# Education evenings 2016

*Practical introduction
to groundwater modelling*

Computer exercises
04 03 MODFLOW LGR
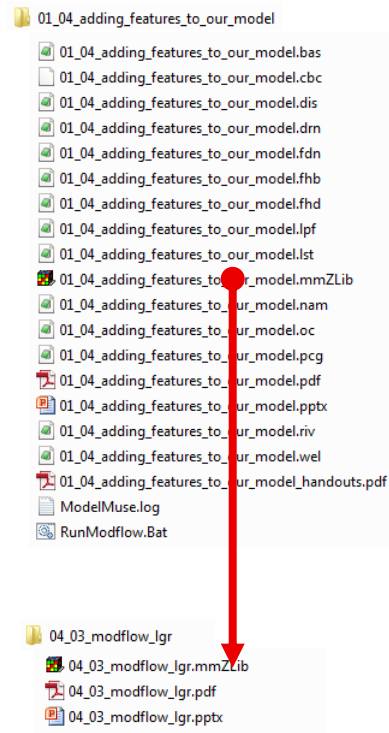
# Purpose

In this exercise, we will

✓ use the model we designed in the first session,

✓ define a child model to refine the grid locally,
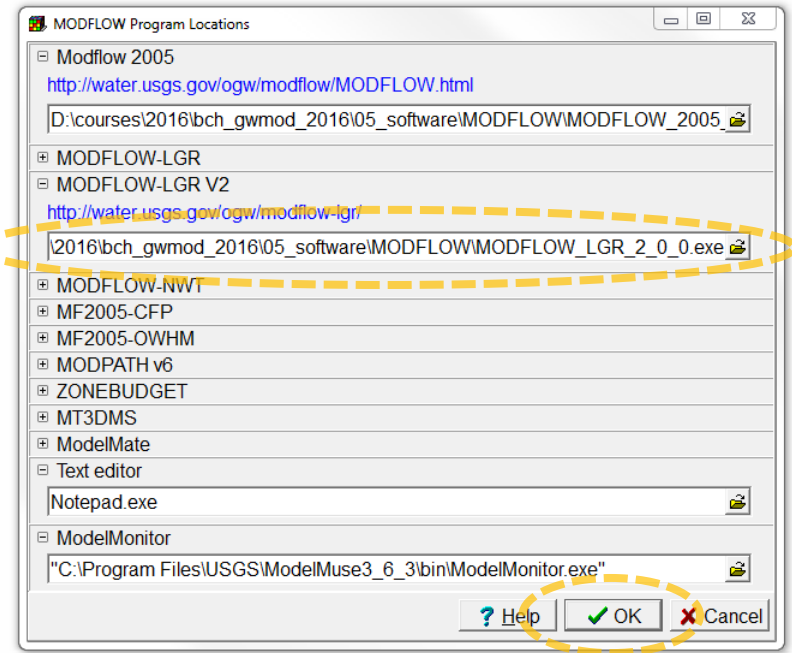
✓ run MODFLOW-LGR,

✓ 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_0.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.
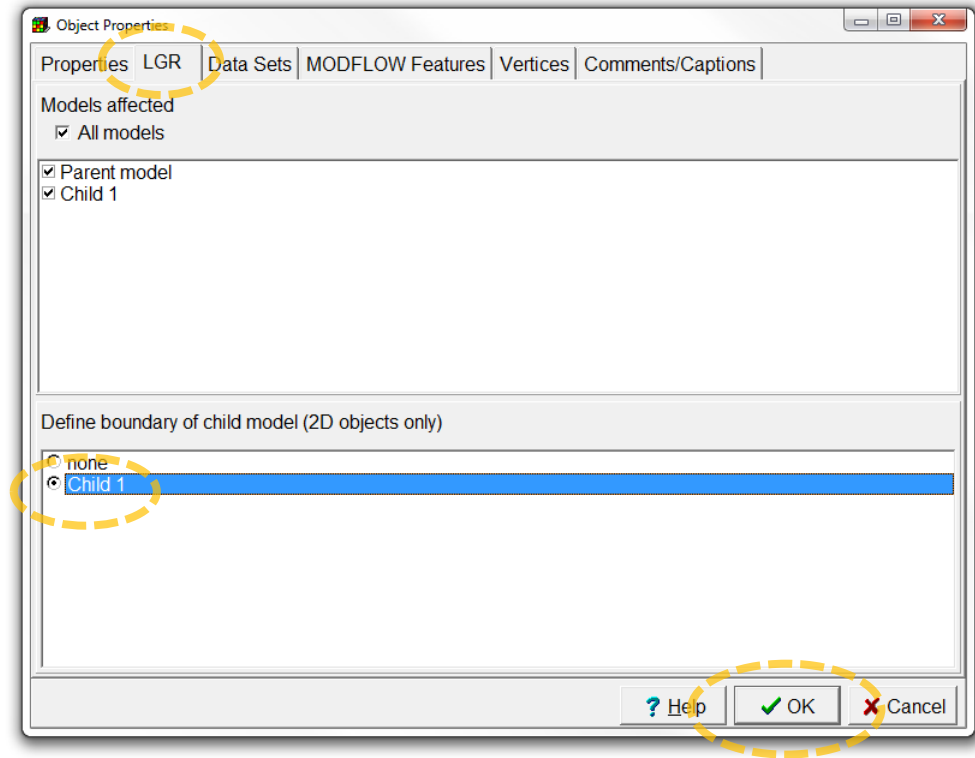- ✓ Then press **OK**.
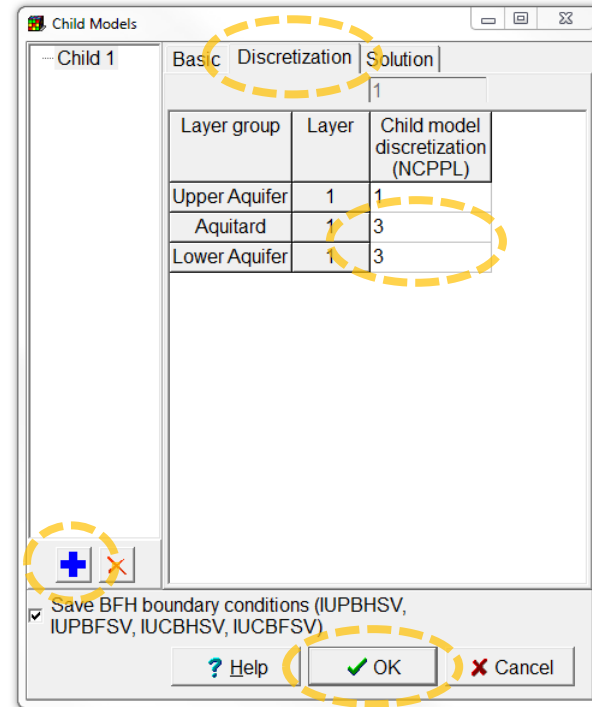
# Define child model (2/3)

- ✓ 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**,

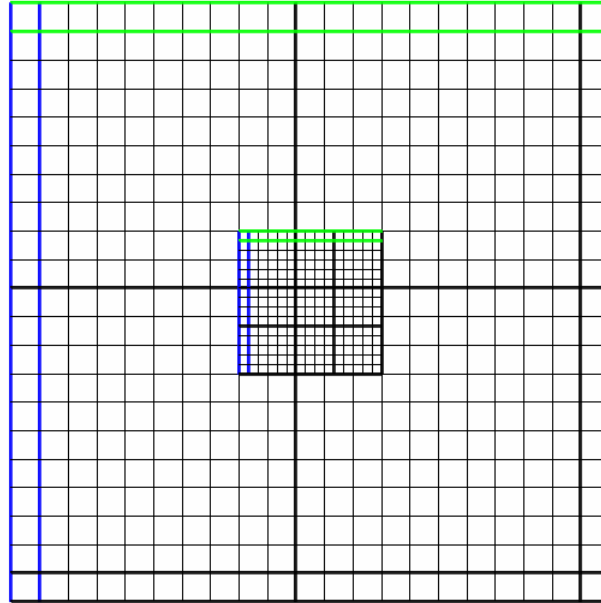- ✓ and check the **Set values of enclosed cells** check box.
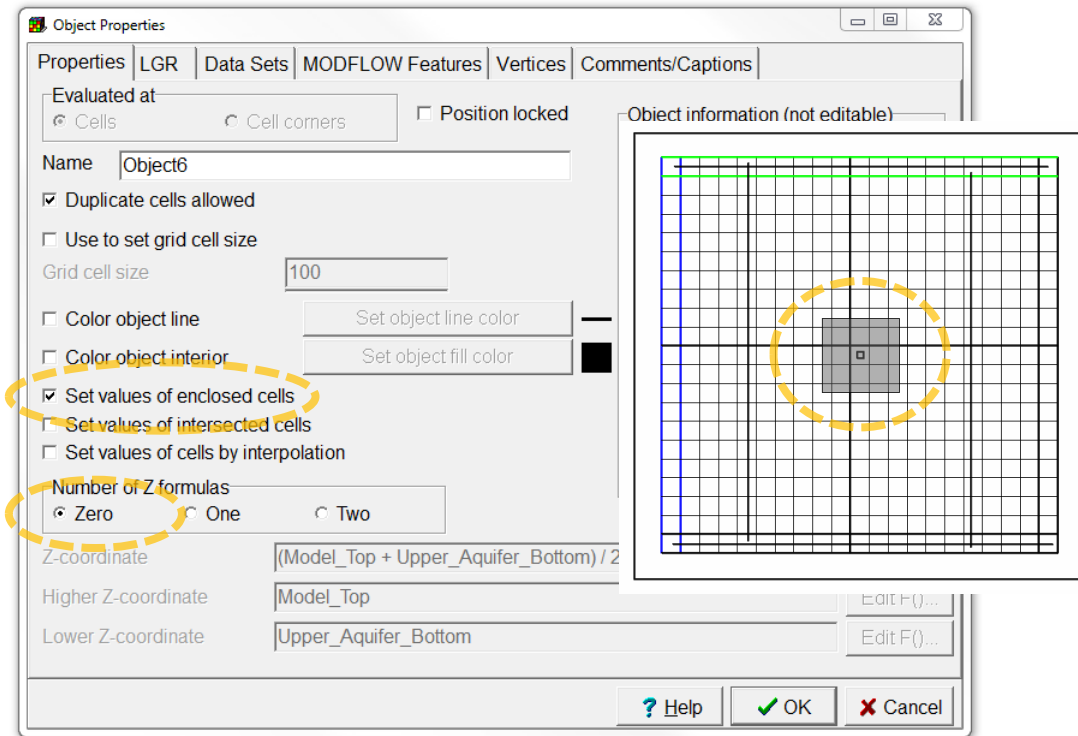
# Define child model (3/3)

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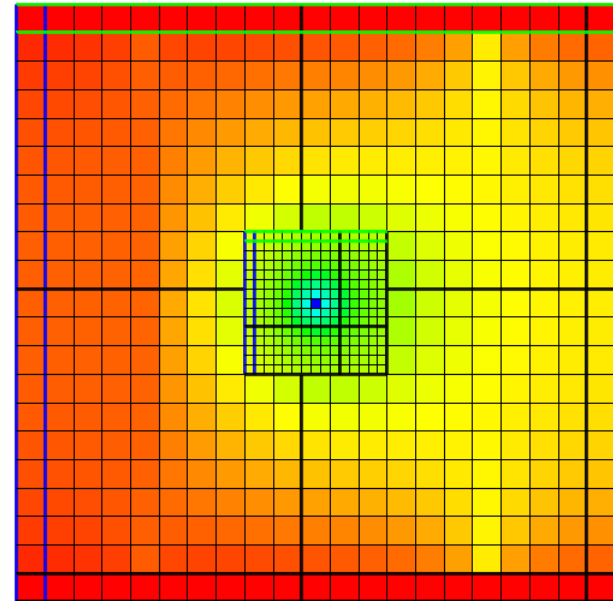- ✓ Press **OK**,
- ✓ and hide all objects.

# 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.

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