

# QGIS Application - Bug report #3672

## region error when creating a GRASS location?

2011-03-23 06:10 AM - Giovanni Manghi

|   |                                     |
|---|-------------------------------------|
| <b>Status:</b> Closed                     |                                     |
| <b>Priority:</b> Low                      |                                     |
| <b>Assignee:</b>                          |                                     |
| <b>Category:</b> GRASS                    |                                     |
| <b>Affected QGIS version:</b> master      | <b>Regression?:</b> No              |
| <b>Operating System:</b> All              | <b>Easy fix?:</b> No                |
| <b>Pull Request or Patch supplied:</b> No | <b>Resolution:</b> invalid          |
| <b>Crashes QGIS or corrupts data:</b> No  | <b>Copied to github as #:</b> 13731 |

### Description

Hi, I have seen this on both Linux and Windows.

If I open a "old" mapset (don't remember exactly when it was created), that was created with EPSG 40000, **g.region -p** will return as expected

```
projection: 99 (Transverse Mercator)
zone: 0
datum: rome40
ellipsoid: international
north: 4834913.78536118
south: 4803364.45415656
west: 1650370.47056664
east: 1689398.62729587
nsres: 24.99947005
ewres: 25.00202225
rows: 1262
cols: 1561
cells: 1969982
```

if I create new location with EPSG 40000 then **g.region -p** will return

```
projection: 99 (Transverse Mercator)
zone: 0
datum: towgs84=-104.1,-49.1,-9.9,0.971,-2.917,0.714,-11.68
ellipsoid: international
north: 5336010
south: 4004460
west: 1240010
east: 2430820
nsres: 1191.01073345
ewres: 1192.002002
rows: 1118
cols: 999
cells: 1116882
```

that I don't know if it is correct.

Now if I create a location in EPSG 3003 (that should be 40000==3003+towgs) the result of g.region -p is

```
projection: 99 (Transverse Mercator)
zone: 0
datum: ** unknown (default: WGS84) **
ellipsoid: international
north: 5336090
south: 4004520
west: 1239980
east: 2430820
nsres: 1191.02862254
ewres: 1190.84
rows: 1118
cols: 1000
cells: 1118000
```

that seems wrong.

The same result happens also with other projection, for example epsg 3763 (or all other CRS system I use normally)

```
projection: 99 (Transverse Mercator)
zone: 0
datum: ** unknown (default: WGS84) **
ellipsoid: grs80
north: -497.84044931
south: -292994.94849781
west: -98340.22283752
east: 105157.76515519
nsres: 4.99995056
ewres: 4.99995056
rows: 58500
cols: 40700
cells: 2380950000
```

## History

#1 - 2011-03-27 10:49 AM - Giovanni Manghi

FYI

creating the location (ex. epsg 3763) with wingrass (6.4.0) returns the expected g.region result

```
g.region -p
projection: 99 (Transverse Mercator)
zone: 0
datum: etrs89
ellipsoid: grs80
```

opening with wingrass a different location created with QGIS (with the same epsg) r.region returns

```
g.region -p
projection: 99 (Transverse Mercator)
zone: 0
datum: ** unknown (default: WGS84) **
ellipsoid: international
```

## #2 - 2011-04-03 05:24 AM - Markus Neteler

The reason will be that several datums are associated to EPSG 3003:

```
g.proj -c epsg=3003 datumtrans=-1 location=loc_epsg_3003
---
1
Used in whole rome40 region
towgs84=-225.000,-65.000,9.000
Default 3-Parameter Transformation (May not be optimum for older datums; use this only if no more appropriate options are available.)
---
2
Used in Italy (Peninsular Part)
towgs84=-104.1,-49.1,-9.9,0.971,-2.917,0.714,-11.68
Accuracy 3-4m
---
3
Used in Italy (Sardinia)
towgs84=-168.6,-34.0,38.6,-0.374,-0.679,-1.379,-9.48
Accuracy 3-4m
---
4
Used in Italy (Sicily)
towgs84=-50.2,-50.4,84.8,-0.690,-2.012,0.459,-28.08
Accuracy 3-4m
```

When creating such a new location (the same applies to all projections with multiple datum choices), the user must be presented with a related datum dialog to choose from.

## #3 - 2011-04-03 05:26 AM - Giovanni Manghi

The same applies, for example, for epsg 3763?

## #4 - 2011-04-03 10:07 AM - Markus Neteler

Here the test with 3763:

```
g.proj -c epsg=3763 datumtrans=-1 location=loc_epsg_3763
Location loc_epsg_3763 created!
exit
```

```
grass64 ~/grassdata/loc_epsg_3763/PERMANENT/
GRASS 6.4.1svn (loc_epsg_3763):~ > g.proj -w
PROJCS["Transverse Mercator",
  GEOGCS["grs80",
    DATUM["European_Terrestrial_Reference_System_1989",
      SPHEROID[[Geodetic_Reference_System_1980]],
      TOWGS84[0,0,0,0,0,0,0]],
    PRIMEM[[Greenwich]],
    UNIT[[degree]],
  PROJECTION[[Transverse_Mercator]],
  PARAMETER[[latitude_of_origin]],
  PARAMETER[[central_meridian]],
  PARAMETER[[scale_factor]],
  PARAMETER[[false_easting]],
  PARAMETER[[false_northing]],
  UNIT[[Meter]]
```

Compared to <http://spatialreference.org/ref/epsg/3763/prettywkt/> it looks as expected in GRASS.

Concerning the original report:

```
projection: 99 (Transverse Mercator)
zone: 0
datum: towgs84=-104.1,-49.1,-9.9,0.971,-2.917,0.714,-11.68
ellipsoid: international
...
```

that is (see [http://trac.osgeo.org/grass/browser/grass/branches/releasebranch\\_6\\_4/lib/gis/datumtransform.table](http://trac.osgeo.org/grass/browser/grass/branches/releasebranch_6_4/lib/gis/datumtransform.table)) the first choice here:

```
63 rome40 "towgs84=-104.1,-49.1,-9.9,0.971,-2.917,0.714,-11.68" "Italy (Peninsular Part)" "Accuracy 3-4m"
64 rome40 "towgs84=-168.6,-34.0,38.6,-0.374,-0.679,-1.379,-9.48" "Italy (Sardinia)" "Accuracy 3-4m"
65 rome40 "towgs84=-50.2,-50.4,84.8,-0.690,-2.012,0.459,-28.08" "Italy (Sicily)" "Accuracy 3-4m"
```

Something in the QGIS method to create a new location with multiple datum choices seems to be broken.

#### #5 - 2011-04-03 11:29 PM - Paolo Cavallini

In QGIS we used a different approach: we defined additional ad hoc projections (e.g. code 40000) with the additional datum. It used to work, so I think it has been broken by some changes recently.

#### #6 - 2011-12-16 01:48 PM - Giovanni Manghi

- Target version changed from Version 1.7.0 to Version 1.7.4

**#7 - 2012-04-16 06:27 AM - Paolo Cavallini**

- *Target version changed from Version 1.7.4 to Version 1.8.0*
- *Crashes QGIS or corrupts data set to No*
- *Affected QGIS version set to master*

**#8 - 2012-09-04 12:00 PM - Paolo Cavallini**

- *Target version changed from Version 1.8.0 to Version 2.0.0*

**#9 - 2014-06-20 03:34 AM - Giovanni Manghi**

- *Pull Request or Patch supplied set to No*
- *Status changed from Open to Closed*
- *Resolution set to invalid*