# COURSE: GROUNDWATER MODELLING USING MODFLOW

## SESSION 1: Introduction to MODFLOW and Model Muse

### Objective:

The objective of this session is learning to install MODFLOW software and describe the main window of ModelMuse.

### Download and installation of MODFLOW

ModelMuse is a graphical user interface (GUI) for MODFLOW-2005, MODFLOW-LGR, MODFLOW- NWT, MODFLOW-UFZ, MT3DMS, PHAST, MODPATH, and ZONEBUDGET.

Link to install software:
https://water.usgs.gov/nrp/gwsoftware/ModelMuse/ModelMuse.html

In this case, to install Model Muse for Windows, the file **ModelMuseSetup64_4_2** will be installed. This software has been approved for release by the U.S. Geological Survey (USGS).

ModelMuse is distributed as either an installer or a zip file. Either version may be used for installing ModelMuse.  Both contain the same version of ModelMuse for use on personal computers:


For 32 or 64-bit operating systems:

ModelMuseSetup32_4_2.exe

ModelMuse32_4_2.zip


For 64-bit operating systems:

ModelMuseSetup64_4_2.exe

ModelMuse64_4_2.zip


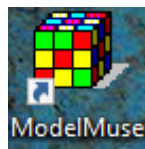In this case, select **Installer "For 64-bit operating systems".** When the installer finish to download, you can follow this instruction:


- Go to **GroundwaterModellingMODFLOW\Installers**
- Select **ModelMuseSetup64_4_2**
- Click in **Run**
- Activate **Create a desktop shortcut** and click in **Next**
- Then click **Install**. After the finished click in **Next.**
- Now click in **ModelMuse** on the desktop short cut.

## Presentation of MODFLOW environment

Once the user has already installed MODFLOW, a general view of the main MODFLOW window will be done.

When MODFLOW starts, the next window will appear. Here, a new project can be created or an already existing one can be opened. Click on **Create MODFLOW model**, then click on **Next.**
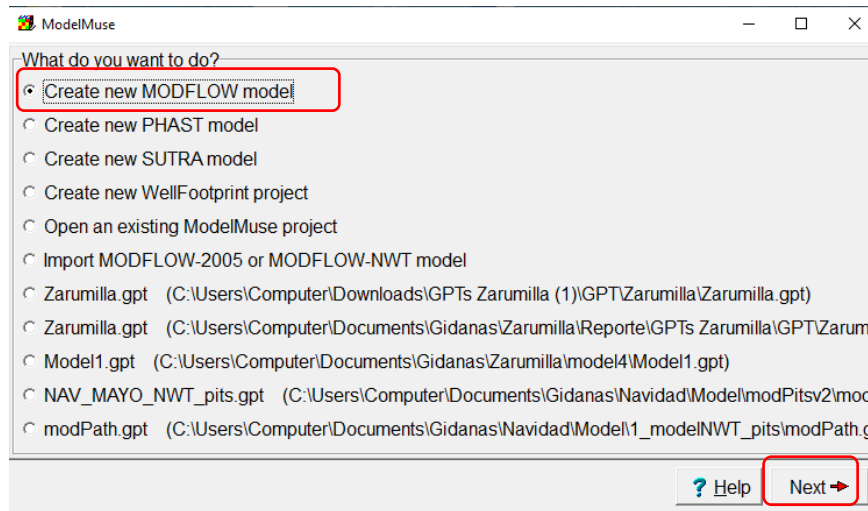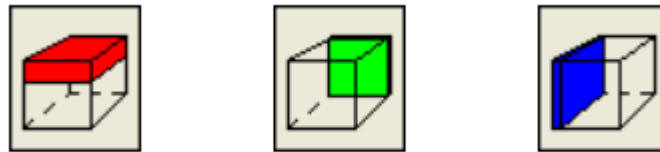


Then, MODFLOW will present the graphical user interface, as shown below:

1. Menu toolbar
2. Tools toolbar
3. View from the top
4. View from the right side
5. View from the front
6. 3D view
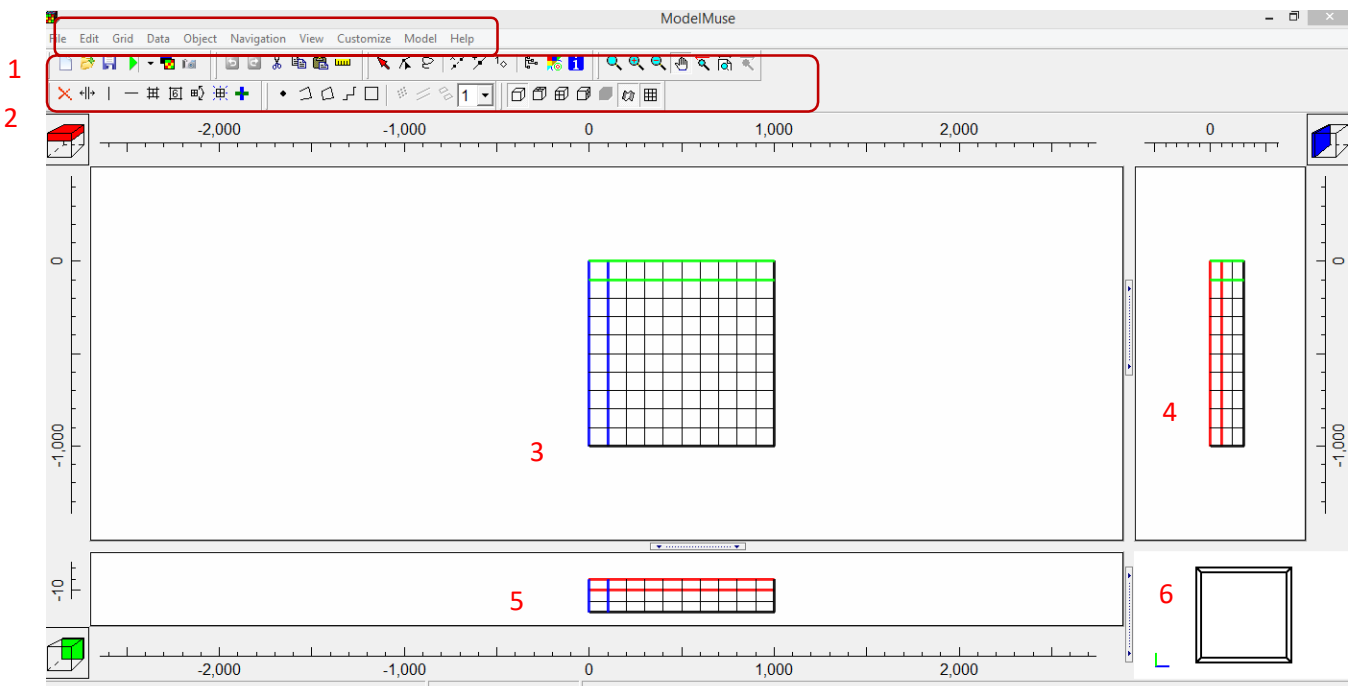
Also the user can see the icon **"Selection Cube"** that show the selected column, row, or layer. It can also be used to change the selected column, row or layer.



To working models is common to use the Ruler that show the position of the model.
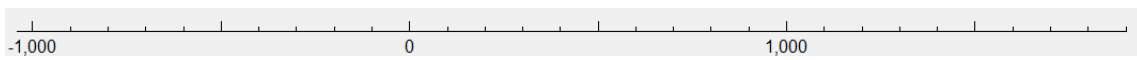


To navigate in the working area, exist different button as The Zoom , Zoom In , Zoom Out and Pan .
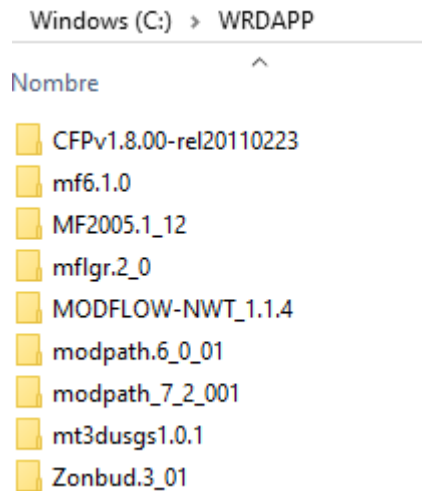
## Modflow Program Location

This tool specifies the location where several programs related to MODFLOW. In this exercise, open **Model1.gpt** located in the folder:

 **Course_GroundwaterModellingMODFLOW\Week_1\Practice\Models**


Copy the folder **WRDAPP** located in:

  **Course_GroundwaterModellingMODFLOW\Installers\WRDAPP**


Then paste inside the local disk **"C:"** You get a list of folders similar like the following image:



The next step is select **Model/MODFLOW Program Location.** The data in the MODFLOW Program Locations dialog box is stored in **C:\Users\<username>\AppData\Roaming\WRDAPP.** The program will be described below:

- MODFLOW 6
- MODFLOW-2005
- MODFLOW-LGR
- MODFLOW-NWT
- MODFLOW-CFP
- MT3D-USGS
- MT3DMS
- MODPATH
- PHAST
- ZONEBUDGET
- ModelMate
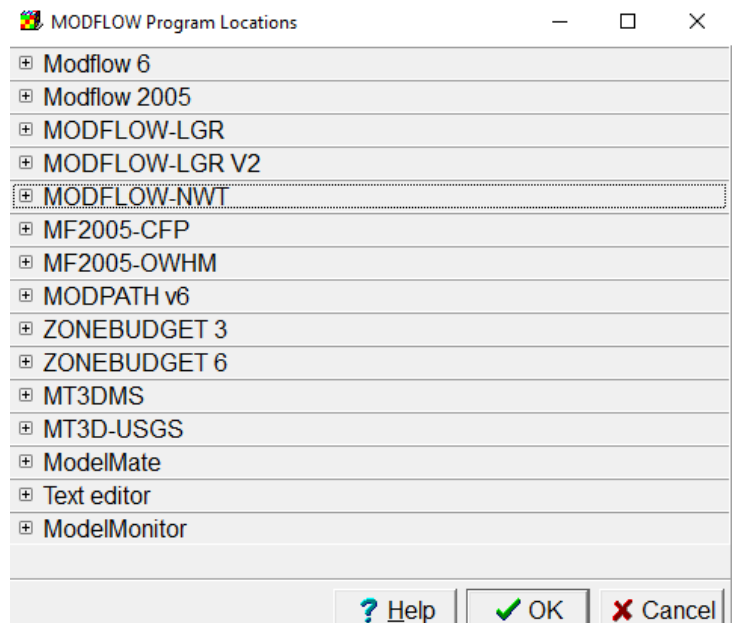
For include each program define the program location as the image:



Once the paths are located, click on **"OK".**