QGIS Application - Feature request #15842
More robust support for rotated rasters

2016-11-13 06:20 PM - Mike Taves

Status:	Open		
Priority:	Normal		
Assignee:			
Category:	Rasters		
Pull Request or Patch supplied:	No	**Resolution:**	
Easy fix?:	No	**Copied to github as #:**	23760

Description

QGIS 2.18.0 does not correctly display or represent rasters with rotation terms in the affine transformation matrix. This is a dupe of #13998 (and maybe others?) but with more information on the issues.

For example, see attached test.tif, which has a 50 m grid size and is rotated 32° anticlockwise around the upper left corner. Here is what this raster should look like, as viewed with ArcGIS 10.3.1 (blue is the canvas background):

https://i.imgur.com/Z4QN9C5.png

Here are the problems viewing the raster within QGIS 2.18.0 via OSGeo4W (blue is the canvas background):

https://i.imgur.com/zNL6REC.png

 - The pixels themselves are not rotated, and remain horizontal. It is not apparent what the pixel values represent from the source dataset.

 - The filler pixels in each corner have values "0" (there are no "0" values in the source raster, and NODATA is 255). While this space is covered by a basic bounding box, it is outside the rotated raster footprint.

 - The Layer Properties describe the raster with different dimensions (Columns:7 Rows 7); see gdalinfo output below.

```
$ gdalinfo test.tif
Driver: GTiff/GeoTIFF
Files: test.tif
Size is 4, 6
Coordinate System is `'
GeoTransform =
  10000, 42.4024048078213, 26.49596321166025
  200000, 26.49596321166025, -42.4024048078213
Image Structure Metadata:
  INTERLEAVE=BAND
Corner Coordinates:
Upper Left  (  10000.000,  200000.000)
Lower Left  (  10158.976,  199745.586)
Upper Right (  10169.610,  200105.984)
Lower Right (  10328.585,  199851.569)
Center      (  10164.293,  199925.785)
Band 1 Block=4x6 Type=Byte, ColorInterp=Gray
  NoData Value=255
```

Looking at the Metadata, it is apparent that rotated rasters are internally represented with a VRT Virtual Raster having the same (unrotated) pixel size (e.g. 50 m). This feature request is to provide more robust support for rotated rasters that uses the affine transform to draw rasters as intended, and not a VRT Virtual Raster wrapper workaround.

Related issues:

Duplicated by QGIS Application - Bug report # 13998: QGIS is not rotating the...	**Closed**	**2015-12-16**

History

#1 - 2017-05-01 12:46 AM - Giovanni Manghi

- Easy fix? set to No

#2 - 2019-03-12 11:20 AM - Giovanni Manghi

- Duplicated by Bug report #13998: QGIS is not rotating the Pixels when showing a rotated tif added

Files

test.tif	568 Bytes	2016-11-13	Mike Taves