## Geography in GRIN-Global



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Author

Martin Reisinger

This guide provides details on geography, as used in GRIN-Global. The [Appendix](#appendix) contains [change notes](#change_notes) pertaining to this document.

Comments/Suggestions/Questions:

Please contact [marty.reisinger@usda.gov](mailto:marty.reisinger@usda.gov) or [mar@rrginc.com](mailto:mar@rrginc.com) with any suggestions or questions related to this document. This and other GRIN-Global–related documentation can be downloaded from the GRIN-Global documentation site – see <https://www.grin-global.org/userdocs.htm>.

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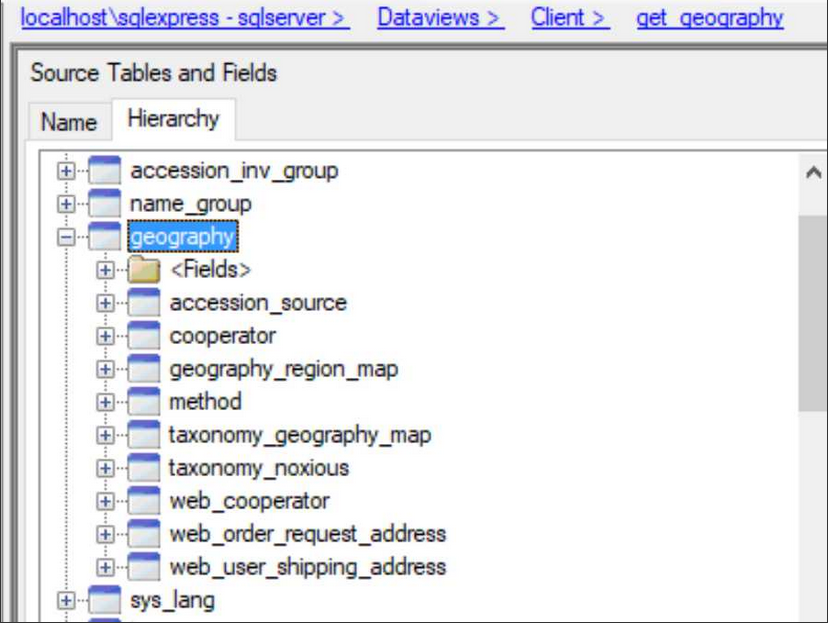
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### Geography Overview

Many tables are dependent on the **Geography** Table including **accession\_source**, **cooperator**, and **method**, taxonomy, among others.

The following screen is taken from the GRIN-Global (GG) Admin Tool (used exclusively by the GG administrators/DBAs). It shows the tables dependent on the **Geography** table.  
  


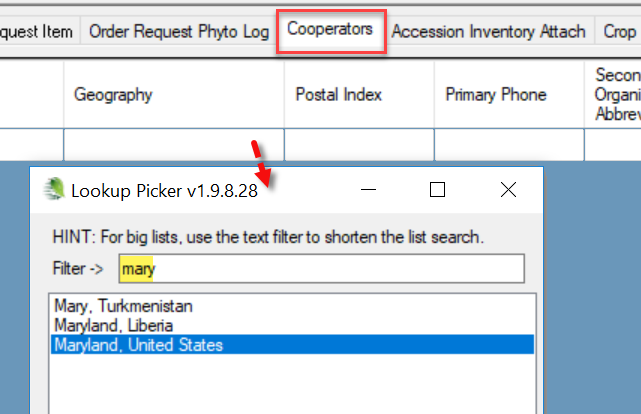
The **Geography** table is used primarily to ensure the user chooses from a preset standard list of countries and states. This helps eliminate data entry errors on spelling country or state names since the user is selecting from a list rather than typing each time. This means that it is important that the organization installing GG needs to get the geography table data initially correct. The typical Curator Tool (CT) user won’t be able to choose a countries and states unless these are in the geography table.

The geography table is designed so that only country is required. Additional levels of administrative divisions, such as states and provinces, are optional. Since a geography link is used in all the address fields, it is ideal to have all the **adm1** state data loaded so proper information can be entered for mailing addresses.

|  |  |
| --- | --- |
|  | The geography table also includes **adm2** and fields for subdivisions, but in the USA, NPGS has not used these. |

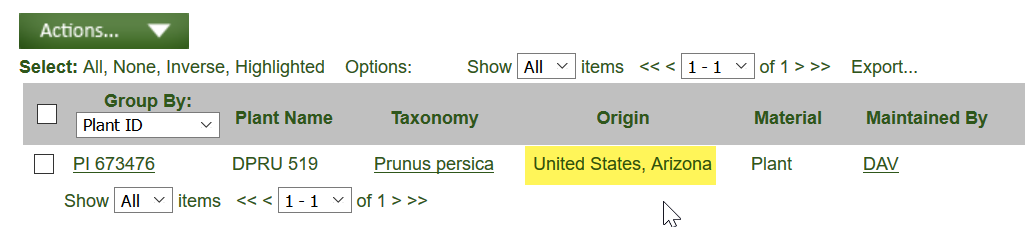
|  |  |
| --- | --- |
|  | When an organization installs GG, the administrator can optionally load the **Geography** table which has the same data as used by the NPGS. |

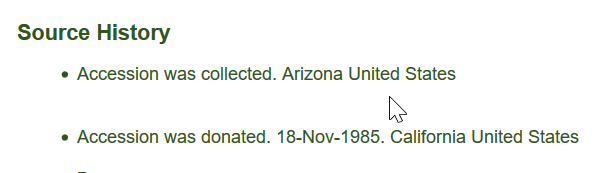
##### Where does the geography information appear?

When entering data in the Curator Tool, the geography information displays as a list.  For example, in the accession source dataview, the **Geography** field uses the lookup picker to select which country/state is wanted. It may look like this:  


In the **Accession Source** dataview, the user sees multiple geography records for the country United States, each with a different state in the **Adm1** field. For the USA counties, there is a new checkbox [**is\_hide\_counties**] in the CT to filter the counties that is selected by default .   
A screenshot of a computer

Description automatically generated

The output of the public web pages will show United States, Arizona for an accession with that as the source.  


In this **Source History** section from the details page on the Public Website, the format is Adm1, Country:  


|  |  |
| --- | --- |
|  | The geography table was initially with data from an ISO data set of standard country spellings, etc. However, the table also includes older, now “invalid” geography records that are marked in the table with the **is\_valid?** field = N.  Example: Czech Republic is country code "CZE" and the invalid Czechoslovakia is country code 163. (In GG, a numeric country code is another way to recognize invalid countries.) |

#### Geography Dataviews Overview

A screenshot of a computer

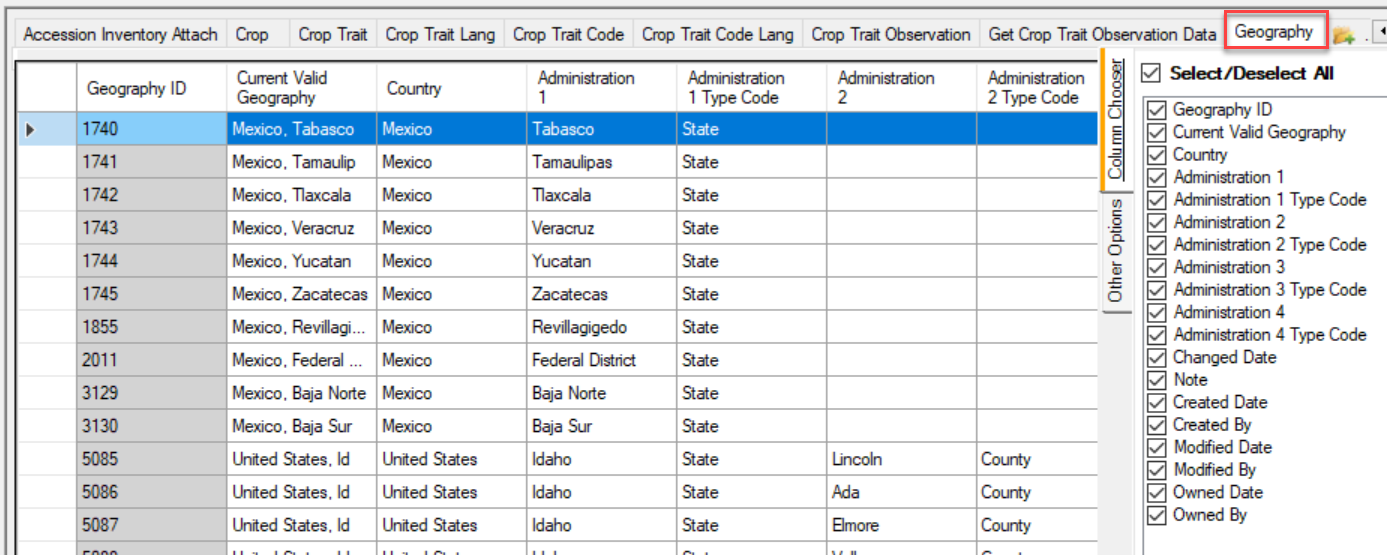
Description automatically generated

|  |  |
| --- | --- |
|  | Keep in mind that a dataview and a table are not equivalent. A dataview can be used to display all of a table’s fields, but often a dataview displays fields from more than one table. In the Curator Tool, in Edit Mode, dataviews will allow editing from only one table at a time; the fields from related tables that are displayed with a gray color cannot be edited in that particular dataview. |

##### Geography Dataviews

* Geography
* Region
* Geography Region Map

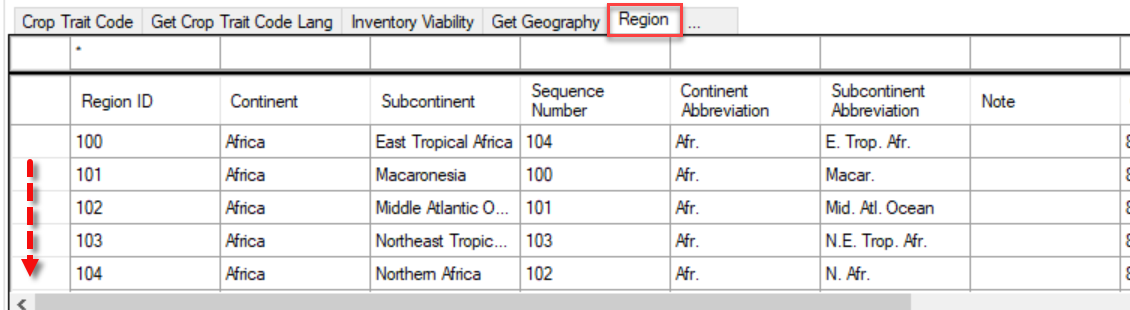
###### Geography Dataview

Shown below is part of the Geography table used by the US NPGS. Note that many of the records only have a **Country** field. In this example, at least one state has its county data completed.  


|  |  |
| --- | --- |
|  | ISO 3166-2 (state) codes were added to the Geography table in server release 1.10.4 in March, 2109. Also added was an **Is\_Valid**(ISO 3166 Compliant) flag field to the dataview.   In this release, several changes were made:  Six US entities (Puerto Rico etc.) were removed to USA outlying areas and removed from the separate country entries.  For China three main country entries (Taiwan, Macao, Hong Kong) were left as countries, but also left in the new “state of China” version. If you look at the state version under China for Taiwan and the others it says “'Taiwan Sheng (see also country entry under Taiwan)” leaving both options available. |

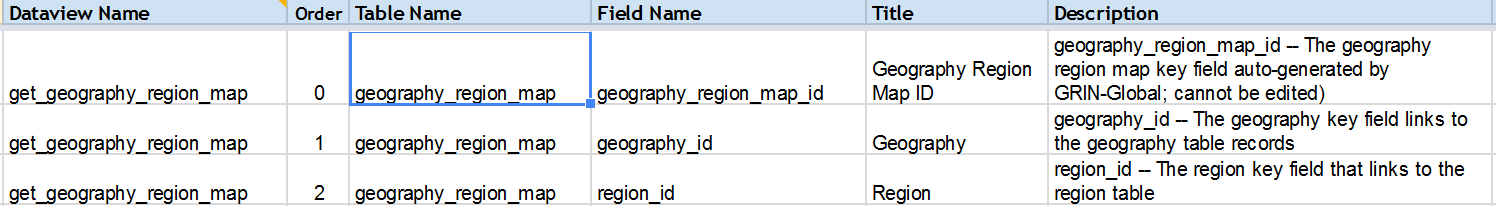
###### Region Dataview

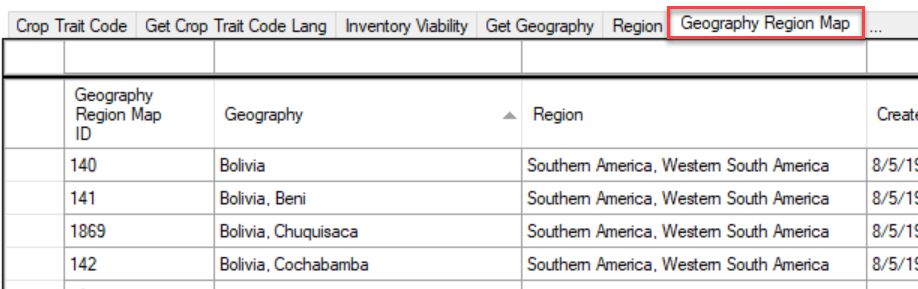
Most GG genebanks using GG can leave the **Region** table as is, but records can be added as needed. Of course the GG DBA / administrator should be the only person to do so.

The Region table used by the NPGS contains only 63 records. Several are shown here as examples:  


This dataview accesses the Region table, which includes world regions and continent information. The region table is used by the geography\_map table to group countries into regions.

###### Geography Region Map

This dataview accesses the geography\_region\_map table. (Map tables accommodate many-to-many relationships; in this case, regions with geography.)  




#### Geography Lookups

When reviewing geography information in lookup pickers, it may be obvious that the data is formatted two different ways. The format displayed by the lookup picker is determined by the lookup dataviews. GG uses two different geography lookups.

In the case of the **Source** dataview, the **geography\_lookup** is used.

In the case of the **Cooperator** dataview, the **mailing\_geography\_lookup** is used. This was done so the geography could be presented differently for address purposes where generally state is listed first, then country.

###### SQL Code Behind the Formatting

For the regular geography\_lookup, the order is country name then adm1 and adm2.

  LTRIM(RTRIM(COALESCE(cvl.title, g.country\_code) +

               CASE COALESCE(CONVERT(NVARCHAR, g.adm1), '') WHEN '' THEN '' ELSE ', ' + g.adm1 END +

               CASE COALESCE(CONVERT(NVARCHAR, g.adm2), '') WHEN '' THEN '' ELSE ', ' + g.adm2 END)) AS display\_member,

For the mailing\_geography\_lookup it is adm1, then country, no adm2 (county) since this seems irrelevant on an address.

  COALESCE(g.adm1 + ', ', '') + COALESCE(cvl.title, g.country\_code) AS display\_member

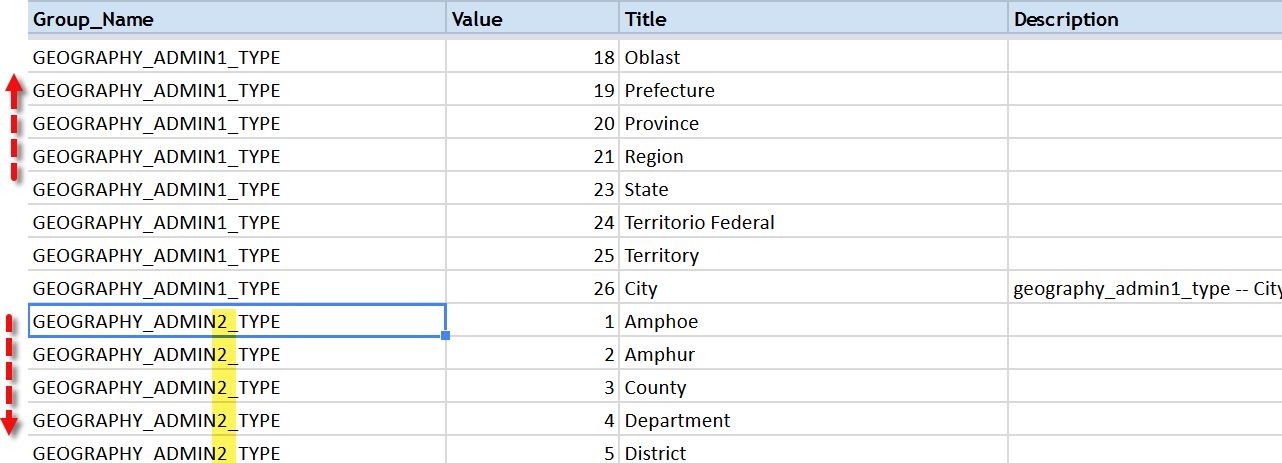
#### Geography Codes

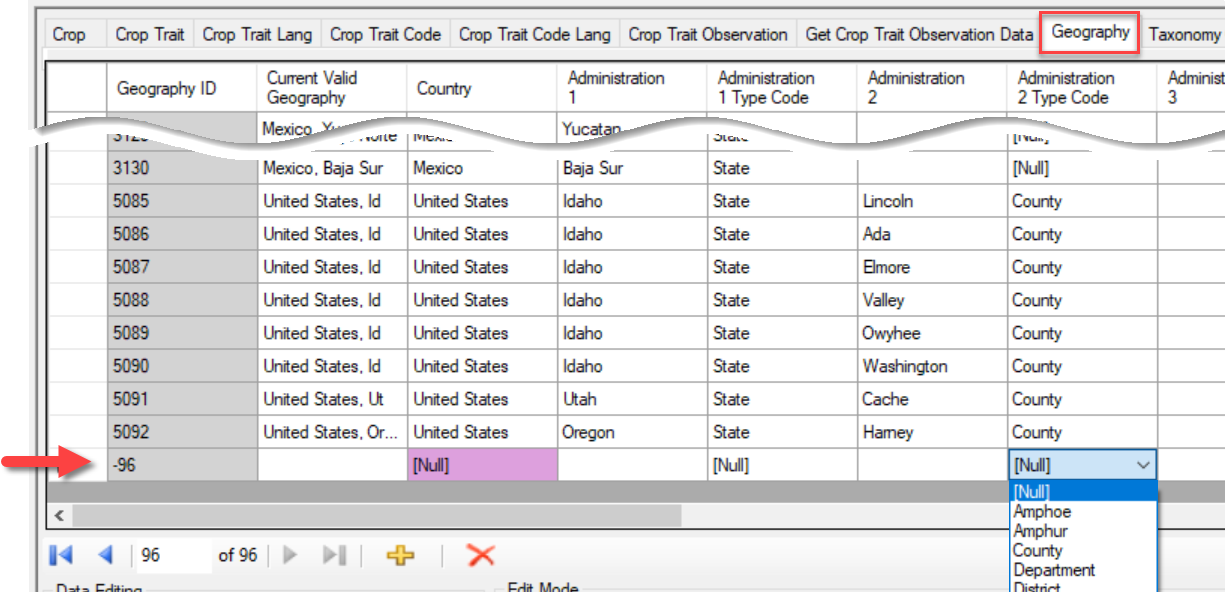
Three Geography-related Code Groups exits. Code\_Groups provide the items for dropdowns within GRIN-Global, especially the CT.  
A screenshot of a computer

Description automatically generated

##### GEOGRAPHY\_ADMIN1\_TYPE and GEOGRAPHY\_ADMIN2\_TYPE

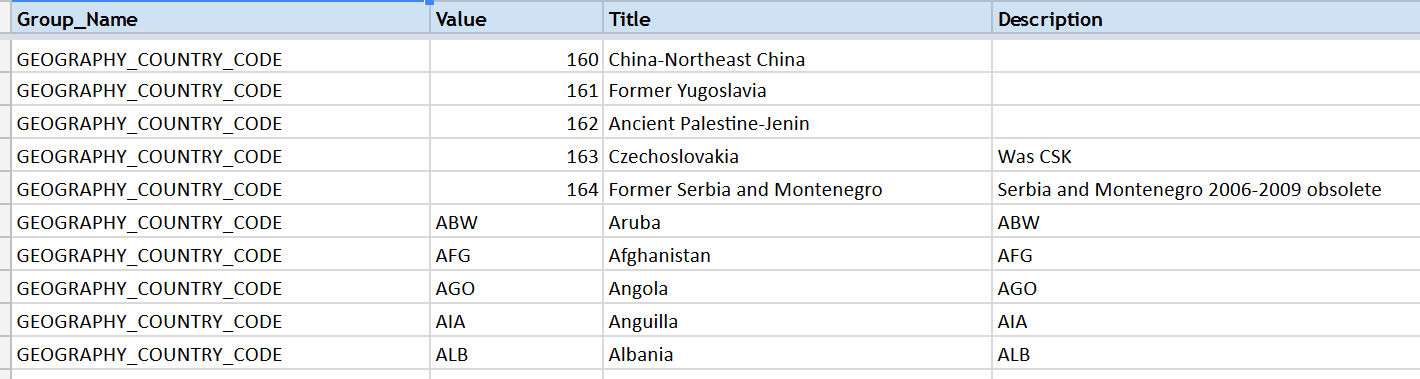
The two type code groups are used to indicate what the respective ADM division is.

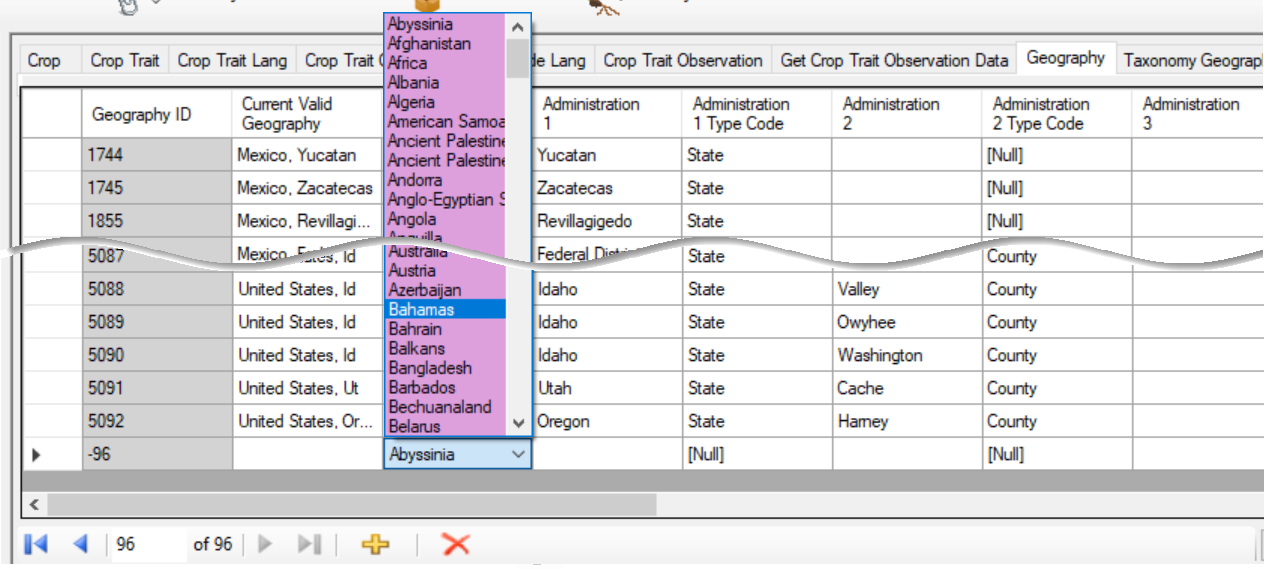


In the Curator Tool, when adding a new Geography record to the database, when indicating the ADM levels 1 or 2, you select a code from the dropdown. These codes are coming from the two respective code groups.  


##### GEOGRAPHY\_COUNTRY\_CODE

The Code Group GEOGRAPHY\_COUNTRY\_CODE is used to keep historic country names as well as current ones. When the default data stored in this group is examined, note that the entries with numeric Values are used for historic names, whereas the three letter Values represent current country names.

Note: organizations may find the historic references handy since some of their accessions may have historic source information reflecting historic country names.   


When new Geography records are created, the dropdown for the country field comes from the Title in the code record.  


##### Public Website SQL Query to Display Country Codes

Use the following SQL in the Public Website to get a listing of the codes:

SELECT

cv.code\_value\_id,

cv.group\_name as group\_name,

cv.value, cvl.title, cvl.description

FROM

code\_value cv

LEFT JOIN code\_value\_lang cvl ON cv.code\_value\_id = cvl.code\_value\_id

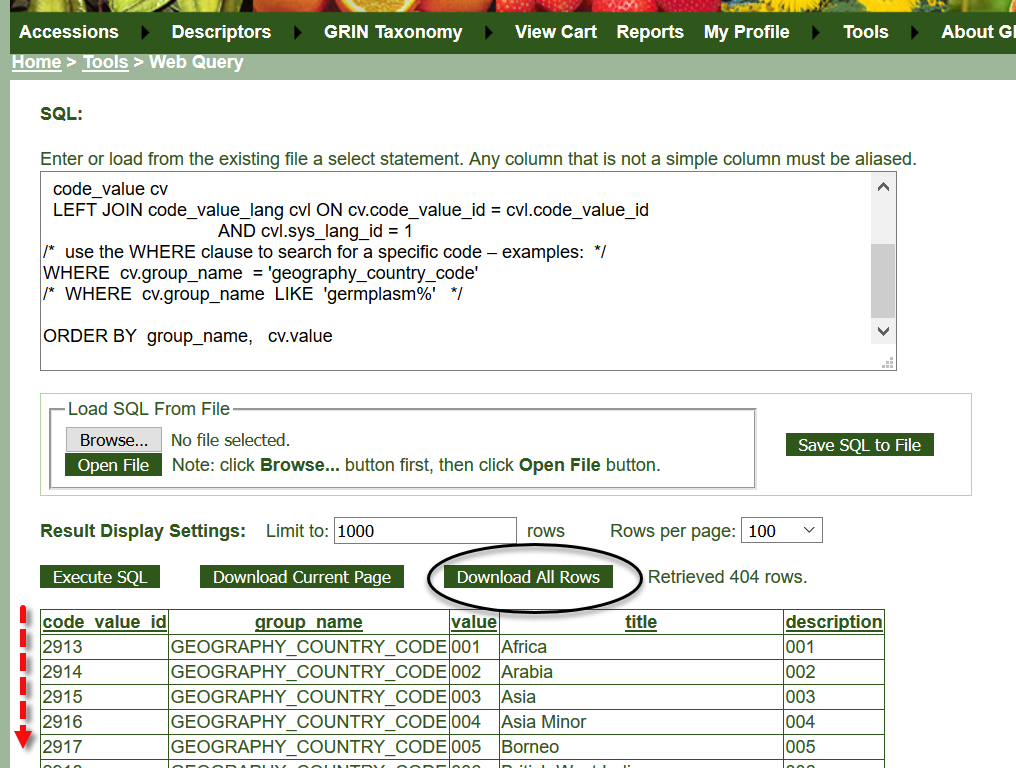
AND cvl.sys\_lang\_id = 1

/\* use the WHERE clause to search for a specific code – examples: \*/

WHERE cv.group\_name = 'geography\_country\_code'

/\* WHERE cv.group\_name LIKE 'germplasm%' \*/

ORDER BY group\_name, cv.value

Sample Output: Use the Download All Rows option to produce a spreadsheet list:   


### Appendix: Document Change Notes

– October 18, 2024

* Edited for clarity / wording changes
* Included additional screen examples

– June 7, 2019

* Included changes from Release 1.10.4 when the ISO standards were incorporated into GG

– October 17, 2018

* Document completely rewritten/edited

– September 7, 2016

* new document