chapman	Las Vegas Academy, 2014-2015 (supervisor)

## TEACHING EXPERIENCE

- o Instructor University of Nevada, Reno
  - ATMS 792 Special Problems Evapotranspiration and Evaporative Demand (Fall 2012)
  - BIOL 298 Independent Study Remote Sensing of Evapotranspiration (Spring 2013)
- o Guest Instructor University of Nevada, Reno
  - o NRES 295 Ecohydrology (Fall 2015)
  - o GEOL 781 Advanced Surface Water Hydrology (Spring 2012)
  - o GEOG 621 Climatology (Spring 2012)
  - o GEOL 785 Introduction to Groundwater Modeling (Fall 2004)
- o Guest Instructor other
  - o University of Colorado, Boulder, ATOC 4550/5550 Mountain Meteorology

(Fall 2015)

- Mapping Evapotranspiration at High Resolution with Internalized Calibration (METRIC) Workshop, March 19-23, 2012
- Instructor U.S. Bureau of Reclamation, Agricultural Water Demands Workshop, Boulder Colorado, May 15-19, 2011

# HONORS AND AWARDS

- o Selected to serve on Governor Sandoval's Nevada Drought Forum (2015)
- o Regents' Rising Researcher Award Nevada System of Higher Education (2014)
- o Advisor of the Year Award Desert Research Institute (2013)
- Wagner Medal of Excellence for Scholars in Early Stages of Career Development -Desert Research Institute (2012)
- o Selected to serve on the USGS and NASA Landsat Science Team (2012-2017)
- Mad Hatter Award University of Nevada Reno, Graduate Program of Hydrological Sciences (2011)
- o 1st Place Student Poster, Nevada Water Resources Association (2007)

#### RECOGNITION AND PRESS

- Using satellite imaging to manage water: An unbiased, impartial arbitrator, News 4
  Nevada & Inside Northern Nevada http://goo.gl/Ug7quL
- o Tracking Drought Trends with the Latest Technology, News 4 http://goo.gl/bOeKJc
- Google remote sensing and drought project mentioned in the White House Climate Data Initiative - <a href="https://goo.gl/5zDxHJ">https://goo.gl/5zDxHJ</a>
- Featured in the Las Vegas Review Journal summarizing Google's global water mapping initiative - <a href="https://goo.gl/AcrLTq">https://goo.gl/AcrLTq</a>
- Featured in Northern Nevada Business Weekly and Nevada Appeal articles on improved data helping farmers manage irrigation needs - <a href="http://goo.gl/PmRLdV">http://goo.gl/PmRLdV</a>
- Featured in the Reno Gazette Journal and KUNR NPR for being selected to U.S.
  Geological Survey's 2012-2017 Landsat Science Team <a href="http://goo.gl/0HVUD4">http://goo.gl/0HVUD4</a>
- Featured on the UNR Office of Undergraduate and Interdisciplinary Research Blog for Tahoe Science - <a href="http://goo.gl/Sbw9RV">http://goo.gl/Sbw9RV</a>

#### PROFESSIONAL SERVICE

- o Reviewer for National Science Foundation, Division of Earth Sciences
- o Reviewer for NASA ROSES Applied Sciences Program Water Resources
- o Reviewer for Remote Sensing of Environment
- o Reviewer for Remote Sensing
- Reviewer for Water Resources Research
- o Reviewer for Journal of Hydrometeorology
- o Reviewer for Hydrological Processes
- o Reviewer for Advances in Water Resources

- o Reviewer for Agricultural Water Management
- o Reviewer for Hydrologic Earth System Science
- o Reviewer for Journal of the American Water Resources Association
- o Member of the American Geophysical Union
- o Member of the American Meteorological Society
- o Member of the American Water Resources Association
- o Member of the Nevada Water Resources Association
- o Member of the NASA Earth Exchange (NEX) supercomputer user working group
- Member of America View A Nationwide Consortium for Remote Sensing Education, Research, and Geospatial Applications
- Member of the American Society of Civil Engineers (ASCE), Evapotranspiration Task Committee
- o Planning Committee of the Nevada Water Resources Association
- o Annual guest instructor for "snow field day" for Galena High School AP Environmental Science class
- o Mentor for Boys and Girls Club, Big Brother program