

STEADY STATE MODEL COMMENTS

REVIEW THE ASSIGNMENT AND ADDRESS EVERYTHING WHETHER I HAVE MENTIONED IT IN MY COMMENTS THEM ON YOUR DRAFT OR NOT.

REVIEW YOUR REPORT FOR THE ITEMS BELOW AND INCLUDE IN YOUR REVISIONS WHETHER I HAVE MADE NOTES ABOUT THEM FOR YOU OR NOT

MONITOR THE HEADS AT FLUX BC AND FLOWS AT HEAD BC - print out flows at individual cells by making the cbc unit # negative, but turn it back on before trying to use the binary file in post-processors. Compare your w/wo stress models quantitatively (e.g. how much drawdown(up); changes if heads at fixed flux including no flow boundaries; and changes in flow at head boundaries)

Use lots of graphics to describe the system and the results. Present flow patterns by using vectors in ModelViewer or paths by using graphics from ModPath. Enhance your ability to make graphics and include them in your word doc.

Use formats in MSWord to get superscripts (use MSWord help or ask someone when you do not know how to do something). Never use E+/-## except for computer input or output. Use x10^{-##}

MODFLOW always all caps and **NOT! MUDFLOW**

PROOF READ!

Poeter's advice on fixing a ground water model

Tools at your discretion:

YOUR COMMON SENSE
REASON OUT THE HYDRAULICS
REASON OUT THE FLOW OF COMPUTER ACTIONS

Review error messages
Review newly created files
Use On-line guides
Use Class notes
Use manuals

Talk to Colleagues (including emailing me)

Do not expect to "know" based on attending class
Rather dig through your files and resources for solutions

PRE & POST PROCESSING GRAPHICAL USER INTERFACES (GUIs)

Why a GUI?

- Ease of input (graphical)
 - Intuitive input (visual)
- Model features input as objects so grid can be changed without a human re-entering text in files
 - Import of data sets in various formats and/or use of functions to generate values

What does a GUI do?

- Renders a graphical picture of properties & boundary conditions
 - Facilitates investigation of the input information
- Creates text files given your graphical depiction of the system and input of values to GUI menus
- The GUI runs the model codes with those text files as input
- Imports results from the output files of the model run and produces maps, charts, & graphs of results
 - Facilitates investigation of the results

USGS GUIs

Out-dated: USGS MF-GUI (needs ArgusONE)

NOW **ModelMuse** (1st released May 2009 updated often)

Commonly Used Commercial GUIs

Ground Water Vistas (GWV)

Ground Water Modeling System (GMS)

Visual MODFLOW

Problems with commercial GUIs:

- * Do not keep up with USGS developments
- * Much to learn, less intuitive than you may think
- * It is easy to miss modeling errors when using a GUI
- * Difficult to get problems resolved (exception GWV is very responsive)
- * Some use modified versions of MODFLOW with different binary output format
- * Cannot import individual module files
- * Those you share models with must own the same GUI

Benefits

- * Ease of visualizing and accomplishing input and output especially for large models

The best way to learn to use a GUI is to follow the tutorial and mimic their steps while setting up a model you need for a project

If you receive a model and do not have the GUI, sometimes you can import a model to a GUI

Beware that importing often produces bugs because the GUI authors focus on building new models.

IMPORT YOUR MODEL TO GWV TO VIEW RESULTS

Create a file folder

C:\Temp\ep\gww Copy your files into the new folder

REMOVE TABS

Missing carriage returns at the end of files may cause lost data

Values from pval will not be used so edit the files they modify

Some parameter files are read properly others not, try importing & if the model is not correct then edit to convert to without parameters

Missing data from a file (eg blanks read as zeros in dos) can be problematic

Launch Ground Water Vistas (GWV) from Programs

File > Import > Modflow Data Set > MODFLOW

Browse to select your name file, OK, OK

Model > MODFLOW > Packages rootname=ep select=mf2005

File > SaveAs ep.gww

MAKE SURE "PATH TO MODELS" IS CORRECT

Execute in GWV (calculator button)

Plot > Import Results

Browse for your Binary Head file and CCF file (check this), OK

Plot > Contours > Plan > change font and contour intervals

Does the map make sense?

Plot > Profile > heads

Does the profile along row 1 make sense?

Plot > Mass Balance > Model Summary > Graph

Does this make sense?

File Save the GWV file (this contains the entire model and can be sent to someone)

Examine the files that GWV created

View them and notice how they differ from the files you created manually, but provide the same result.

Notice parameters are no longer used and some data fields run together.

As time allows Explore GWV a bit

Change layers and the cross section rows

Use Xsection selection to view columns