QGIS Application - Bug report #19746 Disappearing -180 / 180 longitude grid lines on certain zoom levels

2018-09-01 11:24 AM - Andreas Neumann

Statue	Open			
Driority	Nermal			
Accience:				
Assignee:	Even Rouault			
Category:		De une e cierro	NIa	
Anecieu Gaio Version:3.3(master)		Regression ?:	INO Nu	
Operating System:		Easy fix?:	NO	
Puil nequest or Patch supplied:		Resolution:		
Crasnes QGIS or corruptis data:		Copied to github as #:	2/5/1	
Description				
Depending on the zoom level, the -180 / 180 degree grid lines appear / disappear in QGIS.				
This is not depending on a certain projection, but seems to be a spatial filter accuracy issues.				
Quote from Even Rouault:				
This seems to be an issue with the spatial filter issued to OGR				
At the zooms where the lines disappear, there are requests like:				
Thread 23 "Thread (pooled)" hit Breakpoint 2, OGR_L_SetSpatialFilterRect (hLayer=0x7f81180c90a0, dfMinX=-179.79163612932865, dfMinY=-69.446164378986353, dfMaxX=179.90530755284408, dfMaxY=78.959077253477474) at ogrlayer.cpp:1223				
At the zooms where that work (even when zoomed in), there are like:				
Thread 29 "Thread (pooled)" hit Breakpoint 2, OGR_L_SetSpatialFilterRect (hLayer=0x7f81180c90a0, dfMinX=-180, dfMinY=-90, dfMaxX=180, dfMaxY=90) at ogrlayer.cpp:1223				
I haven't looked at the QGIS code that computes this bounding box, but from my experience with gdalwarp which has similar challenges, it is tricky to compute a source bounding box from a target bounding box, because sometimes the coordinates in the target bounding box do not correspond to a physical point on Eath, and hence inverse projection fails. So you have to resort to a grid sampling approach, but that makes you miss the exact boundaries. So probably that a band-aid fix would be to add some ad-hoc logic, like "if the source SRS is long/lat, and the computed extent is almost worldwide, then extend it to full worlwide (or do not emit a spatial filter at all)"				
Attached is a Geopackage file with grid lines for testing.				
Related issues:				
Related to QGIS Application	n - Bug report # 13380; reprojection of lat/long li		Closed	2015-09-18
Related to QGIS Application	wn	Reopened	2018-08-15	
Related to OGIS Application		Closed		
Application of Garo Application		·u	510364	

History

#1 - 2018-09-01 11:27 AM - Andreas Neumann

- Related to Bug report #13380: reprojection of lat/long lines across 180 in mercator map fails added

#2 - 2018-09-01 11:27 AM - Andreas Neumann

- Related to Bug report #19626: World map incorrectly drawn when using a different projection than the data source added

#3 - 2018-09-01 11:28 AM - Andreas Neumann

- Related to Bug report #597: lat/lon maps should wrap around 180 longitude added

#4 - 2018-09-01 12:29 PM - Johannes Kroeger

Another easy test case:

- Load ne_110m_coastline and ne_110m_graticules_20.
- Set projection to EPSG:3995 or EPSG:3031 ((ant)arctic stereographic)
- Zoom to ne_110m_coastline
- Rotate the map canvas
- The antimeridian as well as some high latitudes will disappear every now and then (eg at 20° rotation).

Files

gridlines.gpkg

1.31 MB

2018-09-01

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