Any value not changed in BehaviorSpace will be used from the program’s Interface screen

You can use the directions above to help you plot images for temperature tolerance, genetic diversity and number of random insertions.

Comparing Simulations

If you plan on running simulations with different environments (including obstacles such as roads) and plotting their results, you will need to run two different simulations and then plot them. This will require a different format for BehaviorSpace arguments. The steps below outline how a simulation could be run for testing the impact of future road construction on the spread of worms over a region.

1. Create a simulation directory named “defaultRun” and fill it with all the original GIS data and parameter tables required for a normal simulation

Tip: It is recommended to keep a ‘default’ directory at all times for control purposes and as backup

1. Create a copy of the default simulation directory and name the new one “roadTest” (we will edit this to create a map with more roads)
2. Start the program and type “roadTest” in the *save\_name* box
3. Click Initialize, Load GIS then Save Environment
4. On the top (next to the speed slider) change updates from *on ticks* to *continuous*
5. Click on the *change* dropdown menu and select *highway*
6. Under *Environmental Controls* click Draw to begin drawing
7. Using your mouse, draw roads where desired on the map

Note: Draw slowly; otherwise you will see gaps in the road

Tip: At any point if you need to reset the map, click on Load Environment

1. Click on Draw again to stop drawing
2. Click Save Environment
3. From *Species Controls,* add worms and click Save
4. Type in “defaultRun” in the *save\_name* box
5. Click Initialize, Load GIS then Save Environment
6. Add worms and click Save

Tip: Adding worms in the same place as in roadTest will allow for a better comparison (you can assure that worms are being placed in the correct spot by using the insert\_worms function, detailed in the user manual).

1. Open BehaviorSpace
2. Create a new experiment and name it as desired
3. In the Vary variables… text box, enter (with quotations)

[“save\_name” “roadTest” “defaultRun”]

Note: The format is [*“save\_name”* <first sim> <second sim> … ]

Setting “save\_name” as the first argument allows the user to run different simulations from their respective directories. This experiment will run roadTest first and then defaultRun using the values saved for these simulations.

1. Make sure the Setup Command is *setup\_bs* and click Ok
2. Run the simulation and plot it as previously described steps