

QGIS Application - Bug report #20493

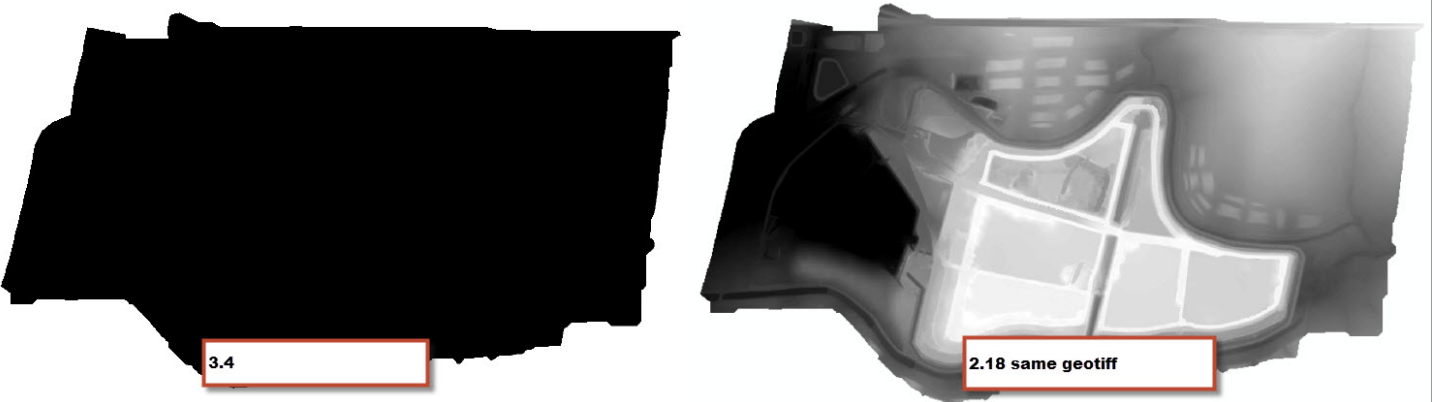
32 bit floating geotiff showing as black. worked in 2.18 and 3.0 - not working 3.4

2018-11-15 01:16 AM - Brad Kanther

Status:	Closed	
Priority:	High	
Assignee:	Peter Petrik	
Category:	Rasters	
Affected QGIS version:	3.5(master)	Regression?: Yes
Operating System:	Windows	Easy fix?: No
Pull Request or Patch supplied:	No	Resolution:
Crashes QGIS or corrupts data:	No	Copied to github as #: 28313

Description

Not sure why these type of geotiff's that were previously been read are now displaying as black and all at one elevation in QGIS 3.4. (see attached files)



details page

Information from provider

Name	GEOTIFF_32floating
Path	U:\B_Kanther\errors\0018 - geotiff 32 bit\GEOTIFF_32floating.tif
CRS	EPSG:20355 - AGD84 / AMG zone 55 - Projected
Extent	639355.4889999999431893,7428334.25999999997764826 : 642461.4889999999431893,7430046.2599
Unit	meters
Width	1553
Height	856
Data type	Float32 - Thirty two bit floating point
GDAL Driver Description	GTiff
GDAL Driver Metadata	GeoTIFF
Dataset Description	U:\B_Kanther\errors\0018 - geotiff 32 bit\GEOTIFF_32floating.tif
Compression	
Band 1	• STATISTICS_APPROXIMATE=YES • STATISTICS_MAXIMUM=228.4774017334 • STATISTICS_MEAN=214.31106576074 • STATISTICS_MINIMUM=193.12649536133 • STATISTICS_STDDEV=7.8186825441395
More information	• AREA_OR_POINT=Area • TIFFTAG_SOFTWARE=Autodesk Civil3D 2008
Dimensions	X: 1553 Y: 856 Bands: 1
Origin	639355,7.43005e+06
Pixel Size	2,-2

Identification

after converting in arcgis it works though. any ideas?

Information from provider

Name	GEOTIFF_arcgisconvert
Path	U:/B_Kanther/errors/0018 - geotiff 32 bit/GEOTIFF_arcgisconvert.tif
CRS	EPSG:20355 - AGD84 / AMG zone 55 - Projected
Extent	639355.4889999999431893,7428334.2599999997764826 : 642461.4889999999431893,7430046.2599999997764826
Unit	meters
Width	1553
Height	856
Data type	Float32 - Thirty two bit floating point
GDAL Driver Description	GTiff
GDAL Driver Metadata	GeoTIFF
Dataset Description	U:/B_Kanther/errors/0018 - geotiff 32 bit/GEOTIFF_arcgisconvert.tif
Compression	
Band 1	• RepresentationType=ATHEMATIC • STATISTICS_COVARIANCES=58.92983583583465 • STATISTICS_MAXIMUM=228.4774017334 • STATISTICS_MEAN=213.17601565667 • STATISTICS_MINIMUM=193.12649536133 • STATISTICS_SKIPFACTORX=1 • STATISTICS_SKIPFACTORY=1 • STATISTICS_STDDEV=7.6765770911152
More information	• DataType=Generic • X: 777 • Y: 428 • X: 389 • Y: 214
Dimensions	X: 1553 Y: 856 Bands: 1
Origin	639355,743005e+06
Pixel Size	2,-2

Identification

History

#1 - 2018-11-15 04:59 PM - Giovanni Manghi

- Crashes QGIS or corrupts data changed from No to Yes
- Priority changed from Normal to High
- Operating System deleted (Win 7 64 bit)

Confirmed, it seems incapable to compute the mix/max values. On 2.18 is ok.

#2 - 2018-11-21 04:14 AM - Brad Kanther

Strange also works in 3.2 ; but not 3.3 onwards..

#3 - 2018-11-21 06:58 AM - Giovanni Manghi

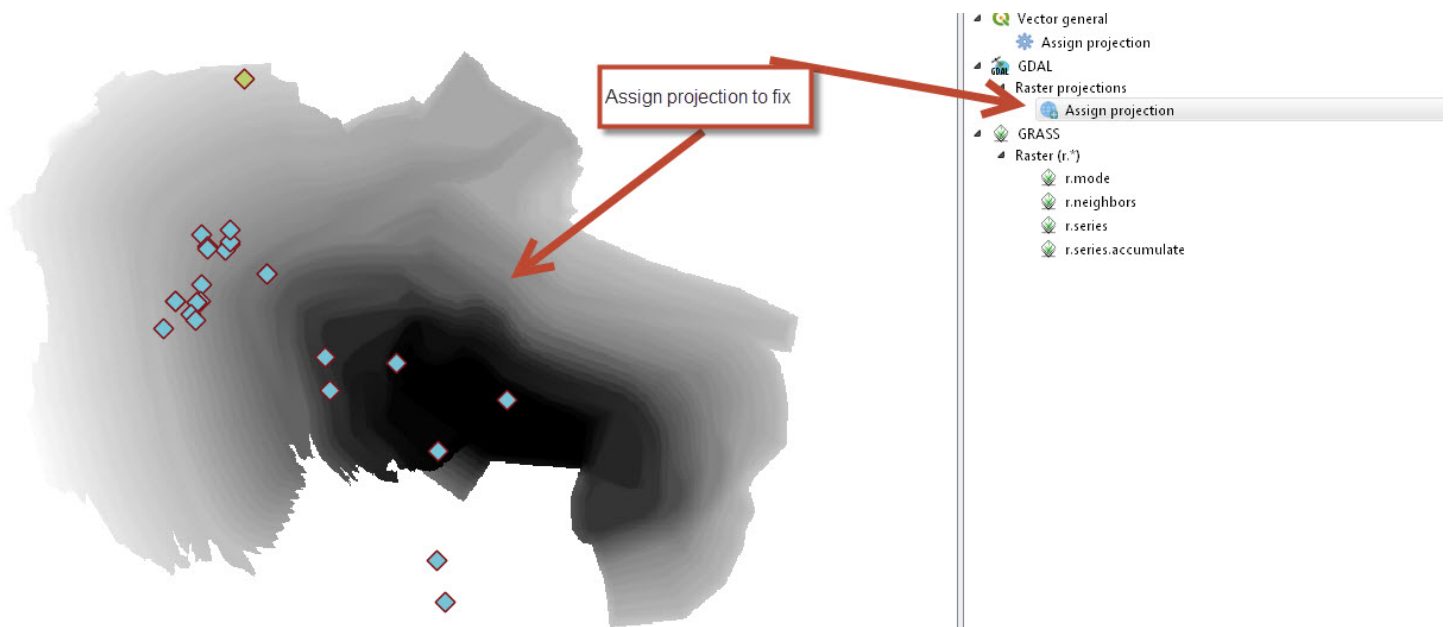
- Crashes QGIS or corrupts data changed from Yes to No
- Regression? changed from No to Yes

#4 - 2019-01-10 01:47 AM - Brad Kanther

- File assignprojections.jpg added

A current work around to this issue is to simply use the GDAL "Assign projection" tool to read in these geotiff's and they work.

Not sure if this helps diagnose the problem with the geotiffs



#5 - 2019-01-10 06:00 AM - Nyal Dawson

- Status changed from Open to Feedback

Works fine here -- using GDAL 2.2.4. What version of GDAL are you using?

#6 - 2019-01-10 11:34 AM - Giovanni Manghi

- Status changed from Feedback to Open
- Affected QGIS version changed from 3.4.1 to 3.4.3

Nyal Dawson wrote:

| Works fine here -- using GDAL 2.2.4. What version of GDAL are you using?

I see the same as the issuer:

On Linux with 3.4.3 and GDAL 2.3.1

AND

Window with 3.4.3 and GDAL 2.4

the raster load in QGIS with min AND max value 192.59, and in the propoerties there no way to make QGIS compute the real min/max (as given by GDAL, for example with gdalinfo from Processing --> Minimum=193.126, Maximum=228.477, Mean=213.176, StdDev=7.677)

On Linux with 2.18.27 and GDAL 2.2.3 it all works as expected.

#7 - 2019-01-29 03:35 PM - Peter Petrik

- Assignee set to Peter Petrik
- Affected QGIS version changed from 3.4.3 to 3.5(master)

#8 - 2019-01-29 04:54 PM - Peter Petrik

- Assignee deleted (Peter Petrik)

with GDAL 2.2.x QgsGdalProvider::bandScale(bandNo) = 1, but with GDAL 2.3.x, 2.4.x scale returned by GDALGetRasterScale() is 0, which effectively sets min and max to a single value and the resulting image is black

```
gdalinfo -stats ~/GIS/bugs/20493/GEOTIFF_32floating.tif
Driver: GTiff/GeoTIFF
Files: /Users/peter/GIS/bugs/20493/GEOTIFF_32floating.tif
       /Users/peter/GIS/bugs/20493/GEOTIFF_32floating.tif.aux.xml
Size is 1553, 856
Coordinate System is:
LOCAL_CS["unnamed",
        UNIT["metre",1,
            AUTHORITY["EPSG","9001"]]]
Origin = (639355.488999999943189,7430046.259999999776483)
Pixel Size = (2.000000000000000,-2.000000000000000)
Metadata:
  AREA_OR_POINT=Area
  TIFFTAG_SOFTWARE=Autodesk Civil3D 2008
Image Structure Metadata:
  INTERLEAVE=BAND
Corner Coordinates:
Upper Left ( 639355.489, 7430046.260)
Lower Left ( 639355.489, 7428334.260)
Upper Right ( 642461.489, 7430046.260)
Lower Right ( 642461.489, 7428334.260)
Center ( 640908.489, 7429190.260)
Band 1 Block=1553x100 Type=Float32, ColorInterp=Gray
Min=193.126 Max=228.477
Minimum=193.126, Maximum=228.477, Mean=213.176, StdDev=7.677
NoData Value=3.4028234663852886e+38
Offset: 192.59, Scale:0
Metadata:
  STATISTICS_MAXIMUM=228.4774017334
  STATISTICS_MEAN=213.17601565667
  STATISTICS_MINIMUM=193.12649536133
  STATISTICS_STDDEV=7.6765733315397
```

#9 - 2019-01-29 04:54 PM - Peter Petrik

- Status changed from Open to In Progress

- Assignee set to Peter Petrik

#10 - 2019-01-30 09:37 AM - Even Rouault

GDAL upstream fixed push in GDAL master per <https://github.com/OSGeo/gdal/commit/e261b7ff4fa15e762f7f3a73ff3dbc965181d991> and release/2.4 (for 2.4.1) per <https://github.com/OSGeo/gdal/commit/0a3d241f96e83b86073efc86b51376c7cd5f6e4f>

A reasonable QGIS workaround is to check GDALGetRasterScale() != 0, since == 0 doesn't make much sense

#11 - 2019-02-01 03:47 PM - Peter Petrik

- Status changed from In Progress to Closed

<https://github.com/qgis/QGIS/pull/9035>

#12 - 2019-02-01 03:49 PM - Peter Petrik

also backported <https://github.com/qgis/QGIS/pull/9056>

Files			
geotiffproblems-02.jpg	57.8 KB	2018-11-15	Brad Kanther
geotiffproblems-01.jpg	51.3 KB	2018-11-15	Brad Kanther
geotiffproblems-03.jpg	66.1 KB	2018-11-15	Brad Kanther
GEOTIFF_32floating.zip	2.82 MB	2018-11-15	Brad Kanther
assignprojections.jpg	59.8 KB	2019-01-10	Brad Kanther