

QGIS Application - Bug report #9690

Incorrect areas using field calculator.

2014-03-02 03:50 PM - Thomas McAdam

Status: Closed	
Priority: High	
Assignee:	
Category: Vectors	
Affected QGIS version: 2.0.1	Regression?: No
Operating System:	Easy fix?: No
Pull Request or Patch supplied:	Resolution: duplicate
Crashes QGIS or corrupts data:	Copied to github as #: 18255

Description

This was using QGIS 2.01 in Windows 7.

I had a project containing several shape files (and an Openlayers plugin layer, which was switched off). The shapefiles were all in projection 32721 WGS84/UTM21S, as was the project (I must switched this back to 32721 manually after switching off the Openlayers plugin layer). On-the-fly re-projection was enabled.

I used the field calculator to generate a new field to calculate the areas of the polygons in one of the shapefiles. The areas calculations were wrong. Extremely large, many 0s and many negative values. I was using a large decimal field(20,1) and was aiming to calculate in hectares (maximum polygon size should have been 2-3000 hectares). I checked the validity of the geometry and corrected any errors, but this had no effect.

I worked around the problem by creating a new project and importing just the shapefile that I wanted to calculate the area on and the field calculator calculated the area with no problems. It would appear to be an issue related to the projection, and possibly to Openlayers plugin automatically flicking the project projection when adding layers, and then me manually changing it back.

I think this bug is quite serious. In this instance the errors where large and easy to spot but that might not have been the case. It is easy for a human to look at spatial data and determine serious errors, but not so easy to spot them in tables of attribute values, and a level of trust in the software to get those values right is needed. Calculation of area must also be one of the most common outputs from a GIS.

Related issues:

Related to QGIS Application - Bug report # 13209: area not calculated correct...

Closed

2015-08-11

History

#1 - 2014-03-02 03:55 PM - Giovanni Manghi

- Status changed from Open to Feedback

- Category set to Vectors

In the description you say 2.0.1 but then in ticket details affected version is 2.2.

In QGIS 2.2. this issue should be solved.

Please leave feedback,

#2 - 2014-03-02 04:08 PM - Thomas McAdam

Sorry should have been 2.01 for affected version. I will have a go at recreating the error in 2.2 and report back.

#3 - 2014-03-02 04:14 PM - Giovanni Manghi

- Affected QGIS version changed from 2.2.0 to 2.0.1

Thomas McAdam wrote:

Sorry should have been 2.01 for affected version. I will have a go at recreating the error in 2.2 and report back.

thanks.

Please notice that with reprojection active the area/length computing is now affected by the ellipsoid you have defined in the project properties (wgs84 by default, but you can choose also "planimetric/none").

#4 - 2014-03-02 04:51 PM - Thomas McAdam

- File *qgis_error3.jpg* added

- File *qgis_error1.jpg* added

I am able to recreate the bug in 2.2 as well, although it's characteristics are slightly different. In the screengrab *qgis_error3.jpg*.

Fields *area_m* and *area_ha* were calculated in 2.01 with the shape file being the only file in the project.

Fields *area_m1* and *area_ha2* were calculated in 2.2 in a project with a switched off Openlayers layer and the CRS changed back to 32721. You see there is a small error in all values. There was a also large error in some polygons and 1 negative (screengrab *qgis_error1.jpg*).

Fields *area_m2* and *area_ha2* were calculated in the same circumstances as *area_m* and *area_h2*, but in 2.2 rather 2.01 and seem to be giving correct values.

#5 - 2014-03-02 04:52 PM - Thomas McAdam

LAst line has a mistake, should read:

Fields *area_m2* and *area_ha2* were calculated in the same circumstances as *area_m* and *area_h*, but in 2.2 rather 2.01 and seem to be giving correct values.

#6 - 2014-03-04 12:58 AM - Giovanni Manghi

- Resolution set to duplicate

- Status changed from Feedback to Closed

Thomas McAdam wrote:

LAst line has a mistake, should read:

*Fields *area_m2* and *area_ha2* were calculated in the same circumstances as *area_m* and *area_h*, but in 2.2 rather 2.01 and seem to be giving correct values.*

In qgis 2.0.1 there was an issue when computing area/lengths when OTFR was on. This was fixed.

In QGIS 2.* there is anyway a change when computing area/lengths: if OTFR is ON (regardless if you are reprojecting a layer or not) then the ellipsoid (be

default wgs84) is taken into account and measures change slightly.

You can change the ellipsoid in project properties, and set it to "plane/none" and get always the results as if OTFR is off.

So this is duplicate of #9060

that by the way we should close in favour of a new ticket that should address this change (since 1.8) in a better way for the user.

Files

qgis_error3.jpg	64.5 KB	2014-03-02	Thomas McAdam
qgis_error1.jpg	96.3 KB	2014-03-02	Thomas McAdam