

MWS Capstone Project - Monthly Update

Project:	Representation of spatial heterogeneity in the land-surface hydrologic model MESH
Reporting Period:	June 2019
Date:	July 3, 2019
Student:	Haley Brauner

1. Work completed in the last reporting period

- Training sessions for Ostrich, scripting, MESHr, and CRHMr
- Finished tidying, inspecting, refining, and stitching together the driving data from the various stations into one continuous set for all required meteorological parameters
- Selected parameters for Scenario 1 of the Baker Creek model setup and created the model input files
- Ran the MESH model with static values for Baker Creek and plotted the results
- Ostrich input files started

2. Team meetings held in the last reporting period (dates, times, attendance)

June 5 @ 1:30 pm - Meeting with Bruce to discuss a number of model configuration details
 June 10 @ 11 am - Meeting with Chris to discuss model parameterization
 June 25 @ 1 pm - Meeting with Dan to get some help with preparing the drainage database file, setting up the model file workflow, and compiling Ostrich on Plato server.

3. Planned work for the next reporting period

- Calibrate the simplest scenario on Baker Creek
- Prepare, run, and calibrate the more complex scenario(s) for Baker Creek
- Take the model further - investigate an alternative methodology, depending on modelling outcomes
- Continue writing the report as I go
- Continue with literature review

4. Information requested from advisors or partners

- Received an example MESH setup for Baker Creek for a hillslope area (needleleaf landcover only)
- Received some input and feedback on the model parameters selection and ranges, the calibration and validation period chosen, and some anomalies in the driving data

5. Summary of any challenges

- Working through and preparing the driving data took much longer than expected
- Had some issues compiling the Ostrich program on Plato -> got this resolved with the help of Dan Princz and U of S IT support
- Have been having some internet connectivity issues with the ethernet connection at the office

6. Summary of progress against the project plan

- According to the project plan, I am about a week behind on the modelling. I will be working hard to complete the model calibration this first week of July, which will leave 3 weeks to take the model further and 2 weeks to prepare the first draft of the report for review.