

## QGIS Application - Bug report #14036

### graduated rendering: classes' upper and lower values precision truncated when saving to DOM

2015-12-25 01:04 AM - Mathieu Pellerin - nIRV

<b>Status:</b>	Closed	
<b>Priority:</b>	High	
<b>Assignee:</b>		
<b>Category:</b>	Symbology	
<b>Affected QGIS version:</b>	master	<b>Regression?:</b> No
<b>Operating System:</b>		<b>Easy fix?:</b> No
<b>Pull Request or Patch supplied:</b>		<b>Resolution:</b> fixed/implemented
<b>Crashes QGIS or corrupts data:</b>		<b>Copied to github as #:</b> 22049
<b>Description</b>		
<p>This one is quite odd, and can be quite tricky for users (as it will change the map symbology rendering on project re-opening).</p> <p><del>Basically, when using the natural break classification against a field for graduated rendering, the classes' range are constantly changing every time you hit the classify button. It's a problem as whatever is causing this will silently lead to a visually different symbology output when re-opening a project. (See below for correct description of the issue)</del></p> <p>It's slightly difficult to explain, hoping the test project attached will make it more obvious.</p> <p><b>Steps to reproduce:</b></p> <ol style="list-style-type: none"><li>1. Open the attached natural_break_issue project</li><li>2. Open the property window for the "communes" layer and go to the symbology panel</li><li>3. Hit the "classify" button once, note how the values of classes are changing</li><li>4. Hit the "classify" button again, note how the values of classes are still changing</li><li>5. Hit the button again and again to see values changing seemingly randomly.</li></ol>		

#### History

##### #1 - 2015-12-25 01:18 AM - Mathieu Pellerin - nIRV

- File natural\_break\_issue-v2.zip added

- Subject changed from graduated rendering: natural break class values change on same expression at every classification to graduated rendering: natural break class values change on field at every classification

##### #2 - 2015-12-25 01:18 AM - Mathieu Pellerin - nIRV

- File deleted (natural\_break\_issue.zip)

##### #3 - 2015-12-25 07:58 PM - Mathieu Pellerin - nIRV

Ok, I figured out where the problem was, and opened a PR which fixes things (see <https://github.com/qgis/QGIS/pull/2613>).

First, TIL, the seemingly random upper and lower class values are actually by design as the natural break algorithm only takes a random sample.

Now, as for the problem: when saving the graduated symbology settings to the DOM, the code would truncate the lower and upper double values to 6 decimals, which is a problem when (as it is the case with the attached sample project) your double values have a higher precision than 6.

Take for e.g. those three values: 0.00000101, 0.00002301, 0.0000501 -- since the upper double value of the highest class would truncate to 6 decimals, 0.000050, the feature with a value of 0.0000501 would not be rendered when re-opening a project.

##### #4 - 2015-12-25 08:02 PM - Mathieu Pellerin - nIRV

- Subject changed from graduated rendering: natural break class values change on field at every classification to graduated rendering: classes' upper

and lower values precision truncated when saving to DOM

**#5 - 2015-12-25 09:14 PM - Mathieu Pellerin - nIRV**

- Status changed from Open to Closed
- % Done changed from 0 to 100
- Resolution set to fixed/implemented

Fixed in commit:8ff4c78.

**#6 - 2015-12-26 04:51 AM - Regis Haubourg**

I already funded the same bug in early 2.x versions. We absolutely need a unit test here.

**#7 - 2015-12-26 04:59 AM - Mathieu Pellerin - nIRV**

Regis, I noticed that the natural break function will only deal with the full dataset if it has less than 1,000 features. That limit was there since this classification was added 5 years ago. I am wondering whether we should raise that limit now. CPUs have gotten much better & I feel 1,000 is unreasonably low nowadays.

Thoughts?

Full disclosure: I have a project dealing with a dataset of about 1,600 features and I would love to have it dealt with in its entirety :)

**Files**

natural_break_issue-v2.zip	4.02 MB	2015-12-25	Mathieu Pellerin - nIRV
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