

QGIS Application - Bug report #22131

SAGA raster calculator loads more grids than selected when a sdat is supplied in XGRIDS

2019-05-23 12:48 PM - Pedro Venâncio

Status:	Closed	
Priority:	High	
Assignee:		
Category:	Processing/SAGA	
Affected QGIS version:	3.4.8	Regression?: Yes
Operating System:	Windows 10	Easy fix?: No
Pull Request or Patch supplied:	Not supplied	Resolution:
Crashes QGIS or corrupts data:	No	Copied to github as #: 29942

Description

SAGA raster calculator loads more grids than selected, when a raster is supplied in .sdat format in XGRIDS.

The formula is

```
{ 'FORMULA' : 'a+b+c', 'GRIDS' : 'D:/Testes/saga/Z_top_res.tif', 'RESAMPLING' : 0, 'RESULT' :  
'C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/bbebbd5d3a774a8890c3295a40ce2bde/  
a40ce2bde/RESULT.sdat', 'TYPE' : 7, 'USE_NODATA' : False, 'XGRIDS' : ['D:/Testes/saga/c.sdat','D:/Testes/saga/t_top_res.tif']  
}
```

So, 1 raster as GRIDS (**D:/Testes/saga/Z_top_res.tif**), and 2 rasters as XGRIDS (**D:/Testes/saga/c.sdat** and **D:/Testes/saga/t_top_res.tif**).

However, it seems that Processing is importing the sdat raster to the SAGA format:

```
io_gdal 0 -TRANSFORM 1 -RESAMPLING 3 -GRIDS  
"C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/b876b2b72535404b883a06d0fdedb4a0/  
d0fdedb4a0/c.sgrd" -FILES "D:\Testes\saga\c.sdat"
```

but as it is already in SAGA format, Processing uses both in raster calculator:

```
grid_calculus "Grid Calculator" -GRIDS  
"C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/240dff11e1314783baa2a5dab944de47/  
ab944de47/Ztopres.sgrd" -XGRIDS  
"D:\Testes\saga\c.sgrd;C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/b876b2b7253540/  
2b72535404b883a06d0fdedb4a0/c.sgrd;C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/  
bb44bb515/9a1d1134e6ca4ad68ee59e5424d627b8/ttopres.sgrd" -FORMULA "a+b+c" -RESAMPLING 0 -USE_NODATA false  
-TYPE 7 -RESULT  
"C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/bbebbd5d3a774a8890c3295a40ce2bde/  
5a40ce2bde/RESULT.sdat"
```

And obviously, the result is wrong, as the identifiers in the formula (b, c, ...) becomes a mess.

This happens in QGIS 3.4.8, 3.6.3, 3.7 (master), but not in QGIS 3.18.28. So this seems a regression.

QGIS 3.4.8

Processing algorithm...

Algorithm 'Raster calculator' starting...

Input parameters:

```
{ 'FORMULA' : 'a+b+c', 'GRIDS' : 'D:/Testes/saga/Z_top_res.tif', 'RESAMPLING' : 0, 'RESULT' :
```

```
'C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/bbebbd5d3a774a8890c3295a40ce2bde
```

```
a40ce2bde/RESULT.sdat', 'TYPE' : 7, 'USE_NODATA' : False, 'XGRIDS' : ['D:/Testes/saga/c.sdat', 'D:/Testes/saga/t_top_res.tif']
```

```
}
```

```
io_gdal 0 -TRANSFORM 1 -RESAMPLING 3 -GRIDS
```

```
"C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/240dff11e1314783baa2a5dab944de47/
```

```
ab944de47/Ztopres.sgrd" -FILES "D:/Testes/saga/Z_top_res.tif"
```

```
io_gdal 0 -TRANSFORM 1 -RESAMPLING 3 -GRIDS
```

```
"C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/b876b2b72535404b883a06d0fdeb4a0
```

```
d0fdeb4a0/c.sgrd" -FILES "D:/Testes/saga/c.sdat"
```

```
io_gdal 0 -TRANSFORM 1 -RESAMPLING 3 -GRIDS
```

```
"C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/9a1d1134e6ca4ad68ee59e5424d627b8
```

```
424d627b8/ttopres.sgrd" -FILES "D:/Testes/saga/t_top_res.tif"
```

```
grid_calculus "Grid Calculator" -GRIDS
```

```
"C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/240dff11e1314783baa2a5dab944de47/
```

```
ab944de47/Ztopres.sgrd" -XGRIDS
```

```
"D:/Testes/saga/c.sgrd;C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/b876b2b7253540
```

```
2b72535404b883a06d0fdeb4a0/c.sgrd;C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/
```

```
bb44bb515/9a1d1134e6ca4ad68ee59e5424d627b8/ttopres.sgrd" -FORMULA "a+b+c" -RESAMPLING 0 -USE_NODATA false
```

```
-TYPE 7 -RESULT
```

```
"C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/bbebbd5d3a774a8890c3295a40ce2bde
```

```
5a40ce2bde/RESULT.sdat"
```

```
C:\OSGeo4W64\bin>set SAGA=C:/OSGeo4~1/apps\saga-ltr
```

```
C:\OSGeo4W64\bin>set SAGA_MLB=C:/OSGeo4~1/apps\saga-ltr\modules
```

```
C:\OSGeo4W64\bin>PATH=C:\OSGeo4~1\apps\qgis-ltr-dev\bin;C:\OSGeo4~1\apps\grass\grass76\lib;C:\OSGeo4~1\apps\grass\grass76\
```

```
ss\grass76\bin;C:\OSGeo4~1\apps\Python37;C:\OSGeo4~1\apps\Python37\Scripts;C:\OSGeo4~1\apps\qt5\bin;C:\OSGeo4~1\apps\Pytho
```

```
\apps\Python27\Scripts;C:\OSGeo4~1\bin;C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\system32\WBem;C:\OSGeo4~1\apps\msys
```

```
~1\apps\msys\bin;C:\Program
```

```
Files\RStudio\bin;C:\OSGeo4~1\apps\Python37\lib\site-packages\numpy\libs;C:\OSGeo4~1\apps\Python37\lib\site-packages\scipy\extra-dl
```

```
l\scipy\extra-dll;C:\OSGeo4~1\apps\saga-ltr;C:\OSGeo4~1\apps\saga-ltr\modules
```

```
C:\OSGeo4W64\bin>call saga_cmd io_gdal 0 -TRANSFORM 1 -RESAMPLING 3 -GRIDS
```

```
"C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/240dff11e1314783baa2a5dab944de47/
```

```
ab944de47/Ztopres.sgrd" -FILES "D:/Testes/saga/Z_top_res.tif"
```

```
##### ## ##### ##
```

```
### ## ## ##
```

```
### # ## ## ##### # ##
```

```
### ##### ## # #####
```

```
##### # ## ##### # ##
```

SAGA Version: 2.3.2 (64 bit)

library path: C:\OSGEO4~1\apps\saga-ltr\modules\
library name: io_gdal
library : GDAL/OGR
tool : Import Raster
author : O.Conrad (c) 2007 (A.Ringeler)
processors : 8 [8]

Parameters

Grids: No objects
Files: "D:\Testes\saga\Z_top_res.tif"
Select from Multiple Bands:
Alphanumeric Sorting: yes
Transformation: yes
Resampling: B-Spline Interpolation

loading: D:\Testes\saga\Z_top_res.tif

Driver: GTiff

Bands: 1

Rows: 15

Columns: 15

loading: Z_top_res

C:\OSGeo4W64\bin>call saga_cmd io_gdal 0 -TRANSFORM 1 -RESAMPLING 3 -GRIDS

"C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/b876b2b72535404b883a06d0fdedb4a0d0fdedb4a0/c.sgrd" -FILES "D:\Testes\saga\c.sdat"

##

SAGA Version: 2.3.2 (64 bit)

library path: C:\OSGEO4~1\apps\saga-ltr\modules\
library name: io_gdal
library : GDAL/OGR
tool : Import Raster
author : O.Conrad (c) 2007 (A.Ringeler)
processors : 8 [8]

Parameters

Grids: No objects
Files: "D:\Testes\saga\c.sdat"
Select from Multiple Bands:
Alphanumeric Sorting: yes
Transformation: yes
Resampling: B-Spline Interpolation

loading: D:\Testes\saga\c.sdat

Driver: SAGA

Bands: 1

Rows: 15

Columns: 15

loading: c

C:\OSGeo4W64\bin>call saga_cmd io_gdal 0 -TRANSFORM 1 -RESAMPLING 3 -GRIDS

"C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/9a1d1134e6ca4ad68ee59e5424d627b8
424d627b8/ttopres.sgrd" -FILES "D:\Testes\saga\t_top_res.tif"

##

SAGA Version: 2.3.2 (64 bit)

library path: C:\OSGEO4~1\apps\saga-ltr\modules\
library name: io_gdal
library : GDAL/OGR
tool : Import Raster
author : O.Conrad (c) 2007 (A.Ringeler)
processors : 8 [8]

Parameters

Grids: No objects
Files: "D:\Testes\saga\t_top_res.tif"
Select from Multiple Bands:
Alphanumeric Sorting: yes
Transformation: yes
Resampling: B-Spline Interpolation

loading: D:\Testes\saga\t_top_res.tif

Driver: GTiff

Bands: 1

Rows: 15

Columns: 15

loading: t_top_res

C:\OSGeo4W64\bin>call saga_cmd grid_calculus "Grid Calculator" -GRIDS

"C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/240dff11e1314783baa2a5dab944de47/ab944de47/Ztopres.sgrd" -XGRIDS

"D:\Testes\saga\c.sgrd;C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/b876b2b72535404b72535404b883a06d0fdedb4a0/c.sgrd;C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/bb44bb515/9a1d1134e6ca4ad68ee59e5424d627b8/ttopres.sgrd" -FORMULA "a+b+c" -RESAMPLING 0 -USE_NODATA false -TYPE 7 -RESULT

"C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/bbebbd5d3a774a8890c3295a40ce2bde5a40ce2bde/RESULT.sdat"

##

SAGA Version: 2.3.2 (64 bit)

library path: C:\OSGEO4~1\apps\saga-ltr\modules\
library name: grid_calculus
library : Calculus
tool : Grid Calculator
author : A.Ringeler (c) 2003
processors : 8 [8]

Load grid:

C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/240dff11e1314783baa2a5dab944de47/Zb944de47/Ztopres.sgrd...

Load grid: D:\Testes\saga\c.sgrd...

Load grid:

C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/b876b2b72535404b883a06d0fdedb4a0/0fdedb4a0/c.sgrd...

Load grid:

C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/9a1d1134e6ca4ad68ee59e5424d627b8/424d627b8/ttopres.sgrd...

Parameters

Grid system: 1000; 15x 15y; 472000x 4740000y
Grids: 1 object (Ztopres)
Grids from different Systems: 3 objects (c, c, ttopres)
Resampling: Nearest Neighbour
Result: Result
Formula: a+b+c
Name: Calculation
Take Formula: no
Use NoData: no
Data Type: 4 byte floating point number

Warning: The number of supplied grids exceeds the number of variables in formula. (4 > 3)

C:\OSGeo4W64\bin>exit

Execution completed in 20.79 seconds

Results:

{'RESULT':

'C:/Users/pedro.venancio/AppData/Local/Temp/processing_87ca241799e54598a3ff48cbb44bb515/bbebbd5d3a774a8890c3295a40ce2bde
a40ce2bde/RESULT.sdat')}

Loading resulting layers

Algorithm 'Raster calculator' finished

QGIS 3.6.3

QGIS version: 3.6.3-Noosa

QGIS code revision: 0c5774c068

Qt version: 5.11.2

GDAL version: 2.4.1

GEOS version: 3.7.2-CAPI-1.11.0 b55d2125

PROJ version: 520

Processing algorithm...

Algorithm 'Raster calculator' starting...

Input parameters:

{ 'FORMULA' : '((c-b)/a)*1000', 'GRIDS' : 'D:/Testes/saga/Z_top_res.tif', 'RESAMPLING' : 0, 'RESULT' : 'D:/Testes/saga/d.sdat',
'TYPE' : 7, 'USE_NODATA' : False, 'XGRIDS' : ['D:/Testes/saga/c.sdat', 'D:/Testes/saga/t_top_res.tif'] }

grid_calculus "Grid Calculator" -GRIDS

"C:/Users/pedro.venancio/AppData/Local/Temp/processing_6202d43c755f430da81bf61495949469/00c571a7d64f4b32b11eca2358b66db2
358b66db2/Ztopres.sgrd" -XGRIDS

"D:/Testes/saga/c.sgrd;C:/Users/pedro.venancio/AppData/Local/Temp/processing_6202d43c755f430da81bf61495949469/4c2d1f3a6ac74f2
f3a6ac74f2fa23aa3366da7f0a5/c.sgrd;C:/Users/pedro.venancio/AppData/Local/Temp/processing_6202d43c755f430da81bf61495949469/d
5949469/dceb5630dc704f7cab4c29ccdd82266b/ttopres.sgrd" -FORMULA "((c-b)/a)*1000" -RESAMPLING 0 -USE_NODATA
false -TYPE 7 -RESULT "D:/Testes/saga/d.sdat"

```
C:\WINDOWS\system32>set SAGA=C:/OSGEO4~1/apps\saga-ltr
```

```
C:\WINDOWS\system32>set SAGA_MLB=C:/OSGEO4~1/apps\saga-ltr\modules
```

```
C:\WINDOWS\system32>PATH=C:\OSGEO4~1\apps\qgis-rel-dev\bin;C:\OSGEO4~1\apps\grass\grass76\lib;C:\OSGEO4~1\apps\grass\grass76\bin;C:\OSGEO4~1\apps\Python37;C:\OSGEO4~1\apps\Python37\Scripts;C:\OSGEO4~1\apps\qt5\bin;C:\OSGEO4~1\apps\Python27\Scripts;C:\OSGEO4~1\bin;C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\system32\WBem;C:\OSGEO4~1\apps\msys\bin;C:\Program Files\IRStudio\bin;C:\OSGEO4~1\apps\Python37\lib\site-packages\numpy\libs;C:\OSGEO4~1\apps\Python37\lib\site-packages\scipy\extra-dll;C:\OSGEO4~1\apps\saga-ltr;C:/OSGEO4~1/apps\saga-ltr\modules
```

```
C:\WINDOWS\system32>call saga_cmd grid_calculus "Grid Calculator" -GRIDS
```

```
"C:/Users/pedro.venancio/AppData/Local/Temp/processing_6202d43c755f430da81bf61495949469/00c571a7d64f4b32b11eca2358b66db2/358b66db2/Ztopres.sgrd" -XGRIDS
```

```
"D:\Testes\saga\c.sgrd;C:/Users/pedro.venancio/AppData/Local/Temp/processing_6202d43c755f430da81bf61495949469/4c2d1f3a6ac74f2f3a6ac74f2fa23aa3366da7f0a5/c.sgrd;C:/Users/pedro.venancio/AppData/Local/Temp/processing_6202d43c755f430da81bf61495949469/dce5630dc704f7cab4c29ccdd82266b/ttopres.sgrd" -FORMULA "((c-b)/a)*1000" -RESAMPLING 0 -USE_NODATA false -TYPE 7 -RESULT "D:/Testes/saga/d.sdat"
```

```
##### ## ##### ##
### ### ## ###
### # ## ## ##### # ##
### ##### ## # #####
##### # ## ##### # ##
```

SAGA Version: 2.3.2 (64 bit)

```
library path: C:\OSGEO4~1\apps\saga-ltr\modules\
library name: grid_calculus
library : Calculus
tool : Grid Calculator
author : A.Ringeler (c) 2003
processors : 8 [8]
```

Load grid:

```
C:/Users/pedro.venancio/AppData/Local/Temp/processing_6202d43c755f430da81bf61495949469/00c571a7d64f4b32b11eca2358b66db2/358b66db2/Ztopres.sgrd...
```

Load grid: D:\Testes\saga\c.sgrd...

Load grid:

```
C:/Users/pedro.venancio/AppData/Local/Temp/processing_6202d43c755f430da81bf61495949469/4c2d1f3a6ac74f2f3a6ac74f2fa23aa3366da7f0a5/c.sgrd;C:/Users/pedro.venancio/AppData/Local/Temp/processing_6202d43c755f430da81bf61495949469/dce5630dc704f7cab4c29ccdd82266b/ttopres.sgrd...
```

Load grid:

```
C:/Users/pedro.venancio/AppData/Local/Temp/processing_6202d43c755f430da81bf61495949469/dce5630dc704f7cab4c29ccdd82266b/ttopres.sgrd...
```

Parameters

Grid system: 1000; 15x 15y; 472000x 4740000y
Grids: 1 object (Ztopres)
Grids from different Systems: 3 objects (c, c, ttopres)
Resampling: Nearest Neighbour
Result: Result
Formula: ((c-b)/a)*1000
Name: Calculation
Take Formula: no
Use NoData: no
Data Type: 4 byte floating point number

Warning: The number of supplied grids exceeds the number of variables in formula. (4 > 3)

C:\WINDOWS\system32>exit
Execution completed in 5.87 seconds
Results:
{'RESULT': 'D:/Testes/saga/d.sdat'}

Loading resulting layers
Algorithm 'Raster calculator' finished

Associated revisions

Revision eb8d42df - 2019-05-23 08:18 PM - Victor Olaya

[processing] do not export sdat files provided as part of a multiple raster input

fixes #22131

Revision 94e13289 - 2019-05-23 11:32 PM - Victor Olaya

[processing] do not export sdat files provided as part of a multiple raster input

fixes #22131

Revision c1b97685 - 2019-05-24 12:45 AM - Victor Olaya

[processing] do not export sdat files provided as part of a multiple raster input

fixes #22131

History

#1 - 2019-05-23 11:33 PM - Victor Olaya

- % Done changed from 0 to 100
- Status changed from Open to Closed

Applied in changeset commit:qgis|94e13289b877df9c42c827eab5b2802beb5a18ca.