DAY 3 QGIS TUTORIAL

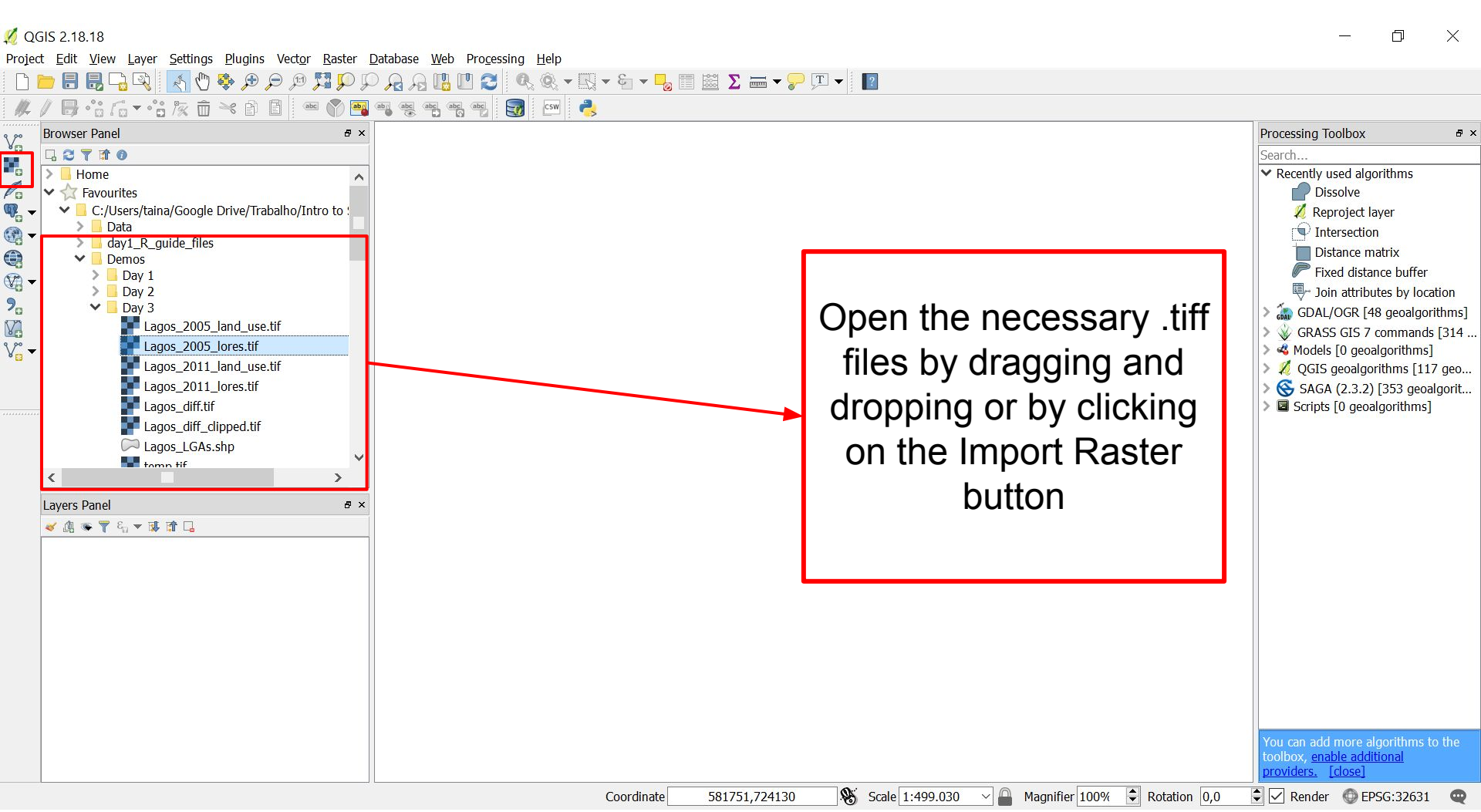
For Nigeria Data

QGIS 2.18.18 - Windows

BEFORE WE START...

Today the tutorial will show data from Nigeria and you will be asked to perform the same operations with Brazilian data.

Sometimes steps are going to be exactly the same, others can be slightly different.


QGIS 2.18.18
Project Edit View Layer Settings Plugins Vector Raster Database Web Processing Help
Browser Panel
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C:/Users/taina/Google Drive/Trabalho/Intro to
Data
day1_R_guide_files
Demos
Day 1
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Lagos_2005_land_use.tif
Lagos_2005_lores.tif
Lagos_2011_land_use.tif
Lagos_2011_lores.tif
Lagos_diff.tif
Lagos_diff_clipped.tif
Lagos_LGAs.shp
Layers Panel
Open the necessary .tiff files by dragging and dropping or by clicking on the Import Raster button
Processing Toolbox
Search...
Recently used algorithms
Dissolve
Reproject layer
Intersection
Distance matrix
Fixed distance buffer
Join attributes by location
GDAL/OGR [48 geoalgorithms]
GRASS GIS 7 commands [314 ...
Models [0 geoalgorithms]
QGIS geoalgorithms [117 geo...
SAGA (2.3.2) [353 geoalgorit...
Scripts [0 geoalgorithms]
You can add more algorithms to the toolbox, enable additional providers. [close]
Coordinate 581751,724130
Scale 1:499.030
Magnifier 100%
Rotation 0,0
Render
EPSG:32631

QGIS 2.18.18

Project Edit View Layer Settings Plugins Vector Raster Database Web Processing Help

Browser Panel

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  - C:/Users/taina/Google Drive/Trabalho/Intro to
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    - day1_R_guide_files
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      - Day 1
      - Day 2
      - Day 3
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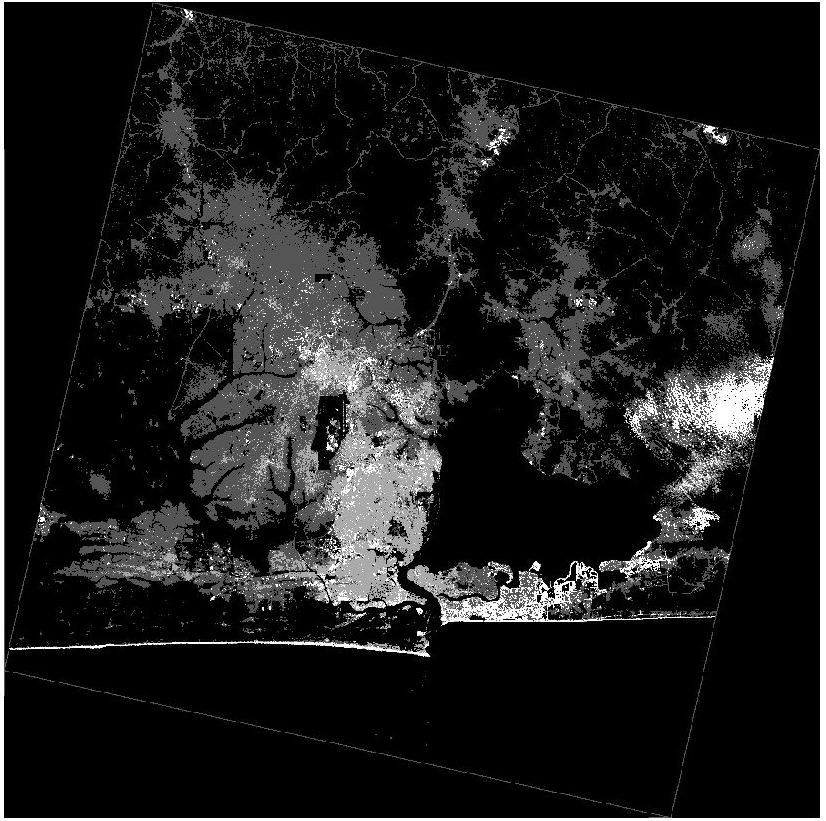
        - Lagos_2005_lores.tif
        - Lagos_2011_land_use.tif
        - Lagos_2011_lores.tif
        - Lagos_diff.tif
        - Lagos_diff_clipped.tif
        - Lagos_LGAs.shp
        - temp.tif

Layers Panel

- Lagos_2005_lores
  - 0
  - 2.997



Here is the first file from Nigeria

Processing Toolbox

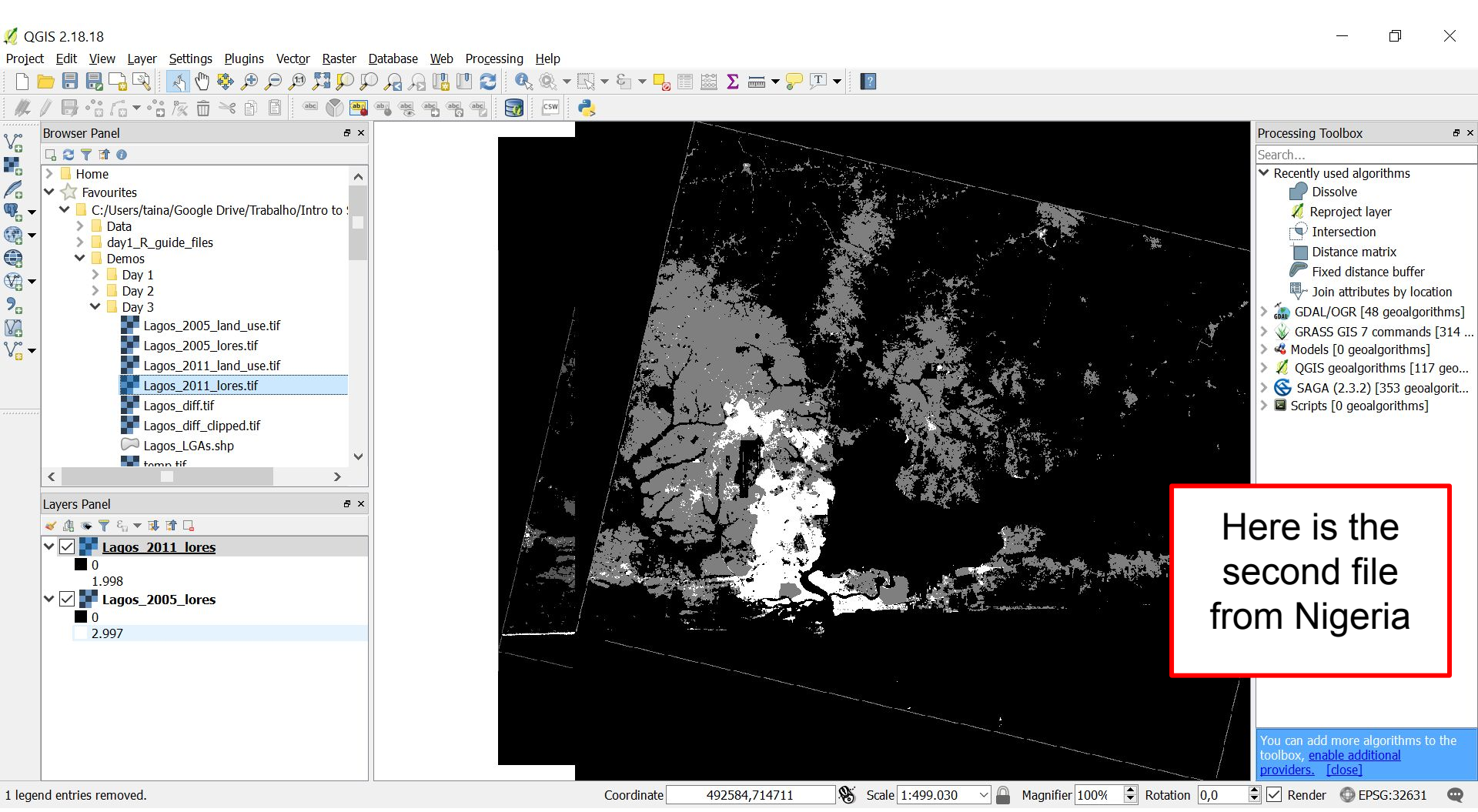
Search...

- Recently used algorithms
  - Dissolve
  - Reproject layer
  - Intersection
  - Distance matrix
  - Fixed distance buffer
  - Join attributes by location
- GDAL/OGR [48 geoalgorithms]
- GRASS GIS 7 commands [314 ...
- Models [0 geoalgorithms]
- QGIS geoalgorithms [117 geo...
- SAGA (2.3.2) [353 geoalgorit...
- Scripts [0 geoalgorithms]

You can add more algorithms to the toolbox, enable additional providers. [close]

1 legend entries removed.

Coordinate 492584,714711 Scale 1:499.030 Magnifier 100% Rotation 0,0 Render EPSG:32631


QGIS 2.18.18
Project Edit View Layer Settings Plugins Vector Raster Database Web Processing Help
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Data
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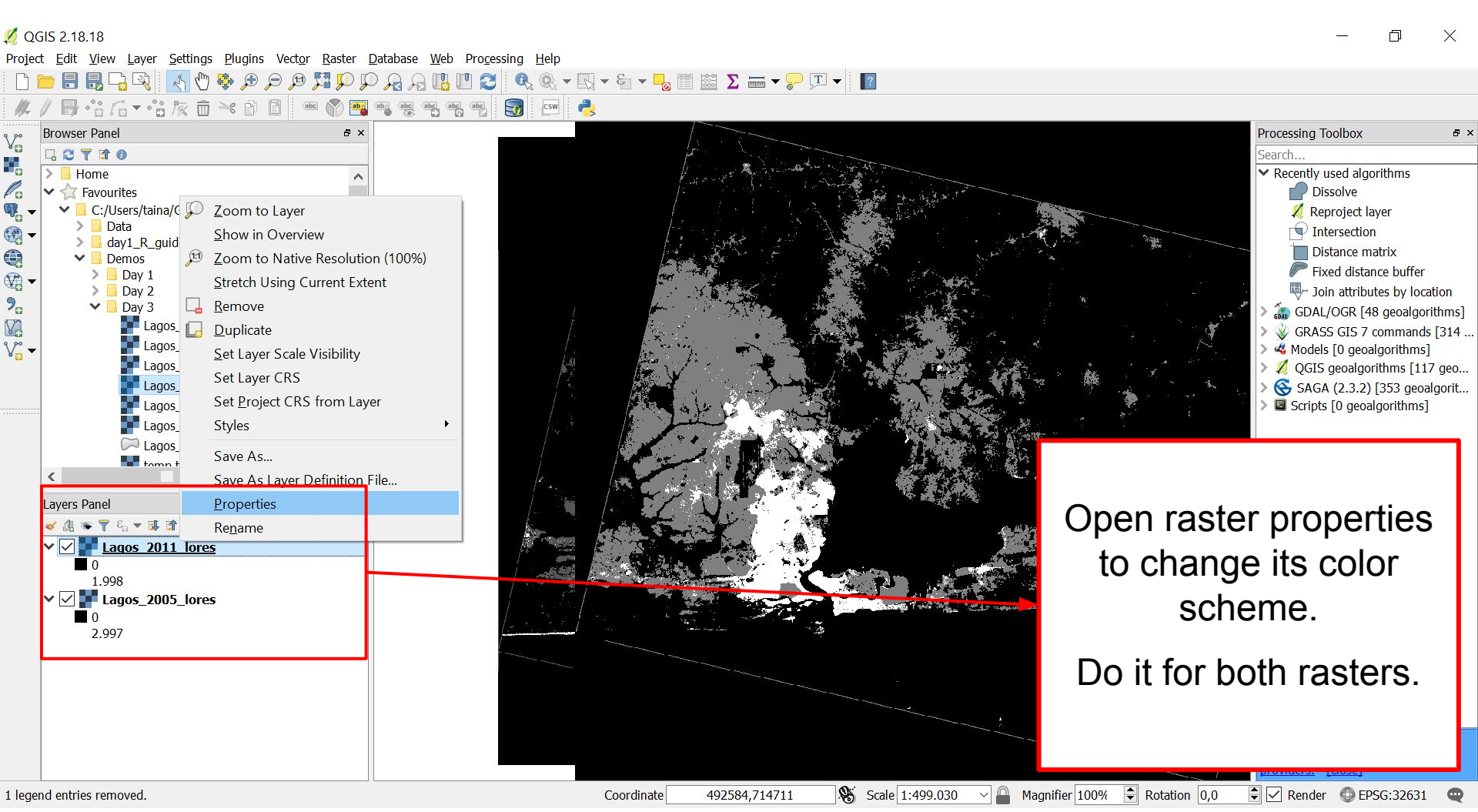
Lagos_2005_lores.tif
Lagos_2011_land_use.tif
Lagos_2011_lores.tif
Lagos_diff.tif
Lagos_diff_clipped.tif
Lagos_LGAs.shp
Layers Panel
Lagos_2011_lores
0
1.998
Lagos_2005_lores
0
2.997
Processing Toolbox
Search...
Recently used algorithms
Dissolve
Reproject layer
Intersection
Distance matrix
Fixed distance buffer
Join attributes by location
GDAL/OGR [48 geoalgorithms]
GRASS GIS 7 commands [314 ...
Models [0 geoalgorithms]
QGIS geoalgorithms [117 geo...
SAGA (2.3.2) [353 geoalgorit...
Scripts [0 geoalgorithms]
You can add more algorithms to the toolbox, enable additional providers. [close]
Here is the second file from Nigeria
1 legend entries removed.
Coordinate 492584,714711
Scale 1:499.030
Magnifier 100%
Rotation 0,0
Render
EPSG:32631


QGIS 2.18.18
Project Edit View Layer Settings Plugins Vector Raster Database Web Processing Help
Browser Panel
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C:/Users/taina/G
Data
day1_R_guid
Demos
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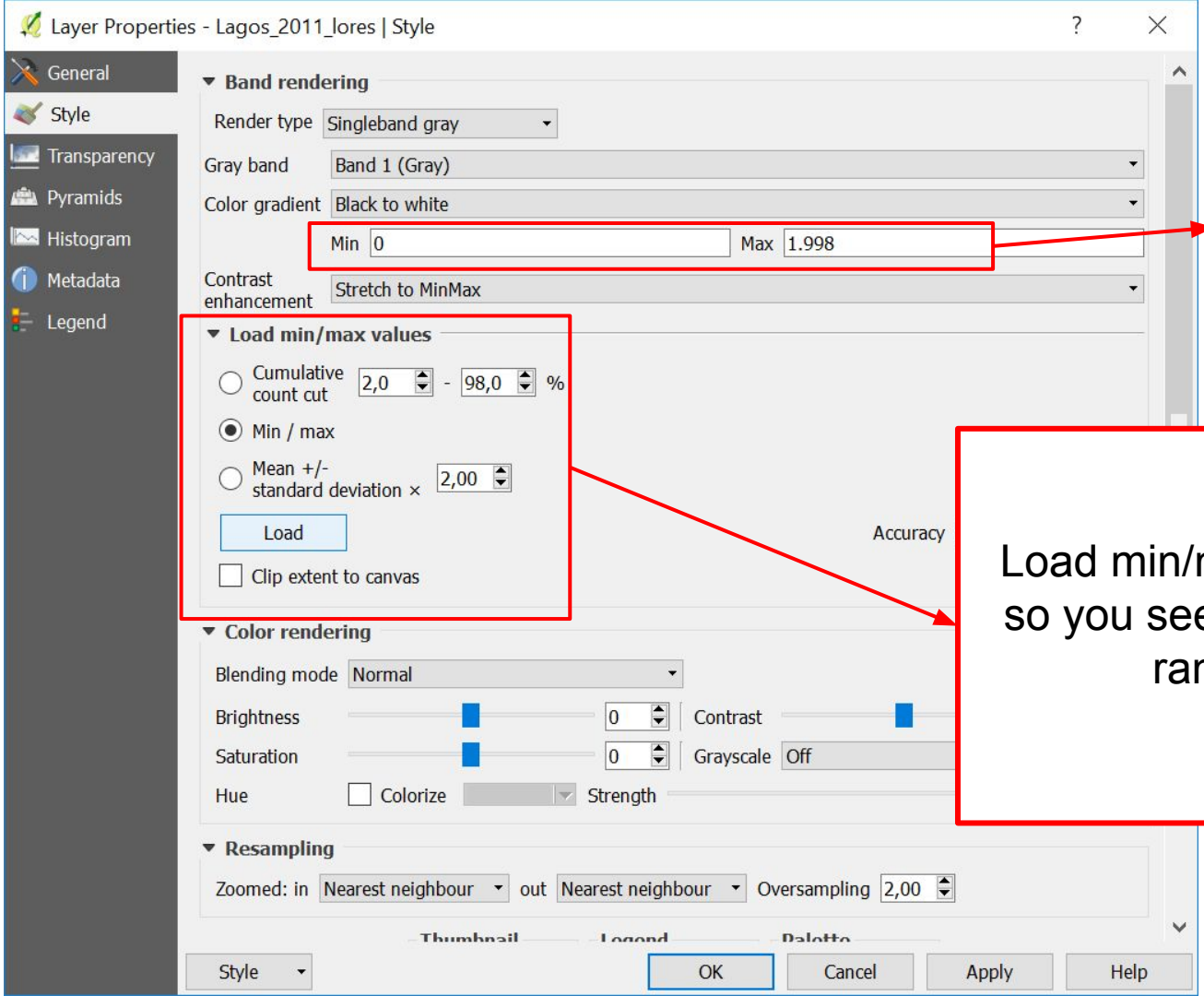
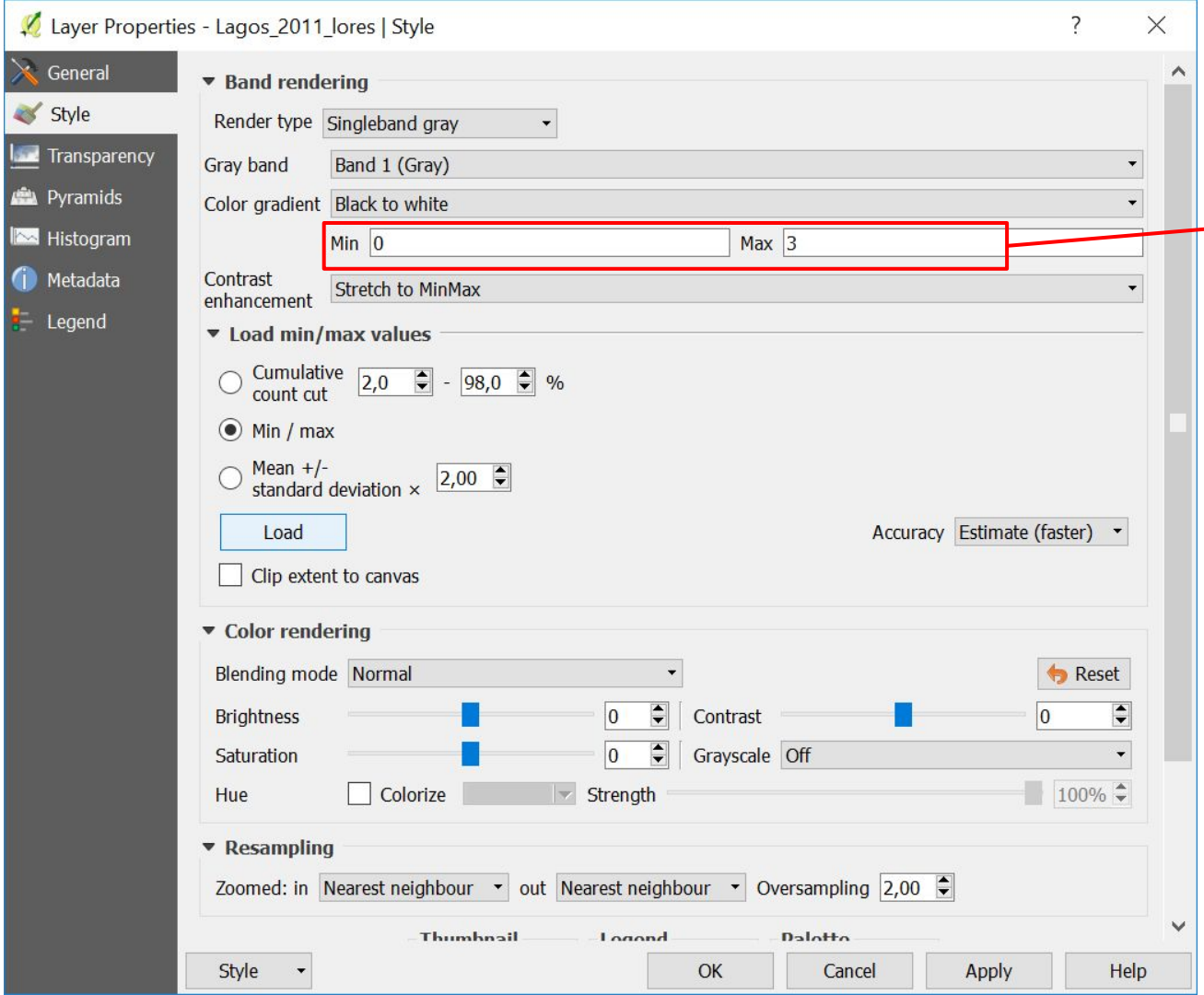
Day 3
Lagos_
Lagos_
Lagos_
Lagos_
Lagos_
Lagos_
Lagos_
Zoom to Layer
Show in Overview
Zoom to Native Resolution (100%)
Stretch Using Current Extent
Remove
Duplicate
Set Layer Scale Visibility
Set Layer CRS
Set Project CRS from Layer
Styles
Save As...
Save As Layer Definition File...
Properties
Rename
Layers Panel
Lagos_2011_lores
0
1.998
Lagos_2005_lores
0
2.997
Processing Toolbox
Search...
Recently used algorithms
Dissolve
Reproject layer
Intersection
Distance matrix
Fixed distance buffer
Join attributes by location
GDAL/OGR [48 geoalgorithms]
GRASS GIS 7 commands [314 ...
Models [0 geoalgorithms]
QGIS geoalgorithms [117 geo...
SAGA (2.3.2) [353 geoalgorit...
Scripts [0 geoalgorithms]
Open raster properties to change its color scheme.
Do it for both rasters.
1 legend entries removed.
Coordinate 492584,714711
Scale 1:499.030
Magnifier 100%
Rotation 0,0
Render
EPSG:32631

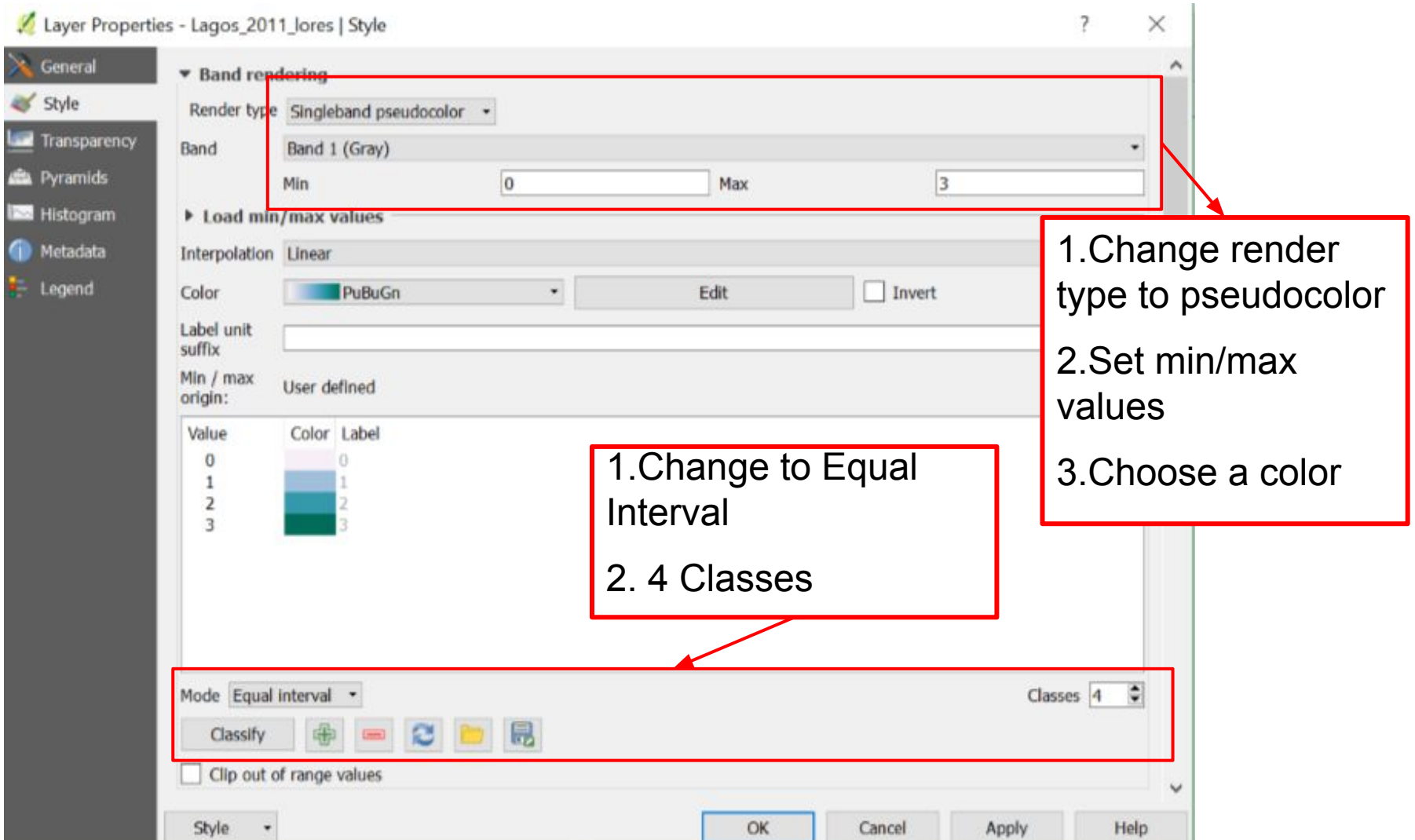


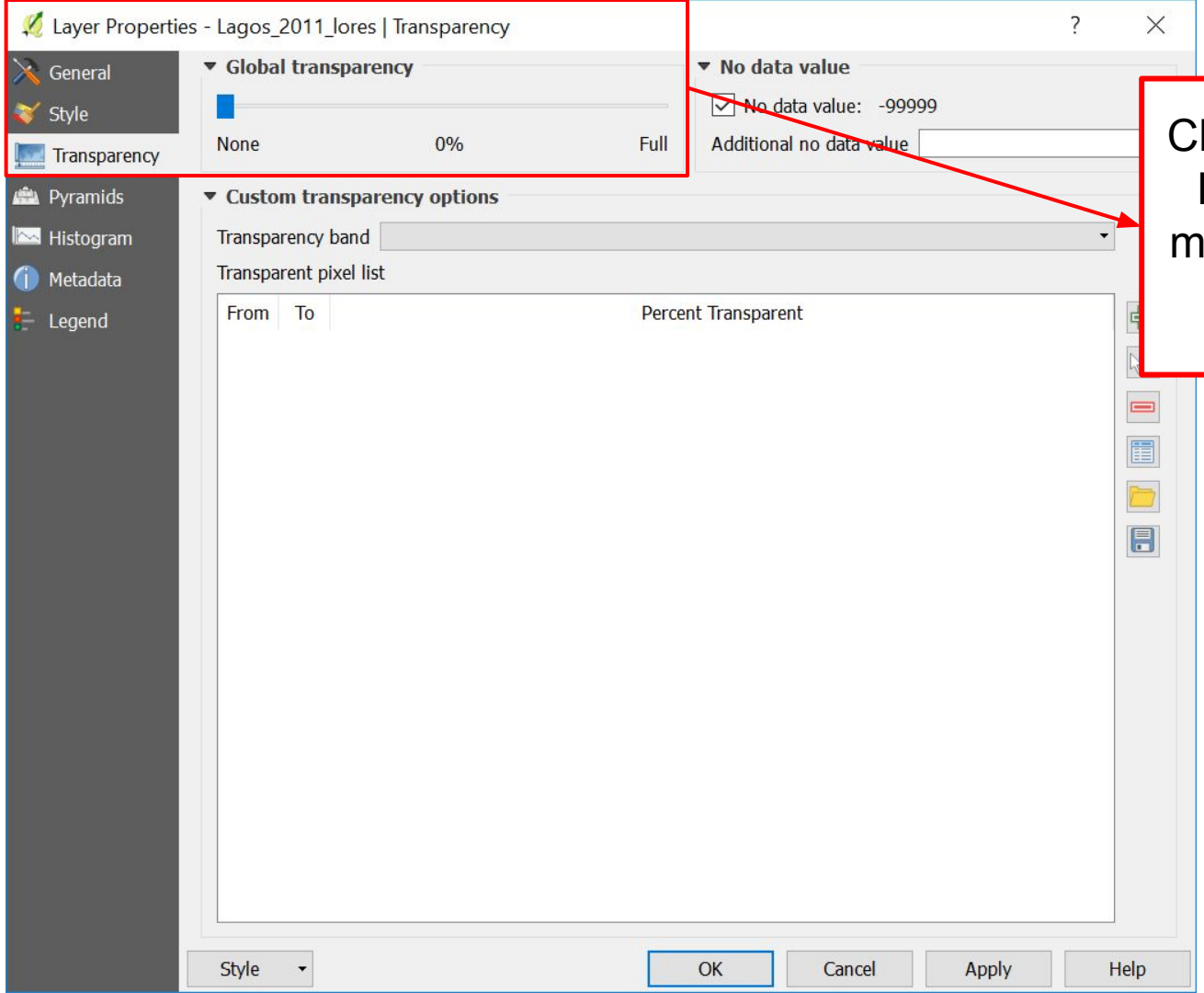
These are not the raster min and max value

Load min/max values so you see your data range

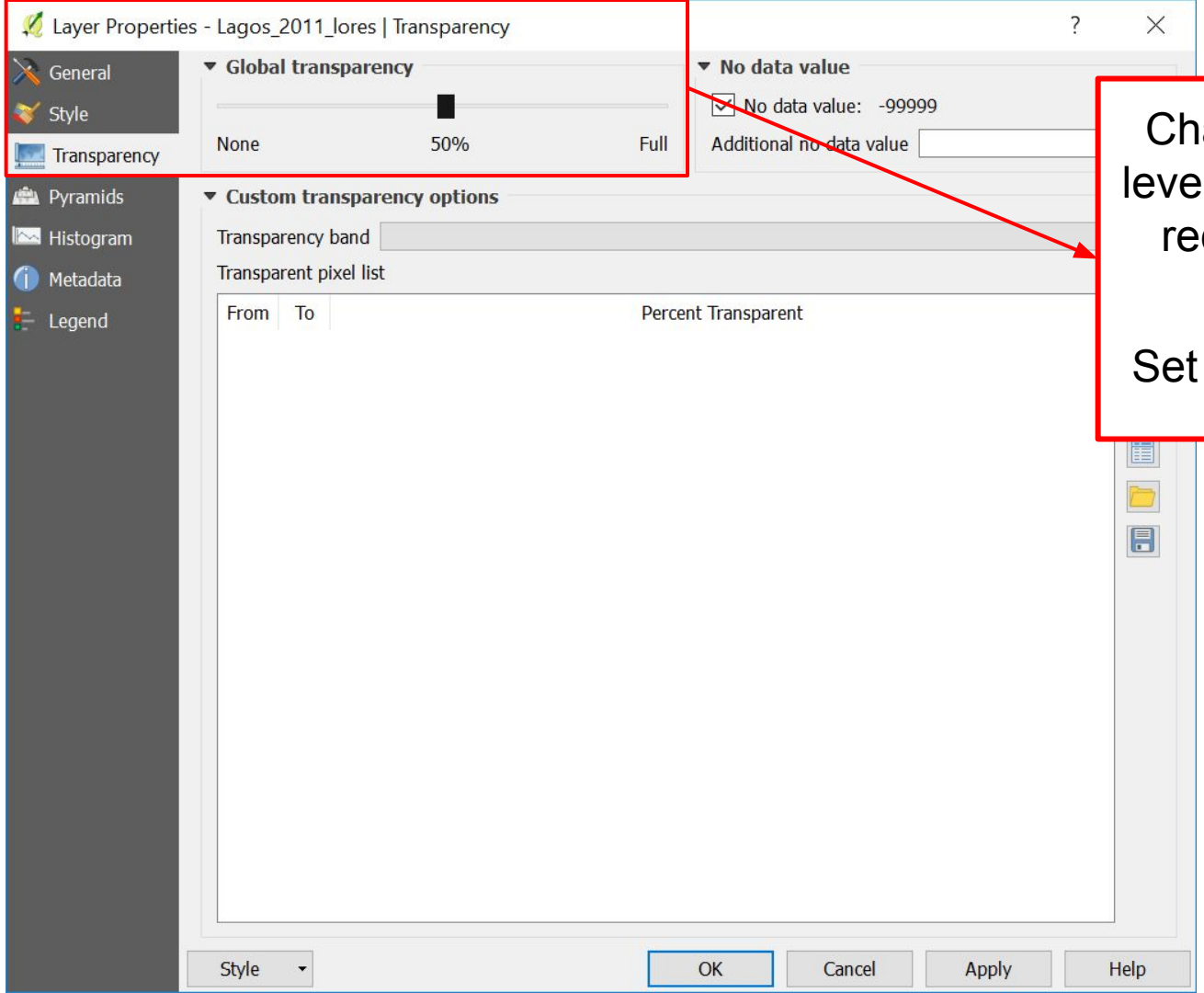


These are the min/max values


Layer Properties - Lagos_2011_lores | Style
General
Style
Transparency
Pyramids
Histogram
Metadata
Legend
Band rendering
Render type
Singleband pseudocolor
Band
Band 1 (Gray)
Min
0
Max
3
Load min/max values
Interpolation
Linear
Color
PuBuGn
Edit
Invert
Label unit suffix
Min / max origin:
User defined
Value
Color
Label
0
1
2
3
Mode
Equal interval
Classes
4
Classify
Clip out of range values
Style
OK
Cancel
Apply
Help
1.Change render type to pseudocolor
2.Set min/max values
3.Choose a color
1.Change to Equal Interval
2. 4 Classes

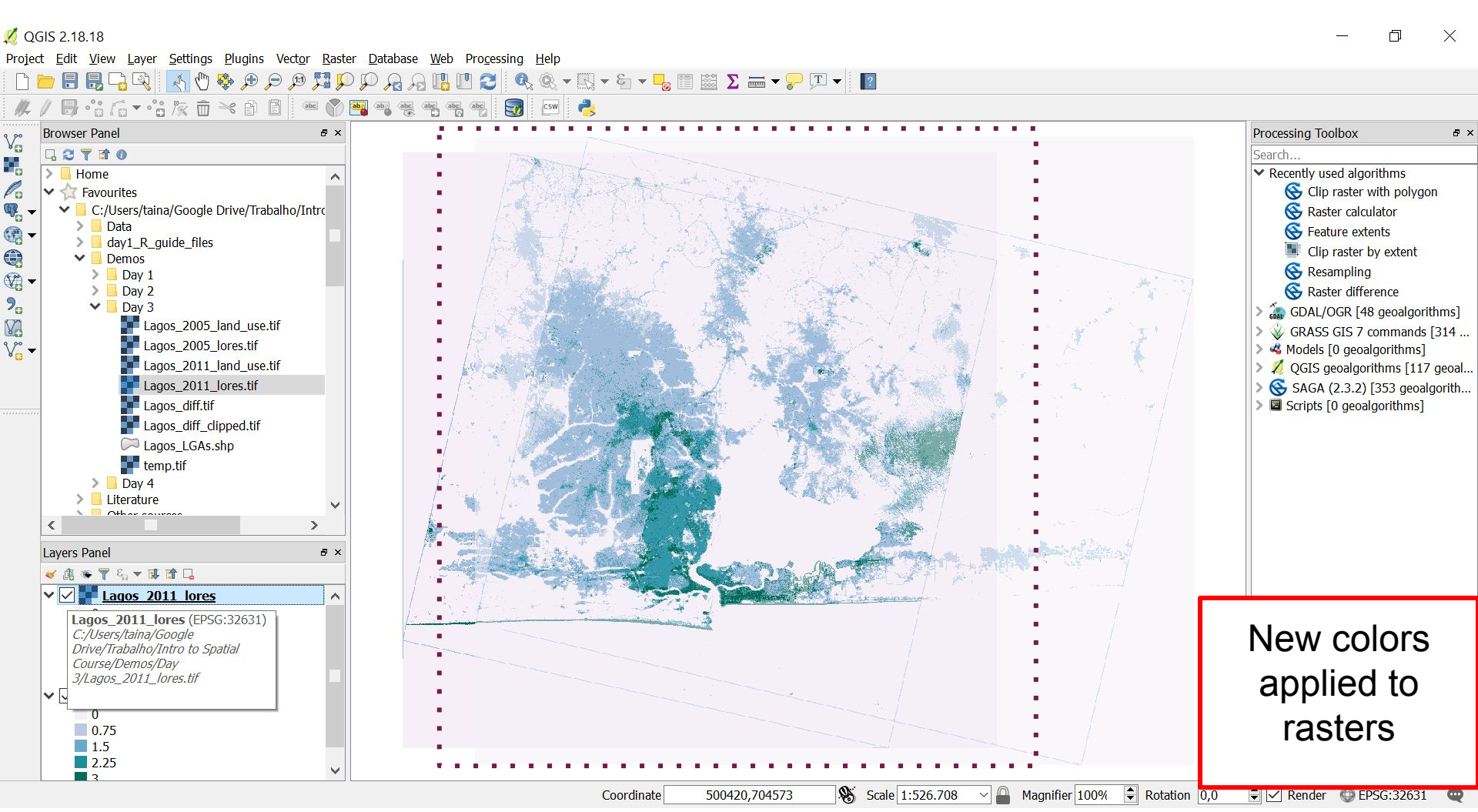


Change transparency level ONLY for the most recent raster (in this case 2011)



Change transparency level ONLY for the most recent raster (in this case 2011).

Set 50% and press OK


QGIS 2.18.18
Project Edit View Layer Settings Plugins Vector Raster Database Web Processing Help
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Data
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Lagos_2011_land_use.tif
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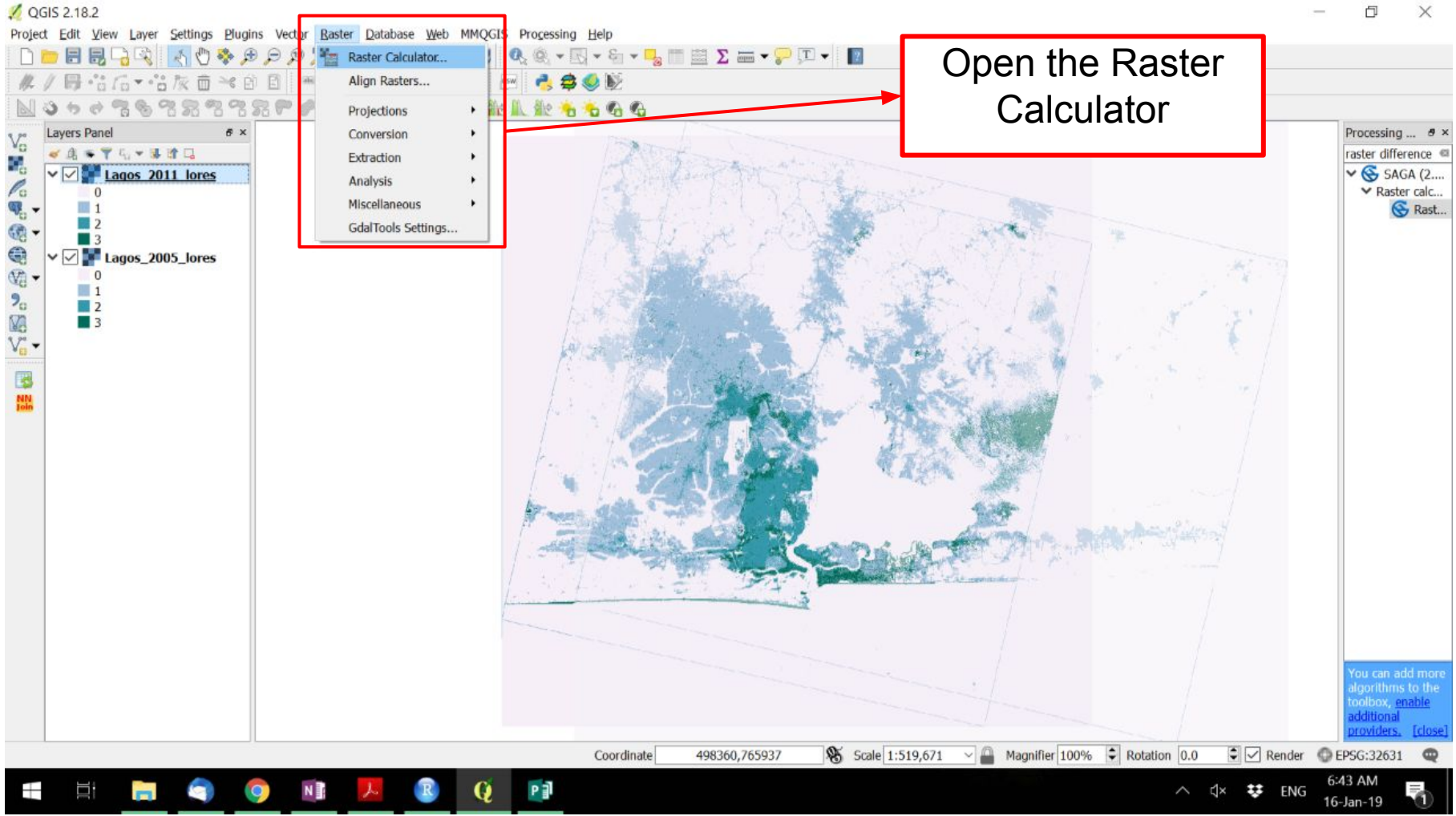
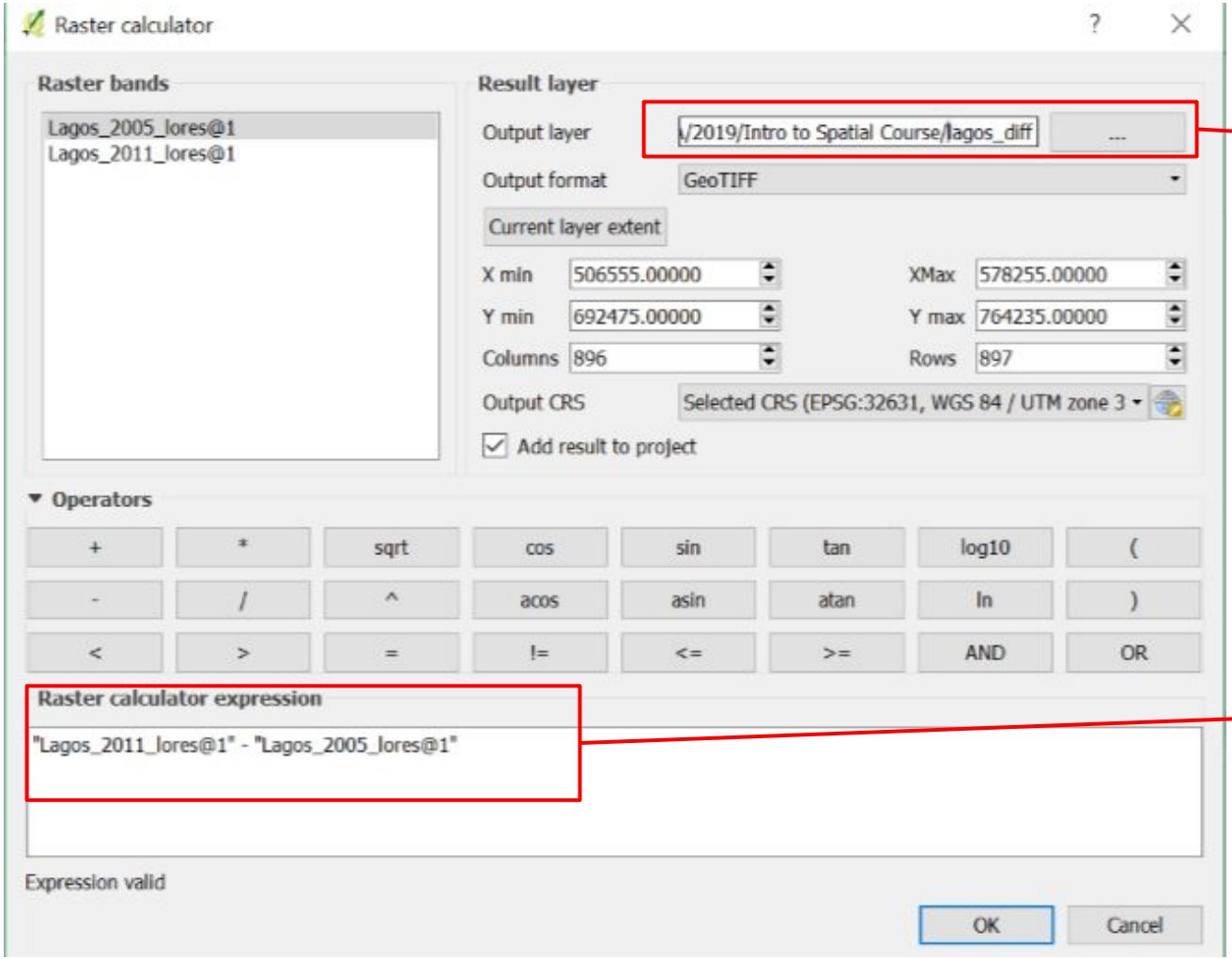
Lagos_diff_clipped.tif
Lagos_LGAs.shp
temp.tif
Day 4
Literature
Layers Panel
Lagos_2011_lores
Lagos_2011_lores (EPSG:32631)
C:/Users/taina/Google Drive/Trabalho/Intro to Spatial Course/Demos/Day 3/Lagos_2011_lores.tif
0
0.75
1.5
2.25
3
Processing Toolbox
Search...
Recently used algorithms
Clip raster with polygon
Raster calculator
Feature extents
Clip raster by extent
Resampling
Raster difference
GDAL/OGR [48 geoalgorithms]
GRASS GIS 7 commands [314 ...
Models [0 geoalgorithms]
QGIS geoalgorithms [117 geoal...
SAGA (2.3.2) [353 geoalgorith...
Scripts [0 geoalgorithms]
New colors applied to rasters
Coordinate 500420,704573
Scale 1:526.708
Magnifier 100%
Rotation 0,0
Render
EPSG:32631


QGIS 2.18.2
Project Edit View Layer Settings Plugins Vector Raster Database Web MMQGIS Processing Help
Raster Calculator...
Align Rasters...
Projections
Conversion
Extraction
Analysis
Miscellaneous
GdalTools Settings...
Open the Raster Calculator
Layers Panel
Lagos_2011_lores
0
1
2
3
Lagos_2005_lores
0
1
2
3
Processing ...
raster difference
SAGA (2....
Raster calc...
Rast...
You can add more algorithms to the toolbox, enable additional providers. [close]
Coordinate 498360,765937
Scale 1:519,671
Magnifier 100%
Rotation 0.0
Render
EPSG:32631
ENG
6:43 AM
16-Jan-19



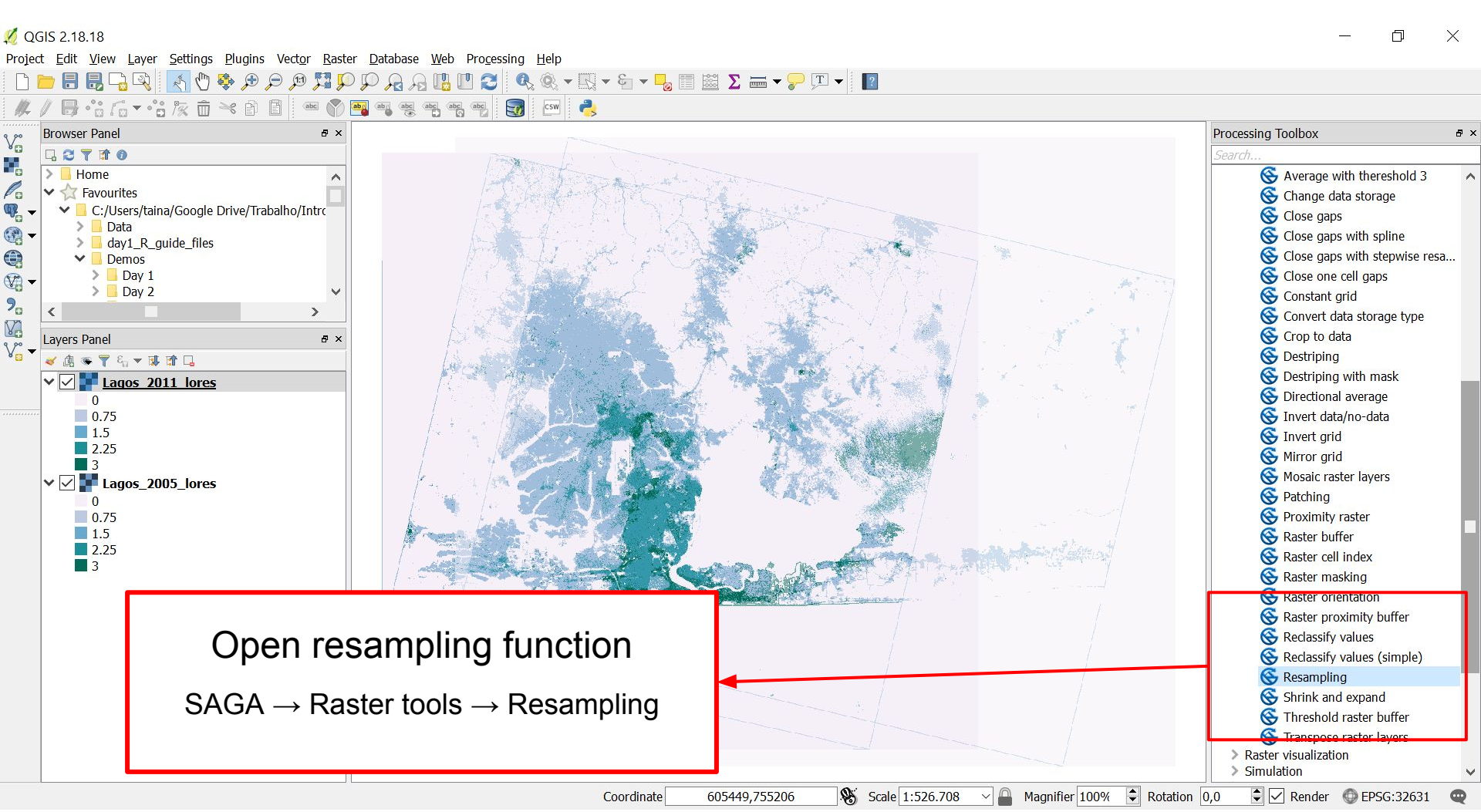
Specify a folder/name for your new layer

Use the calculator to create this subtraction

OBS

If youa look at the last image again you are going to see that the two rasters do not overlap perfectly (there is a box close to the overlap area). Because of that we need to “resample” them. If we want to look to a specific polygon in the area where the rasters overlap we could clip the two rasters to the boundaries of the polygon.

If the exercise rasters overlap you don’t need to perform this operation.


QGIS 2.18.18
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Data
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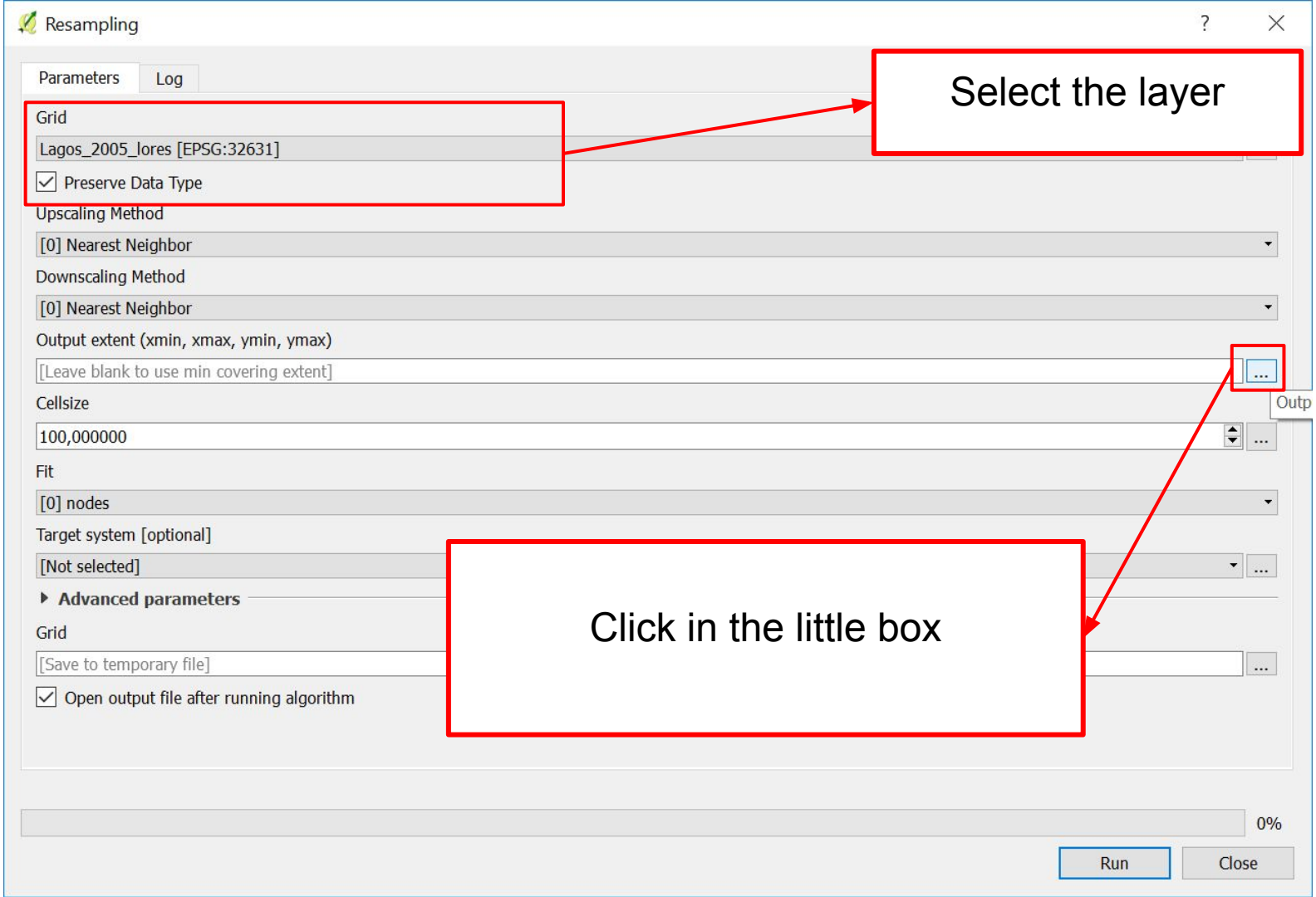
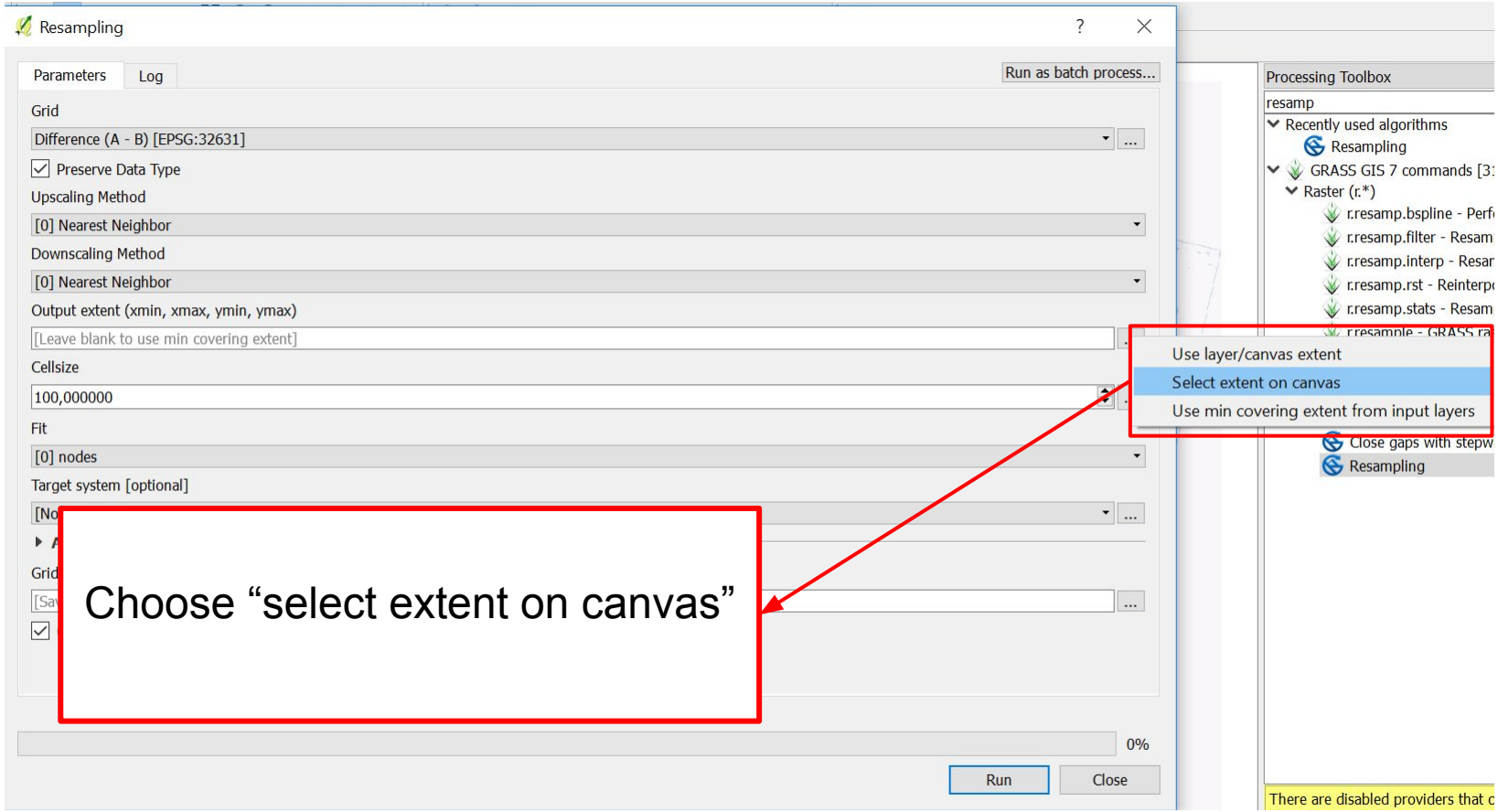
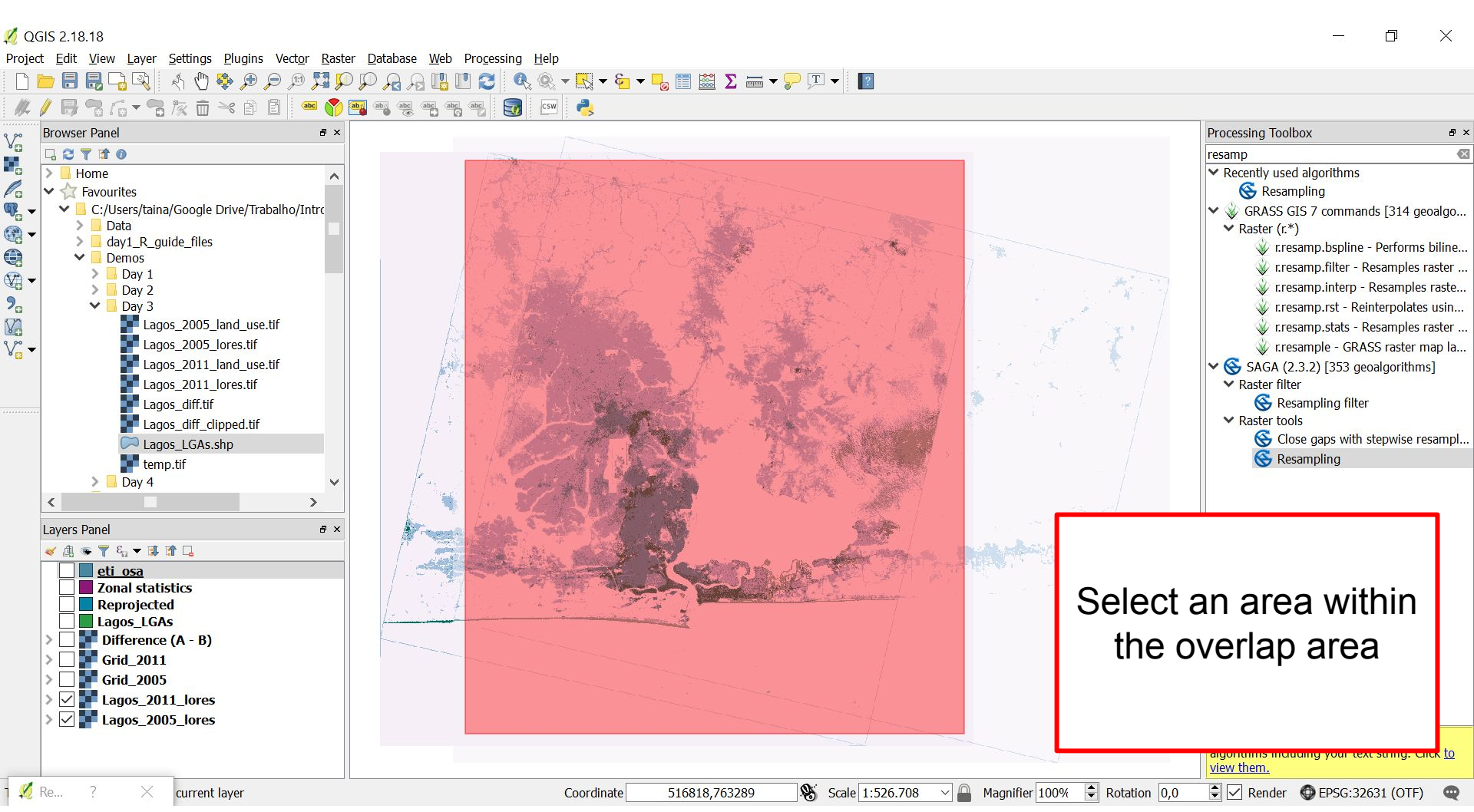
Lagos_2011_lores
0
0.75
1.5
2.25
3
Lagos_2005_lores
0
0.75
1.5
2.25
3
Processing Toolbox
Search...
Average with thereshold 3
Change data storage
Close gaps
Close gaps with spline
Close gaps with stepwise resa...
Close one cell gaps
Constant grid
Convert data storage type
Crop to data
Destriping
Destriping with mask
Directional average
Invert data/no-data
Invert grid
Mirror grid
Mosaic raster layers
Patching
Proximity raster
Raster buffer
Raster cell index
Raster masking
Raster orientation
Raster proximity buffer
Reclassify values
Reclassify values (simple)
Resampling
Shrink and expand
Threshold raster buffer
Transpose raster layers
Raster visualization
Simulation
Open resampling function
SAGA → Raster tools → Resampling
Coordinate 605449,755206
Scale 1:526.708
Magnifier 100%
Rotation 0,0
Render
EPSG:32631


Resampling
Parameters
Log
Grid
Lagos_2005_lores [EPSG:32631]
Preserve Data Type
Upscaling Method
[0] Nearest Neighbor
Downscaling Method
[0] Nearest Neighbor
Output extent (xmin, xmax, ymin, ymax)
[Leave blank to use min covering extent]
Cellsize
100,000000
Fit
[0] nodes
Target system [optional]
[Not selected]
Advanced parameters
Grid
[Save to temporary file]
Open output file after running algorithm
Select the layer
Click in the little box
0%
Run
Close


Resampling
Parameters
Log
Run as batch process...
Grid
Difference (A - B) [EPSG:32631]
Preserve Data Type
Upscaling Method
[0] Nearest Neighbor
Downscaling Method
[0] Nearest Neighbor
Output extent (xmin, xmax, ymin, ymax)
[Leave blank to use min covering extent]
Cellsize
100,000000
Fit
[0] nodes
Target system [optional]
Use layer/canvas extent
Select extent on canvas
Use min covering extent from input layers
Choose “select extent on canvas”
0%
Run
Close
Processing Toolbox
resamp
Recently used algorithms
Resampling
GRASS GIS 7 commands
Raster (r.*)
r.resamp.bspline - Perf
r.resamp.filter - Resam
r.resamp.interp - Resar
r.resamp.rst - Reinterp
r.resamp.stats - Resam
Close gaps with stepw
Resampling
There are disabled providers that c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Lagos_2011_lores.tif
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Lagos_diff_clipped.tif
Lagos_LGAs.shp
temp.tif
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eti_osa
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Lagos_LGAs
Difference (A - B)
Grid_2011
Grid_2005
Lagos_2011_lores
Lagos_2005_lores
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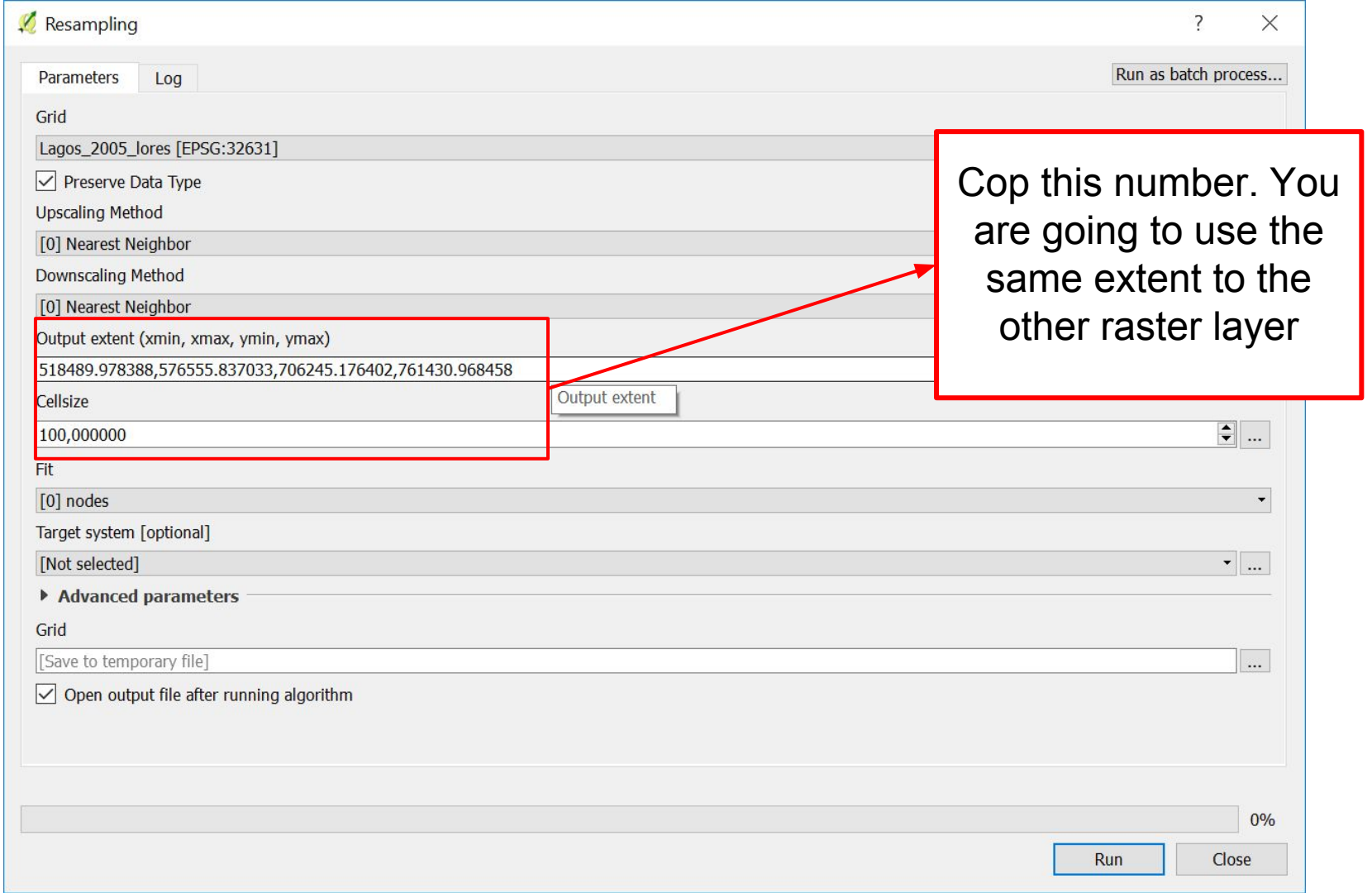
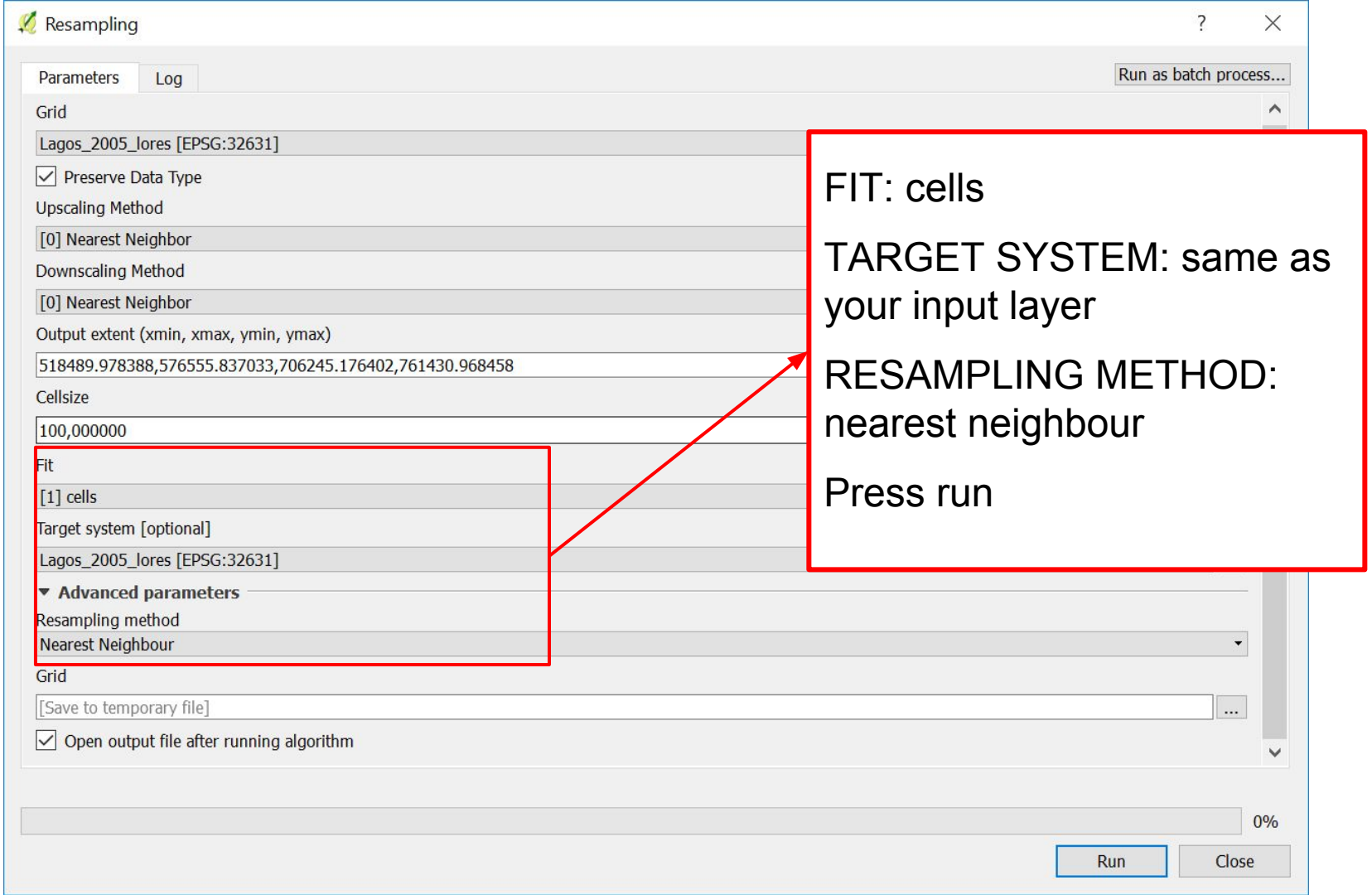
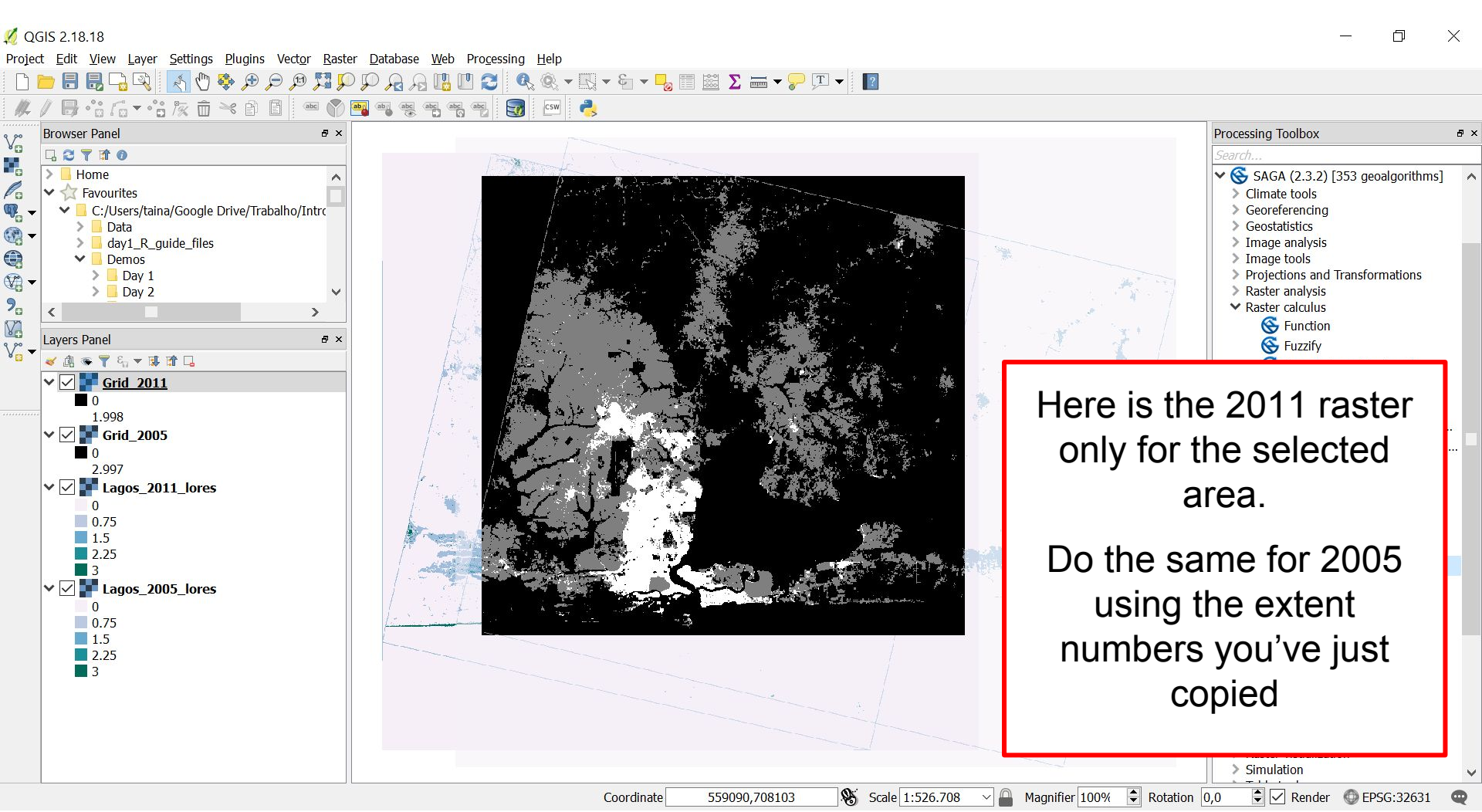
Resampling
GRASS GIS 7 commands [314 geoalgo...
Raster (r.*)
r.resamp.bspline - Performs biline...
r.resamp.filter - Resamples raster ...
r.resamp.interp - Resamples raste...
r.resamp.rst - Reinterpolates usin...
r.resamp.stats - Resamples raster ...
r.resample - GRASS raster map la...
SAGA (2.3.2) [353 geoalgorithms]
Raster filter
Resampling filter
Raster tools
Close gaps with stepwise resampl...
Resampling
Select an area within the overlap area
current layer
Coordinate 516818,763289
Scale 1:526.708
Magnifier 100%
Rotation 0,0
Render
EPSG:32631 (OTF)


Resampling
Parameters
Log
Run as batch process...
Grid
Lagos_2005_lores [EPSG:32631]
Preserve Data Type
Upscaling Method
[0] Nearest Neighbor
Downscaling Method
[0] Nearest Neighbor
Output extent (xmin, xmax, ymin, ymax)
518489.978388,576555.837033,706245.176402,761430.968458
Cellsize
100,000000
Output extent
Fit
[0] nodes
Target system [optional]
[Not selected]
Advanced parameters
Grid
[Save to temporary file]
Open output file after running algorithm
0%
Run
Close
Cop this number. You are going to use the same extent to the other raster layer


Resampling
Parameters
Log
Run as batch process...
Grid
Lagos_2005_lores [EPSG:32631]
Preserve Data Type
Upscaling Method
[0] Nearest Neighbor
Downscaling Method
[0] Nearest Neighbor
Output extent (xmin, xmax, ymin, ymax)
518489.978388,576555.837033,706245.176402,761430.968458
Cellsize
100,000000
Fit
[1] cells
Target system [optional]
Lagos_2005_lores [EPSG:32631]
Advanced parameters
Resampling method
Nearest Neighbour
Grid
[Save to temporary file]
Open output file after running algorithm
0%
Run
Close
FIT: cells
TARGET SYSTEM: same as your input layer
RESAMPLING METHOD: nearest neighbour
Press run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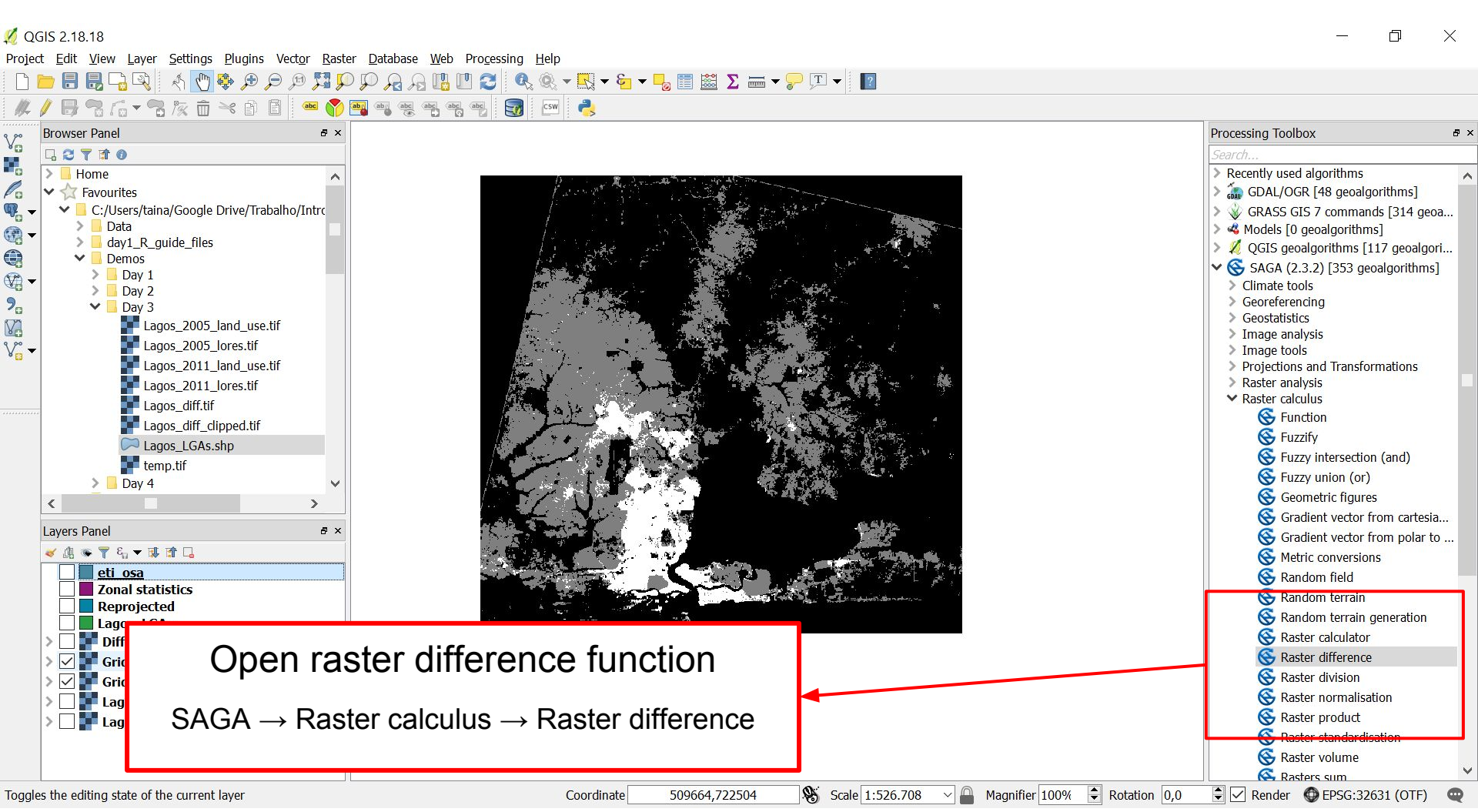
0
1.998
Grid_2005
0
2.997
Lagos_2011_lores
0
0.75
1.5
2.25
3
Lagos_2005_lores
0
0.75
1.5
2.25
3
Processing Toolbox
Search...
SAGA (2.3.2) [353 geoalgorithms]
Climate tools
Georeferencing
Geostatistics
Image analysis
Image tools
Projections and Transformations
Raster analysis
Raster calculus
Function
Fuzzify
Simulation
Here is the 2011 raster only for the selected area.
Do the same for 2005 using the extent numbers you've just copied
Coordinate 559090,708103
Scale 1:526.708
Magnifier 100%
Rotation 0,0
Render
EPSG:32631


QGIS 2.18.18
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Lagos_2011_land_use.tif
Lagos_2011_lores.tif
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Lagos_diff_clipped.tif
Lagos_LGAs.shp
temp.tif
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Reprojected
Processing Toolbox
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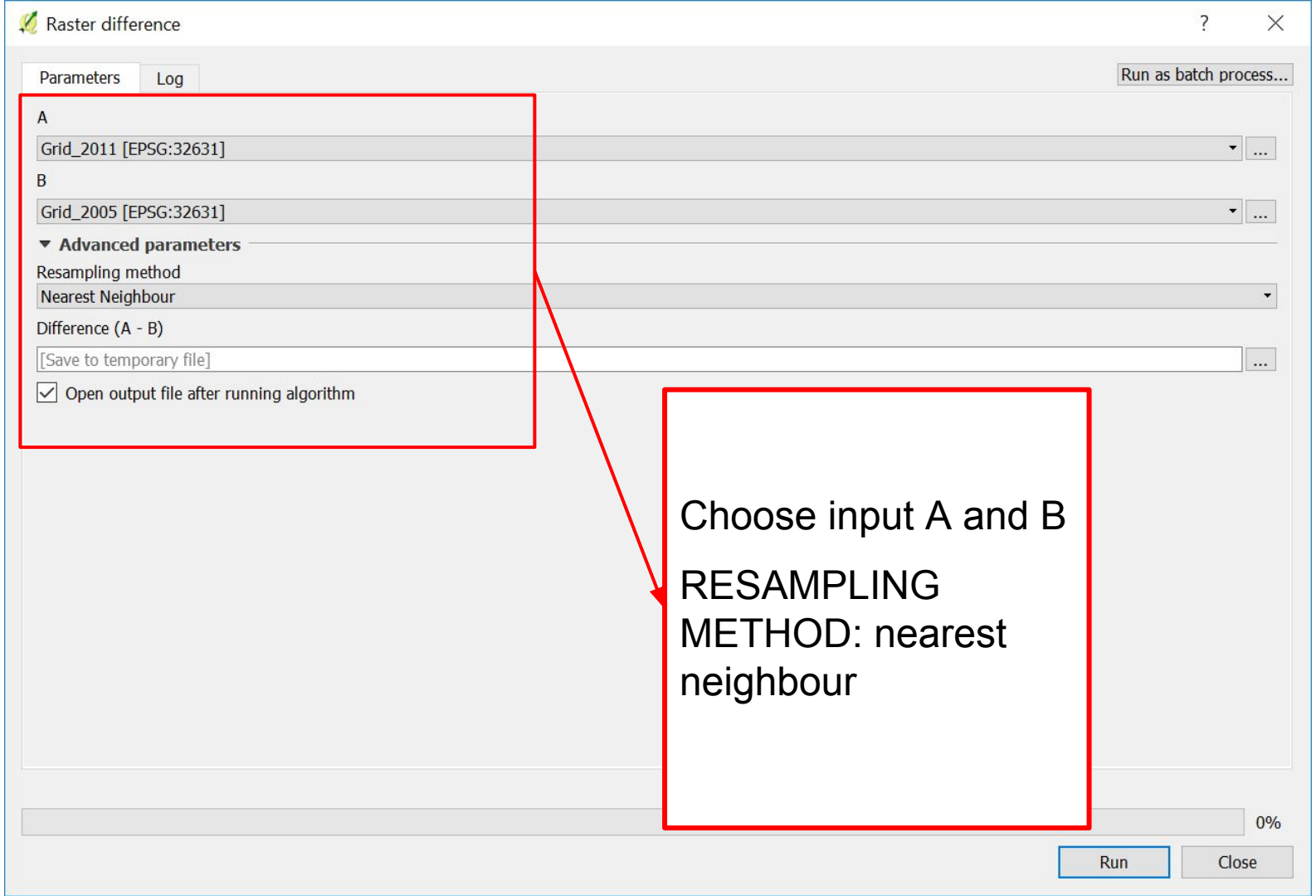
GDAL/OGR [48 geoalgorithms]
GRASS GIS 7 commands [314 geoa...
Models [0 geoalgorithms]
QGIS geoalgorithms [117 geoalgori...
SAGA (2.3.2) [353 geoalgorithms]
Climate tools
Georeferencing
Geostatistics
Image analysis
Image tools
Projections and Transformations
Raster analysis
Raster calculus
Function
Fuzzify
Fuzzy intersection (and)
Fuzzy union (or)
Geometric figures
Gradient vector from cartesia...
Gradient vector from polar to ...
Metric conversions
Random field
Random terrain
Random terrain generation
Raster calculator
Raster difference
Raster division
Raster normalisation
Raster product
Raster standardisation
Raster volume
Rasters sum
Open raster difference function
SAGA → Raster calculus → Raster difference
Toggles the editing state of the current layer
Coordinate 509664,722504
Scale 1:526.708
Magnifier 100%
Rotation 0,0
Render
EPSG:32631 (OTF)


Raster difference
Parameters
Log
Run as batch process...
A
Grid_2011 [EPSG:32631]
B
Grid_2005 [EPSG:32631]
Advanced parameters
Resampling method
Nearest Neighbour
Difference (A - B)
[Save to temporary file]
Open output file after running algorithm
Choose input A and B
RESAMPLING METHOD: nearest neighbour
0%
Run
Close

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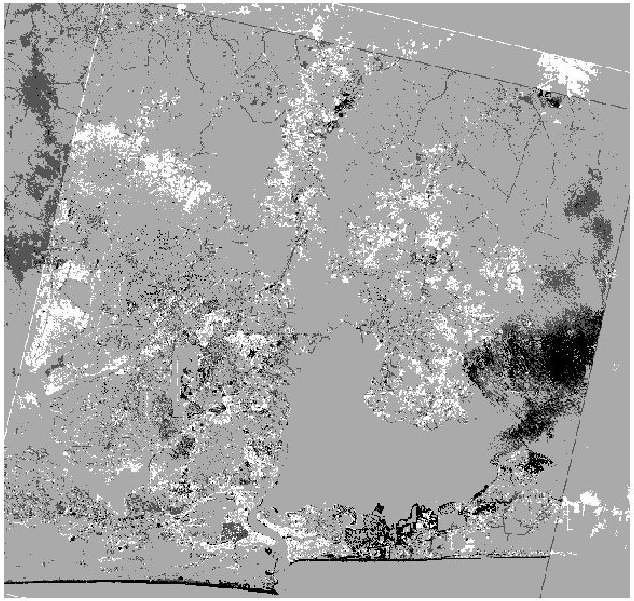
Difference (A - B)
-2.004
0.996
Grid_2011
Grid_2005
Lagos_2011_lores
Lagos_2005_lores



Here is the difference raster

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Fuzzy intersection (and)
Fuzzy union (or)
Geometric figures
Raster standardisation

Coordinate 533819,763010 Scale 1:526.708 Magnifier 100% Rotation 0,0 Render EPSG:32631

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-2.004
0.996
Grid_2011
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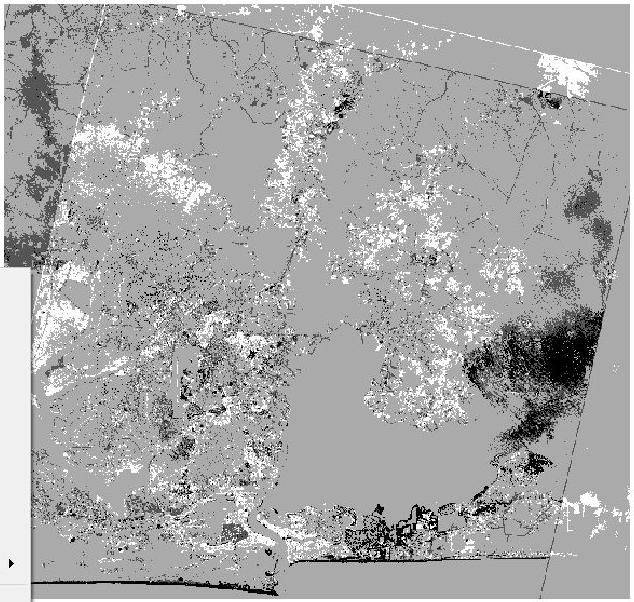
Lagos_2011_lores
Lagos_2005_lores

Zoom to Layer
Show in Overview
Zoom to Native Resolution (100%)
Stretch Using Current Extent
Remove
Duplicate
Set Layer Scale Visibility
Set Layer CRS
Set Project CRS from Layer
Styles
Save As...
Save As Layer Definition File...
Properties
Rename



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Random terrain
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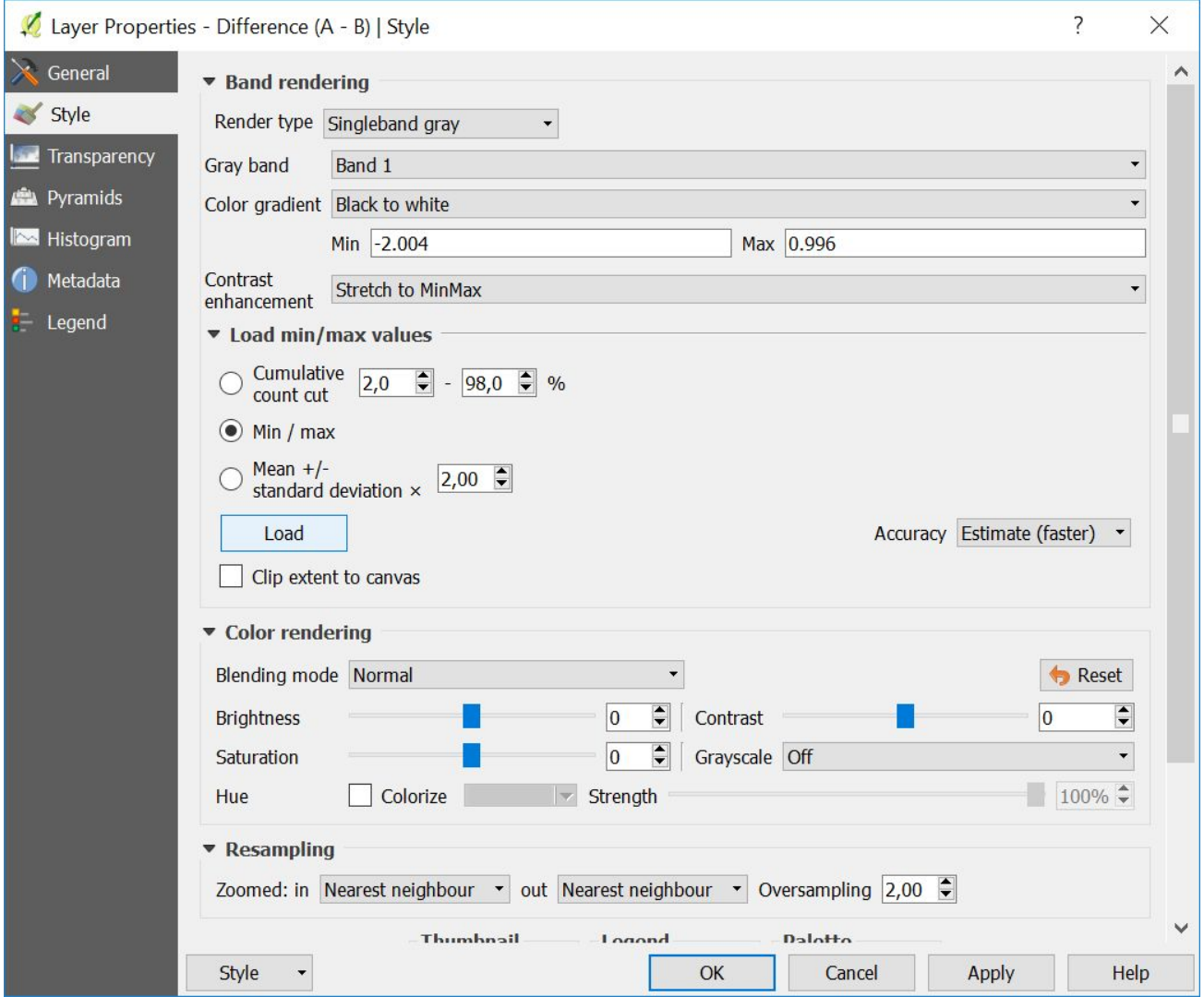
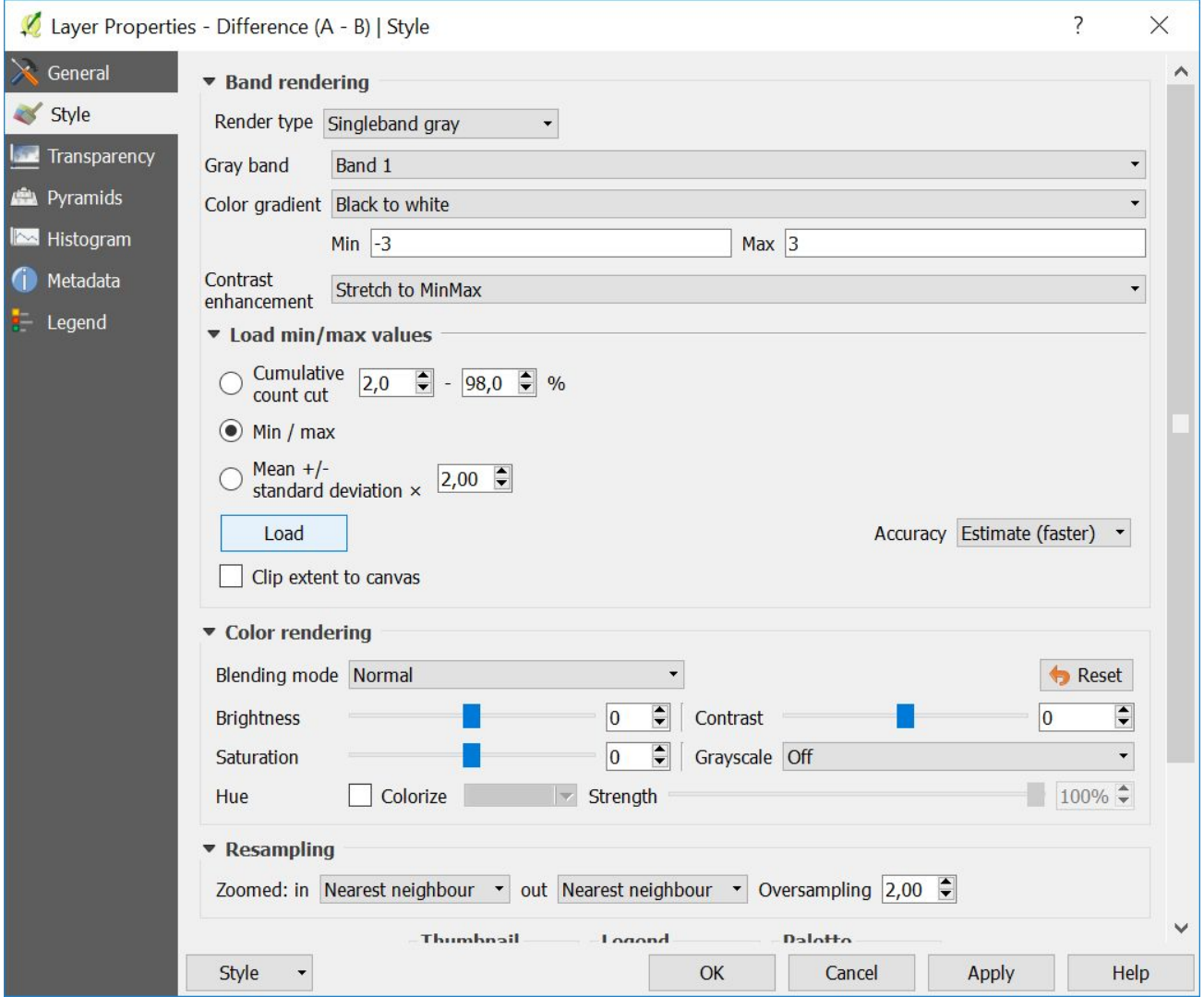
Raster calculator
Raster difference
Raster division
Raster normalisation
Raster product
Raster standardisation

Coordinate 533819,763010 Scale 1:526.708 Magnifier 100% Rotation 0,0 Render EPSG:32631


Layer Properties - Difference (A - B) | Style
General
Style
Transparency
Pyramids
Histogram
Metadata
Legend
Band rendering
Render type
Singleband gray
Gray band
Band 1
Color gradient
Black to white
Min
-2.004
Max
0.996
Contrast enhancement
Stretch to MinMax
Load min/max values
Cumulative count cut
2,0
98,0
%
Min / max
Mean +/- standard deviation ×
2,00
Load
Accuracy
Estimate (faster)
Clip extent to canvas
Color rendering
Blending mode
Normal
Reset
Brightness
Contrast
Saturation
Grayscale
Off
Hue
Colorize
Strength
100%
Resampling
Zoomed: in
Nearest neighbour
out
Nearest neighbour
Oversampling
2,00
Style
OK
Cancel
Apply
Help


Layer Properties - Difference (A - B) | Style
General
Style
Transparency
Pyramids
Histogram
Metadata
Legend
Band rendering
Render type
Singleband gray
Gray band
Band 1
Color gradient
Black to white
Min
-3
Max
3
Contrast enhancement
Stretch to MinMax
Load min/max values
Cumulative count cut
2,0
98,0
%
Min / max
Mean +/- standard deviation ×
2,00
Load
Accuracy
Estimate (faster)
Clip extent to canvas
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Blending mode
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Reset
Brightness
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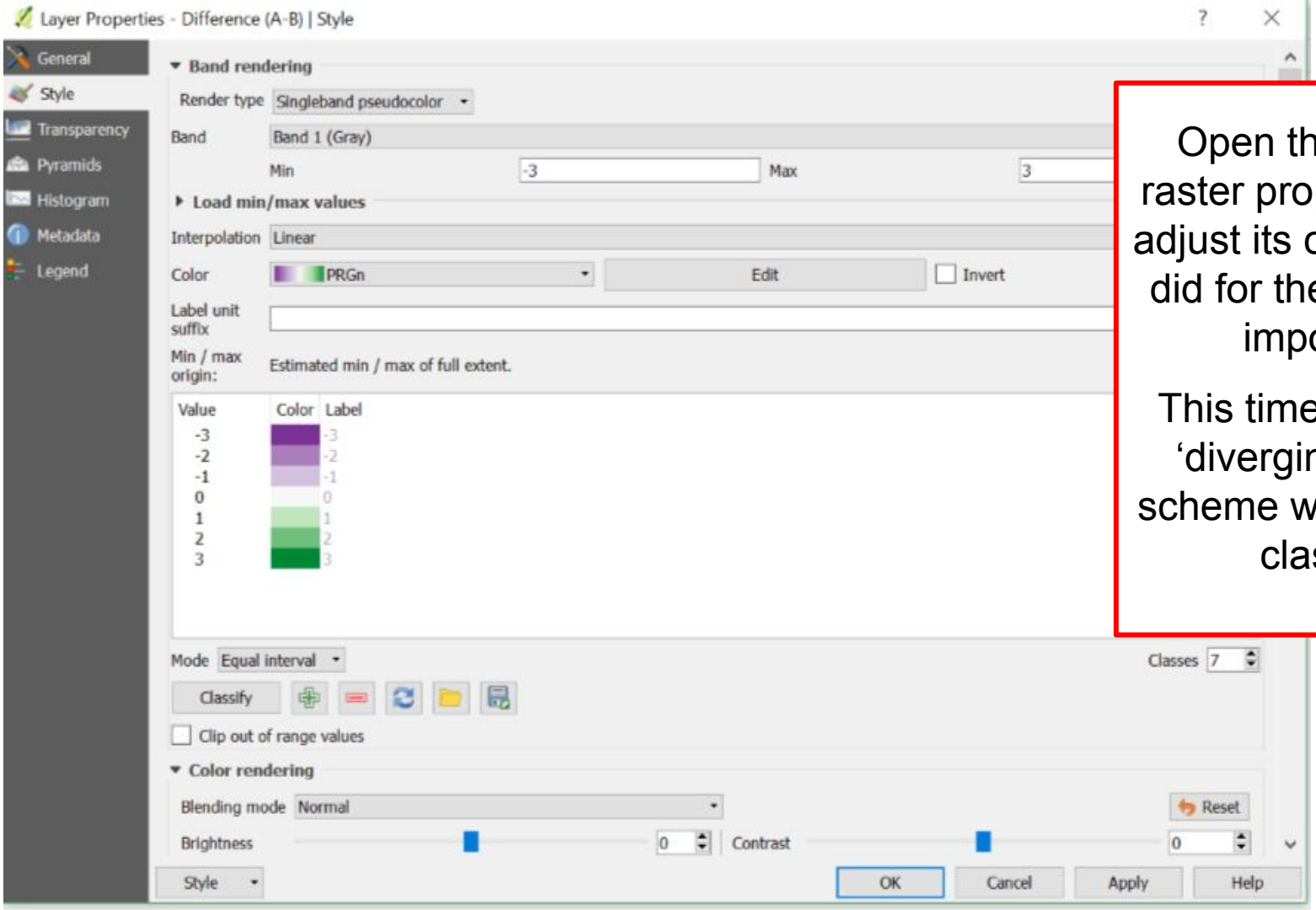
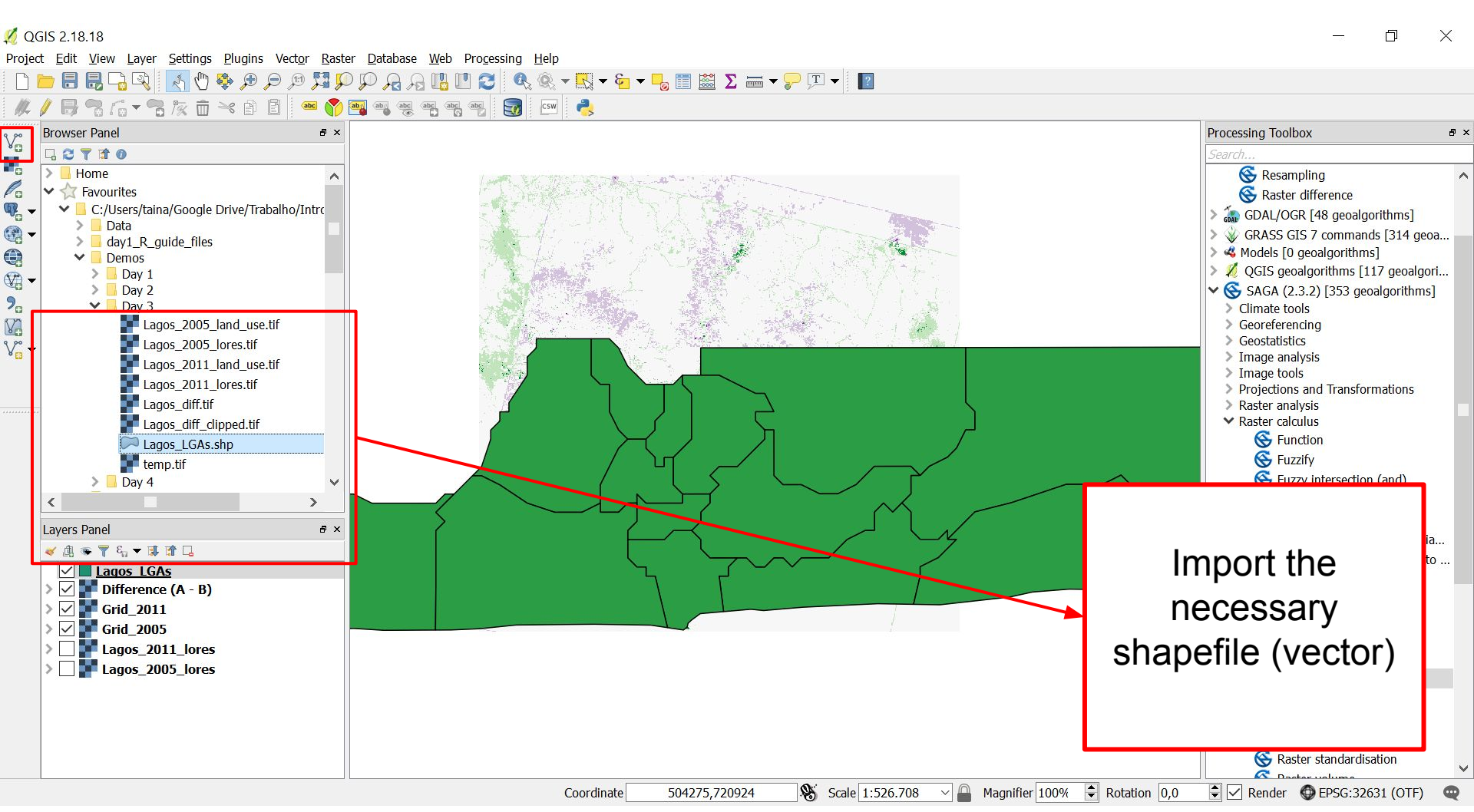
Grayscale
Off
Hue
Colorize
Strength
100%
Resampling
Zoomed: in
Nearest neighbour
out
Nearest neighbour
Oversampling
2,00
Style
OK
Cancel
Apply
Help



Open this layer's raster properties and adjust its color as you did for the first layer imported.

This time choose a 'diverging' colour scheme with 7 colour classes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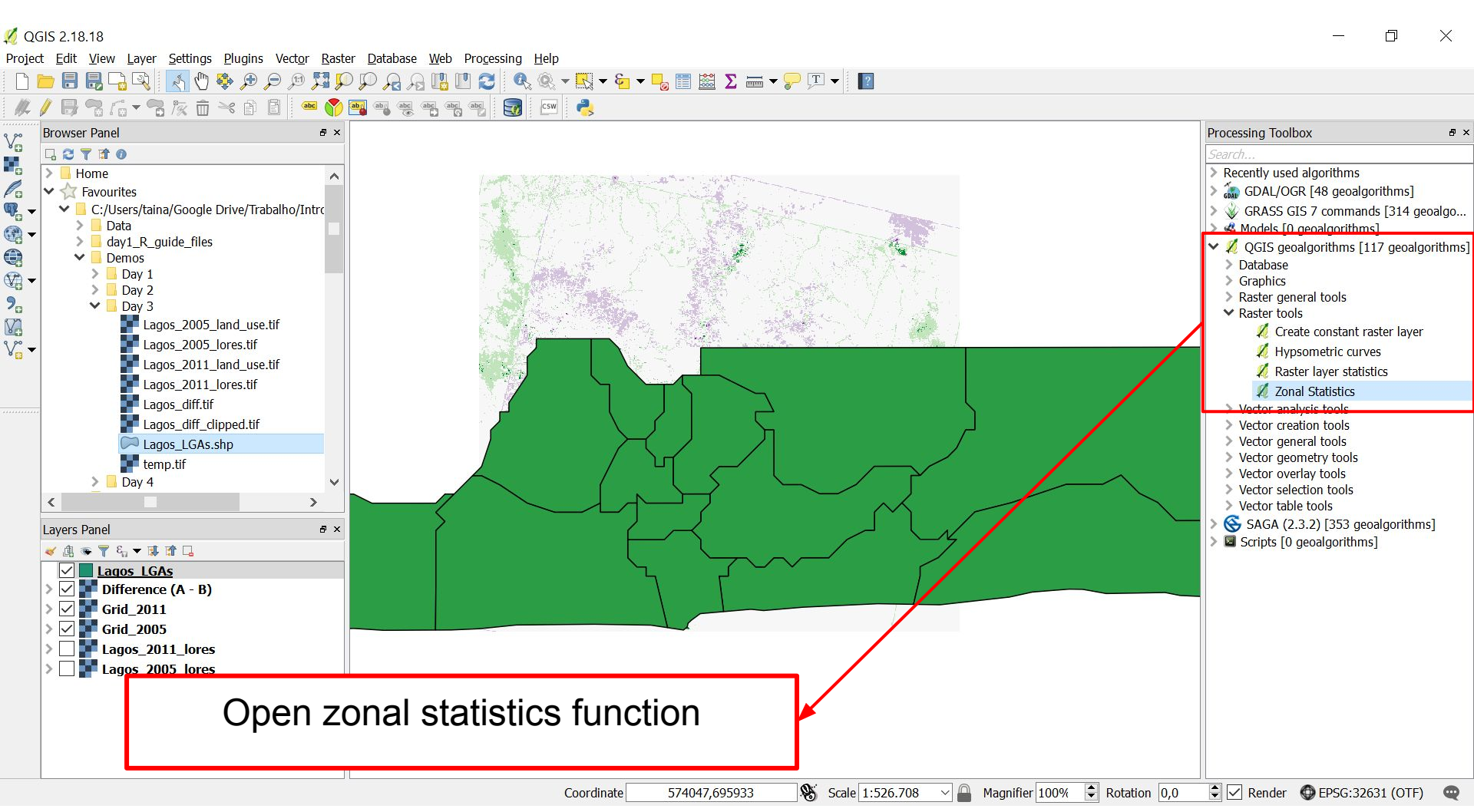
Import the necessary shapefile (vector)
Coordinate 504275,720924
Scale 1:526.708
Magnifier 100%
Rotation 0,0
Render
EPSG:32631 (OTF)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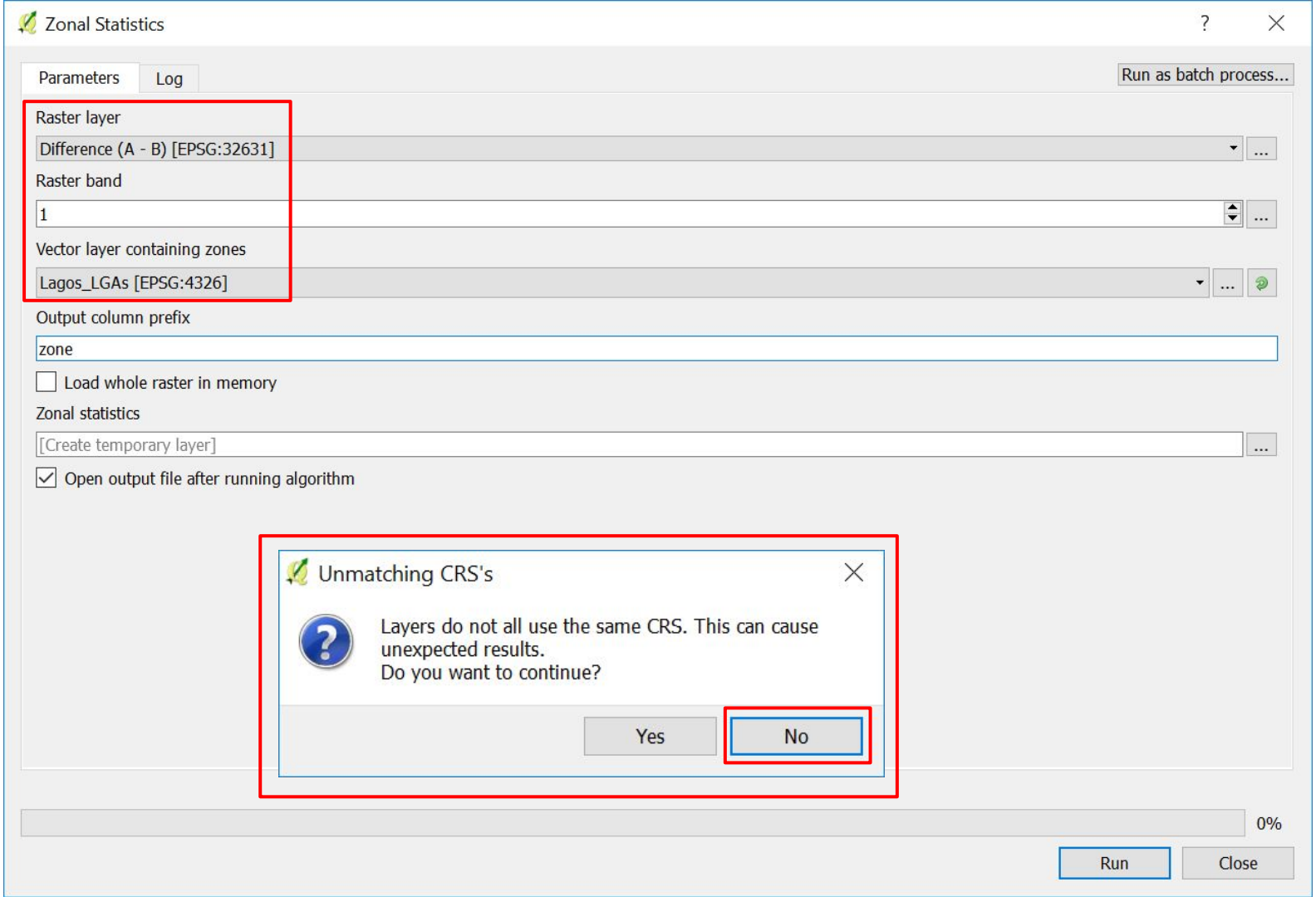
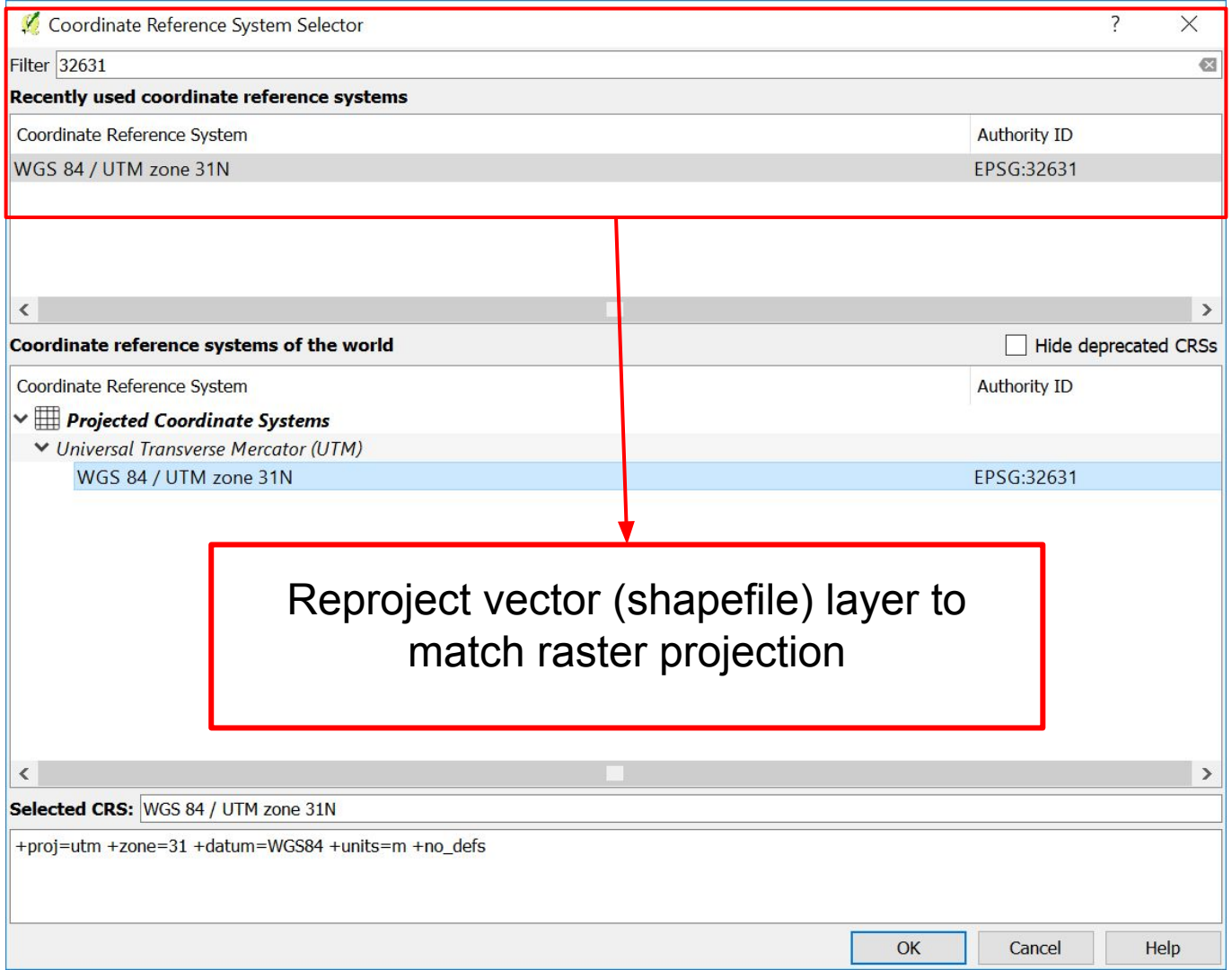
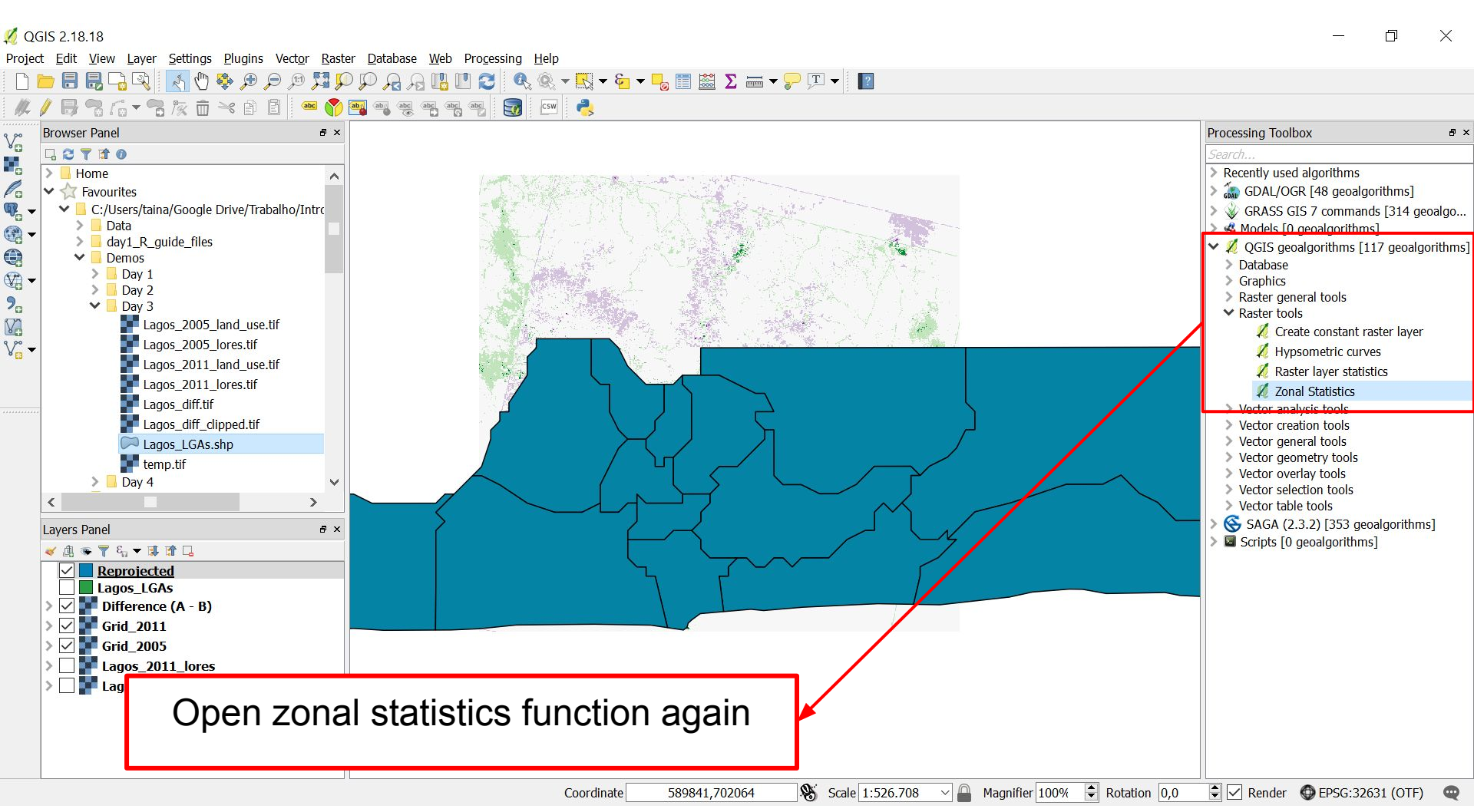
Vector table tools
SAGA (2.3.2) [353 geoalgorithms]
Scripts [0 geoalgorithms]
Open zonal statistics function
Coordinate 574047,695933
Scale 1:526.708
Magnifier 100%
Rotation 0,0
Render
EPSG:32631 (OTF)


Zonal Statistics
Parameters
Log
Run as batch process...
Raster layer
Difference (A - B) [EPSG:32631]
Raster band
1
Vector layer containing zones
Lagos_LGAs [EPSG:4326]
Output column prefix
zone
Load whole raster in memory
Zonal statistics
[Create temporary layer]
Open output file after running algorithm
Unmatching CRS's
Layers do not all use the same CRS. This can cause unexpected results.
Do you want to continue?
Yes
No
0%
Run
Close


Coordinate Reference System Selector
Filter 32631
Recently used coordinate reference systems
Coordinate Reference System
Authority ID
WGS 84 / UTM zone 31N
EPSG:32631
Coordinate reference systems of the world
Hide deprecated CRSs
Coordinate Reference System
Authority ID
Projected Coordinate Systems
Universal Transverse Mercator (UTM)
WGS 84 / UTM zone 31N
EPSG:32631
Reproject vector (shapefile) layer to match raster projection
Selected CRS:
WGS 84 / UTM zone 31N
+proj=utm +zone=31 +datum=WGS84 +units=m +no_defs
OK
Cancel
Help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Vector selection tools
Vector table tools
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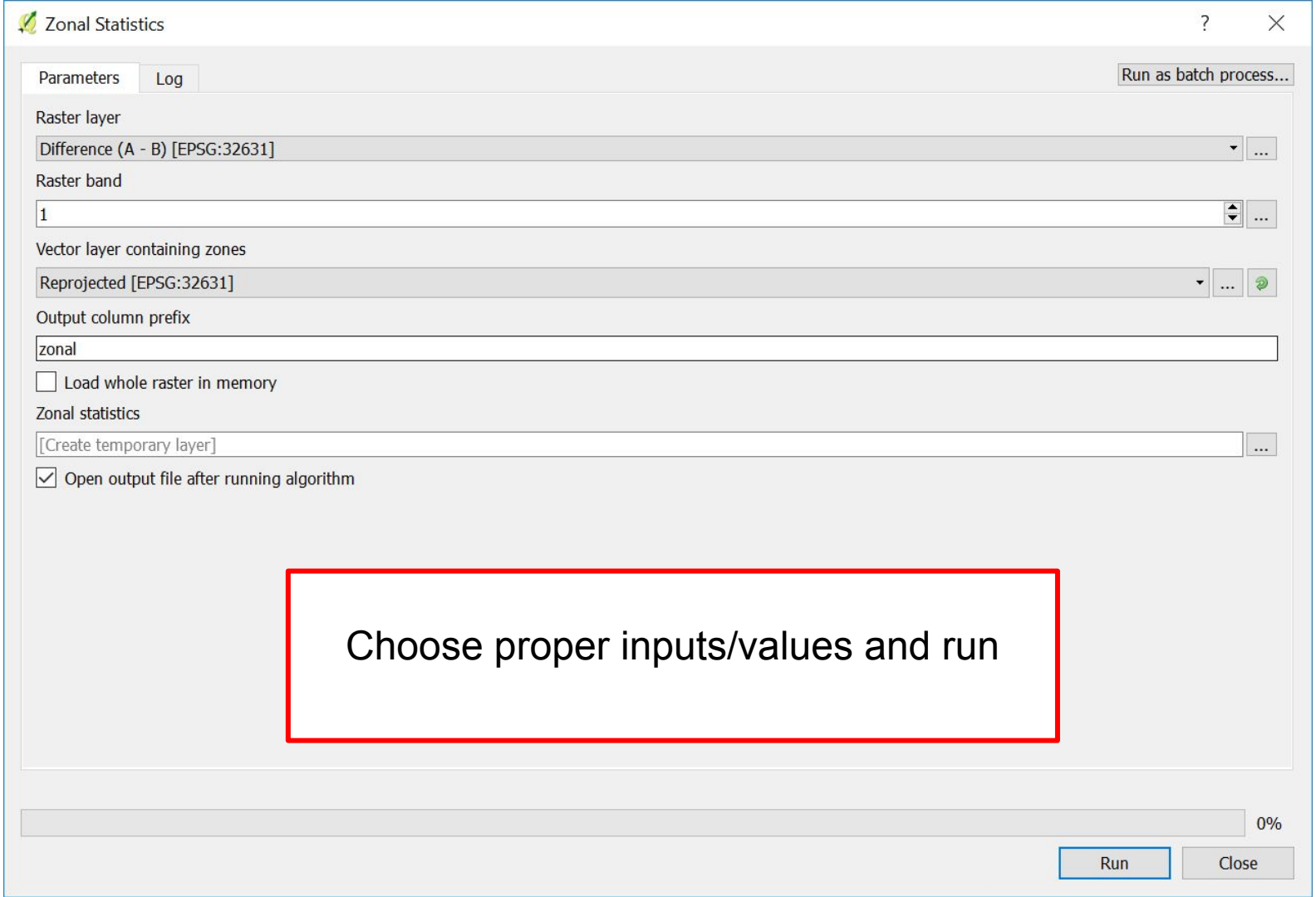
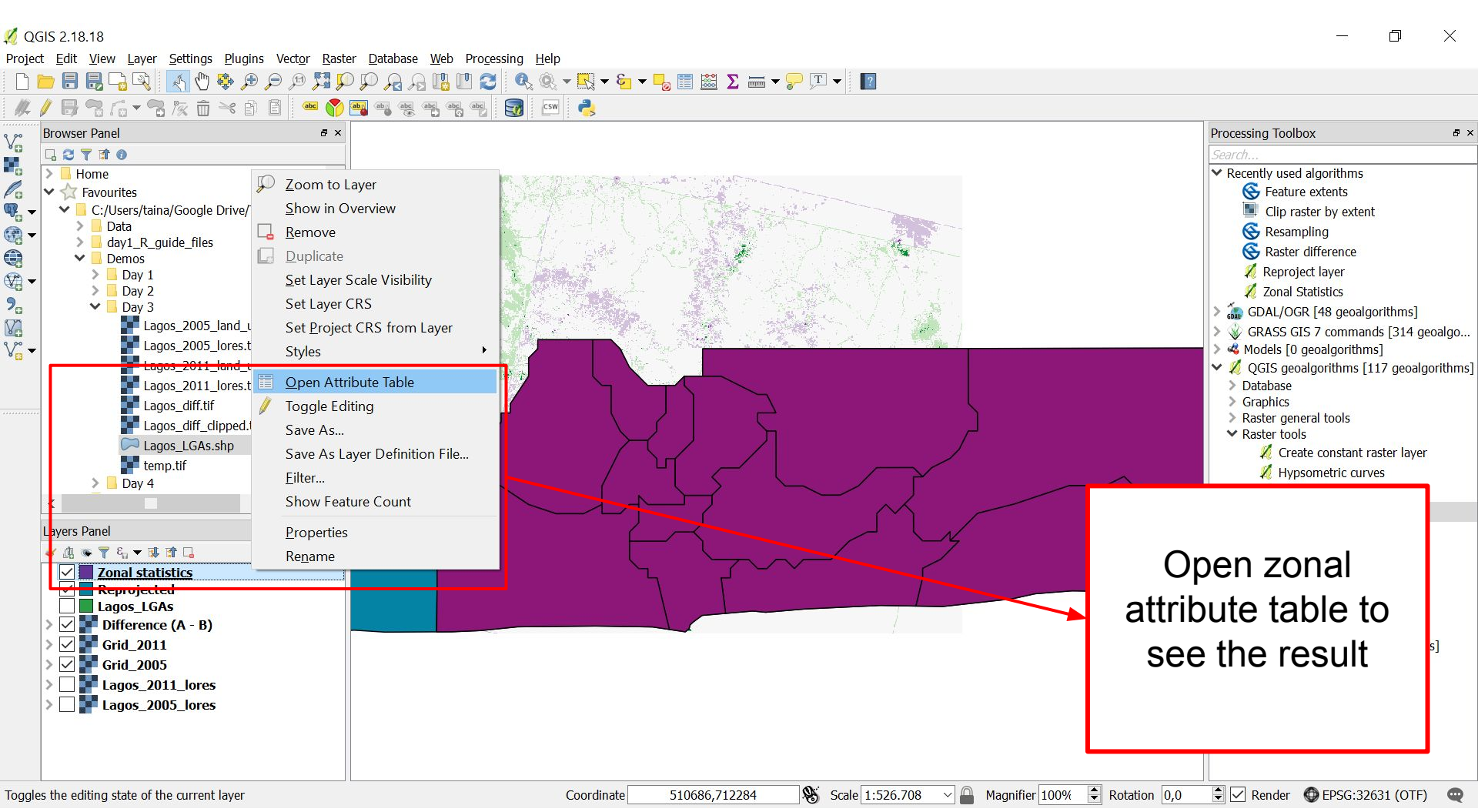
Scripts [0 geoalgorithms]
Open zonal statistics function again
Coordinate 589841,702064
Scale 1:526.708
Magnifier 100%
Rotation 0,0
Render
EPSG:32631 (OTF)


Zonal Statistics
Parameters
Log
Run as batch process...
Raster layer
Difference (A - B) [EPSG:32631]
Raster band
1
Vector layer containing zones
Reprojected [EPSG:32631]
Output column prefix
zonal
Load whole raster in memory
Zonal statistics
[Create temporary layer]
Open output file after running algorithm
Choose proper inputs/values and run
0%
Run
Close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Raster tools
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Open zonal attribute table to see the result
Toggles the editing state of the current layer
Coordinate 510686,712284
Scale 1:526.708
Magnifier 100%
Rotation 0,0
Render
EPSG:32631 (OTF)

Zonal statistics :: Features total: 13, filtered: 13, selected: 0

	ADM4	ADM5	STL-0	STL-1	STL-2	STL-3	STL-4	STL-5	zonalmin	zonalmax	zonalsum	zonalcount	zonalmean	zonalstd	zonaluniqu	zonalrange	zonalvar	zonalmedia	zonalmode
1		-	168	24	367	-	-	-	-3.00000	3.00000	-424.00000	6013.00000	-0.07051	0.65884	7.00000	6.00000	0.43408	0.00000	0.00000
2		-	168	24	356	-	-	-	-3.00000	2.00000	-219.00000	5242.00000	-0.04178	0.22856	6.00000	5.00000	0.05224	0.00000	0.00000
3		-	168	24	362	-	-	-	-3.00000	3.00000	-5280.00000	18719.000...	-0.28207	0.96569	7.00000	6.00000	0.93257	0.00000	0.00000
4		-	168	24	357	-	-	-	0.00000	3.00000	234.00000	3048.00000	0.07677	0.27352	3.00000	3.00000	0.07481	0.00000	0.00000
5		-	168	24	363	-	-	-	-3.00000	3.00000	814.00000	24387.000...	0.03338	0.53740	7.00000	6.00000	0.28879	0.00000	0.00000
6		-	168	24	369	-	-	-	-3.00000	3.00000	23.00000	3596.00000	0.00640	0.79362	7.00000	6.00000	0.62983	0.00000	0.00000
7		-	168	24	359	-	-	-	-3.00000	3.00000	-10705.00...	39260.000...	-0.27267	0.92833	7.00000	6.00000	0.86180	0.00000	0.00000
8		-	168	24	365	-	-	-	-3.00000	3.00000	816.00000	8820.00000	0.09252	0.85492	7.00000	6.00000	0.73090	0.00000	0.00000
9		-	168	24	361	-	-	-	-3.00000	3.00000	-3045.00000	21951.000...	-0.13872	0.55266	7.00000	6.00000	0.30543	0.00000	0.00000
10		-	168	24	368	-	-	-	-3.00000	3.00000	-43.00000	3597.00000	-0.01195	0.60175	7.00000	6.00000	0.36210	0.00000	0.00000
11		-	168	24	366	-	-	-	-3.00000	3.00000	-952.00000	5665.00000	-0.16805	0.78490	7.00000	6.00000	0.61607	0.00000	0.00000
12		-	168	24	360	-	-	-	-3.00000	3.00000	-2898.00000	29565.000...	-0.09802	0.65158	7.00000	6.00000	0.42455	0.00000	0.00000
13		-	168	24	364	-	-	-	-3.00000	3.00000	-532.00000	10660.000...	-0.04991	0.38419	7.00000	6.00000	0.14760	0.00000	0.00000

Results are in the last columns of the data table

Show All Features

Zonal statistics :: Features total: 13, filtered: 13, selected: 1

	ID	LBL	FIP	MMT_ID	SHORT__FRM	LONG_FRM	ADM0	ADM1	ADM2	ADM3	ADM4	ADM5	STL-0	STL-1	STL-2	STL-3	STL-4	STL-5	zonalmin
1	360	NIR-360	NI	NIR	Nigeria	Federal Re...	Nigeria	Lagos	Agege	-	-	-	168	24	367	-	-	-	-3.0000
2	362	NIR-362	NI	NIR	Nigeria	Federal Re...	Nigeria	Lagos	Epe	-	-	-	168	24	356	-	-	-	-3.0000
3	363	NIR-363	NI	NIR	Nigeria	Federal Re...	Nigeria	Lagos	Eti-Osa	-	-	-	168	24	362	-	-	-	-3.0000
4	364	NIR-364	NI	NIR	Nigeria	Federal Re...	Nigeria	Lagos	Ibeju/Lekki	-	-	-	168	24	357	-	-	-	0.0000
5	365	NIR-365	NI	NIR	Nigeria	Federal Re...	Nigeria	Lagos	Ikeja	-	-	-	168	24	363	-	-	-	-3.0000
6	366	NIR-366	NI	NIR	Nigeria	Federal Re...	Nigeria	Lagos	Ikeja	-	-	-	168	24	369	-	-	-	-3.0000
7	367	NIR-367	NI	NIR	Nigeria	Federal Re...	Nigeria	Lagos	Ikorodu	-	-	-	168	24	359	-	-	-	-3.0000
8	368	NIR-368	NI	NIR	Nigeria	Federal Re...	Nigeria	Lagos	LagosIsland	-	-	-	168	24	365	-	-	-	-3.0000
9	369	NIR-369	NI	NIR	Nigeria	Federal Re...	Nigeria	Lagos	Mainland	-	-	-	168	24	361	-	-	-	-3.0000
10	370	NIR-370	NI	NIR	Nigeria	Federal Re...	Nigeria	Lagos	Mainland	-	-	-	168	24	368	-	-	-	-3.0000
11	371	NIR-371	NI	NIR	Nigeria	Federal Re...	Nigeria	Lagos	Mushin	-	-	-	168	24	366	-	-	-	-3.0000
12	372	NIR-372	NI	NIR	Nigeria	Federal Re...	Nigeria	Lagos	Ojo	-	-	-	168	24	360	-	-	-	-3.0000
13	373	NIR-373	NI	NIR	Nigeria	Federal Re...	Nigeria	Lagos	Shomolu	-	-	-	168	24	364	-	-	-	-3.0000

By selecting a line you filter to that region (ETI-OSA)

Show All Features

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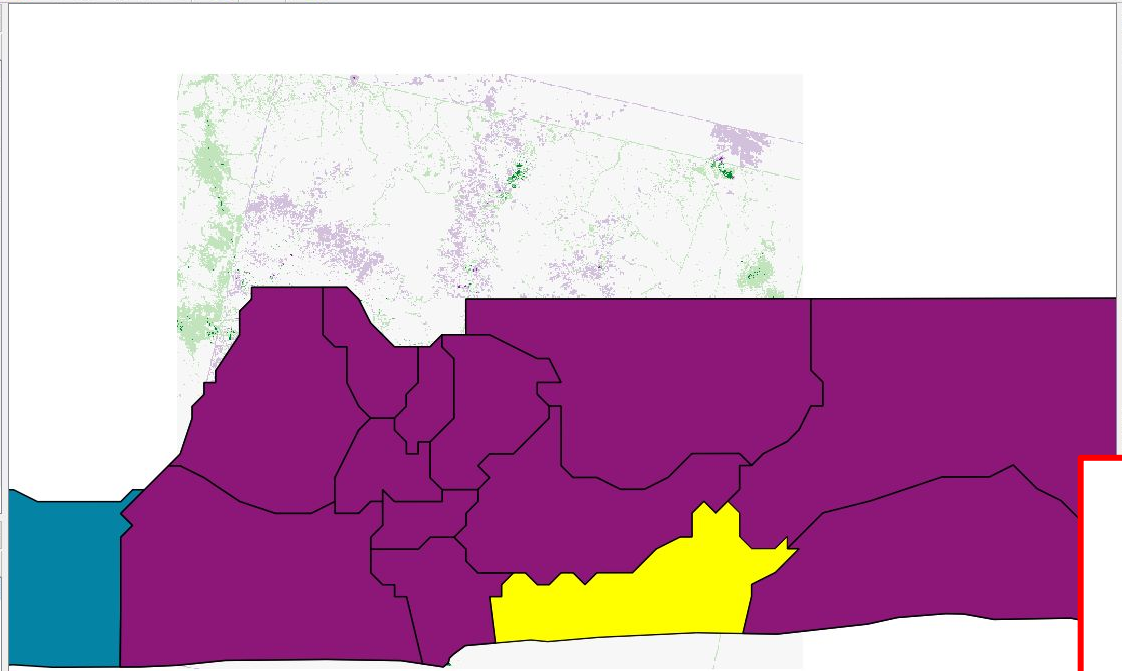
- Reprojected
- Lagos_LGAs
- Difference (A - B)
- Grid_2011
- Grid_2005
- Lagos_2011_lores
- Lagos_2005_lores



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  - Raster difference
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  - Zonal Statistics
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  - Database
  - Graphics
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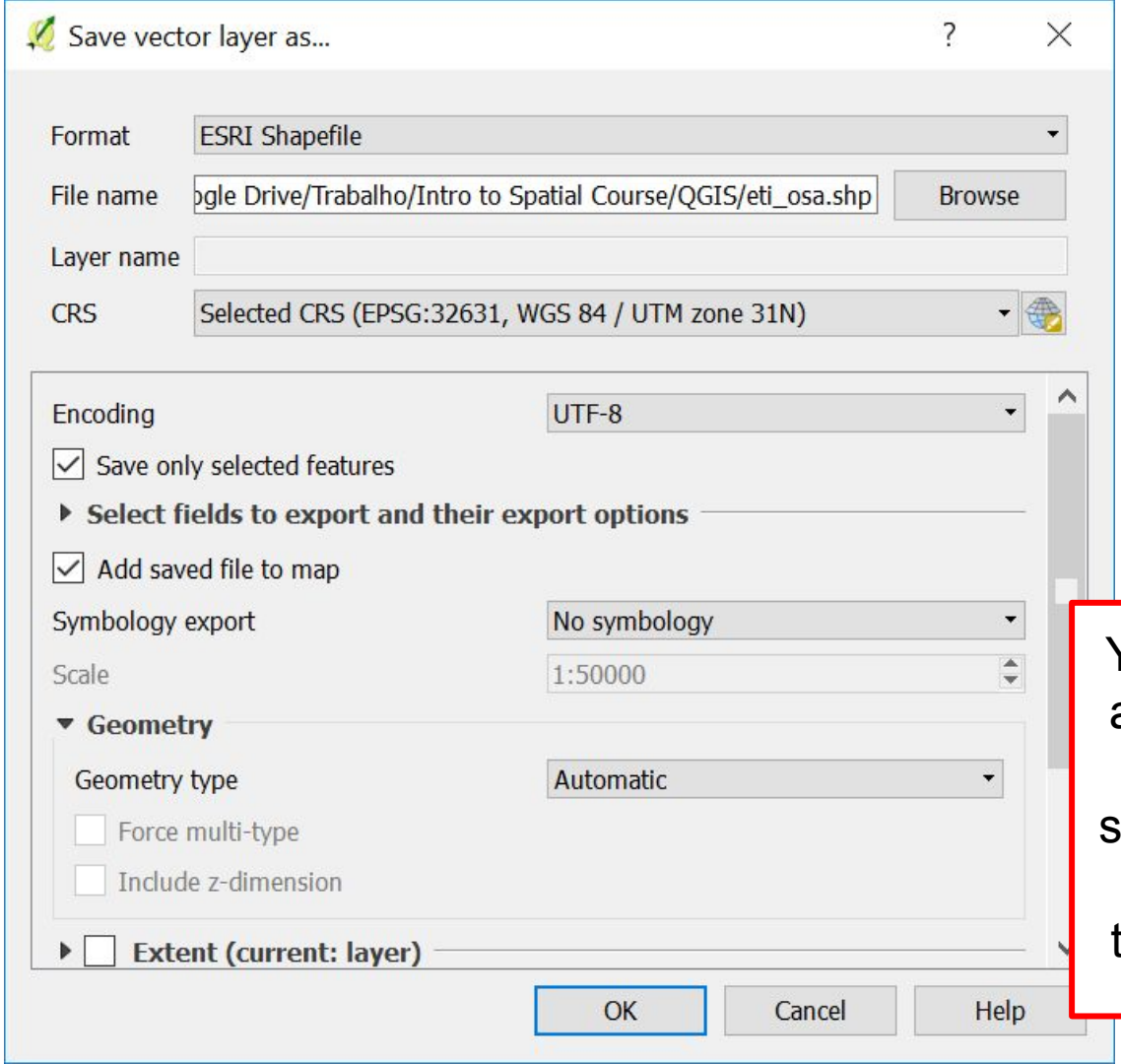
Identify Results

The selected region is highlighted

Coordinate 580551,689522 Scale 1:526.708 Magnifier 100% Rotation 0,0



You can save as a new shapefile, that now has some information that came from the raster layers

QGIS 2.18.18

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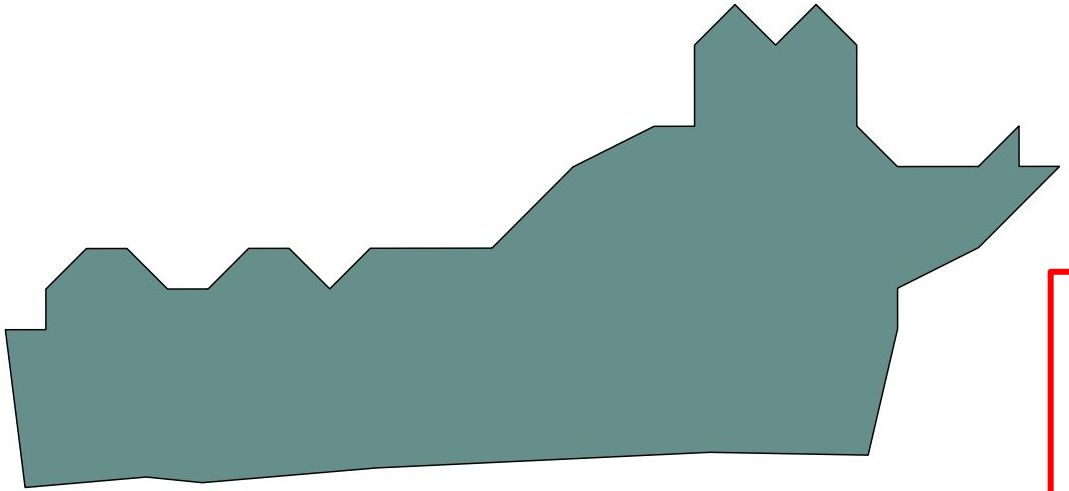
Layers Panel

- eti_osa
- Zonal statistics
- Reprojected
- Lagos_LGAs
- Difference (A - B)
- Grid_2011
- Grid_2005
- Lagos_2011_lores
- Lagos_2005_lores



Processing Toolbox

Search...

- Recently used algorithms
  - Feature extents
  - Clip raster by extent
  - Resampling
  - Raster difference
  - Reproject layer
  - Zonal Statistics
- GDAL/OGR [48 geoalgorithms]
- GRASS GIS 7 commands [314 geoa...
- Models [0 geoalgorithms]
- QGIS geoalgorithms [117 geoalgori...
  - Database
  - Graphics
  - Raster general tools

Identify Results

Here is the new shapefile

Toggles the editing state of the current layer

Coordinate 504740,747216 Scale 1:154.572 Magnifier 100% Rotation 0,0

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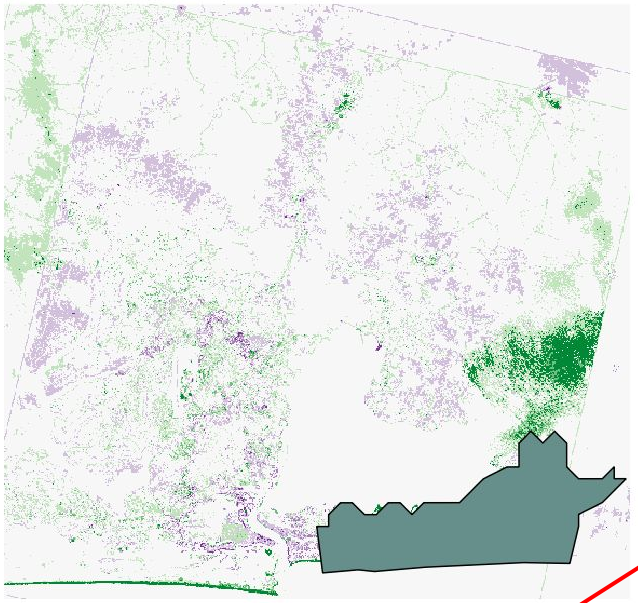
    - Day 4

Layers Panel

- eti_osa
- Zonal statistics
- Reprojected
- Lagos_LGAs
- Difference (A - B)
- Lagos_2011_lores
- Lag



Processing Toolbox

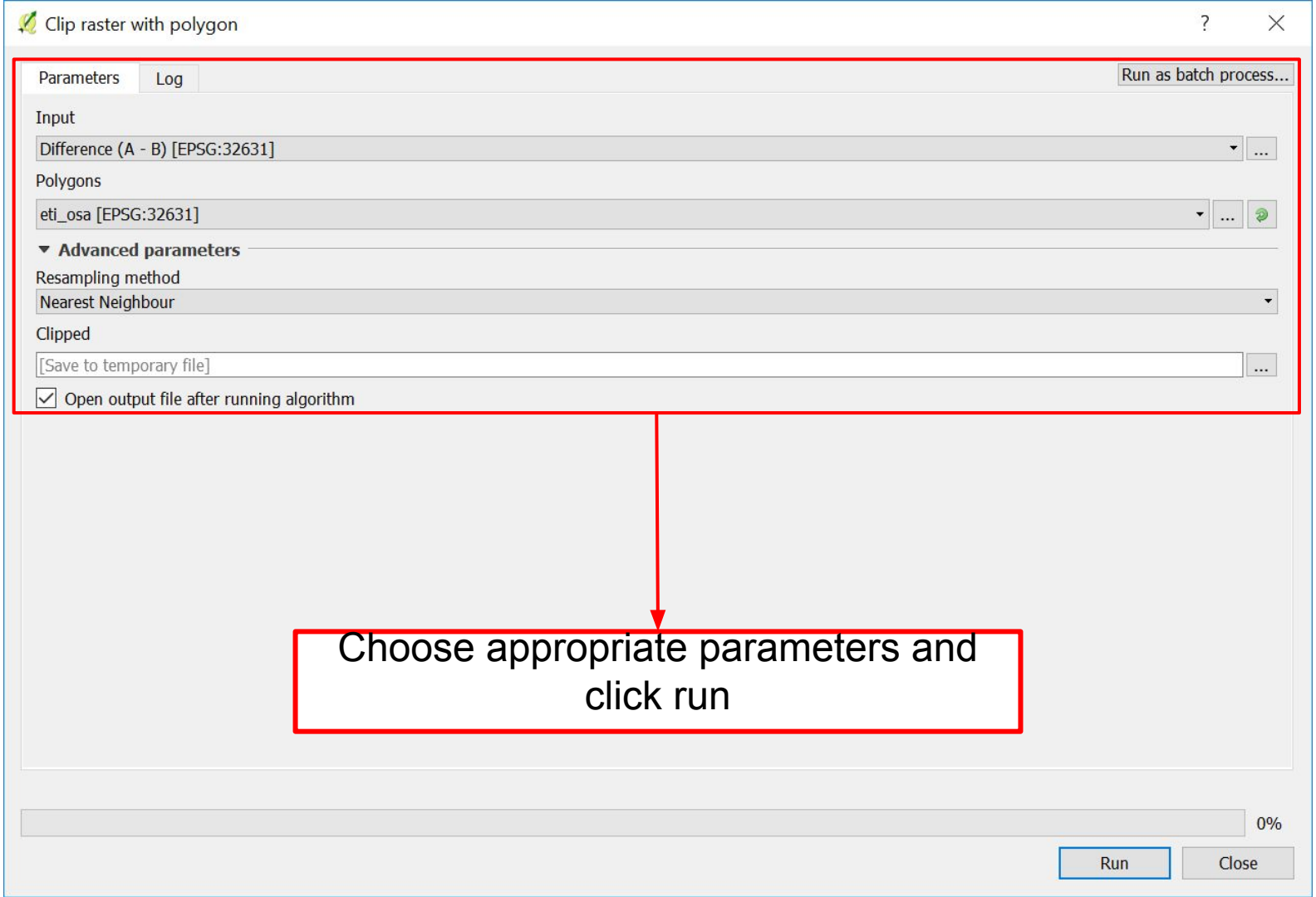
Search...

- Recently used algorithms
- GDAL/OGR [48 geoalgorithms]
- GRASS GIS 7 commands [314 geoa...
- Models [0 geoalgorithms]
- QGIS geoalgorithms [117 geoalgori
- SAGA (2.3.2) [353 geoalgorithms]
  - Climate tools
  - Georeferencing
  - Geostatistics
  - Image analysis
  - Image tools
  - Projections and Transformations
  - Raster analysis
  - Raster calculus
  - Raster creation tools
  - Raster filter
  - Raster tools
  - Raster visualization
  - Simulation
  - Table tools
  - Terrain Analysis - Channels
  - Terrain Analysis - Hydrology
  - Terrain Analysis - Lighting
  - Terrain Analysis - Morphometry
  - Terrain Analysis - Profiles
  - Vector <-> raster
    - Add raster values to features
    - Add raster values to points
    - Clip raster with polygon
    - Contour lines
    - Gradient vectors from directio...
    - Gradient vectors from directio...
    - Gradient vectors from surface
    - Grid statistics for points
    - Local minima and maxima

Open clip raster with polygon function again

1 legend entries removed.

Coordinate 587054,698441 Scale 1:526.708 Magnifier 100% Rotation 0,0 Render EPSG:32631 (OTF)


Clip raster with polygon
Parameters
Log
Run as batch process...
Input
Difference (A - B) [EPSG:32631]
Polygons
eti_osa [EPSG:32631]
Advanced parameters
Resampling method
Nearest Neighbour
Clipped
[Save to temporary file]
Open output file after running algorithm
Choose appropriate parameters and click run
0%
Run
Close

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        - Lagos_2011_land_use.tif
        - Lagos_2011_lores.tif
        - Lagos_diff.tif
        - Lagos_diff_clipped.tif
        - Lagos_LGAs.shp
        - temp.tif
      - Day 4

Layers Panel

- eti_osa
- Zonal statistics
- Reprojected
- Lagos_LGAs
- Clipped
  - -3
  - 0.996
- Difference (A - B)
- Lagos_2011_lores
- Lagos_2005_lores

Processing Toolbox

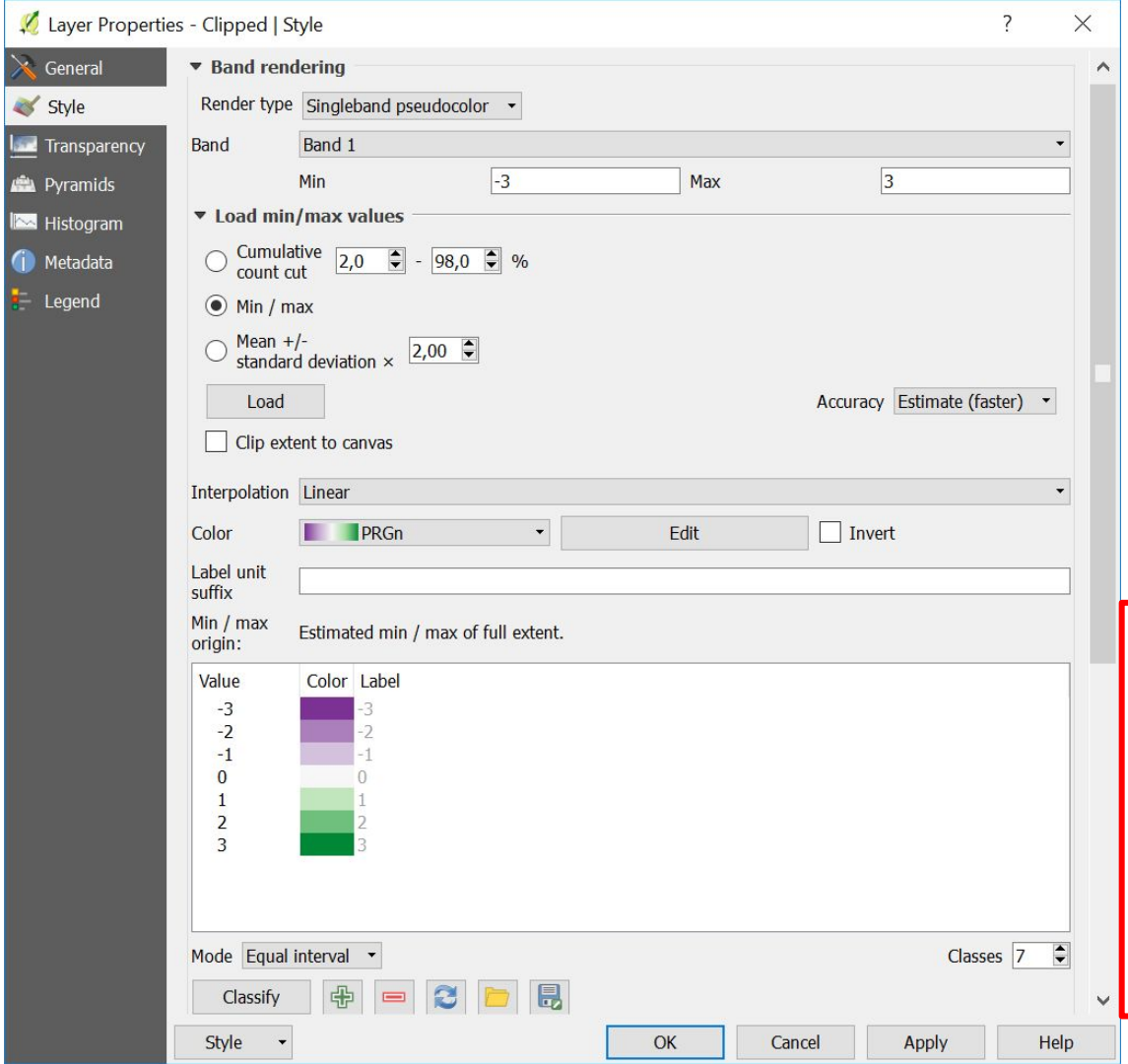
Search...

- Recently used algorithms
  - Clip raster by extent
  - Resampling
  - Raster difference
  - Reproject layer
  - Zonal Statistics
  - Clip raster with polygon
- GDAL/OGR [48 geoalgorithms]
- GRASS GIS 7 commands [314 geoa...
- Models [0 geoalgorithms]
- QGIS geoalgorithms [117 geoalgori...
- SAGA (2.3.2) [353 geoalgorithms]
  - Climate tools
  - Georeferencing
  - Geostatistics
  - Image analysis

Here is the clipped raster

1 legend entries removed.

Coordinate 509199,702064 Scale 1:526.708 Magnifier 100% Rotation 0,0



Change the clipped raster style to the same style we were using before

QGIS 2.18.18

Project Edit View Layer Settings Plugins Vector Raster Database Web Processing Help

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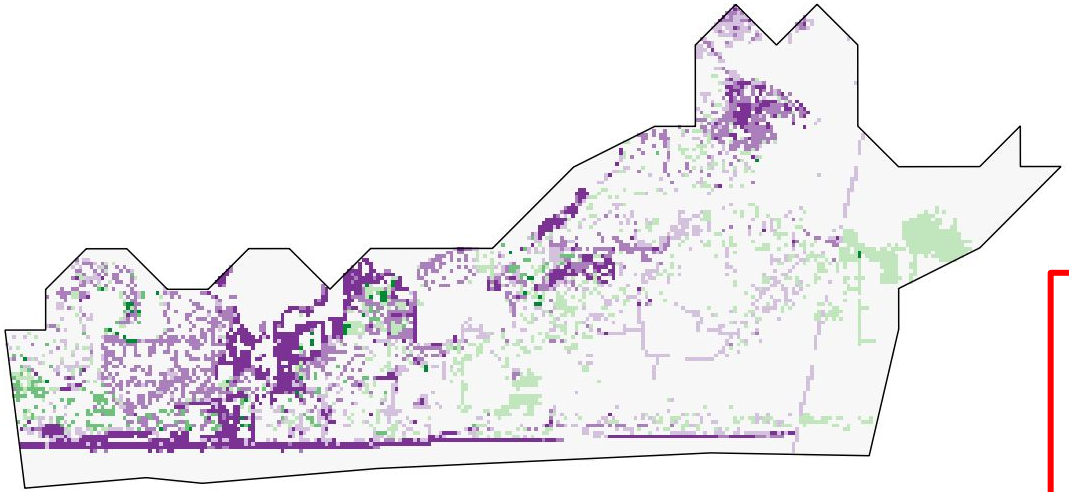
Layers Panel

- eti_osa
- Zonal statistics
- Reprojected
- Lagos_LGAs
- Clipped
  - -3
  - -2
  - -1
  - 0
  - 1
  - 2
  - 3
- Difference (A - B)



Processing Toolbox

Search...

- Recently used algorithms
  - Clip raster by extent
  - Resampling
  - Raster difference
  - Reproject layer
  - Zonal Statistics
  - Clip raster with polygon
- GDAL/OGR [48 geoalgorithms]
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- QGIS geoalgorithms [117 geoalgori...
- SAGA (2.3.2) [353 geoalgorithms]
  - Climate tools
  - Georeferencing
  - Geostatistics
  - Image analysis

Here is the final result

1 legend entries removed.

Coordinate 504461,720924 Scale 1:154.331 Magnifier 100% Rotation 0,0