Matthew D. Miksch

Curriculum Vitae

319-461-3566 | miksch@aggiemail.usu.edu

Education

Utah State University   **December 2018**

M.S. in Climate Science, Current GPA: 4.0   **(expected)**

Advising Professors: Dr. Lawrence Hipps and Dr. Simon Wang   Logan, UT

Thesis: Evapotranspiration and Energy Balance of Irrigated Urban Turfgrass

Iowa State University   **May 2016**

B.S. in Meteorology, GPA: 3.71   Ames, IA

Research Interests

Land-air interactions, remote sensing of land surfaces, urban energy balance and climate

Research Experience

Graduate Research Assistant   **August 2016 - Present**

Utah State University, iUTAH, US Golf Association   Logan, UT

- Analyze and process eddy covariance data from site in suburban golf course
- Test performance of simple evapotranspiration (ET) remote sensing models by validating against eddy covariance data
- Use reanalysis and station data to create a diagnostic ET model to find changes in ET for areas of urban turfgrass from year-to-year

Biological Science Aid   **May 2014 – June 2016**

National Laboratory for Agriculture and the Environment   Ames, IA

- Worked with lab technician to help set up, troubleshoot, and maintain both weather stations and eddy covariance flux stations
- Performed preliminary data analysis and calibration of instruments

Atmospheric Science REU   **Summer 2015**

Texas A&M University   College Station, TX

- Studied forecast uncertainty in global ensemble models in the Southern Hemisphere extratropics
- Participated in a field experience that used instruments such as radiosondes and SODAR to examine the sea breeze over Galveston, TX

Teaching Experience

Teaching Assistant   **Spring 2018**
Utah State University, *Aviation Weather*, Course size: 64   Logan, UT
- Assisted professor, along with fellow TA, in creating course content including quizzes, labs, and exam questions
- Graded weekly labs and corrected online quizzes as needed

Teaching Assistant   **Fall 2017**
Utah State University, *The Atmosphere and Weather*, Course size: 119   Logan, UT
- Helped grade assignments and exams for approximately 120 students
- Gave forecast discussions and helped with demonstrations during class

Conference and Posters and Presentations

Miksch, M., L. Hipps, S. Wang (2018), Evapotranspiration and Energy Balance of Irrigated Urban Turfgrass, *33rd Conference on Agricultural and Forest Meteorology*, Boise, ID (presentation)

Miksch, M. and L. Hipps (2018), Evapotranspiration and Energy Balance of Irrigated Urban Turfgrass: Testing a Simple Remote Sensing Model, *Spring Runoff Conference*, Logan, UT (poster, lightning talk)

Miksch, M., I. Szunyogh, M. Herrera (2016), The Southern Hemisphere Forecast Uncertainty Dynamics in the THORPEX Interactive Grand Global Ensemble (TIGGE), *96th American Meteorological Society Annual Meeting*, New Orleans, LA (poster)

Other Select Presentations

Miksch, M., L. Hipps, S. Wang (2018), Quantifying Inter-Annual Changes in Evapotranspiration by Using a Diagnostic Evapotranspiration Model, *PSC 2018 Spring Seminar Series*, Logan, UT

Miksch, M., L. Hipps, S. Wang (2017), Evapotranspiration and Energy Balance of Urban Turfgrass in a Semi-Arid Environment, *PSC 2017 Fall Seminar Series*, Logan, UT

Miksch, M., I. Szunyogh, M. Herrera (2015), The Southern Hemisphere Forecast Uncertainty Dynamics in the THORPEX Interactive Grand Global Ensemble (TIGGE), *ISU Atmospheric Science Undergraduate Research Symposium*, Ames, IA

Awards and Fellowships

Apogee Instruments – Campbell Scientific Graduate Fellowship   **April 2017**
USU College of Agriculture and Applied Sciences
Burt Tanner – Campbell Scientific Graduate Fellowship   **April 2017**
USU College of Agriculture and Applied Sciences

Affiliations

National American Meteorological Society	**August 2013 – Dec. 2016,**
	October 2017 – Present
ISU AMS Student Chapter	**August 2012 – May 2016**
Central Iowa National Weather Association	**August 2013 – May 2016**

Short Courses

Flux Course 2017   **July 2017**
University of Colorado Mountain Research Station   Nederland, CO
- Took a two-week intensive course taught by several scientists and professors about measuring and modeling CO_2 and H_2O fluxes
- Completed two group projects: using machine learning for CO_2 flux synthesis and examining which sensitivities drive NEE in carbon ensemble models

Technical Skills

Programming Languages
- Multiple years of experience in Python, including: reading and processing of timeseries and gridded data products, plotting, and multiprocessing
- Proficient in Fortran, Javascript, and CR Basic
- Elementary knowledge of Java, Matlab, HTML, CSS, and MPI-Fortran

Other Computing Skills
- Comfortable in both Unix and Windows environments
- Some experience with bash commands and shell scripting
- W

Outreach

Utah Public Radio Forecaster   **December 2016 – Present**
Prepare and record one to two-minute forecasts for the state of Utah each week

ISU AMS Student Chapter Webmaster   **Fall 2014 – Spring 2015**
Updated ISU AMS website, wrote monthly question for the alumni and updated page for the ISU AMS Facebook group, and helped with outreach and other chapter events

Central Iowa NWA Technology Committee   **March 2015**
Helped organize audio recording and projector equipment and ran the A/V table for a session at the Severe Storms and Doppler Radar Conference