

QGIS Application - Bug report #377
custom projection of GRASS vectors

2006-11-10 06:51 AM - lami-faunalia-it -

Status:	Closed	
Priority:	Low	
Assignee:	Magnus Homann	
Category:	GRASS	
Affected QGIS version:		Regression?: No
Operating System: Unix		Easy fix?: No
Pull Request or Patch supplied:		Resolution: fixed
Crashes QGIS or corrupts data:		Copied to github as #: 10436
Description		
GRASS vectors with custom projections are not recognized correctly, and are interpreted as the corresponding "normal" projection. Among other things, as a result, when they are exported, .prj file is not correct. eg: <pre>+proj=tmerc +lat_0=0 +lon_0=9 +k=0.999600 +x_0=1500000 +y_0=0 +ellps=intl +units=m +towgs84=-104.1,-49.1,-9.9,0.971,-2.917,0.714,-11.68</pre> becomes: <pre>+proj=tmerc +lat_0=0 +lon_0=9 +k=0.999600 +x_0=1500000 +y_0=0 +ellps=intl +units=m +no_defs</pre>		

History

#1 - 2006-12-06 01:51 PM - Martin Dobias

This seems to be the same problem as discussed in #418. QGIS always needs to know the proj4 string prior to using custom projection, otherwise it won't be recognized (or will be recognized incorrectly).

Try adding this projection to custom projections first. Then using this projection in QGIS should be correct. Please confirm if that helps.

Martin

#2 - 2006-12-18 01:25 AM - lami-faunalia-it -

This is what I usually do, I setted my custom projection like "Global default projection displayed below will be used" in the Settings->Options window, when I start QGIS I load a GRASS vector from a Location with the same projection but if I look in the Properties->Metadata window I see that the output and the input projection used is " +proj=tmerc +lat_0=0 +lon_0=9 +k=0.999600 +x_0=1500000 +y_0=0 +ellps=intl +units=m +no_defs" different from my custom projection (that is the same of the Location of the vector).

If I esport to .shp the correction factors are not present in the .proj file

Regards

#3 - 2007-02-05 10:52 AM - Magnus Homann

- Status changed from Open to In Progress

If you could attach the GRASS vectors, I will have a look.

#4 - 2007-02-17 09:34 AM - Magnus Homann

Need more info to fix this.

#5 - 2007-02-25 07:21 PM - Tim Sutton

Moved to milestone 0.8.2 since we wont be fixing any further issues before the 0.8.1 release

#6 - 2007-03-18 02:15 AM - Magnus Homann

Could you please see what projection 'ogrinfo -al <shape_file>.shp' reports?

#7 - 2008-03-17 08:56 AM - leolami -

More info:

I have a GRASS Location where the proj info file is:

```
name: Transverse Mercator
proj: tmerc
datum: rome40
towgs84: -104.1,-49.1,-9.9,0.971,-2.917,0.714,-11.68
a: 6378388
es: 0.00672267002233322
lat_0: 0
lon_0: 9
k: 0.999600
x_0: 1500000
y_0: 0
no_defs: defined
```

I save this proj in custum projection of QGIS and I set it like default projection.

The projection string is:

```
+proj=tmerc +lat_0=0 +lon_0=9 +k=0.999600 +x_0=1500000 +y_0=0 +ellps=intl +units=m +towgs84=-104.1,-49.1,-9.9,0.971,-2.917,0.714,-11.68
```

If I load a GRASS vector from a mapset in this Location and I look is properties I see taht its proj is:

```
+proj=tmerc +lat_0=0 +lon_0=9 +k=0.999600 +x_0=1500000 +y_0=0 +ellps=intl +units=m +no_defs
```

For me this is an error!

If I try to export it I have a shape where the proj file is:

```
PROJCS[["Transverse
Mercator"GEOGCS["international"DATUM["D_Monte_Mario"SPHEROID["International_1924"6378388297]]PRIMEM["Greenwich"0]UNIT["Degree"0017453292519
53292519943295]]PROJECTION["Transverse_Mercator"]PARAMETER["latitude_of_origin"0]PARAMETER["central_meridian"9]PARAMETER["scale_factor"0999
ctor"09996]PARAMETER["false_easting"1500000]PARAMETER["false_northing"0]UNIT["Meter]]
```

If I make ogr info -al I have this ouput:

```
INFO: Open of @/home/leo/prova/prova.shp'
      using driver @ESRI Shapefile' successful.
```

Layer name: prova

Geometry: Point

Feature Count: 8

Extent: (1604054.308109, 4699810.841648) - (1741517.110000, 4858815.491363)

Layer SRS WKT:

```

PROJCS["Transverse Mercator",
  GEOGCS["international",
    DATUM["Monte_Mario",
      SPHEROID[[International_1924]],
      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]]
  ]

```

cat: Real (11.0)

nome: String (80.0)

OGRFeature(prova):0

cat (Real) = 2

nome (String) = Lago di Sibolla

POINT (1636817.088038051035255 4853827.627969310618937)

OGRFeature(prova):1

cat (Real) = 3

nome (String) = Padule di Fucecchio

POINT (1645435.662079841829836 4849941.574495110660791)

OGRFeature(prova):2

cat (Real) = 4

nome (String) = Lama di S. Rossore

POINT (1604054.308109045494348 4838571.107950324192643)

OGRFeature(prova):3

cat (Real) = 5

nome (String) = Laguna di Orbetello

POINT (1680771.290981499478221 4699810.841648220084608)

OGRFeature(prova):4

cat (Real) = 6

nome (String) = Diaccia Botrona

POINT (1657949.371251503005624 4737513.633872816339135)

OGRFeature(prova):5

cat (Real) = 7

nome (String) = Lago di Montepulciano

POINT (1737917.001504842657596 4775048.474618563428521)

OGRFeature(prova):6

cat (Real) = 8

#8 - 2008-03-17 09:00 AM - leolami -

See also <https://trac.osgeo.org/qgis/ticket/418>

#9 - 2008-07-10 11:29 AM - Maciej Sieczka -

Leonardo, Markus,

Aren't this ticket and #418 duplicates? Can we close either one?

#10 - 2009-03-28 03:17 PM - Paolo Cavallini

This is also related to #1079

#11 - 2009-06-10 03:24 AM - Redmine Admin

- *Status changed from In Progress to Closed*

- *Resolution set to fixed*

Seems to work correctly in revision #10899 (QGIS 1.2 unstable), PROJ.4 4.6.0, GRASS 7.0 (revision #36903).

I have tested with 2 GRASS locations:

name: Transverse Mercator

datum: rome40

datumparams: towgs84=-104.1,-49.1,-9.9,0.971,-2.917,0.714,-11.68

proj: tmerc

ellps: international

a: 6378388.0000000000

es: 0.0067226700

f: 297.0000000000

lat_0: 0.0000000000

lon_0: 9.0

k_0: 0.9996000000

x_0: 1500000.0000000000

and

name: Lat/Lon

proj: ll

datum: wgs84

ellps: wgs84

no_defs: defined

and vector reprojected with v.proj. There is no shift if the vectors from those 2 locations are displayed in QGIS. To be sure that the datum shift is really used and I am on the right zoom level I tried to remove 'datumparams' from the first location and a shift appeared.

Important is, that `[[QgsCoordinateReferenceSystem]]::findMatchingProj` correctly does not find srsid now which was the case of previous versions according to comments in [\[https://trac.osgeo.org/qgis/ticket/418\]](https://trac.osgeo.org/qgis/ticket/418) and thus correct pure PROJ.4 string including +towgs is used. So it seems that `OSRIsSame` in PROJ.4 was fixed to use also towgs params.

Radim

#12 - 2009-06-10 03:53 AM - Redmine Admin

OSRIsSame is not in PROJ.4, it calls OGRSpatialReference::IsSame from GDAL, but that loops through all params and last important fix I found is quite old [This bug was in fact fixed in this revision \[https://trac.osgeo.org/ggis/changeset/8263#file1\]](https://trac.osgeo.org/ggis/changeset/8263#file1) (SpatialRefSys::equals changed) where OSRIsSame was introduced.

Radim