QGIS Application - Bug report #21586
Windows and Processing Raster calculator pyqgis troubles

2019-03-14 04:00 PM - matteo ghetta

Status:	Open		
Priority:	High		
Assignee:	Victor Olaya		
Category:	Python bindings / sipify		
Affected QGIS version:	3.4.5	**Regression?:**	No
Operating System:	Windows	**Easy fix?:**	No
Pull Request or Patch supplied:	No	**Resolution:**	
Crashes QGIS or corrupts data:	No	**Copied to github as #:**	29402

Description

The bug seems to be related ONLY on Windows system. A small dataset in attach.

Briefly: it seems that when using the Processing Raster calculator in Windows via pyqgis, it is not possible to use raster(s) entire path(s). Only raster names loaded in the TOC are available.

To reproduce the error:

  - load the attached `calculated` raster in the TOC
  - run this script (that uses gdal_proximity on the loaded raster and then the output of gdal_proximity is used in the raster calculator)

```
param_proximity = {
    'INPUT': QgsProject.instance().mapLayersByName('calculated')[0],
    'BAND': 1,
    'UNITS' : 0,
    'OUTPUT': os.path.join(output, 'distance.tif')
}

proximity = processing.run("gdal:proximity", param_proximity)

param_calculated = {
    'EXPRESSION':'{}@1 * {}'.format(proximity['OUTPUT'], formula),
    'LAYERS': proximity['OUTPUT'],
    'OUTPUT': os.path.join(output, 'calcolato.tif')
}

calculated = processing.run("qgis:rastercalculator", param_calculated)

iface.addRasterLayer(calculated['OUTPUT'], 'final')
```

This is working on Linux and on QGIS 3.4, 3.6 and master while is ALWAYS failing in Windows. To make it working on Windows some lines have to be added:

```
param_proximity = {
    'INPUT': QgsProject.instance().mapLayersByName('calculated')[0],
    'BAND': 1,
    'UNITS' : 0,
    'OUTPUT': os.path.join(output, 'distance.tif')
}
```

```
proximity = processing.run("gdal:proximity", param_proximity)
QgsProject.instance().addMapLayer(QgsRasterLayer(proximity['OUTPUT'], 'dummy'))
rl = QgsProject.instance().mapLayersByName('dummy')[0]

param_calculated = {
    'EXPRESSION':'{}@1 * {}'.format(rl.name(), formula),
    'LAYERS': rl.name(),
    'OUTPUT': os.path.join(output, 'calcolato.tif')
}

calculated = processing.run("qgis:rastercalculator", param_calculated)

iface.addRasterLayer(calculated['OUTPUT'], 'final')
```

Fianlly, but still **extremely** important, with the same data the result is completely different. On Windows there are some super strange values (1.79769e+308 adn -1.79769e+308): some serious trouble with NODATA values?

History

#1 - 2019-03-14 10:57 PM - Giovanni Manghi

- Status changed from Open to Feedback

> *Fianlly, but still **extremely** important, with the same data the result is completely different. On Windows there are some super strange values (1.79769e+308 adn -1.79769e+308): some serious trouble with NODATA values?*

Hi Matteo, if this is a separate problem then better file it as a separate ticket.

#2 - 2019-03-15 07:53 AM - matteo ghetta

Hi Giovanni.. Well, yes it is, actually difficult to replicate (I cannot understand why this is happening and when). IMHO everything is caused by the **wrong** misinterpretation of the raster path source. If you don't mind I'll leave it in this ticket or I can remove that part if it is confusing.

#3 - 2019-03-15 10:42 AM - Giovanni Manghi

matteo ghetta wrote:

> *IMHO everything is caused by the **wrong** misinterpretation of the raster path source.*

if this is the case then of course is ok to leave as is.

#4 - 2019-03-15 10:42 AM - Giovanni Manghi

- Status changed from Feedback to Open

#5 - 2019-05-21 09:41 AM - Victor Olaya

- Assignee set to Victor Olaya

#6 - 2019-05-23 01:10 PM - Victor Olaya

Looks like the error is not in the Processing side. Everything seems to be correctly created, but when passed to the core class QgsRasterCalculator, that's where the wrong handling seems to be happening. In other words, calling QgsRasterCalculator with filenames instead of layer name (in Windows, at least), doesn't work. Not sure if the class is supposed to support files, that info is not in its documentation.

#7 - 2019-05-23 04:45 PM - Giovanni Manghi

- Category changed from Processing/QGIS to Python bindings / sipify

Files

calculated.tif	141 KB	2019-03-14	matteo ghetta