

## QGIS Application - Bug report #10800

### Datum Transformation with target\_crs\_code different than 4326 gives huge errors

2014-07-03 01:14 PM - Pedro Venâncio

<b>Status:</b> Closed	
<b>Priority:</b> Normal	
<b>Assignee:</b> Marco Hugentobler	
<b>Category:</b> Projection Support	
<b>Affected QGIS version:</b> 2.4.0	<b>Regression?:</b> No
<b>Operating System:</b>	<b>Easy fix?:</b> No
<b>Pull Request or Patch supplied:</b>	<b>Resolution:</b> end of life
<b>Crashes QGIS or corrupts data:</b>	<b>Copied to github as #:</b> 19179

#### Description

I've been doing some tests and found that, using a different target\_crs\_code than 4326 (wgs84), Datum Transformation simply ignores the values of transformation.

Please test using this queries to insert a new tfm (EPSG:5037 <http://epsg.io/5037>) in srs.db:

```
insert into tbl_datum_transform
(coord_op_code,source_crs_code,target_crs_code,coord_op_method_code,p1,p2,p3,p4,p5,p6,p7,remarks,scope,preferred,deprecated,are
recated,area_of_use_code)
values (100050,4274,4258,9606,-230.994,102.591,25.199,0.633,-0.239,0.900,1.950,'Derived in July 2009 from 119 common
stations. Residuals at 833 test points under 2m. Replaces Datum 73 to ETRS89 (3) (tfm code 1992).','2-metre
accuracy.',0,0,1294);
```

```
insert into tbl_datum_transform
(coord_op_code,source_crs_code,target_crs_code,coord_op_method_code,p1,p2,p3,p4,p5,p6,p7,remarks,scope,preferred,deprecated,are
recated,area_of_use_code)
values (100051,4274,4326,9606,-230.994,102.591,25.199,0.633,-0.239,0.900,1.950,'Derived in July 2009 from 119 common
stations. Residuals at 833 test points under 2m. Replaces Datum 73 to ETRS89 (3) (tfm code 1992).','2-metre
accuracy.',0,0,1294);
```

The only difference between them is target\_crs\_code. See the result of Datum Transformation tool in the images attached:

- tfm 5037 (4274 - > 4258): more than 123m error!
- tfm 5037 changed, using exactly the same transformation parameters, but with target\_crs\_code 4326 (4274 - > 4326): error ~0.313m.

The error we get is huge, and I get exactly the same error if I set the shift values all to zero. It simply ignores the transformation using a different target\_crs than 4326. The exception are NTV2 grids. Assigning them different target\_crs, work well (there is one with target\_crs 4150 and seven with 4258).

Actually it's even worse than ignoring, because if I do not choose any transformation and do "Cancel" on the Datum Transformation window, the point is reprojected based on the values of default CRS +towgs84 parameter (gives an error of about 1.13m). With this data I am testing (EPSG:3763 vs. EPSG:27493), even without using on-the-fly reprojection, the difference between the point is only about 3.2m. Using target\_crs 4258 in srs.db, regardless of the values, the error is more than 123m.

The most recent transformations in some European countries are calculated for 4258 and with this issue we can not use them in QGIS.

#### History

#1 - 2014-07-04 12:38 AM - Giovanni Manghi

please raise the issue also on the developers mailing list, if not already. Thanks!

**#2 - 2017-05-01 01:08 AM - Giovanni Manghi**

- *Easy fix? set to No*
- *Regression? set to No*

**#3 - 2019-03-09 03:12 PM - Giovanni Manghi**

- *Resolution set to end of life*
- *Status changed from Open to Closed*

End of life notice: QGIS 2.18 LTR

Source:

<http://blog.qgis.org/2019/03/09/end-of-life-notice-qgis-2-18-ltr/>

**Files**

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test_data.zip	5.21 KB	2014-07-03	Pedro Venâncio
tmf_5037_source4274_target4258.png	57.3 KB	2014-07-03	Pedro Venâncio
tmf_5037_source4274_target4326.png	55.3 KB	2014-07-03	Pedro Venâncio