Topic

Webinar: MODFLOW 6 and FloPy

#	Question	Answer
1	Will we have access to the presented material and notebook?	If you're keen to get the Notebooks discussed in this webinar, sign up to the live course: https://awschool.com.au/training/modflow6-flopy Thanks!
2	If the topography of this example wasn't flat - do we specify the layers as relative depth from the surface, or are they specified according to an absolute vertical datum?	Hi, in MODFLOW you specify the bottoms of each layer (and the top of the upper layer) relative to a vertical datum
3	is MF6 compatible with MODEL MUSE	MODELMUSE supports MF6, and is freely available. See https://www.usgs.gov/software/modelmuse-graphical-user-interface-groundwater-models
4	Is it possible to import riverconditions in flopy from a shapefile with the river conditions (e.g. river head, bottom elevation...) that vary along the path?	Absolutely, we will demonstrate that in the course
5	If so, is it freely available?	MODELMUSE supports MF6, and is freely available. See https://www.usgs.gov/software/modelmuse-graphical-user-interface-groundwater-models
6	Hi, the graphs of the model mesh presented in the first part of the presentation are produced by FloPy? Or do they need to be created separately in matplotlib?	Hi Juan, we created them ourselves in matlotlib but Mark is about to show something that looks very similar created with FloPy.
7	'- Does FloPy support unstructured grids? (Built separately and supplied as DISU, or maybe in another format)?	The devil is in the detail but in principle yes.
		FloPy has "load" functions for each package so that you can import existing models (or specific files, like an existing disu file)
8	Thanks Vincent	
9	can I use Flopy for irrigation performance indicators determination and crop water requirements estimation?	For that purpose I think that codes that have specific capabilities for unsaturated flow (e.g. Hydrus) are more appropriate.
10	Is MF posible to run in cloud which requires Linux version? In that case how flowpy deals with iterative variability of parameters?	Yes, you can download the source code from the USGS page and compile it for your specific platform. You can also run your FloPy scripts on the server
11	Thank you for your interactive presentation. What makes Flopy is unique from other packages?	There are not so many packages that allow you to interact with MODFLOW, although there are a few parallel developments by some people. But FloPy is officially supported by the USGS and developed in parallel with MF6 so that the two are always compatible
12	Can we use flopy to add salinity module on an existing modflow model.	MF6 can also simulate solute transport, and FloPy supports this functionality
13	CouLD YOU giVe ME THE sigHT TO doWnLoad the softWaRE anD package	Please see https://www.usgs.gov/software/modflow-6-usgs-modular-hydrologic-model and https://github.com/modflowpy/flopy
14	What about the waterbalance	live answered
		Well timed question! Vincent will answer live right now!
15	Is there an demonstrate to setup the grounwater basin with irregular shapes?	at the end of the webinar, Vincent will show how to simulate a hole in the clay layer (the leaky layer). We will show examples with many more irregular shapes in the workshop.
16	How do we incorporate the DEM as in most cases the elevation is not flat?	The top of the aquifer can be different for every cell. A DEM will be perfect for that!
17	Nice output of water balance. Can we get the different governing components of water balance, like precipitation, evapoiranspiration, deep percolation and so on?	If you specify precipitation and evaporation separaetely in the model (rather than recharge = precip - evap), then you will get separate components. You can also compute precolation to different layers quite easily.
18	Is it possible to integrate other fortran based model with MF via flowpy? If so, is there opportunity to work on collaboratively?	MODFLOW 6 allows you to link different models, but we won't cover that in this course. But we will show, for example, how to use MODPATH to do path lines.
19	Can we export the cbb content to a shapefile to better post-process?	What would you want to export to a shapefile? The fluxes?
		yes, fluxes or other contents of cbb
		export them to the grid file I made my model based on it
20	Thanks	You are welcome.
21	Is it possible to visualize timeseries of recharge and others via flopy?	matplotlib can be used to plot time series very easily. Vincent will show a brief transient run at the end of the webinar.
22	Is there also the possibility of presentation in the vertical (to do-away with the idea of the "crossing" flow lines)?	You can even do 3D, as Vincent is showing right now!
		Or you can make a 2D plot in vertical cross-section
23	Yes, I see it. Thanks!	live answered
24	Is there financial aid to cover the course fee	Thanks attendee, pop us an email at training@awschool.com.au and we might be able to assist.
25	Does flopy consider PEST for optimization?	Flopy itself doesn't have PEST routines. But the scipy package has nice basic optimization routines. And PyEMU has advanced optimization routines.
26	Thank you!	
27	Check out flopy documentation for the level of PEST integration. Search for PEST in here: https://flopy.readthedocs.io/en/latest/code.html	Thanks!
28	Can flopy be used in other IDE like spider, pycharm so that we can use script as another utilities for future?	Yes. Many people do.
29	Great presentation, really clear. Nice job Mark and Vincent. One question - can you comment on differences in levels of integration between Flopy for USG and MF6?	live answered
30	A part from coding is there a possibility of importing and using shapefiles, grid files e.tc within the folpy	Hi, that is defintively possible!
31	Thank you. You are changing groundwater modelling world.	live answered
32	Is there oppurtunity to join the team voluntarily?	
33	voronoi grids?	I think so, but we won't have time to cover that in the workshop