

QGIS Application - Bug report #10990

Inconsistency in the re-projection between ED50 (epsg23031) and ETrS89 (25831)

2014-07-31 03:33 AM - alobo -

Status:	Closed	
Priority:	Normal	
Assignee:		
Category:	Projection Support	
Affected QGIS version:	2.0.1	Regression?: No
Operating System:		Easy fix?: No
Pull Request or Patch supplied:	No	Resolution: invalid
Crashes QGIS or corrupts data:	No	Copied to github as #: 19333
Description		
<p>I've found an inconsistency in the re-projection between ED50 (epsg23031) and ETRS89 (25831) both in UTM31N</p> <p>ed50.jpeg https://dl.dropboxusercontent.com/u/3180464/ed50.jpeg shows a project, image and vector layer all in epsg23031</p> <p>etr89.jpeg https://dl.dropboxusercontent.com/u/3180464/etr89.jpeg shows a project and image in epsg25831 and the vector layer in epsg23031</p> <p>In both cases, reprojection on the fly is activated. A reprojected version (to epsg25831) of the vector layer is exactly coincident with the display of the vector layer in etrs89.jpeg</p> <p>images correspond to WMS layer ortoi5m in http://geoserveis.icc.cat/icc_mapesbase/wms/service? where the appropriate CRS is automatically selected.</p> <p>Vector layer: https://dl.dropboxusercontent.com/u/3180464/ALGCPTetraED50zv2.zip</p> <p>Any explanation to this behavior?</p> <p>Thanks</p>		

History

#1 - 2014-07-31 09:48 AM - Giovanni Manghi

- Affected QGIS version changed from 2.4.0 to 2.0.1
- Status changed from Open to Feedback
- Priority changed from High to Normal

I'm not expert of Span CRSs, but isn't expected a small error when reprojecting between those two CRSs (unless using more precise methods, like datum tranformation grids)?

#2 - 2014-08-01 12:27 AM - alobo -

I would not qualify the error as "small" in these days of uav imagery and sub-metric gps coordinates, but the fact is that using <http://www.icc.cat/cat/Home-ICC/Geodesia/Recursos/Calculadora#> I get a systematic difference of 2m vs. the conversion made by QGIS. I agree this is probably not a bug but a limitation of the method used by Qgis, but let's wait to see if any expert can enlighten us further. In case we conclude this is not a bug but a limitation, somewhere in the manual (also in the panel, besides the "on the fly" notice?) the user should be warned of this possible error when converting among datums.

#3 - 2014-08-01 04:36 AM - Da Silva

There is a pull request <https://github.com/qgis/QGIS/pull/1506> waiting to be merged that can help solve your problem. It allows to recall the datum transformation dialog to change the a layer's coordinate transform. If you choose tfm 1633 you get a result similar to ed50.jpg. The problem is that in actual state we don't have information about area_of_use from srs.db so a lot of tfm's are not valid.

#4 - 2014-08-01 07:51 AM - Giovanni Manghi

Da Silva wrote:

There is a pull request <https://github.com/qgis/QGIS/pull/1506> waiting to be merged that can help solve your problem. It allows to recall the datum transformation dialog to change the a layer's coordinate transform. If you choose tfm 1633 you get a result similar to ed50.jpg. The problem is that in actual state we don't have information about area_of_use from srs.db so a lot of tfm's are not valid.

more in general:

datum transformations are not error free. In QGIS precision depends on how CRSs are defined in Proj, so if there is a (relatively) small problem such in this case it is likely that depends on how CRSs are defined there. An example I know better: in Portugal the transformation from Datum Lisboa and ETRS89 can lead to huge errors if using Datum Lisboa as defined by ESRI. If using Datum Lisboa as defined in proj the error is just a few tens of cm. But if using NTV2 grids (that can be used in QGIS) then the precision is measurable in mm. Official services like

<http://www.icc.cat/cat/Home-ICC/Geodesia/Recursos/Calculadora>

are likely to use the most precise way to do Datum transform, NTV2 grids, so the difference should be explained.

#5 - 2014-10-11 07:46 AM - Giovanni Manghi

- Resolution set to invalid
- Status changed from Feedback to Closed

closing for lack of feedback, please reopen if necessary.