BELGIUM

Education evenings 2018

Practical introduction to groundwater modelling

Computer exercises
04 03 MODFLOW LGR

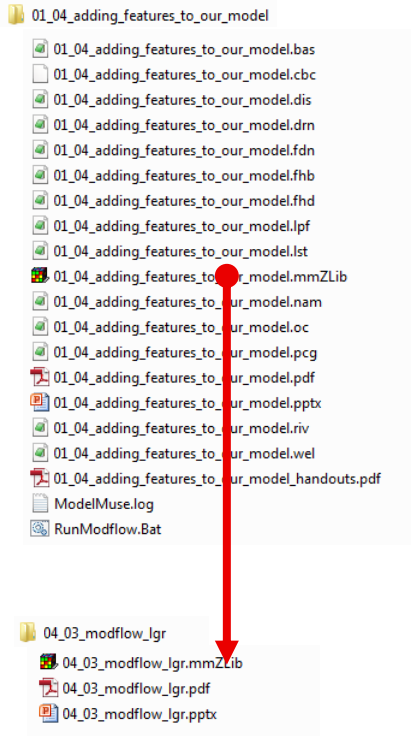
Purpose

In this exercise, we will

- ✓ use the model we designed in the first session,
- ✓ define a child model to refine the grid locally,
- ✓ run MODFLOW-LGR,
- ✓ and visualize the results.

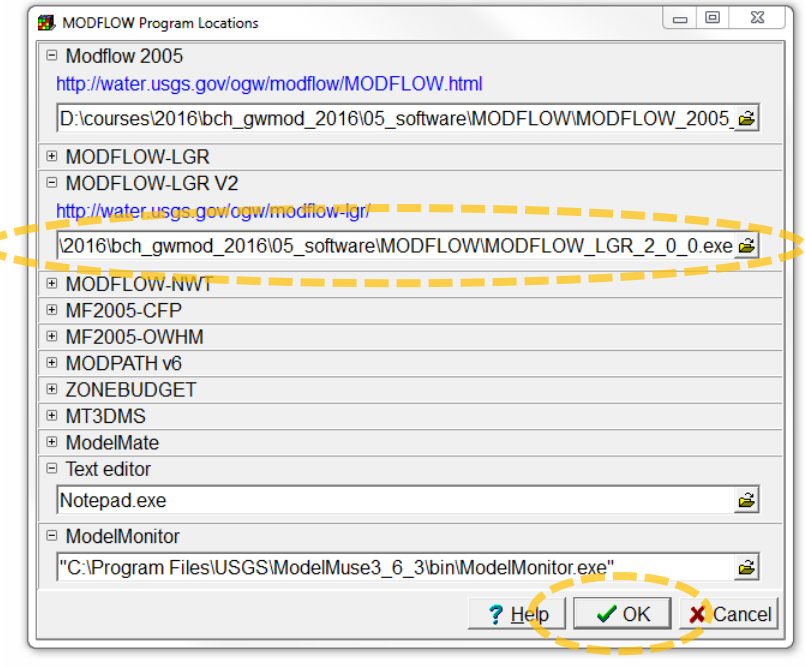
Copy file first session

- ✓ Copy file “01-04_adding-features-to-our-model.mmZLib” to folder “/04-03_modflow-lgr/”.
- ✓ Change the file name to “04-03_modflow-lgr.mmZLib”,
- ✓ and open the file in ModelMuse.



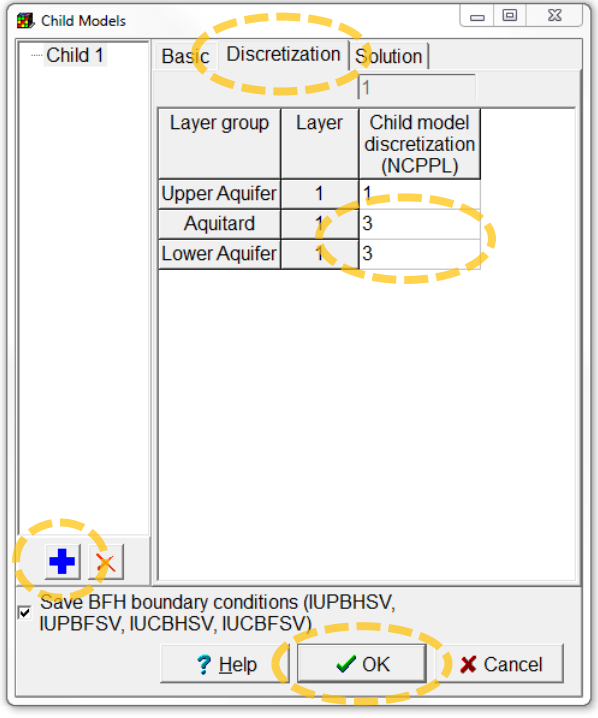
Set MODFLOW-LGR program location

- ✓ Select **Model | MODFLOW Program Locations…,**
- ✓ and set the **MODFLOW-LGR V2** path to "/05_software/modflow/modflow-lgr-2.0.00.exe".
- ✓ Then click **OK**.



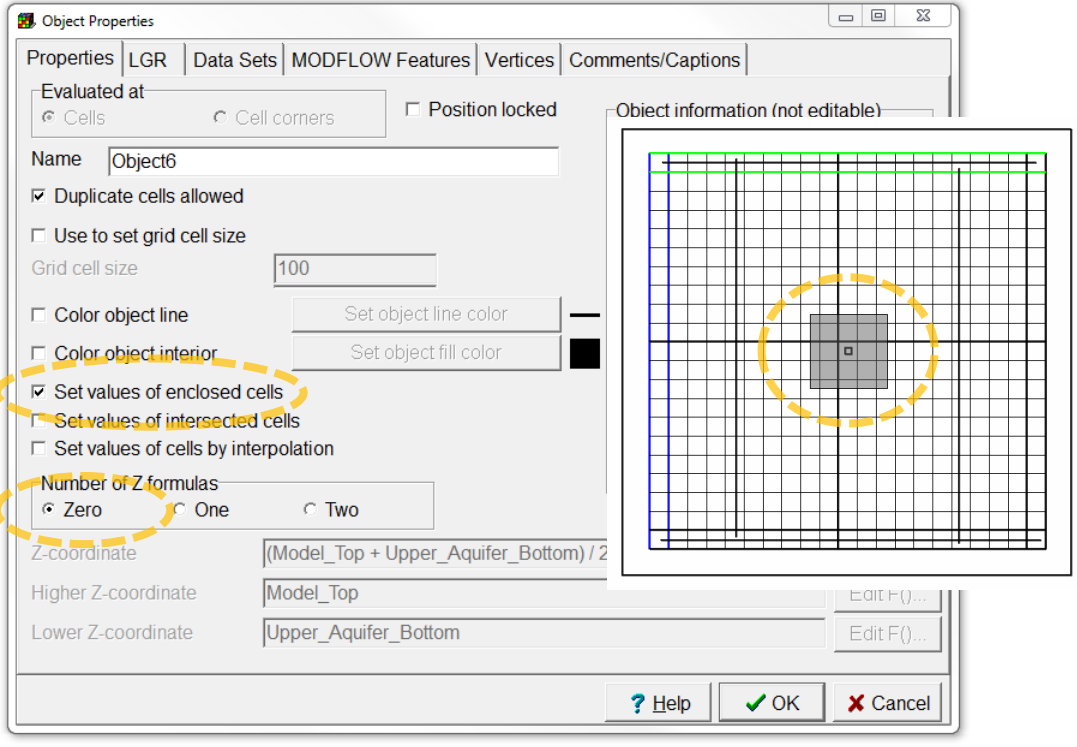
Define child model (1/3)

- ✓ Select **Model | MODFLOW-LGR V2**,
- ✓ and the **Child Models** dialog box will open.
- ✓ Add one child model, and switch to the **Discretization** tab.
- ✓ Set the **Child model discretization** for the **Aquitard** and **Lower Aquifer** to 3.
- ✓ Then press **OK**.



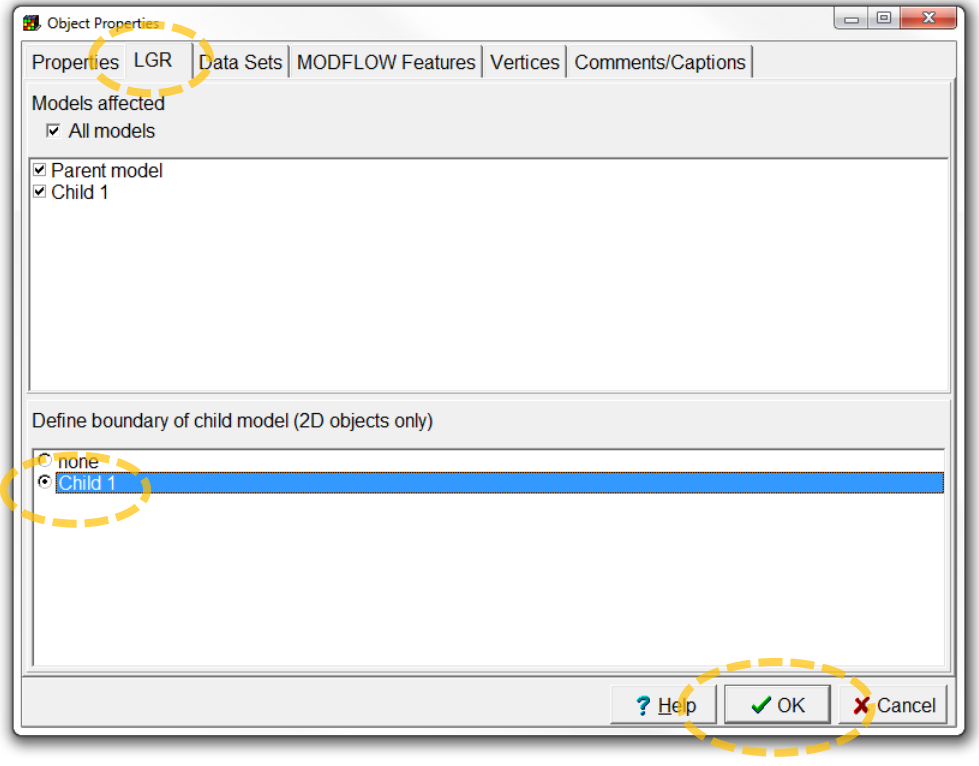
Define child model (2/3)

- ✓ Now draw a rectangle object surrounding the well in the center of the grid.
- ✓ In the **Object Properties** dialog box, set the **Number of Z formulas** to **Zero**,
- ✓ and check the **Set values of enclosed cells** check box.

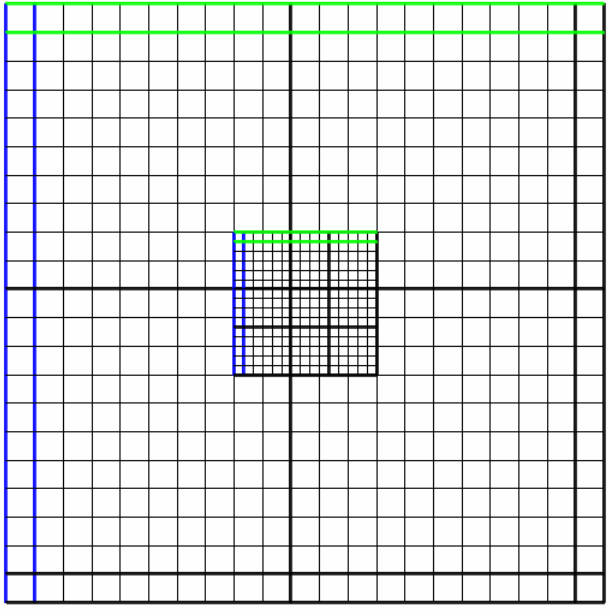


Define child model (3/3)

- ✓ Switch to the **LGR** tab,
- ✓ and select **Child 1** for **Define boundary of child model**.
- ✓ Press **OK**,
- ✓ and hide all objects.

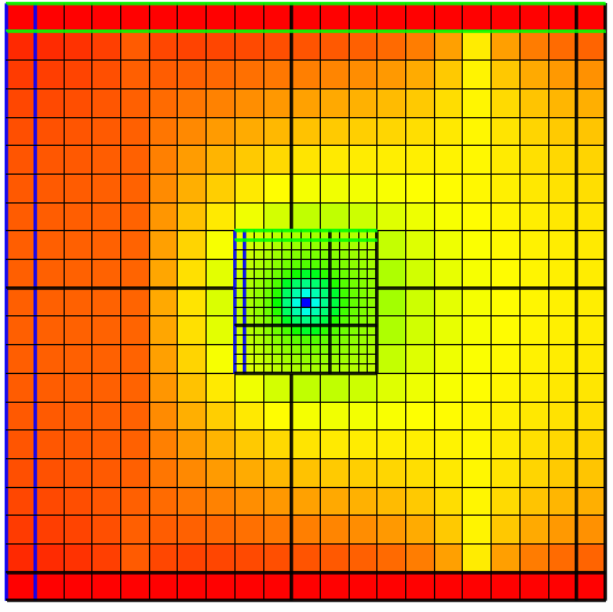


This is what you should get



Run model and visualize results

- ✓ Now save and run the model,
- ✓ and import the head results of the final time step.
- ✓ The coloured grid should look like the one on the right.
- ✓ Change the selected row and column to see the local grid refinement in the front and side view panes.



Education evenings 2018

Practical introduction to groundwater modelling

Computer exercises
04 03 MODFLOW LGR

Questions? Found an error?
Please contact B. Rogiers at brogiers@sckcen.be.