Metacat - Bug #2849

Bounding box problems when spanning the meridian

05/22/2007 09:35 AM - Callie Bowdish

Status:	New		**Start date:**	05/22/2007
Priority:	Normal		**Due date:**	
Assignee:	Chris Barteau		**% Done:**	0%
Category:	metacat		**Estimated time:**	0.00 hour
Target version:	2.x.y		**Spent time:**	0.00 hour
Bugzilla-Id:	2849			

Description

Bounding box problems when large areas span the meridian. Please see this reference http://purl.oclc.org/coordinates/a2.htm

"While there is no beginning or end on a globe, digital spatial data sets have an artificially defined beginning and end. Longitude extends from 180 degrees west (-180) to 180 degrees east (+180) of Greenwich, United Kingdom, and latitude extends from 90 degrees south (-90) to 90 degrees north (+90) of the Equator. This artificial segmentation of geographic coordinates results in a 'Global Gotcha' for bounding boxes of features spanning the 180-degree meridian." .. Consider the imaginary country of Boxtopia, which has a southwest corner at (170, 40) and a northeast corner at (-170, 50). The width of this box is 20 degrees. In a spatial database, Boxtopia would be represented by two rectangles, one which has a southwest corner at (170, 40) and a northeast corner at (180, 50) and a second that has a southwest corner at (-180, 40) and a northeast corner at (-170, 50). This split is required because the longitude must be between -180 and 180 degrees.. "unfortunately, no simple and elegant solution exists to solving the Global Gotchas. Multipart bounding boxes are a possible alternative, but they add complexity to the database and search process, defeating the simplicity of the bounding box." (Unlocking the Mysteries of the Bounding Box http://purl.oclc.org/coordinates/a2.htm)

Rick Reeves recommends having the option to enter more than one bounding box with the KNB online registries. Currently people can enter in more than one keyword and more than one taxonomic entry through an Add button.

This has the potential of helping with searches when users make a large bounding box because they do not have the option of entering in a number of smaller bounding boxes. Bug 2732 mentions the problem of bring up all of the global data sets when doing a search using the KNB Data Catalog Map.

History

#1 - 03/27/2013 02:21 PM - Redmine Admin

Original Bugzilla ID was 2849