**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

<table>
<thead>
<tr>
<th>Status</th>
<th>Closed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority</td>
<td>High</td>
</tr>
<tr>
<td>Assignee</td>
<td>Peter Petrik</td>
</tr>
<tr>
<td>Category</td>
<td>Rasters</td>
</tr>
<tr>
<td>Affected QGIS version</td>
<td>3.5(master)</td>
</tr>
<tr>
<td>Operating System</td>
<td></td>
</tr>
<tr>
<td>Pull Request or Patch supplied</td>
<td></td>
</tr>
<tr>
<td>Crashes QGIS or corruptions data</td>
<td></td>
</tr>
<tr>
<td>Regression?</td>
<td>Yes</td>
</tr>
<tr>
<td>Easy fix?</td>
<td>No</td>
</tr>
<tr>
<td>Resolution</td>
<td></td>
</tr>
<tr>
<td>Copied to github as #:</td>
<td>28313</td>
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</tbody>
</table>

**Description**

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

![3.4](image1.png)

![2.18 same geotiff](image2.png)

**Information from provider**

<table>
<thead>
<tr>
<th>Name</th>
<th>GEOTIFF_32Floating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Path</td>
<td>UFB\Kanther\errors\2018 - geotiff 32 bit\GEOTIFF_32Floating.tif</td>
</tr>
<tr>
<td>CRS</td>
<td>EPSG:2955 - AGD94 / AMG zone 55 - Projected</td>
</tr>
<tr>
<td>Extent</td>
<td>839355.448099999434103, 7428384.259999999937764026</td>
</tr>
<tr>
<td>Unit</td>
<td>meters</td>
</tr>
<tr>
<td>Width</td>
<td>1553</td>
</tr>
<tr>
<td>Height</td>
<td>354</td>
</tr>
<tr>
<td>Data type</td>
<td>Float32 - Thirty two bit floating point</td>
</tr>
<tr>
<td>GDAL Driver Description</td>
<td>GTiff</td>
</tr>
<tr>
<td>GDAL Driver Metadata</td>
<td>GeoTiff</td>
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<tr>
<td>Dataset Description</td>
<td>UFB\Kanther\errors\2018 - geotiff 32 bit\GEOTIFF_32Floating.tif</td>
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<tr>
<td>Compression</td>
<td>Band 1</td>
</tr>
<tr>
<td></td>
<td>* STATISTICS APPROXIMATE=Yes</td>
</tr>
<tr>
<td></td>
<td>* STATISTICS_MAXIMUM=-228.47740372334</td>
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<tr>
<td></td>
<td>* STATISTICS_MEAN=214.31106576074</td>
</tr>
<tr>
<td></td>
<td>* STATISTICS_MINIMUM=-1.32645559633</td>
</tr>
<tr>
<td></td>
<td>* STATISTICS_STDDEV=7.8164054441395</td>
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<tr>
<td></td>
<td>* AREA_OR_POINT=Area</td>
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<tr>
<td>Dimensions</td>
<td>X: 1553 Y: 354 Bands: 1</td>
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<tr>
<td>Origin</td>
<td>839355.448099999434103</td>
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<tr>
<td>Pixel Size</td>
<td>2,2</td>
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**Identification**

after converting in arcgis it works though. any ideas?

2021-05-09
**File: GEOTIFF_aracisconvert.tif**

**Path:** `\Users\manghi\work\Win\3-geotiff-32-bit\GEOTIFF_aracisconvert.tif`

**CRS:** EPSG:3005 - NAD83 / ADG zone 55 - Projected

**Extent:** 539355.48899993491853, 742833.42599994318032, 743964.4625999997784628, 54261.48899996318032

**Unit:** meters

**Width:** 1553

**Height:** 856

**Data type:** Float32 - Thirty two bit floating point

**GDAL Driver Description:** GTiff

**GDAL Driver Metadata:** GeoTIFF

**Dataset Description:** UD_B_Kanter\errors\0118 - geotiff 32 bit\GEOTIFF_aracisconvert.tif

**Compress:**

- RepresentationType=AI_ THEMATIC
- STATISTICS_COVARIANCES= 56.2943503583465
- STATISTICS_MAXIMUM=308.4774917334
- STATISTICS_MEAN=313.7690155667
- STATISTICS_MINIMUM=228.1264536133
- STATISTICS_RANGESIZE=1
- STATISTICS_STANDARDDeviation=7.6745779311152
- Data_type=Generic
  - X: 777
  - X: 478
  - X: 369
  - Y: 214

**Dimensions:** 1553 Y, 856 Bands: 1

**Origin:** 539355.48899993491853, 742833.42599994318032

**Pixel Size:** 2.2

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**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 - Nyall 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

Nyall 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 properties 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
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/e261b7ff4fa15e762f7f3a73f3dbcf965181d991 and release/2.4
(for 2.4.1) per https://github.com/OSGeo/gdal/commit/0a3d241f96e83b86073efc86b51376c7cdd6f6e4f
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

<table>
<thead>
<tr>
<th>Files</th>
<th>Size</th>
<th>Date</th>
<th>Author</th>
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<tr>
<td>geotiffproblems-02.jpg</td>
<td>57.8 KB</td>
<td>2018-11-15</td>
<td>Brad Kanther</td>
</tr>
<tr>
<td>geotiffproblems-01.jpg</td>
<td>51.3 KB</td>
<td>2018-11-15</td>
<td>Brad Kanther</td>
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<td>geotiffproblems-03.jpg</td>
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<td>GEOTIFF_32floating.zip</td>
<td>2.82 MB</td>
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<td>assignprojections.jpg</td>
<td>59.8 KB</td>
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<td>Brad Kanther</td>
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