**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 corrupts data:</td>
<td></td>
</tr>
</tbody>
</table>

**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)

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**Information from provider**

Name: G32FF_32Floating
Path: LVB_Kanther/errors/2018 - geotiff 32 bit/G32FF_32Floating.g32
CRS: EPSG:3855 - 46014 / AMG zone 55 - Projected
Extent: 839355.48899999998393, 742638.4299999997764826; 1480999999432103, 7430346.2599

<table>
<thead>
<tr>
<th>Unit</th>
<th>meters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>354</td>
</tr>
</tbody>
</table>

Data type: Float32 - Thirty two bit floating point

GDAL Driver Description: GTiff
GDAL Driver Metadata: G32FF
Dataset Description: LVB_Kanther/errors/2018 - geotiff 32 bit/G32FF_32Floating.g32
Compression:

<table>
<thead>
<tr>
<th>Band 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>* STATISTICS_APPROXIMATE=YES</td>
</tr>
<tr>
<td>* STATISTICS_MAXIMUM=228.4774017323</td>
</tr>
<tr>
<td>* STATISTICS_MINIMUM=-214.3110651904</td>
</tr>
<tr>
<td>* STATISTICS_MEAN=153.1264553613</td>
</tr>
<tr>
<td>* STATISTICS_STDDEV=7.016499441495</td>
</tr>
</tbody>
</table>

More Information:

| TIFFTAG_SOFTWARE=AutoDesk Civil 3D 2008 |
Dimensions: X: 1553 Y: 956 Bands: 1
Origin: 839355.48899999998393, 742638.4299999997764826
Pixel Size: 2,2

---

after converting in arcgis it works though. any ideas?
#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.

```bash
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 = (639355.489999999943189,7430046.25999999776483)
   Pixel Size = (2.000000000000000,-2.000000000000000)
Metadata:
   AREA_OR_POINT=Area
   TIFFTAGSOFTWARE=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/e261b7ff4fa15e762f7f3a73f3d9c965181d991 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

<table>
<thead>
<tr>
<th>File Name</th>
<th>Size</th>
<th>Date</th>
<th>Author</th>
</tr>
</thead>
<tbody>
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<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>
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<td>geotiffproblems-03.jpg</td>
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<td>2018-11-15</td>
<td>Brad Kanther</td>
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<td>GEOTIFF_32floating.zip</td>
<td>2.82 MB</td>
<td>2018-11-15</td>
<td>Brad Kanther</td>
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<tr>
<td>assignprojections.jpg</td>
<td>59.8 KB</td>
<td>2019-01-10</td>
<td>Brad Kanther</td>
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