Project presentations on:
- Thur (4/28) and Thur (5/5)
- Time limit = 8 minutes

Written reports due May 5

Topics for today
- Assessing the accuracy of model simulations
- Project report
- Project presentation
Quantification of Accuracy

Moriasi et al. paper

- Nash-Sutcliffe efficiency (NSE)
- Percent bias (PBIAS)
- Root mean square error-observations standard deviation ratio (RSR)

Model simulations are satisfactory when:

- NSE > 0.50
- RSR <= 0.70
- PBIAS = +/- 25% for streamflow
- PBIAS = +/- 55% for sediment
- PBIAS = +/- 70% for Nitrogen and Phosphorus
Percent Bias (PBIAS)

- Measures average tendency of the simulated data to be larger or smaller than observed counterparts
- Optimal value = 0.0
  - Low values indicate accurate model simulations
  - Positive values indicate model underestimation
  - Negative values indicate model overestimation
Quantification of Accuracy

Moriasi et al. paper

- Root Mean Square Error – Observations Standard Deviation Ratio (RSR)
  - RSR standardizes RMSE using the observations standard deviation
  - RSR = 0 is optimal
  - The lower the RSR (the lower the RMSE also) the better the model simulation

- The Moriasi et al. paper is on the class webpage ➔ Announcements
Project Report Due May 5

- To be written in a Journal style
  - ASABE Transactions / ASCE Journal / AGU Journal
- All tables, figures, references should conform to the selected Journal format
- Submit a copy of an article from the selected Journal
Project Report

- Report text to be 5 – 10 pages
- Typed / double spaced / 1” margins / 12-point font
- Attach all figures, tables, drawings, references, etc. ➔ after the text
- The report should cite at least 5 references
  - At least one from the selected Journal
Project Report (cont.)

- Format of a typical report
  - Literature review / background info
    - Previous work on your topic / location
  - Put your study “in context” with previous published papers
Materials and methods

- Basic information about the model
- Document the modeling procedures that were required
- Datasets that were utilized
- Figure showing the location of your study
- Statistical procedures used in the project
- Calibration / validation of your model
  - Values of the parameters adjusted in the calibration
  - Statistical evaluation of simulated vs. observed values
Project Report (cont.)

- Results
  - "Guided-tour" of what was accomplished in the project
  - Plots of simulated vs. observed measurements
- Summary and conclusions
  - Highlight the most important findings of the project
  - What was the significance of the project
  - Successes and/or failures
- References
- Figures / tables / charts
Note: Not all reports will fit this format

- What is required for all reports is a well thought-out presentation of your project efforts
Captions for Figures and Tables

- Every Figure and Table must have a caption
- The format / location of the caption depends on the selected journal style
  - For Transactions of ASABE
    - Figure 1. Location of Upper North Bosque River ...
      - Left-justified
      - Goes below the figure
    - Table 3. Results of the SWAT model calibration ...
      - Center-justified
      - Goes above the table
- Every Figure and Table must be referenced in the text
Captions for Figures and Tables

- Captions should be a complete sentence
  - Not just a one or two word phrase
- Captions should completely describe what is being presented in the figure or table
  - Ideally, you should be able to understand what a figure or table is about **without** reading the text
References

- Every journal has a different style of reference
- Go to the journal web page for style of:
  - Journals
  - Books
  - Proceedings
  - Reports
  - Etc.
Project Report Grading

- Report = 50 points
  - Format (10 points)
    - Selected journal format
    - Appropriate sections
    - Orderly presentation of material
Project Report Grading

- Grammar (10 points)
  - Incorrect grammar
  - Misspelled words
  - All word processors have spelling / grammar tools ➔ use them!
- University Writing Centers
  - Evans Library / West Campus Library
Project Report Grading (cont.)

- Report = 50 points
  - Content (25 points)
    - The most important criteria!!
  - References (5 points)
    - Appropriate
    - Up to date
    - Comprehensive literature review
    - Appropriate format for the selected journal

- See class webpage ➔ Announcements for example final reports
Project Presentations

- 7 minute time limit for presentation
  - Presentation practice is required!

- 1 minutes for questions

- PowerPoint presentation required
PowerPoint Presentation Guidelines

- The presentation should highlight the points that you want the audience to remember.
- The presentation should prompt the speaker on the items that need to be discussed.
  - Slides are designed to supplement your presentation.
  - Slides are not meant to be your entire presentation.
  - Do not simply read from each slide and go to the next slide.
Bells and whistles are fun to put in, but they tend to be distracting for the viewer.

- Keep it simple
- Keep the transition from slide to slide simple
- Make sure that special effects have a purpose!
PowerPoint Presentation Guidelines

- Photographs / diagrams / charts add to a presentation
  - Help to keep audience attention
  - “A picture is worth a 1000 words!”
- Proofread and spell check all text!
Guidelines

- Use simple fonts → this is Tahoma
- Choose color combinations that make your text easy to read → this is dark text / light background
  - Could use light text / dark background
  - High contrast is important!
PowerPoint Presentation

Guidelines

- This is light text / dark background
- High contrast is important!
This is low contrast!
PowerPoint Presentation Guidelines

- This is a harsh color combination!!
- Low contrast as well!
PowerPoint Presentation Guidelines

- Limit graphics to 1 or 2 per page
  - Too many graphics can be distracting and hard to read
  - Often must re-draw graphics / plots for the slide presentations
- Use a laser pointer instead of pointing with your finger!
PowerPoint Presentation Guidelines

- Use duplicate slides instead of going back to a previous slide
- Print out handout to speak from
  - You may not be able to see the computer monitor
  - Don’t turn your back to the audience and speak to the screen ➔ speak to your audience
- Copy your handouts for your audience
Project Presentation Grading

- Presentation = 50 points
  - Presentation preparation (10 points)
    - Organization
    - Quality of visual aids / handouts
  - Caution ➔ don’t put too much info on one slide!!
Project Presentation Grading

- Presentation length (10 points)
  - A well rehearsed talk will fit the allotted time

- Effective communication (10 points)
  - Professional approach → posture / eye contact / stage presence / level of voice

- Don’t simply read your report!
Presentation = 50 points

- Technical content (20 points)
  - Did the presentation adequately present the material?
  - Did the presentation contain enough detail to fully explain the project?
Class wrap-up

- All students are expected to ask questions
- Good luck on your final projects!