How to use the canopy growth GAMA model

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The folder named "CanopyGrowth" contains the model itself, as well as all the mandatory files. These files are arranged in a particular order, and they should not be moved around inside the folder.

First, follow this link to install the GAMA program on your computer.

When you open GAMA, the program will ask to define a workspace. Choose the folder that contains the "CanopyGrowth" folder. To open the model, in the leftmost window, right click on "**User models**", then select **Import...** -> **Gama Project...**

In the next window, click on "**Browse...**" (1, see below), then select the "CanopyGrowth" folder, and click on "**Finish**" (2).
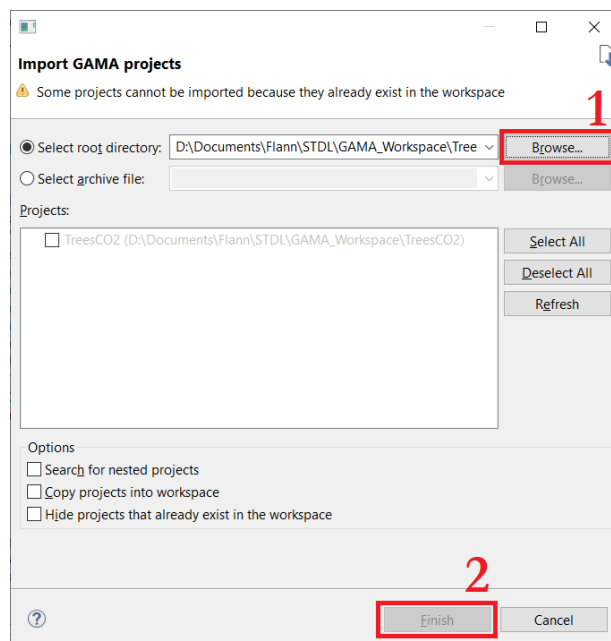
The "User models" folder should now contain the "CanopyGrowth" folder. Go inside and double-click on the model file "**CanopyGrowthModel.gaml**". The model source code will show on the right. To run the model, simply click on the green button "**MainExperiment**" located on top of the source code.
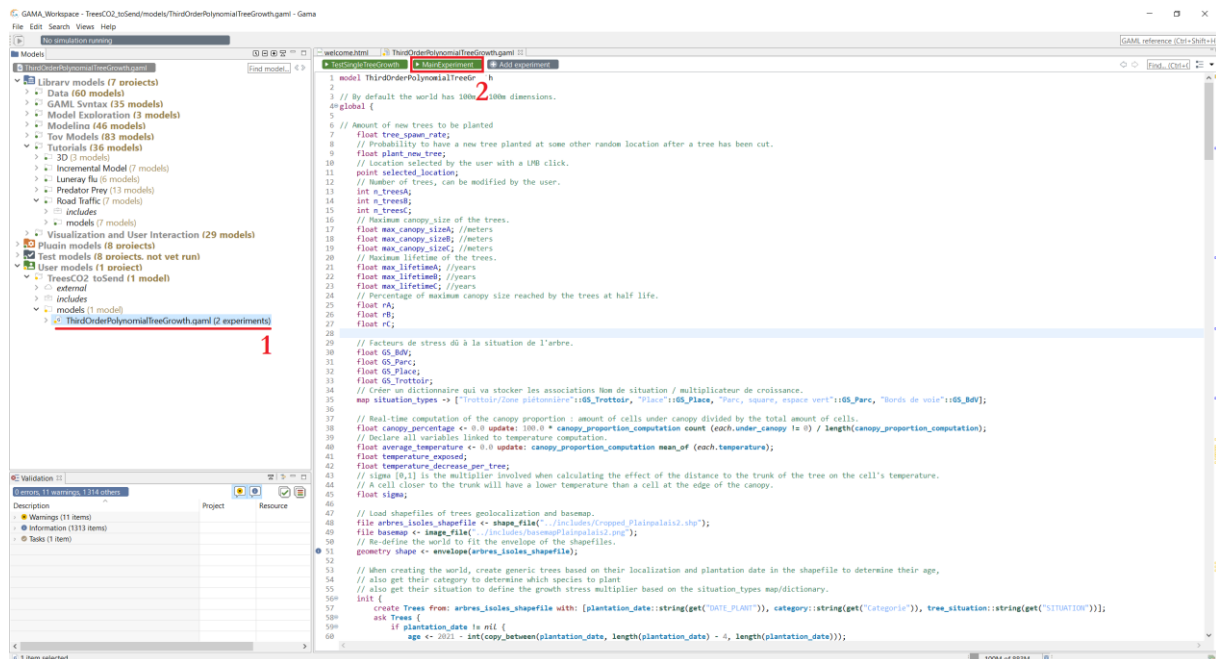

Before running the model, commenting and un-commenting lines 53 to 56 will let you choose a different region of interest. To comment a line of code, simply add two front slashes (//) in front of the line (it should turn green). To un-comment a line of code, remove the two front slashes (it should lose the green color). For instance, if you wish to run the simulation on "Plainpalais2", comment all lines except the one with "Plainpalais2" inside (see screenshot below). Three different regions of interest are currently implemented : Plainpalais, Parc des Bastions and Parc Des Rois. To run the simulation on another region of interest, please refer to the manual dedicated to programmers (PDF file named "readme_PROGRAMMER.pdf").

```
52      // Change this root when switching regions of interest.
53      //string path_root <- "../includes/Plainpalais/";
54      string path_root <- "../includes/Plainpalais2/";
55      //string path_root <- "../includes/Bastions/";
56      //string path_root <- "../includes/ParcDesRois/";
```

The main view of the model is represented below. On the middle panel, the evolving virtual environment is represented, and you may switch from a global vue, to a heatmap or to a chart of the situation. On the rightmost panel, you may keep an eye on some key values as the model evolves through time. On the leftmost panel, you will be able to change the values of many key parameters at any point in the simulation, after expanding each category of parameters by simply clicking on them.
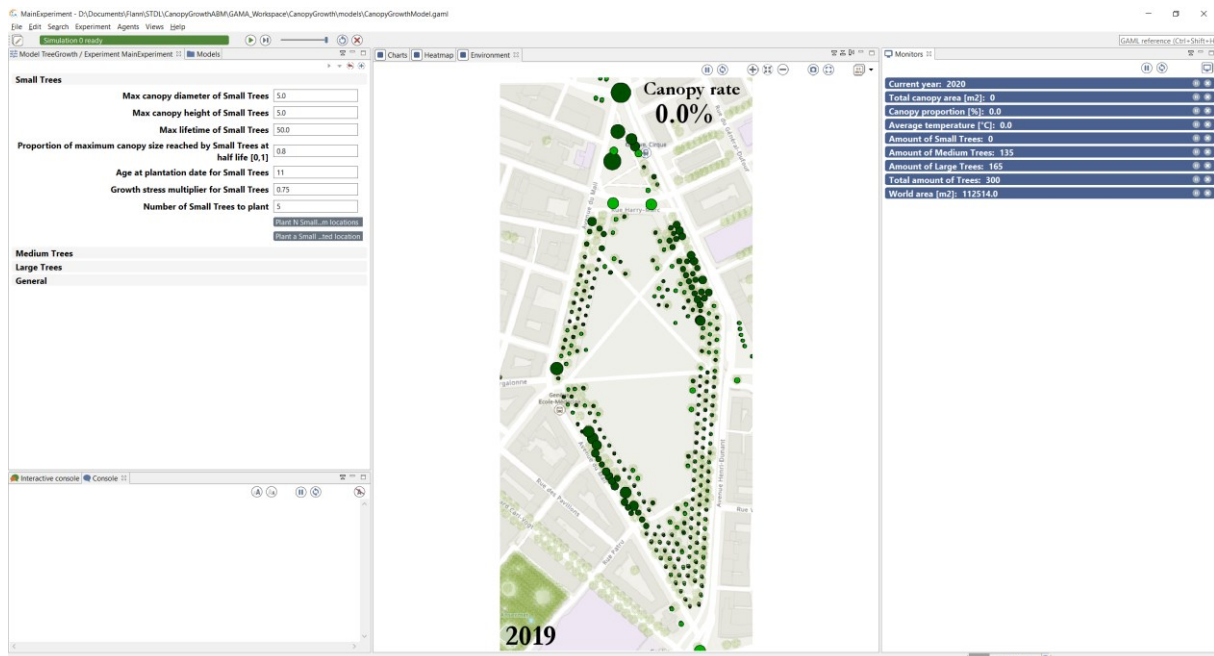
Model Progress bar :

This progress bar, located on top of the model main view, lets you interact with the flow of time. The progress bar currently indicates that the model has been through 9 cycles (i.e. 9 years) since the beginning. The play button (1) will run the model automatically, cycle by cycle, at the speed given by the slider (3), until it is manually stopped by pressing the same button again. It is also possible to run the model cycle by cycle manually (2), reset the model (4) and exit the model (5).