

My wonderful presentation

fdobad

fire2a ISCI

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Cell 2 Fire QGIS plugin

This repo contains a QGIS plugin for graphically interfacing with Cell2Fire SB simulator.
Choose your guide:

- User 

- Developer 

This software enables you to simulate thousand of forest fires on a landscape using QGIS. At least you'll need a fuel and elevation layer.

The plugin needs to install additional python packages and copy its source folder to QGIS's plugins directory.



Install Overview: Windows

1. Install QGIS, using OSGeo4W net installer
 - ▶ <https://qgis.org/en/site/forusers/alldownloads.html#osgeo4w-installer>
 - ▶ Use default options for everything but
 - ▶ Select packages to install “QGIS desktop” & “pip”
2. At least open and close QGIS once
3. Download & unzip a release (from the right tab) into `fire2am` (default suggested name)
4. Inside, double click on `installer_windows.bat`
 - ▶ ‘More info’ on the warning dialog
 - ▶ ‘Run anyway’
5. Install the plugin inside QGIS



Install Overview: Linux

1. Install QGIS

- ▶ Debian LTR version: Super Key > type 'QGIS' > Click Install
- ▶ Others: <https://qgis.org/en/site/forusers/alldownloads.html#linux>

2. Download a release, unzip into the plugins folder

`~/local/share/QGIS/QGIS3/profiles/default/python/plugins/fire2am`

3. cd into it

4. Python requirements

(Optional) A virtual environment can be used, but you must remember to activate it before launching QGIS, for example `$ source ~/pyenv/qgis/bin/activate && qgis`
`pip install --upgrade pip wheel setuptools` `pip install -r requirements.txt`

5. A Cell2Fire c++ simulator binary is provided, but is better to compile it

`cd C2FSB/Cell2FireC` `sudo apt install g++ libboost-all-dev`
`libeigen3-dev` `make`

If it fails check where your distribution installs eigen. Because the makefile assumes `EIGENDIR = /usr/include/eigen3/`



Install Overview: Activate

1. QGIS Menu > Plugins > Manage and Install Plugins > All
2. type 'fire', select 'Fire Simulator Analytics Management'
3. click 'Install Plugin'

Now you have a new icon on the plugin toolbar and a new plugin menu.



Usage Overview

1. Open & save a qgis project
2. At least have a fuel raster layer in ascii AAIGrid format, according to Scott & Burgan fuels definition
3. Set project & layers CRS
4. Open the dialog, setup the layers, ignitions, weather on each tab. Click Run!
5. Wait for the simulation & postprocessing.
6. Main results will be added as a layer, the rest will be stored into outputs.gpkg



Screenshot

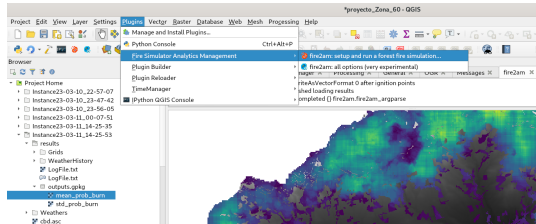



Figure 1: panel_screenshot

1. On the Plugin Menu this plugin is shown selected
2. Its icon is also available on the Plugin Toolbar 
3. Along other very useful plugins:
 - ▶ Plugin Builder : For developers wanting a minimal working plugin template
 - ▶ Plugin Reloader : If the provided Restore Defaults button doesn't work, use this
 - ▶ Time Manager : For earlier versions of QGIS (<3.2) this is needed for animating the fire isochrones (merged fire evolution layer)
 - ▶ IPython QGIS Console : A introspection capable ipython session based on qtconsole



Known issues

- ▶ Directories or folders with spaces won't work
- ▶ Don't close the current project with the dialogs opened
- ▶ Don't try opening the results directory while the simulation is running, specially -after the simulation- while postprocessing statistics



test gif

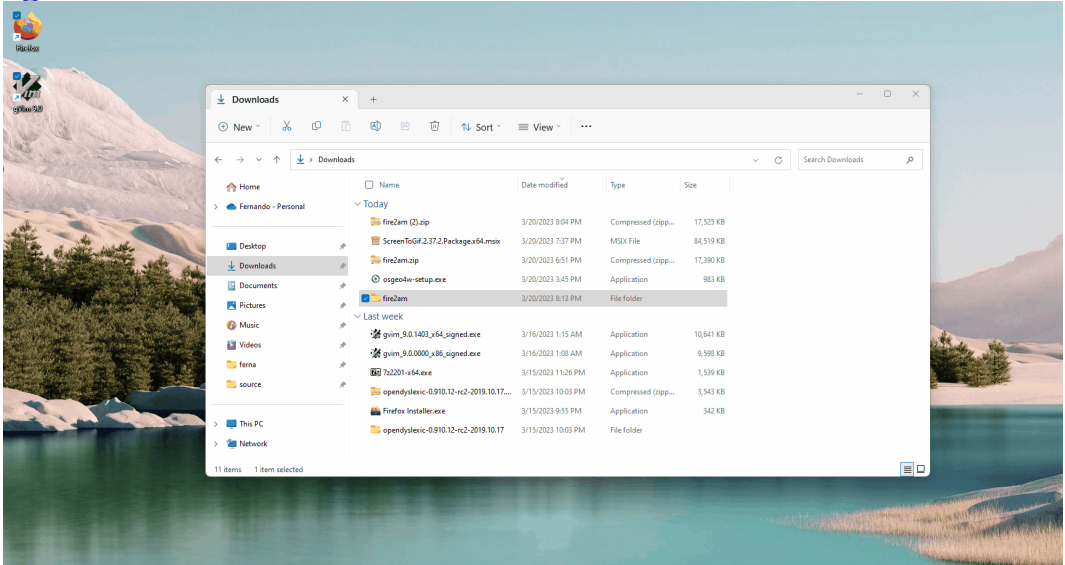


Figure 2: legif

