

**Dr. Ayse Kilic**  
University of Nebraska-Lincoln  
School of Natural Resources  
(402) 417-2562  
Email: akilic@unl.edu

## **Education**

- Ph D, University of Florida, 2002.  
Major: Agricultural and Biological Engineering  
Supporting Areas of Emphasis: Minor in Urban and Regional Planning & Computer Science  
Depts.
- MS, University of Florida, 1998.  
Major: Agricultural and Biological Engineering
- MS, Mediterranean University, 1995.  
Major: Structures and Irrigation Engineering
- BS, Cukurova University, 1992.  
Major: Structures and Irrigation Engineering

## **Academic, Government, Military and Professional Positions**

### **Academic**

Associate Professor, UNL. (January 1, 2005 - Present).

### **Professional**

- Chairman, American Society of Civil Engineers - Tech. Commit. on Evapotranspiration. (October 1, 2015 - Present).
- Chairman, American Society of Civil Engineers - Task Commit. on Remote Sensing of Evapotranspiration. (March 1, 2015 - Present).

## **Professional Memberships**

- American Geophysical Union. (January 15, 2012 - Present).
- American Society of Agricultural and Biological Engineers. (January 1, 2012 - Present).
- American Society of Civil Engineering. (January 1, 2012 - Present).

## **TEACHING**

### **Teaching Experience**

#### **University of Nebraska-Lincoln**

- CIVE 456/856, Surface Water Hydrology  
CIVE 853, GIS in Water Resources  
CIVE 898, Special Topics in Civil Engineering; GIS Water Resources  
CIVE 998, Special Problems in Civil Engineering  
NRES/GEOG 312, Introduction to Geospatial Information Sciences

## Directed Student Learning

### Doctorate (committee chair/supervisor)

Doctorate (committee chair/supervisor), Civil Engineering.  
Advised: Noordiah Helda

Doctorate (committee chair/supervisor), Civil Engineering. (August 1, 2012 - Present).  
Advised: Foad Foolad

Doctorate (committee chair/supervisor), Civil Engineering. (August 7, 2012 - Present).  
Advised: Mahesh Pun

Doctorate (committee chair/supervisor), "Development of streamflow routing package for MODFLOW," Civil Engineering. (December 1, 2012 - Present).  
Advised: Gengxin Ou

Doctorate (committee chair/supervisor), School of Natural Resources. (August 1, 2013 - Present).  
Advised: Yao Li

Doctorate (committee chair/supervisor), Civil Engineering. (December 1, 2011 - May 1, 2012).  
Advised: Baburao Kamble

### Doctorate (committee co-chair)

Doctorate (committee co-chair), School of Natural Resources. (January 7, 2012 - May 1, 2015).  
Advised: Jane Okalebo

### Doctorate (committee member)

Doctorate (committee member), Earth & Atmospheric Sciences. (September 1, 2012 - Present).  
Advised: Yongjun Zhang

Doctorate (committee member), Civil Engineering.  
Advised: Johnette Shockley

### Masters (committee chair/supervisor)

Masters (committee chair/supervisor), Civil Engineering.  
Advised: Matthew Nelson

Masters (committee chair/supervisor), Civil Engineering.  
Advised: Philip Blankenau

Masters (committee chair/supervisor), "TBD," Civil Engineering.  
Advised: Putri Brikke

Masters (committee chair/supervisor), School of Natural Resources.  
Advised: Samuel Ortega-Salinas

Masters (committee chair/supervisor), Earth & Atmospheric Sciences. (August 1, 2012 - December 31, 2014).  
Advised: Doruk Ozturk

Masters (committee chair/supervisor), School of Natural Resources. (May 5, 2012 - May 1, 2013).  
Advised: Sonisa Sharma

Masters (committee chair/supervisor), Civil Engineering. (August 1, 2011 - December 24, 2012).  
Advised: Aaron Hirsh

### **Masters (committee member)**

Masters (committee member), "ACUTE TOXICITY OF  $\beta$ -N-METHYLAMINO-L-ALANINE (BMAA) TO FATHEAD MINNOW (*PIMEPHALES PROMELAS*) AND ZEBRAFISH (*DANIO RERIO*)," School of Natural Resources.  
Advised: Jiayi Wang

Masters (committee member), Earth & Atmospheric Sciences. (August 1, 2012 - Present).  
Advised: Tim Hubbard

Masters (committee member), School of Natural Resources. (June 15, 2012 - December 24, 2012).  
Advised: Bo Dong

## **RESEARCH**

### **Published Intellectual Contributions**

#### **Books**

Kilic, A. (2012). Evapotranspiration: Remote Sensing and Modeling. In Ayse Irmak (Kilic) (Ed.), *Evapotranspiration: Remote Sensing and Modeling*. (pp. 512). InTech.  
<http://www.intechopen.com/books/evapotranspiration-remote-sensing-and-modeling>

#### **Book Chapters**

Kamble, B., Kilic, A., Martin, D. L., Hubbard, K., Ratcliff, I., Hergert, G. W., Narumalani, S., Oglesby, R. J. (2013). In S.G. Alexandris (Ed.), *Evapotranspiration an Overview*

Kamble, B., Kilic, A., Martin, D. L., Hubbard, K., Ratcliff, I., Hergert, G. W., Narumalani, S., Oglesby, R. J. (2013). Satellite-based energy balance approach to assess riparian water use. In S.G. Alexandris (Ed.), *Evapotranspiration an Overview*.

Kilic, A., Allen, R. G., Kjaersgaard, J., Huntington, J., Kamble, B., Trezza, R., Ratcliffe, I. (2011). Operational Remote Sensing of ET and Challenges. In A. Kilic (Ed.), *Evapotranspiration* (pp. 20). InTech.

Kamble, B., Kilic, A. (2010). Remotely-Sensed Evapotranspiration Data Assimilation for Crop Growth Modeling, IN-TECH (Chapter 18). *Evapotranspiration*.

#### **Refereed Journal Articles**

Sharma, V., Kilic, A., Irmak, S. (2016). Impact of scale/resolution on evapotranspiration from Landsat and MODIS images. *Water Resources Research*, 52(3), 1800-1819.

Wang, J., Kessner, C., Aegerter, C., Sharma, A., Judd, L., Wardlow, B., You, J., Shulze, M., Irmak, S., Kilic, A. (2016). A multi-sensor view of the 2012 Central Plains drought from space. *Journal of Applied and Theoretical Meteorology*, 4, 1-13.

Okalebo, J., Oglesby, R. J., Feng, S., Hubbard, K., Kilic, A., Hayes, M. J., Hayes, C. (2016). An Evaluation of the Community Land Model (Version 3.5) and Noah Land Surface Models for

- Temperature and Precipitation Over Nebraska (Central Great Plains): Implications for Agriculture in Simulations of Future Climate Change and Adaptation. *Climate Change Adaptation, Resilience and Hazards*, 21-34.
- Ortega-Farías, S., Ortega-Salazar, S., Poblete, T., Kilic, A., Allen, R. G., Poblete-Echeverría, C., Ahumada-Orellana, L., Zuñiga, M., Sepúlveda, D. (2016). Estimation of energy balance components over a drip-irrigated olive orchard using thermal and multispectral cameras placed on a helicopter-based unmanned aerial vehicle (UAV). *Remote Sensing*, 8(8), 1-13.
- Kilic, A., Allen, R., Trezza, R., Ratcliffe, I., Kamble, B., Robison, C. (2016). Sensitivity of Evapotranspiration Retrievals from the METRIC Processing Algorithm to Improved Radiometric Resolution of Landsat 8 Thermal data and to Calibration Bias in Landsat 7 and 8 Surface Temperature. *Remote Sensing of Environment*, 185, 198-209.  
<http://www.journals.elsevier.com/remote-sensing-of-environment/>
- Sharma, V., Irmak, S., Kilic, A., Gilley, J. E., Meyer, G. E., Knezevic, S., Marx, D. (2016). Quantification and mapping of surface residue cover and tillage practices for maize and soybean fields in south central Nebraska-USA using Landsat imagery. *Transactions of ASABE*, 59(3), 925-939.
- Mutiibwa, D., Kilic, A., Irmak, S. (in press). Identifying the fingerprints of the anthropogenic component of land use/land cover changes on regional climate of the USA High Plains. *Identifying the fingerprints of the anthropogenic component of land use/land cover changes on regional climate of the USA High Plains*.
- Sharma, V., Irmak, S., Kilic, A., Mutiibwa, D. (2015). Application of remote sensing for quantifying and mapping surface energy fluxes in south central Nebraska: Analyses with respect to field measurements. *Application of remote sensing for quantifying and mapping surface energy fluxes in south central Nebraska: Analyses with respect to field measurements*, 58(5), 1265-1285.
- Irmak, S., Payero, J. O., Kilic, A., Odhiambo, L., Rudnick, D., Sharma, V., Billesbach, D. (2014). On the Magnitude and Dynamics of Eddy Covariance Residual Energy (Energy Closure Error) in Subsurface Drip-Irrigated Maize Field During Growing and Non-Growing (Dormant) Seasons. *Irrigation Science*, 32, 471 - 483.
- Carrasco-Benavides, M., Ortega-Farías, S., Lagos, O., Kleissl, J., Morales-Salinas, L., Kilic, A. (2014). Parameterization of the Satellite-Based Model (METRIC) for the Estimation of Instantaneous Surface Energy Balance Components over a Drip-Irrigated Vineyard. *Remote Sensing*, 6(11), 11342-11371.
- Roy, D., Wulder, M., Loveland, T., Woodcock, C., Allen, R., Anderson, M., Helder, D., Irons, J., Johnson, D., Kennedy, R., Scambos, T., Schaaf, C., Scott, J., Sheng, Y., Vermote, E., Belward, A., Bindschadler, R., Cohen, W., Gao, F., Hipple, J., Hostert, P., Huntington, J., Justice, C., Kilic, A., Kovalskyy, V., Lee, Z., Lyburner, L. (2014). Landsat-8: Science and product vision for terrestrial global change research. *Remote Sensing of Environment*, 145, 154-172.
- Ou, G., Chen, X.-H., Kilic, A., Bartelt-Hunt, S. L., Li, Y., Samal, A. K. (2013). Development of a cross-section based streamflow routing package for MODFLOW. *Environmental Modeling & Software*, 50, 132-143.  
<http://www.journals.elsevier.com/environmental-modelling-and-software>
- Lagos, O., Martin, D. L., Verma, S., Irmak, S., Kilic, A., Eisenhauer, D. E., Suyker, A. (2013). Surface energy balance model of transpiration from variable canopy cover and evaporation from residue-covered or bare soil systems: model evaluation. *Irrigation Science*, 31, 135-150.

- Kamble, B., Kilic, A., Hubbard, K., Gowda, P. (2013). Irrigation scheduling using remote sensing data assimilation approach. *Advances in Remote Sensing*, 2, 258-268.
- Kamble, B., Kilic, A., Hubbard, K. (2013). Estimating crop coefficients using remote sensing based vegetation index. *Sensor-Based Technologies and Processes in Agriculture and Forestry, Elsevier*.
- Allen, R. G., Trezza, R., Kilic, A., Tasumi, M., Li, H. (2013). Sensitivity of Landsat-scale energy balance to aerodynamic algorithms in mountains and complex terrain. *J. Am. Water Resources Assoc.*
- Allen, R. G., Burnett, B., Kramber, W., Huntington, J., Kjaersgaard, J., Kilic, A., Kelly, C. N., Trezza, R. (2013). Automated Calibration of the METRIC-Landsat Evapotranspiration Process. *J. Am. Water Resources Assoc.*, 49, 563-576.
- Sharma, V., Kilic, A., Irmak, S., Kabenge, I. (2012). Application of GIS to evaluate the spatial nonstationarity relationships between precipitation vs. irrigated and rainfed maize and soybean yields. *Trans. ASABE*, 54, 953-972.
- Kjaersgaard, J., Allen, R. G., Kilic, A. (2011). Improved methods for estimating monthly and growing season ET estimation using METRIC applied to moderate-resolution satellite imagery. *J. Hydrological Processes*, 25, 4028-4036.
- Allen, R. G., Kilic, A., Trezza, R., Hendrickx, J., Bastiaanssen, W., Kjaersgaard, J. (2011). Satellite based ET estimation in agriculture using SEBAL and METRIC. *J. Hydrological Processes*, 25, 4011-4027.
- Kilic, A., Singh, R. K. (2011). Spectral data-based estimation of soil heat flux. *Transactions of the ASABE*, 54, 1589-1597.
- Sharma, V., Kilic, A., Irmak, S., Kabenge, I. (2011). Application of GIS to evaluate the spatial nonstationarity relationships between precipitation vs. irrigated and rainfed maize and soybean yields. *Transactions of the ASABE*, 54, 953-972.
- Healey, N. C., Kilic, A., Arkebauer, T., Billesbach, D., Lenters, J., Hubbard, K., Allen, R. G., Kjaersgaard, J. (2011). Remote Sensing and In Situ-Based Estimates of Evapotranspiration for Subirrigated Meadow, Dry Valley, and Upland Dune Ecosystems in the Semi-arid Sand Hills of Nebraska, USA. *Irrigation and Drainage Systems*, 25, 151-178.
- Lenters, J., Cutrell, G. J., Istanbuluoglu, E., Scott, D., Herrman, K. S., Kilic, A., Eisenhauer, D. E. (2011). Seasonal energy and water balance of a Phragmites australis-dominated wetland in the Republican River basin of south-central Nebraska (USA). *Journal of Hydrology*, 408, 19-34.
- Singh, R. K., Kilic, A. (2011). Treatment of anchor pixels in METRIC model for improved sensible and latent heat fluxes in a semi-arid region. *Hydrological Sciences Journal*, 56, 895-906.
- Healey, N., Kilic, A., Hubbard, K., Lenters, J. (2011). Environmental variables controlling site suitability for corn-based ethanol production in Nebraska. *Biomass and Bioenergy*, 35, 2852-2860.
- Lagos, L., Martin, D. L., Verma, S., Kilic, A., Irmak, S., Eisenhauer, D. E., A. (2011). Surface energy balance model of transpiration and evaporation from residue-covered or bare-soil systems: Model evaluation. *Irrigation Science*.

- Kilic, A., Ratcliffe, I., Ranade, P., Hubbard, K., Singh, R. K., Kamble, B., Kjaersgaard, J. (2011). Estimation of land surface evapotranspiration: A satellite remote sensing procedure. *Great Plains Research*, 21, 73-88.
- Kilic, A., Singh, R. K., Walter-Shea, E., Verma, S., Suyker, A. (2011). Comparison and Analysis of Empirical Equations for Soil Heat Flux for Different Cropping Systems and Irrigation Methods. *Transactions of the ASABE*, 54, 67-80.
- Martin, D. L., Kilic, A., Ranade, A. P., Marx, D., Irmak, S., Huang, L., Meyer, G. E. (2010). Spatial interpolation of climate variables in Nebraska. *Transactions*, 53, 1759-1771.
- Kilic, A., Ranada, P. K., Marx, D., Hubbard, K., Martin, D. L., Irmak, S. (2010). Spatial interpolation of climate variables in Nebraska. *Transactions of the ASABE*, 53, 1759-1771.
- Singh, R. A., Kilic, A., Irmak, S., Martin, D. L. (2008). Application of SEBAL model for mapping evapotranspiration and estimating surface energy fluxes in South-Central Nebraska. *Journal of Irrigation and Drainage Engineering*, 134, 273-285.
- Irmak, S., Mutibwa, S. D., Kilic, A., Arkebauer, T., Weiss, A., Martin, D. L., Eisenhauer, D. E. (2008). On the scaling up leaf stomatal resistance to canopy resistance using photosynthetic photon flux density. *Agricultural and Forest Meteorology*. *Agricultural and Forest Meteorology*, 148, 1034-1044.
- Martin, D. L., Irmak, S., Kilic, A. (2008). Reference and crop evapotranspiration in south central Nebraska: I. Comparison and analysis of grass and alfalfa-reference evapotranspiration. *Journal of Irrigation and Drainage Engineering*, 134, 690-699.
- Irmak, S., Martin, D. L., Kilic, A., Payero, J. O., Howell, T. A., Copeland, K. S. (2008). Variability of alfalfa-reference to grass-reference evapotranspiration ratios in growing and dormant seasons. *Journal of Irrigation and Drainage Engineering*, 134, 147-159.

### Conference Proceedings

- Kjaersgaard, J., Allen, R. G., Robison, C., Kilic, A., Ratcliffe, I., Ranade, P., Trezza, R., Dhungel, R., Kra, E. (2011). *Adjusting for Background Soil Evaporation when Interpolating Evapotranspiration between Satellite Overpass Dates*. IAHS Publ. 3XX.
- Akasheh, O. Z., Kilic, A., Ratcliffe, I., Ranade, P., Kilic, S., Singh, R., Gowda, P. H. (2011). *Comparison of METRIC and SSEB for Mapping Regional Evapotranspiration*. IAHS Publ. 3XX.
- Kilic, A., Choragudi, R., Allen, R. G. (2011). *Local and Global Sensitivity Analysis on METRIC. Remote Sensing and Hydrology*. IAHS Publ. 3XX.
- Kilic, A., Ratcliffe, I., Ranade, P., Kilic, S., Allen, R. G., Kjaersgaard, J., Kamble, B., Choragudi, R., K. G., Hubbard, R. Singh, Mutibwa, D., Healey, N. (2011). *Seasonal Evapotranspiration Mapping Using Landsat Visible and Thermal Data with an Energy Balance Approach in Central Nebraska. Remote Sensing and Hydrology*. IAHS Publ. 3XX.
- Kamble, B., Kilic, A. (2009). *Combining Remote Sensing Measurements and Model Estimates*.

### Journal Articles

- Wang, S.-Y., Santanello, J., Wang, H., Barandiaran, D., Pinker, R., Schubert, S., Gillies, R., Oglesby, R., Hilburn, K., Kilic, A., Houser, P. (2014). An enhanced seasonal transition that intensified summer drought in the central U.S. *Journal of Climate*.

- Irmak, S., Kilic, A., Chatterjee, S. (2014). On the Equality Assumption of Latent and Sensible Heat Energy Transfer Coefficients of the Bowen Ratio Theory for Evapotranspiration Estimations: Another Look at the Potential Causes of Inequalities. *Climate*, 2(3), 181-205.
- Mutiibwa, D., Kilic, A., Irmak, S. (2014). The effect of land cover/land use changes on the regional climate of the High Plains. *Climate*, 2(3), 153-167.
- Sng, R. K., Kilic, A., Walter-Shea, E., Verma, S., Suyker, A. (2011). Spectral data-based estimation of soil heat flux. *Transactions of the ASABE*, 54, 1589-1597.
- Kjaersgaard, J., Allen, R. G., Kilic, A. (2011). Improved Methods for Estimating Monthly and growing season ET using METRIC applied to moderate-resolution satellite imagery. *J. Hydrological Processes*, 25, 4028-4036.
- Kilic, A. (2010). Estimating energy fluxes over irrigated maize field with METRIC. *Transactions of the ASABE*.
- Kilic, A., Ranade, P. (2010). Prediction of gridded reference evapotranspiration: Evaluation of interpolation methods. *Irrigation Science*.
- Allen, R. G., Hendrickx, J., Bastiaanssen, W., Kjaersgaard, J., Kilic, A. (2010). Status and continuing challenges in operational remote sensing of ET. *5th National Decennial Irrigation Conference. Phoenix, Arizona. December 5-8, 2010*.
- Kilic, A., Kilic, S., Kabenge, I., Skaggs, K., Mutiibwa, D. (2010). Trend and magnitude of changes in local climate variables and reference evapotranspiration over 116-year period in the Platte River. *Water Resources Research*.
- Singh, R., Kilic, A. (2009). Estimation of Crop Coefficients Using Satellite Remote Sensing. *J. Irrig. and Drain. Eng.*, 135, 597-608.
- Kilic, A., Kamble, B. (2009). Evapotranspiration Data Assimilation with Genetic Algorithms and SWAP Model for On-demand Irrigation. *Irrigation Science*, 28, 101-112.
- Kilic, A., Kamble, B. (2009). Evapotranspiration data assimilation with genetic algorithms and SWAP model for on-demand irrigation. *Irrigation Science*, 28, 101-112.
- Kilic, S., Istanbuluoglu, E., Kilic, A. (2008). An evaluation of evapotranspiration model complexity versus performance in comparison with Bowen ratio energy balance measurements. *Transactions of the ASABE*, 51, 1295-1310.
- Kilic, A., Irmak, S. (2008). Reference and crop evapotranspiration in south central Nebraska: II. Measurement and estimation of actual evapotranspiration. *J. Irrig. and Drain. Eng.*, 134, 700-715.

#### Other

- Kilic, A., Ratcliffe, I., Ranade, P. (2010). *Seasonal Evapotranspiration Mapping Using Landsat Visible and Thermal Data with METRICtm for Central Platte Natural Resources District, NE* (pp. 120 p.). CPNRD Final Report.
- Hergert, G. W., Kilic, A., Stone, G. (2009). *400-mile high satellite images provide groundwork for water use maps* (pp. 1-3). University of Nebraska-Lincoln Extension.

- Kilic, A., Akasheh, S. (2009). *Mapping the riparian vegetation using multiple hyperspectral airborne imagery* (pp. 8 p.). Nebraska Department of Natural Resources.
- Kilic, A., Rundquist, D., Narumalani, S., Hergert, G. W., Stone, G. (2009). *Satellite-based energy balance to assess riparian water use* (pp. 11 p.). Lincoln, NE: University of Nebraska-Lincoln.
- Kilic, A., Ratcliffe, I., Singh, R. K. (2009). *Measurement of growing season actual crop evapotranspiration and crop coefficients, and dormant season evaporative losses for key* (pp. 31 p.). Lincoln, NE: University of Nebraska-Lincoln.
- Hergert, G. W., Kilic, A., Allen, R. G., Kjaersgaard, J., Ratcliffe, I., Stone, G. (2009). *Demonstrate and adapt remote sensing technology to produce and utilize consumptive water use maps for the Nebraska Panhandle* (pp. 15 p.).
- Kilic, A. (2007). *Developing Irrigation Management Decisions Using a Functional Crop Growth Model* (pp. 15 p.). UNL- Agricultural Research.

### **Presentations Published in Proceedings**

- Ou, G. (Presenter & Author), Chen, X.-H. (Author Only), Kilic, A. (Author Only), American Geophysicis Union fall meeting, "Development of a cross-section based streamflow routing package for MODFLOW," American Geophysicis Union, San Francisco. (December 7, 2012).
- Kilic, A., Western States Remote Sensing of Evapotranspiration Workshop, "ET Mapping for Management of Natural Resources Districts in Nebraska," NASA, Western States Water Council, Boise, Idaho, USA. (October 24, 2012).

### **Presentations Given**

- Kilic, A., METRIC Training Course, August 22 - 25, 2016, Univ. California-Davis, Davis, CA, "Arc-GIS Methodologies, METRIC Applications in Nebraska, and Application of the Google Earth Engine Remote Sensing of Evapotranspiration Application – EEFlux," California Environmental and Water Modeling Forum, Davis, CA. (August 23, 2016).
- Kilic, A., Metropolitan Water District METRIC Training Course, "Application of the Google Earth Engine Remote Sensing of Evapotranspiration Application – EEFlux and METRIC Applications in Nebraska," Metropolitan Water District of Southern California, Los Angeles, CA. (May 12, 2016).
- Kilic, A., UC Davis Evapotranspiration Remote Sensing Workshop,, "Google Earth Engine Remote Sensing of Evapotranspiration Application - EEFlux," University of California-Davis, Davis, CA. (February 10, 2016).
- Allen, R. (Presenter & Author), Kilic, A. (Presenter & Author), Suyker, A. (Author Only), Irrigation Association - American Soc. Agric. and Biol. Engineers, "Evapotranspiration Estimation with the FAO56 Dual Crop Coefficient," IA - ASABE, Long Beach, CA. (November 10, 2015).
- Kilic, A., Irrigation Association - American Soc. Agric. and Biol. Engineers, "Google Earth Engine Evapotranspiration Flux --- EEFlux and GEARUP," IA - ASABE, Long Beach, CA. (November 10, 2015).
- Kilic, A. (Presenter & Author), National Workshop on Remote Sensing of Evapotranspiration, "Google Earth Engine Evapotranspiration Flux --- EEFlux and Global ET Mapping and Use of Satellite Platforms for ET," NASA and World Bank, Washington, DC. (September 16, 2015).



- Kilic, A. (Presenter & Author), National Workshop on Remote Sensing of Evapotranspiration, "Google Earth Engine Evapotranspiration Flux --- EEFlux," NASA and World Bank, Washington, DC. (September 15, 2015).
- Kilic, A. (Presenter & Author), INOVAGRI - Innovations in Irrigation, "Google Earth Engine App for Residential Water Use and Preservation - GEARUP," WINOTEC, Brasilia, Brazil, Fortaleza, Brasil. (September 5, 2015).
- Kilic, A. (Presenter & Author), INOVAGRI - Innovations in Irrigation, "Google Earth Engine Evapotranspiration Flux --- EEFlux," WINOTEC, Brasilia, Brazil, Fortaleza, Brasil. (September 4, 2015).
- Kilic, A., DSI - Turkish National Workshop on ET, "Using Thermal Satellite and Surface Energy Balance for field Scale Evapotranspiration Area Monitoring the practical examples in the United States," DSI - Turkish National Hydraulics Institute, Istanbul, Turkey. (March 17, 2015).
- Kilic, A., Seminar for the University of Talca Community on Climate Change, "Applications of Remote Sensing for Evapotranspiration in the USA at Landsat Spatial Scales for Agricultural Water Management and to Support Climate Change Research," University of Talca, Talca, Chile. (February 2015).
- Kamble, B. (Presenter & Author), Kilic, A. (Author Only), AGU Fall Meeting, "Google EEFLUX Evapotranspiration," University of Nebraska-Lincoln and Google, United States. (December 18, 2014).
- Ou, G., Munoz-Arriola, F., Chen, H., Kilic, A., American Geophysical Union, "Improving Soil-Vegetation Dynamics in the Soil and Water Assessment Tool (SWAT)," San Francisco. (December 16, 2014).
- Pun, M. (Presenter & Author), Kilic, A. (Author Only), AGU, "Impacts of Reprojection and Resampling of MODIS Satellite Images on Estimating Crop Evapotranspiration," AGU, San Francisco, CA. (December 15, 2014).
- Kamble, B. (Presenter & Author), Kilic, A. (Author Only), AGU, "Google EEFLUX Evapotranspiration," AGU, San Francisco, CA. (December 11, 2014).
- Kilic, A., PECORA, "Google EEFLUX Evapotranspiration Tool," USGS/ASPRS, Denver. (November 18, 2014).
- Kilic, A. (Presenter & Author), Kamble, B. (Author Only), PECORA, USGS/ASPRS, "Google EEFLUX Evapotranspiration Tool," USGS, United States. (November 18, 2014).
- Kilic, A., Landsat Science Team, "Update on Thermal Imaging in Water Consumption," USGS/NASA, Corvallis, OR. (July 21, 2014).
- Kilic, A., NASA-NEWS, "Remote Effects of Sea Surface Temperature," NASA, Greenbelt, Maryland. (May 30, 2014).
- Kilic, A., Innovations in Irrigation Technology -- International Conference (INOVAGRI), "Remote Sensing of Evapotranspiration for Water Resources Management," INOVAGRI - Brasil, Fortaleza, Brasil. (April 2014).
- Kilic, A., UNL Water Resources Seminar, "The World of Landsat for Water Consumption," Nebraska Water Center, SNR, Lincoln. (February 27, 2014).

- Kilic, A. (Presenter Only), Landsat Science Team Meeting, "Evapotranspiration in Water Resources Management," USGS/NASA, Sioux Fall, SD. (October 29, 2013).
- Kilic, A. (Presenter Only), Development of consumptive irrigation water requirements in Turkey, "Remote Sensing of Evapotranspiration at the Field and Regional Scale," TAGEM. Republic of Turkey Ministry of Food, Agriculture and Livestock, TAGEM. Eskişehir Yolu 9. Km Lodumlu / ANKARA /TURKEY. (July 10, 2013).
- Kilic, A. (Presenter Only), Landsat Science Team Meeting, "Developing and Enhancing Landsat Derived Evapotranspiration and Surface Energy Products. Landsat Science Meeting. Vandenberg Air Force Base. California. Feb 9-15. 2013.," USGS/NASA, Vandenberg, CA. (February 9, 2013).
- Kilic, A. (Presenter Only), Allen, R. G. (Presenter Only), Morse, T. (Presenter Only), World Bank Staff, Washington, D.C., "Mapping Evapotranspiration at Field Scale using Satellites," World Bank, Washington, D.C. (December 13, 2012).
- Ou, G. (Presenter & Author), Chen, X.-H. (Author Only), Kilic, A. (Author Only), American Geophysicis Union fall meeting, "Development of a cross-section based streamflow routing package for MODFLOW," American Geophysicis Union, San Francisco. (December 7, 2012).
- Kilic, A., Western States Remote Sensing of Evapotranspiration Workshop, "ET Mapping for Management of Natural Resources Districts in Nebraska," NASA, Western States Water Council, Boise, Idaho, USA. (October 24, 2012).

## **Contracts, Grants and Sponsored Research**

### **Contract**

- Kilic, A. (Principal Investigator), Kilic, A. (Investigator), "CPNRD Evapotranspiration Mapping," Sponsored by Central Platte NRD, Local & Area, \$20,000.00. (October 1, 2016 - June 30, 2018).
- Kilic, A. (Principal Investigator), Kamble, B. (Investigator), "Google EEFlux Unrestricted Gift," Sponsored by Google Inc, Industry, \$53,970.00. (March 4, 2016 - March 3, 2017).
- Kilic, A. (Principal Investigator), "TIR Specifications for Landsat 9," Sponsored by NASA, Federal, \$98,707.00. (January 10, 2014 - December 31, 2014).
- Kilic, A. (Principal Investigator), Kilic, A. (Investigator), Irmak, S. (Investigator), "METRIC Model Morocco," Sponsored by Development Alternatives Inc, Industry.
- Dvorak, B. (Principal Investigator), Hoagland, K. (Investigator), Martin, D. (Investigator), Awada, T. (Investigator), Irmak, S. (Investigator), Kilic, A. (Investigator), Kilic, A. (Investigator), Verma, S. (Investigator), Huddle, J. (Investigator), Zhou, X. (Investigator), "DNR Grnd Water Mgmt & Protect TO-10," Sponsored by Ne Dept Natural Resources, State Agencies, \$418,071.00. (February 1, 2005 - June 30, 2011).

### **Donation**

- Kilic, A. (Principal Investigator), "Implementation of the EEFLUX/METRIC Algorithms into Google Earth Engine for Computation of Water Consumption," Sponsored by Google Inc, Industry, \$77,075.00. (January 1, 2015 - December 31, 2015).

## Grant

- Kilic, A. (Principal Investigator), Deogun, J. (Investigator), Munoz-Arriola, F. (Investigator), Oglesby, R. J. (Investigator), Kamble, B. (Investigator), Rowe, C. (Investigator), Arkebauer, T. (Investigator), "Developing a Strategy for Evaluating the Impact of Climate Change on Water Resources in High Plains," Sponsored by Internal.
- Kilic, A. (Principal Investigator), Kilic, A. (Investigator), "Remote Sensing Agricultural Water," Sponsored by NASA, Federal, \$60,695.00. (February 1, 2017 - January 31, 2018).
- Kilic, A. (Principal Investigator), "Developing and Enhancing Landsat Derived Evapotranspiration and Surface Energy Products," Sponsored by Department of Interior (USGS/NASA), Federal, \$268,000.00. (October 5, 2013 - October 5, 2017).
- Kilic, A. (Principal Investigator), "2012-2017 Landsat Science Team," Sponsored by Univ of Idaho, Universities, \$67,949.00. (October 5, 2016 - October 4, 2017).
- Kilic, A., "EEFlux Mapping of Evapotranspiration on Google Earth Engine," Sponsored by Google, Inc., Industry, \$53,970.81. (March 15, 2016 - March 15, 2017).
- Kilic, A. (Principal Investigator), Kilic, A. (Investigator), "California SWRCB NASA ROSES 2016," Sponsored by California St Water Resources Control Bd, Associations/Foundations.
- Irmak, S. (Principal Investigator), Kilic, A. (Investigator), "Regional Water Quantity and Quality," Sponsored by Dept of Agriculture-AFRI, Federal.
- Kilic, A. (Principal Investigator), Kamble, B. (Investigator), "Google EEFlux Unrestricted Gift," Sponsored by Google Inc, Industry, \$77,301.00. (December 12, 2014 - June 30, 2016).
- Kilic, A. (Principal Investigator), Kilic, A. (Investigator), "CPNRD Evapotranspiration Mapping," Sponsored by Central Platte NRD, Local & Area, \$195,916.00. (November 1, 2010 - June 30, 2016).
- Kilic, A. (Principal Investigator), "California Water Board," Sponsored by Univ of Idaho, Universities.
- Kilic, A. (Principal Investigator), "INFEWS T2: Develop of policy supp," Sponsored by Metropolitan Water District of Southern California, Associations/Foundations.
- Kilic, A. (Principal Investigator), "INFEWS/T4 Training Center," Sponsored by Metropolitan Water District of Southern California, Associations/Foundations.
- Kilic, A. (Co-Principal Investigator), Irmak, S. (Principal Investigator), Mitchell, J., Payero, J., Stamper, j., Hay, C., "Quantification of Regional Impact(s) of Technology Implementation in Water Management on Water Quality by Expansion of the Nebraska Agricultural Water Management Network; and Socio-economic and Risk Assessment/Management of Water Quantity and Quality Interactions," Sponsored by USDA-AFRI, Federal, \$8,000,000.00. (January 1, 2016 - Present).
- Wedin, D. (Principal Investigator), Franz, T. (Investigator), Twidwell Jr, D. (Investigator), Hanson, P. (Investigator), Kilic, A. (Investigator), Kilic, A. (Investigator), "Sandhills Stability Preproposal," Sponsored by NSF, Federal.

Irmak, S. (Principal Investigator), Kilic, A. (Investigator), "Regional Water Quantity and Quality," Sponsored by Dept of Agriculture-AFRI, Federal.

Kilic, A. (Principal Investigator), Kilic, A. (Investigator), Feng, S. (Investigator), Hu, Q. (Investigator), Oglesby, R. J. (Investigator), Oglesby, R. J. (Investigator), Hu, Q. (Investigator), "Local vs Remote Effects on Drought," Sponsored by NASA, Federal, \$124,750.00. (December 20, 2013 - May 31, 2015).

Wedin, D. (Principal Investigator), Franz, T. (Investigator), Twidwell Jr, D. (Investigator), Hanson, P. (Investigator), Kilic, A. (Investigator), "Sandhills Stability Preproposal," Sponsored by NSF, Federal.

Kilic, A. (Principal Investigator), "Proposed Analyses to Determine Needed Specifications for Thermal Imaging on Landsat 9 and beyond," Sponsored by NASA, Federal, \$98,707.00. (January 15, 2014 - December 31, 2014).

Kilic, A. (Principal Investigator), "Earth Engine App Urban Water Use," Sponsored by Google Inc, Industry, \$55,330.00. (January 1, 2014 - December 31, 2014).

Kilic, A. (Principal Investigator), Kilic, A. (Investigator), Feng, S. (Investigator), Hu, Q. (Investigator), Oglesby, R. J. (Investigator), Oglesby, R. J. (Investigator), Hu, Q. (Investigator), "Local vs Remote Effects on Drought," Sponsored by NASA, Federal, \$121,419.00. (November 6, 2012 - November 5, 2014).

Kilic, A. (Principal Investigator), Oglesby, R. J. (Co-Principal Investigator), Hu, Q. (Co-Principal Investigator), "Quantifying the Relative Roles of Local Versus Remote Effects on North American Summertime Drought," Sponsored by NASA, Federal, \$246,169.00. (November 7, 2012 - October 2014).

Kilic, A. (Principal Investigator), Oglesby, R. J. (Investigator), "High Value Wine and Tree Production," Sponsored by NASA, Federal.

Kilic, A. (Principal Investigator), "Computation of Water Consumption," Sponsored by Google Inc, Industry, \$47,328.00. (February 1, 2013 - January 31, 2014).

Kilic, A. (Principal Investigator), Kilic, A. (Investigator), "CPNRD Evapotranspiration Mapping," Sponsored by Central Platte NRD, Local & Area, \$325,789.00. (November 1, 2010 - October 31, 2013).

Oglesby, R. J. (Principal Investigator), Rowe, C. (Investigator), Kilic, A. (Investigator), Kilic, A. (Investigator), "NC Climate Science Center Univ," Sponsored by Colorado State University, Universities, \$66,825.00. (September 17, 2012 - September 16, 2013).

Kilic, A. (Principal Investigator), Kilic, A. (Investigator), "UNO-NASA Space Grant: Estim Evapor," Sponsored by UNO-Univ of Nebraska-Omaha, Universities.

Kilic, A. (Principal Investigator), Kamble, B. (Investigator), "UNO-NASA Space Grant: Mapping Soil," Sponsored by UNO-Univ of Nebraska-Omaha, Universities.

Irmak, S. (Principal Investigator), Kilic, A. (Investigator), Martin, D. (Investigator), Verma, S. (Investigator), van Donk, S. (Investigator), "Measurement of Growing Season," Sponsored by Central Platte NRD, Local & Area, \$492,564.00. (July 1, 2007 - December 31, 2011).

Irmak, S. (Principal Investigator), Eisenhauer, D. (Investigator), van Donk, S. (Investigator), Zoubek, G. (Investigator), Rees, J. (Investigator), Siekman, D. (Investigator), VanDeWalle, B. (Investigator), Yoder, R. (Investigator), Kilic, A. (Investigator), Rundquist, D. (Investigator),

"Quantifying Evaporation," Sponsored by Ne Dept Natural Resources, State Agencies, \$679,160.00. (April 4, 2008 - June 30, 2011).

Oglesby, R. J. (Principal Investigator), Oglesby, R. J. (Investigator), Rowe, C. (Investigator), Fulginiti, L. (Investigator), Perrin, R. (Investigator), Kilic, A. (Investigator), Kilic, A. (Investigator), "GPRB Climate and Agriculture," Sponsored by NSF, Federal.

Kilic, A. (Principal Investigator), "UNO-NASA Space Grant-Evapotranspir," Sponsored by UNO-Univ of Nebraska-Omaha, Universities, \$20,000.00. (October 1, 2009 - March 31, 2010).

## Other

Wang, J. (Principal Investigator), Rowe, C. (Co-Principal Investigator), Oglesby, R. J. (Co-Principal Investigator), Hu, Q. (Co-Principal Investigator), Anderson, M. (Co-Principal Investigator), Houston, A. (Co-Principal Investigator), Broeke, M. (Co-Principal Investigator), Zeng, J. (Co-Principal Investigator), Chen, X.-H. (Co-Principal Investigator), Wardlow, B. (Co-Principal Investigator), Tadesse, T. (Co-Principal Investigator), Shulski, M. (Co-Principal Investigator), You, J. (Co-Principal Investigator), Awada, T. N. (Co-Principal Investigator), Yang, H. (Co-Principal Investigator), Swanson, D. R. (Co-Principal Investigator), Yu, H. (Co-Principal Investigator), Irmak, S. (Co-Principal Investigator), Kilic, A. (Co-Principal Investigator), "High-Plains Earth System Modeling Complex (HP-ESMC) Toward integrated assimilation of satellite remote sensing and ground-based observation data," \$100,000.00. (January 2015 - December 2016).

Awada, T. N. (Principal Investigator), Wienhold, B. (Principal Investigator), Arkebauer, T. (Co-Principal Investigator), Ferguson, R. (Co-Principal Investigator), Hayes, M. J. (Co-Principal Investigator), Shulski, M. (Co-Principal Investigator), Suyker, A. (Co-Principal Investigator), Wardlow, B. (Co-Principal Investigator), Woodbury, B. L. (Co-Principal Investigator), Baigorria, G. (Collaborator), Adams, D. (Collaborator), Billesbach, D. (Collaborator), Chen, X.-H. (Collaborator), Erickson, G. (Collaborator), Hergert, G. W. (Collaborator), Irmak, S. (Collaborator), Jin, V. (Collaborator), Kilic, A. (Collaborator), Kuzila, M. S. (Collaborator), Martin, D. L. (Collaborator), Varvel, G. (Collaborator), Walter-Shea, E. (Collaborator), Schacht, W. (Collaborator), Wedin, D. A. (Collaborator), Woodbury, B. L. (Collaborator), Zyguelbaum, A. (Collaborator), "PLATTE RIVER – HIGH PLAINS AQUIFER LTAR," Sponsored by USDA-ARS - LONG-TERM AGRO-ECOSYSTEM RESEARCH (LTAR) NETWORK, Federal, \$0.00. (February 2014 - Present).

Kilic, A. (Principal Investigator), Kilic, A. (Investigator), "Land Use/Cover Changes," Sponsored by NSF, Federal.

Kilic, A. (Principal Investigator), Kilic, A. (Investigator), "NSB On-Farm Irrigation Scheduling," Sponsored by Ne Soybean Board, Associations/Foundation.

Kilic, A. (Principal Investigator), Kilic, A. (Investigator), "On-Farm Irrigation Scheduling," Sponsored by Ne Corn Board, State Agencies.

Wortmann, C. (Principal Investigator), Hayes, M. (Investigator), Kilic, A. (Investigator), Oglesby, R. J. (Investigator), Tadesse, T. (Investigator), "BREAD: Response Strategy to Climate," Sponsored by NSF, Federal.

Hubbard, K. (Principal Investigator), You, J. (Investigator), Shulski, M. (Investigator), Specht, J. (Investigator), Cassman, K. (Investigator), Kilic, A. (Investigator), "Irrigation with NWS Forecasts," Sponsored by Dept of Commerce-NOAA, Federal.

Kilic, A. (Principal Investigator), "Land Use & Cover Changes Impact," Sponsored by NSF, Federal.

Kilic, A. (Principal Investigator), Hoagland, K. (Investigator), Ratcliffe, I. (Investigator), "USGS RiparianEvapotranspiration Map," Sponsored by Dept of Interior-GS, Federal.

Kilic, A. (Principal Investigator), "Evapotranspiration Water Mgmt in Ne," Sponsored by Ne Environmental Trust, State Agencies.

Kilic, A. (Principal Investigator), Kilic, A. (Investigator), "Est Regional Evapotranspiration," Sponsored by Dept of Agriculture-NRCS, Federal.

Kilic, A. (Principal Investigator), Kamble, B. (Investigator), "Est of Regional Evapotranspiration," Sponsored by NASA, Federal.

Kilic, A. (Principal Investigator), "Assess Land Surface Energy Fluxes," Sponsored by NASA, Federal.

Kilic, A. (Principal Investigator), "Clear Creek Watershed Observatory," Sponsored by Univ of Iowa, Universities.

## Awards and Honors

Member of the National Landsat Science Team, 2012-2017, United States Geological Survey. (September 1, 2012).

Recognition of Junior Faculty for Excellence in Research Award, UNL-Agricultural Research Division. (September 1, 2012).

## Intellectual Contributions in Submission

### Refereed Journal Articles

Wang, J., Kessner, A. L., Aegerter, C., Sharman, A., Judd, L., Wardlow, B., You, J., Shulski, M., Irmak, S., Kilic, A. A multi-sensor view of the 2012 Central Plains drought from space. *A multi-sensor view of the 2012 Central Plains drought from space.*

Sharma, V., Irmak, S., Kilic, A. Comparison of different methods of scaling/resolution of sebs derived fluxes for natural systems and vegetative surfaces. *Water Resources Research.*

Mutiibwa, D., Kilic, A., Irmak, S. Identifying the fingerprints of the anthropogenic component of land use/land cover changes on regional climate of the USA High Plains. *Journal of Hydrometeorology.*

Mutiibwa, D., Kilic, A., Irmak, S. Identifying changes in trend of summer air temperatures due to climate change in the High Plains of the USA. *Journal of Hydrology.*

### Other

Kilic, A. (2010). *Remote Sensing-Based Energy Balance for Mapping Riparian Evapotranspiration Along North Platte River Basin, Nebraska* (pp. 13 p.). UNL- Agricultural Research D..

Kilic, A. (2009). *Regional Evapotranspiration Estimation Using Land Surface Modeling, Data Assimilation, and Satellite Remote Sensing* (pp. 14 p.). NASA Nebraska Space Grant & EPSCoR.

## **SERVICE**

### **University Service**

Faculty Advisor, Turkish Students Association, UNL. (January 5, 2007 - Present).

Committee Member, Graduate Student Committees. (January 1, 2012 - December 31, 2016).

Committee Chair, School of Natural Resources. (April 1, 2015 - August 1, 2016).

### **Professional Service**

Committee Chair, Chair - American Society of Civil Engineers - Environmental and Water Resources Institute - Task Committee on Remote Sensing of ET. (January 1, 2012 - December 31, 2018).

Officer, President/Elect/Past, Chair - American Society of Civil Engineers - Environmental and Water Resources Institute - Technical Committee on Evapotranspiration in Irrigation and Hydrology. (May 1, 2015 - December 30, 2018).

Committee Member, USGS Landsat Science Team. (October 1, 2012 - December 31, 2017).

Reviewer, Grant Proposal, National Academy of Science. (June 1, 2016 - June 25, 2016).

Reviewer, Grant Proposal, National Science Foundation, Arlington, Virginia. (February 1, 2016 - April 5, 2016).

Committee Member, North Central (NCS) Climate Center. (October 1, 2012 - December 31, 2015).

Program Organizer, AGU- session co-convener, San Francisco, CA. (December 19, 2014).

### **Consulting**

Government, Metropolitan Water District of Southern California, Los Angeles, CA. (April 1, 2016 - May 30, 2016).