



flexicadastre

*Governance - Risk - Compliance*



# Preparing Spatial Datasets for Import



*FlexiCadastre NAM Regional User Conference, Denver  
April 13<sup>th</sup> – April 14<sup>th</sup>, 2015*



spatial dimension

# Preparing the GIS Data

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There are some basic steps that need to be followed to make sure the GIS data is ready to be imported:

- Verify that the projection of the data to be imported matches the data currently used by that license type
- Re-Project the data using ArcGIS ArcToolbox if necessary
- Make sure that the GIS data has no duplicates
- Make sure that the shapefile has an attribute named “CODE”
- Create a Personal Geodatabase and import the data from the shapefile into the GDB

# Preparing the GIS Data

Verifying that the projection of the data to be imported matches the data currently used by that license type

The screenshot shows the FlexiCadastré software interface. The top bar displays "FlexiOnline Work Demo". The main window is titled "1229362" and shows "License Type: Ontario: Mining Claim" and "Status: Active". The "Shape" tab is selected, showing a map with various colored polygons and numerical labels. The "Part 1" section is expanded, showing a table of coordinates.

Order	Lat Deg	Lat Min	Lat Sec	N/S	Long Deg	Long Min	Long Sec	E/W
1	46	33	20.94	N	81	33	35.45	W
2	46	33	20.96	N	81	33	33.80	W
3	46	33	20.63	N	81	33	33.79	W

The screenshot shows the ArcCatalog software interface. The "Shapefile Properties" dialog box is open, displaying the "XY Coordinate System" tab. The "Name" field is set to "WGS\_1984\_UTM\_Zone\_17N". The "Details" section shows the following information:

- Projection: Transverse\_Mercator
- False\_Easting: 500000.000000
- False\_Northing: 0.000000
- Central\_Meridian: -81.000000
- Scale\_Factor: 0.999600
- Latitude\_Of\_Origin: 0.000000
- Linear Unit: Meter (1.000000)

The "Geographic Coordinate System" section shows:

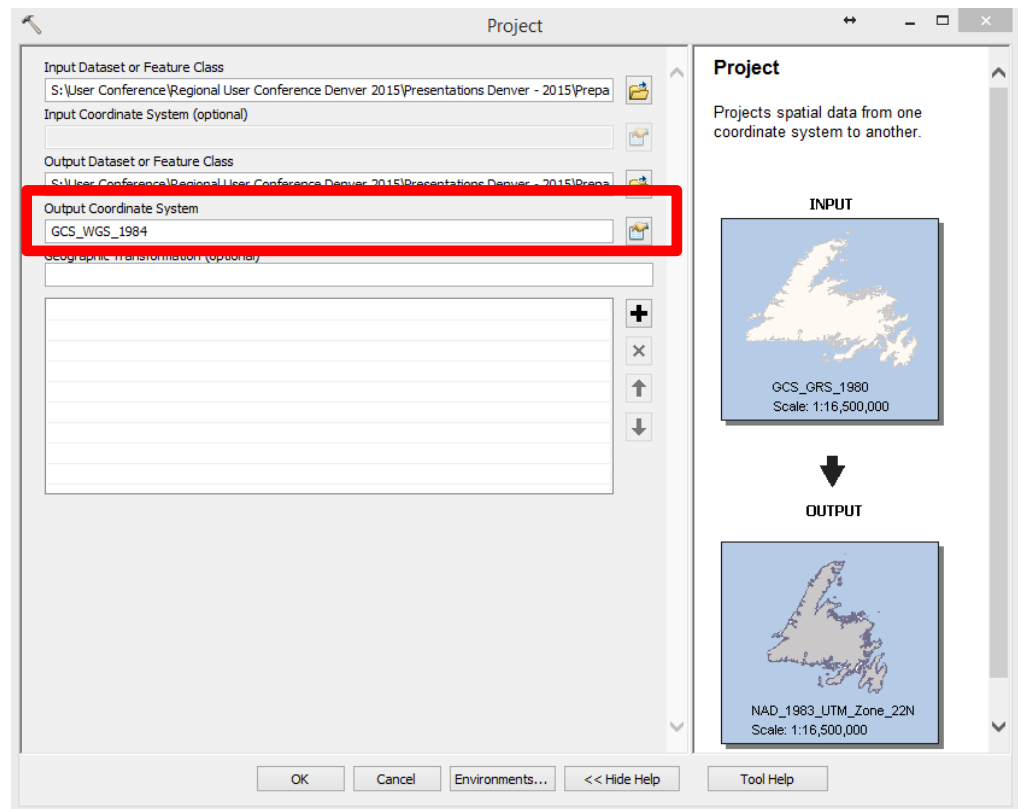
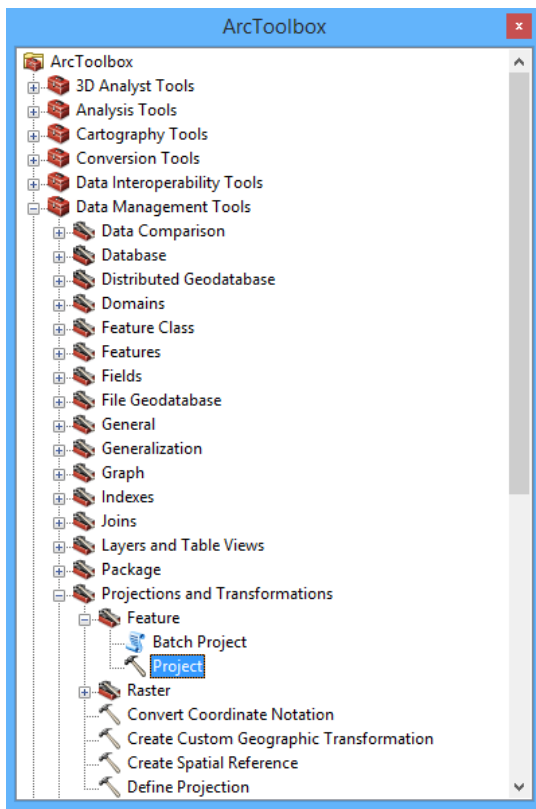
- Geographic Coordinate System: GCS\_WGS\_1984
- Angular Unit: Degree (0.017453292519943299)
- Prime Meridian: Greenwich (0.000000000000000000)
- Datum: D\_WGS\_1984
- Spheroid: WGS\_1984
- Semimajor Axis: 6378137.000000000000000000

The "Catalog Tree" on the left shows a folder structure with "User Conference" selected. A context menu is open over the "User Conference" folder, with the "Properties..." option highlighted in a red box.

# Preparing the GIS Data

## Projecting the data using ArcGIS ArcToolbox

- Converting from UTM to GCS



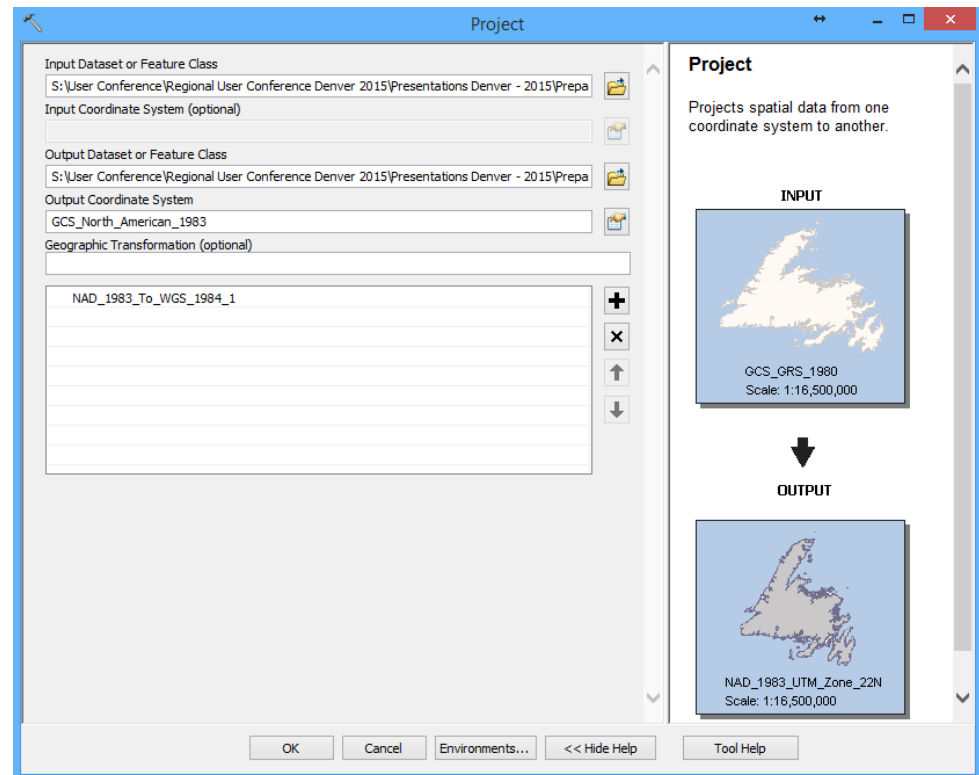
# Preparing the GIS Data

Projecting the data using ArcGIS ArcToolbox

- Converting from WGS84 to NAD83

In this case, because we are converting from one datum to another a Geographic Transformation is required.

We have chosen to use #1 in this occasion.



# Preparing the GIS Data

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## Geographic Transformations for North America (WGS84 to NAD83)

### **NAD\_1983\_To\_WGS\_1984\_1 (Use this one for the exercise)**

This transformation applies to the entire North American continent. Accuracy of the transformation varies, with greater accuracy at southern latitudes and less accuracy at more northern latitudes.

### **NAD\_1983\_To\_WGS\_1984\_3**

Calculated by the NGA (National Geospatial-Intelligence Agency) for Hawaii.

### **NAD\_1983\_To\_WGS\_1984\_5**

This transformation method should be used for the 48 contiguous states and for the state of Alaska.

### **NAD\_1983\_To\_WGS\_1984\_6, \_7, and \_8**

Canadian NTV2 transformations, for the Quebec, Saskatchewan and Alberta provinces, respectively.

*SOURCE:* <http://support.esri.com/en/knowledgebase/techarticles/detail/24159>

# Preparing the GIS Data

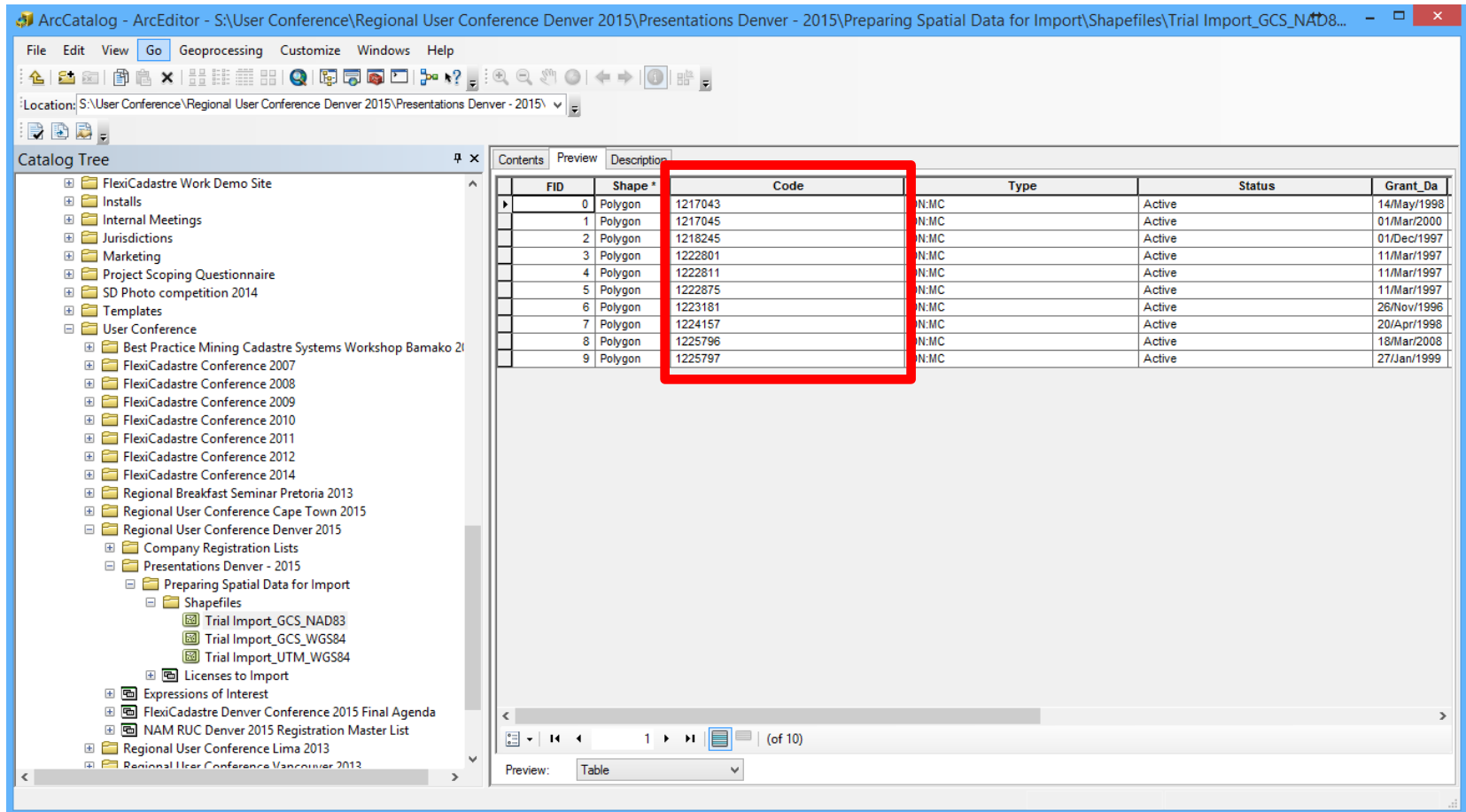
Make sure that the GIS data has no duplicates

The screenshot shows the ArcCatalog interface. The Catalog Tree on the left displays a folder structure under 'User Conference' > 'Regional User Conference Denver 2015' > 'Presentations Denver - 2015' > 'Preparing Spatial Data for Import' > 'Shapefiles'. The folder 'Trial Import\_GCS\_NAD83' is highlighted with a red box. The main window shows a table preview for the selected folder. The table has columns: FID, Shape, Code, Type, Status, and Grant\_Da. The 'Code' column is highlighted with a red box. The table contains 10 rows of data.

FID	Shape	Code	Type	Status	Grant_Da
0	Polygon	1217043	N-MC	Active	14/May/1998
1	Polygon	1217045	N-MC	Active	01/Mar/2000
2	Polygon	1218245	N-MC	Active	01/Dec/1997
3	Polygon	1222801	N-MC	Active	11/Mar/1997
4	Polygon	1222811	N-MC	Active	11/Mar/1997
5	Polygon	1222875	N-MC	Active	11/Mar/1997
6	Polygon	1223181	N-MC	Active	26/Nov/1996
7	Polygon	1224157	N-MC	Active	20/Apr/1998
8	Polygon	1225796	N-MC	Active	18/Mar/2008
9	Polygon	1225797	N-MC	Active	27/Jan/1999

# Preparing the GIS Data

Make sure that the shapefile has an attribute field named “CODE”



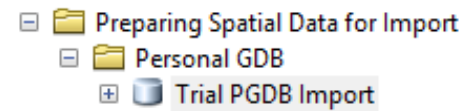
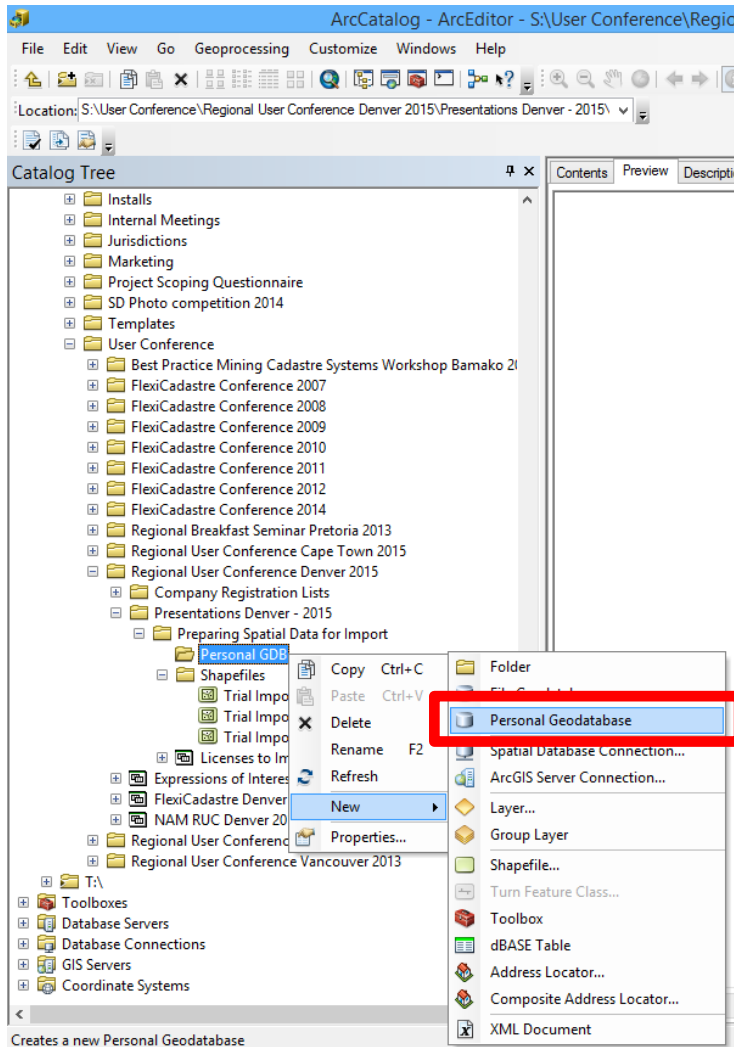
The screenshot shows the ArcCatalog interface. The Catalog Tree on the left displays a folder structure under 'User Conference' > 'Presentations Denver - 2015' > 'Preparing Spatial Data for Import' > 'Shapefiles'. The selected shapefile is 'Trial Import\_GCS\_NAD83'. The main window shows the attribute table for this shapefile, which has a 'Code' field highlighted with a red box. The table contains 10 rows of data, each representing a polygon feature with a unique FID and Code.

FID	Shape *	Code	Type	Status	Grant_Da
0	Polygon	1217043	N-MC	Active	14/May/1998
1	Polygon	1217045	N-MC	Active	01/Mar/2000
2	Polygon	1218245	N-MC	Active	01/Dec/1997
3	Polygon	1222801	N-MC	Active	11/Mar/1997
4	Polygon	1222811	N-MC	Active	11/Mar/1997
5	Polygon	1222875	N-MC	Active	11/Mar/1997
6	Polygon	1223181	N-MC	Active	26/Nov/1996
7	Polygon	1224157	N-MC	Active	20/Apr/1998
8	Polygon	1225796	N-MC	Active	18/Mar/2008
9	Polygon	1225797	N-MC	Active	27/Jan/1999



# Preparing the GIS Data

Create a blank Personal Geodatabase



# Preparing the GIS Data

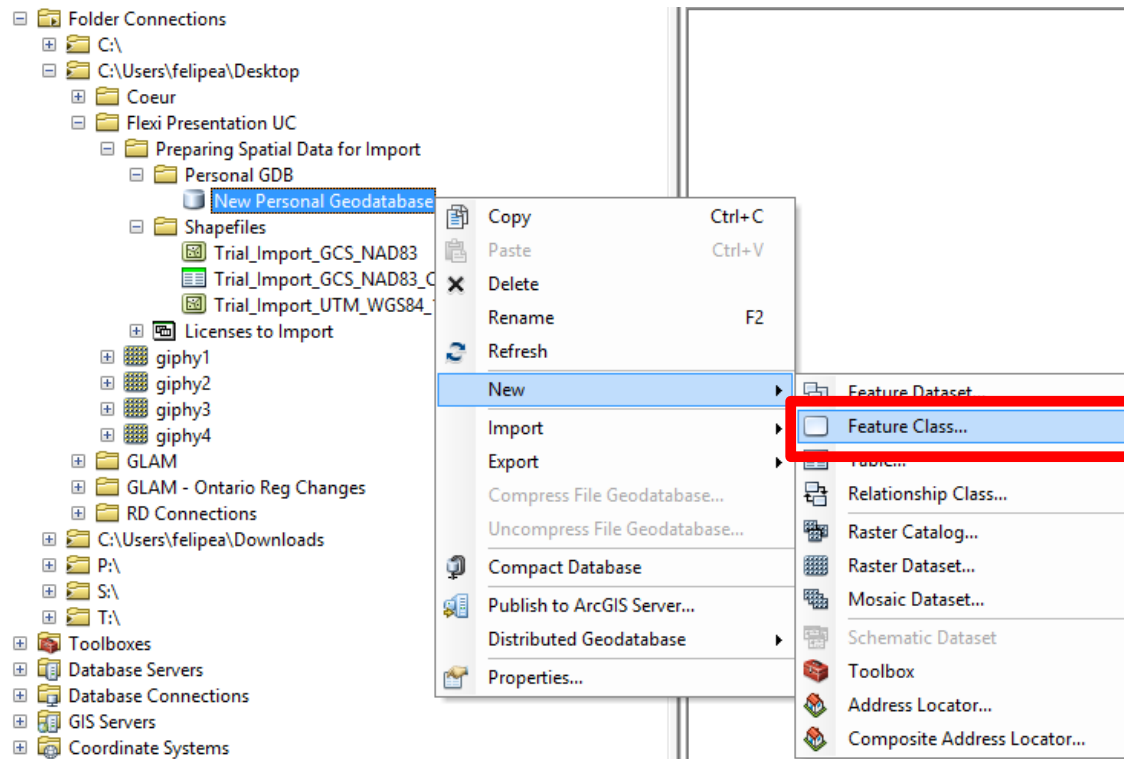
Load the data from the shapefile into the PGDB

The screenshot illustrates the process of loading data from a shapefile into a PostgreSQL database (PGDB) using ArcGIS Desktop. The 'Import' menu is open, showing the path: **Import** > **Feature Class (single)...**. The 'Feature Class to Feature Class' dialog box is displayed, with the 'Output Feature Class' field highlighted in red and containing the text 'Licenses'. The 'Input Features' field is set to 'S:\User Conference\Regional User Conference Denver 2015\Presentationator'. The 'Field Map (optional)' section lists fields: Code (Text), Type (Text), Status (Text), Grant\_Da (Date), and Official (Double). Below the dialog box, a tree view shows the 'Personal GDB' folder containing 'Trial PGDB Import' and 'Licenses'. A red arrow points from the 'Licenses' folder to the 'Output Feature Class' field in the dialog box.

# Preparing the GIS Data

Another way to do that is to create a new blank Geodatabase, then create an empty Feature Class .

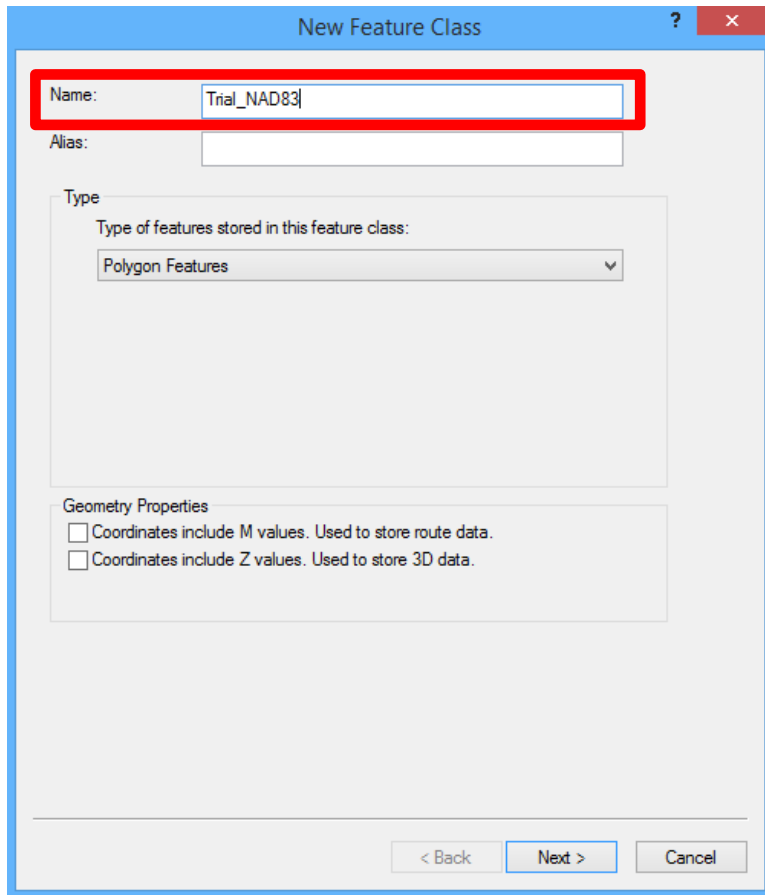
By using this second method you will make sure that the XY Tolerance and Resolution match the FlexiCadastre default



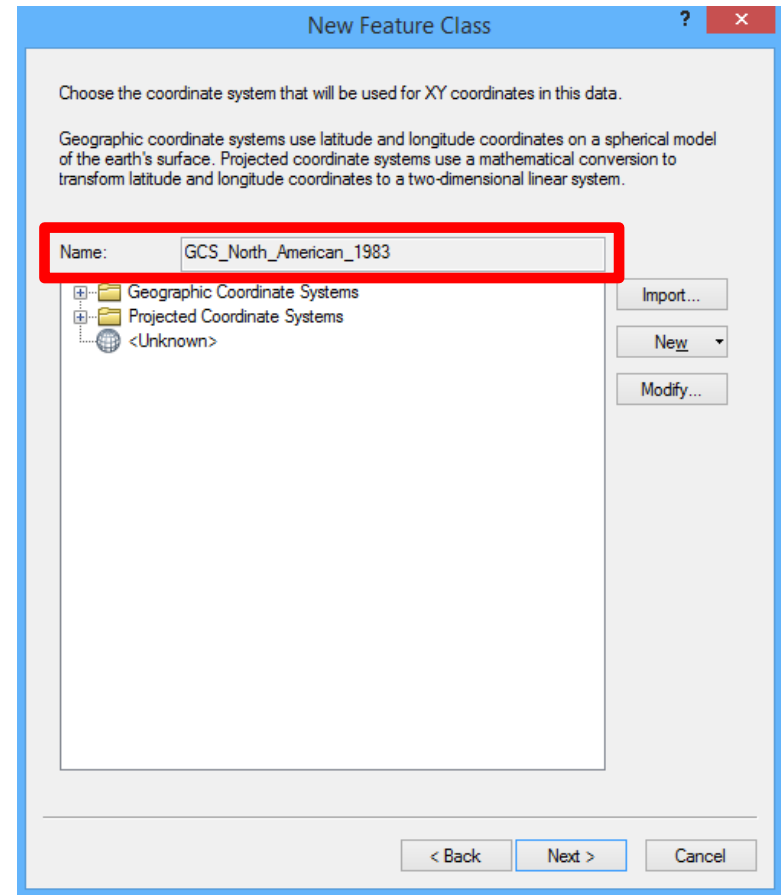
# Preparing the GIS Data

Enter the name of the New Feature Class

Select or Import the Coordinate System to use



The screenshot shows the 'New Feature Class' dialog box. The 'Name' field is highlighted with a red box and contains the text 'Trial\_NAD83'. Below it is an empty 'Alias' field. The 'Type' section has a dropdown menu set to 'Polygon Features'. At the bottom, there are checkboxes for 'Coordinates include M values' and 'Coordinates include Z values', both of which are unchecked. Navigation buttons '< Back', 'Next >', and 'Cancel' are at the bottom.



The screenshot shows the 'New Feature Class' dialog box at the second step. The 'Name' field is highlighted with a red box and contains 'GCS\_North\_American\_1983'. Below it is a tree view showing 'Geographic Coordinate Systems' and 'Projected Coordinate Systems' folders, with '<Unknown>' selected. To the right are buttons for 'Import...', 'New', and 'Modify...'. Navigation buttons '< Back', 'Next >', and 'Cancel' are at the bottom.

# Preparing the GIS Data

In this step you will be able to set the Feature Class '**XY Tolerance**'

The screenshot shows a dialog box titled "New Feature Class" with a help icon and a close button. Inside, there is a section for "XY Tolerance" with a text box containing "0.000000008983153" and the unit "Degree". Below this are two buttons: "Reset To Default" and "About Setting Tolerance". At the bottom of the dialog, there is a checkbox labeled "Accept default resolution (recommended)" which is currently unchecked. At the very bottom of the dialog are three buttons: "< Back", "Next >", and "Cancel".

By default FlexiCadaastre will use the XY Tolerance and Resolution = **0.000001**

Uncheck the box where it says 'Accept default resolution (recommended)'

Change the XY Tolerance to **0.0000001**

Click Next

# Preparing the GIS Data

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New Feature Class

All coordinates stored in a feature class are snapped to an underlying coordinate grid. Resolution is the cell size of this grid. Decreasing the resolution may reduce data storage needs but may reduce coordinate accuracy.

XY  
XY Resolution: 0.00000001 Degree

< Back Next > Cancel

Now set the XY Resolution to  
**0.0000001**

Click Next

# Preparing the GIS Data

New Feature Class

Field Name	Data Type
OBJECTID	Object ID
SHAPE	Geometry
Code	Text

Click any field to see its properties.

Field Properties

Alias		
Allow NULL values	Yes	
Default Value		
Length	50	

Import...

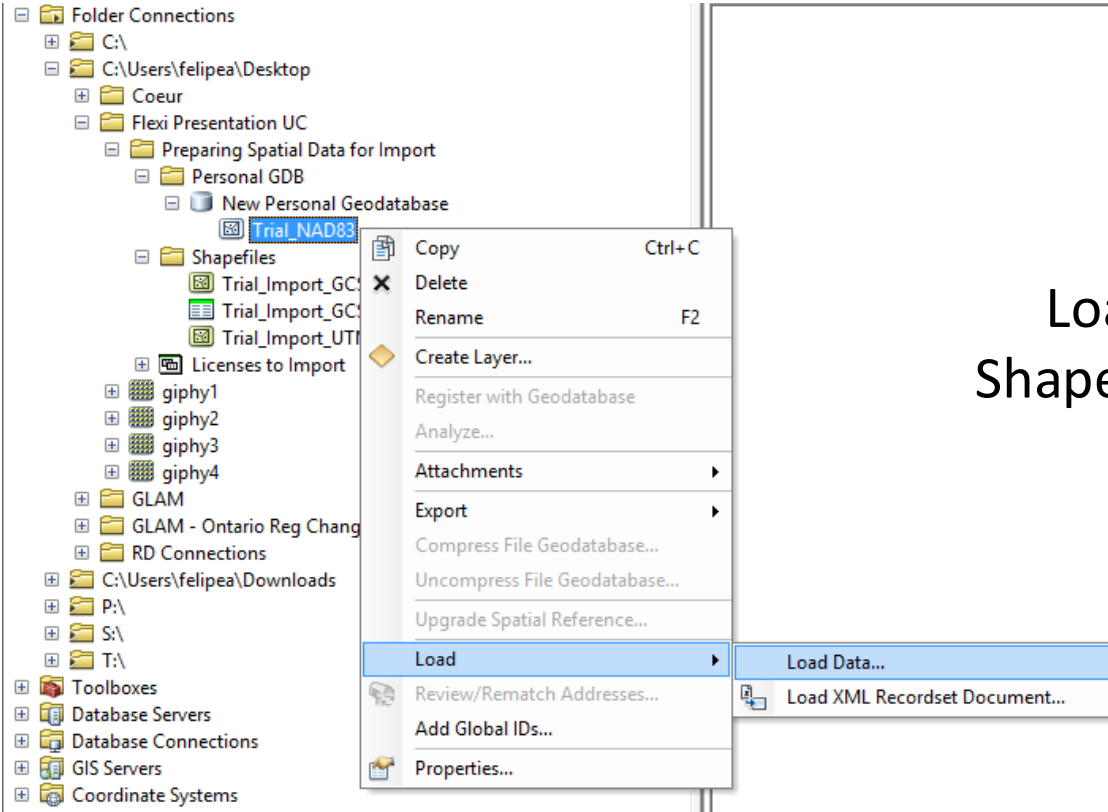
To add a new field, type the name into an empty row in the Field Name column, click in the Data Type column to choose the data type, then edit the Field Properties.

< Back Finish Cancel

Add a new Field named 'Code'  
with the Data type = Text

Click Finish

# Preparing the GIS Data

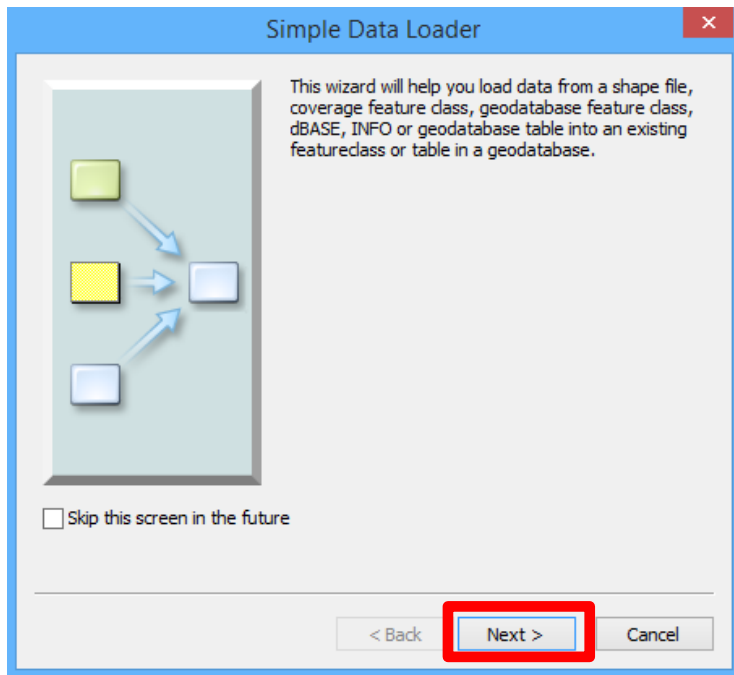


Load the data from the  
Shapefile into the New Blank  
Feature Class



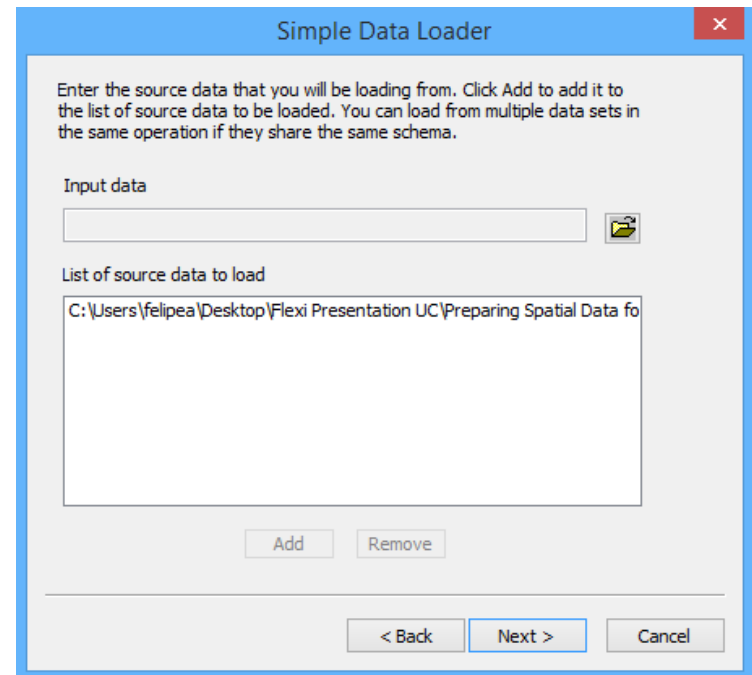
# Preparing the GIS Data

Click Next



Browse the shapefile you want to import and click the button 'ADD'

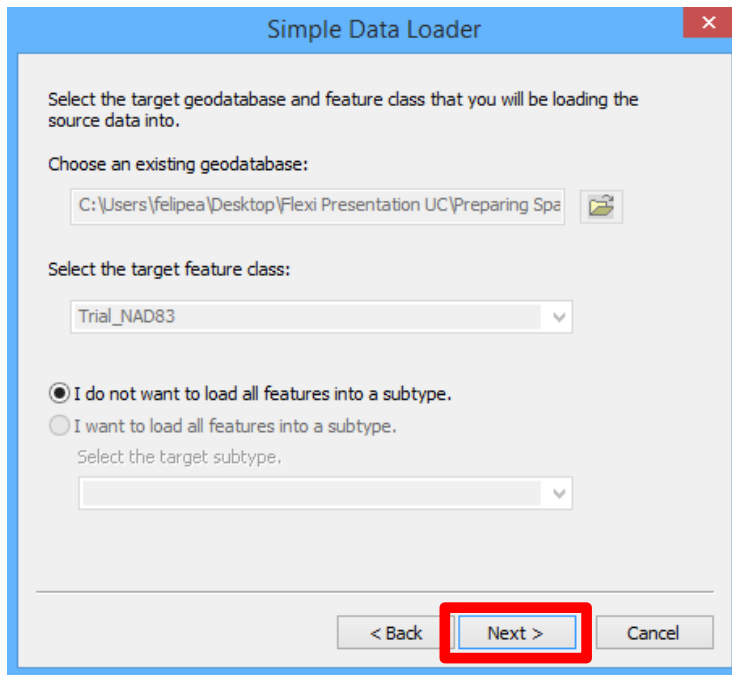
Click Next



# Preparing the GIS Data

Click Next

Select the 'Code' field that matches the source field



Simple Data Loader

Select the target geodatabase and feature class that you will be loading the source data into.

Choose an existing geodatabase:

C:\Users\felipea\Desktop\Flexi Presentation UC\Preparing Spa

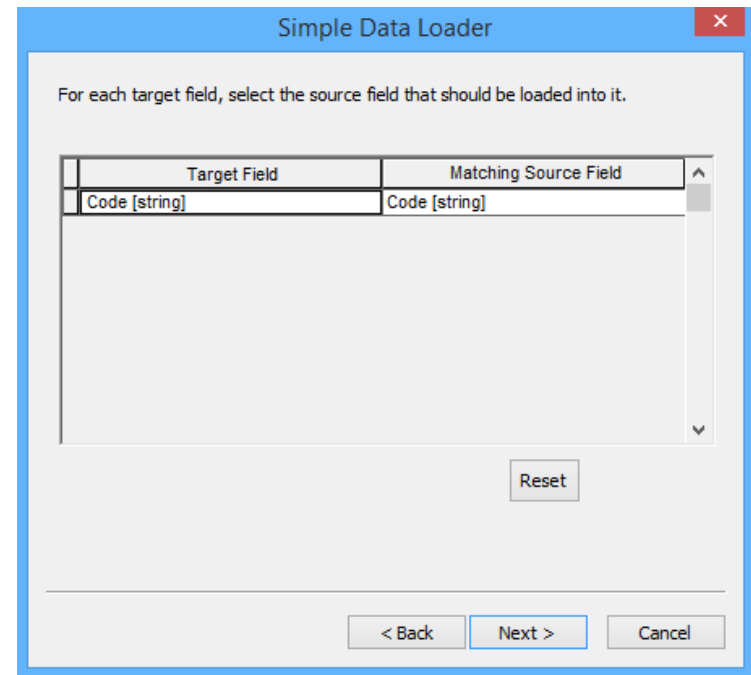
Select the target feature class:

Trial\_NAD83

I do not want to load all features into a subtype.  
 I want to load all features into a subtype.

Select the target subtype:

< Back **Next >** Cancel



Simple Data Loader

For each target field, select the source field that should be loaded into it.

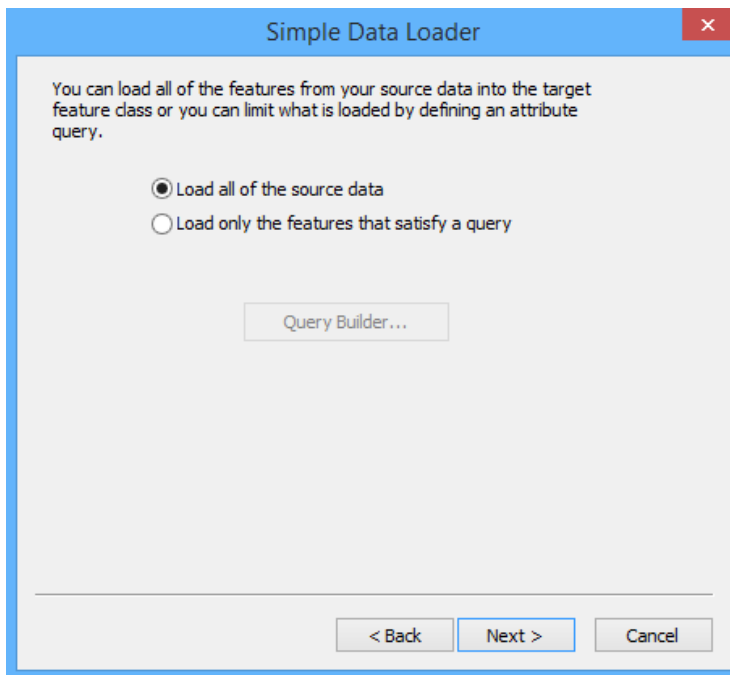
Target Field	Matching Source Field
Code [string]	Code [string]

Reset

< Back **Next >** Cancel

# Preparing the GIS Data

Click Next



Simple Data Loader

You can load all of the features from your source data into the target feature class or you can limit what is loaded by defining an attribute query.

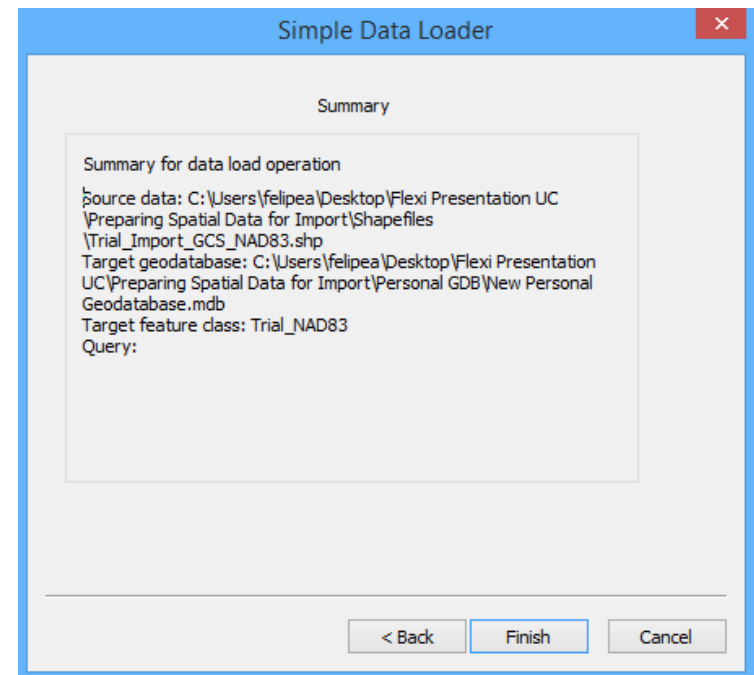
Load all of the source data  
 Load only the features that satisfy a query

Query Builder...

< Back   Next >   Cancel



Click Finish



Simple Data Loader

Summary

Summary for data load operation  
Source data: C:\Users\felipea\Desktop\Flexi Presentation UC  
Preparing Spatial Data for Import\Shapefiles  
\Trial\_Import\_GCS\_NAD83.shp  
Target geodatabase: C:\Users\felipea\Desktop\Flexi Presentation  
UC\Preparing Spatial Data for Import\Personal GDB\New Personal  
Geodatabase.mdb  
Target feature class: Trial\_NAD83  
Query:

< Back   Finish   Cancel

# Importing the GIS Data into FlexiCadaastre

The final step is to actually do the import

Home
Licenses
Agreements
Projects
Claim Group CA
Affidavit Group BLM
Actions
Maps
Reports
Documents
Companies
People
My Settings
<b>Admin Tools</b>
Help

- System**
  - General Settings
  - Database Connection
  - Authentication Settings
- Application Settings**
  - General Settings
  - Selectable Fields
  - Field Validations
  - Brief Controls
  - Document Settings
  - Indirect Documents
  - Notifications
  - User Notification Templates
  - Tasks
- Spatial Settings**
  - General Settings
  - GeoDatabases
  - Feature Classes
  - Coordinate Systems
  - Geo-Transformations
  - Map Services
  - Map Print Templates
  - Map Layout Documents
- Reports**
  - General Settings
  - Upload Template Schema
  - View Template Schema
  - View Report Schema
  - View Standard Tags
  - View Custom Tags
- Tools**
  - Diagnostic Report
  - Import Data**
  - Batch Processes
  - Debug Tools

## Admin Tools > Tools > Import Data

### Licenses

Import Licenses Import licenses, in batch, from personal geodatabase

### Agreements

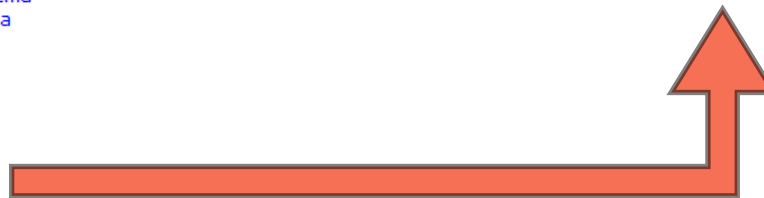
Import Agreements Import agreements, in batch, from personal geodatabase. (Spatial Only)

### Groups

Import Groups Import groups, in batch, from personal geodatabase. (Spatial Only)

### Actions

Import Surveys Import survey actions, in batch, from an excel spreadsheet.



# Importing the GIS Data into FlexiCadaastre

Select the option “Import Licenses”

## Licenses

[Import Licenses](#)

Import licenses, in batch, from personal geodatabase



The data import wizard imports data from an uploaded file, that contains a data table. The source file being a ESRI Personal Geodatabase (.mdb).

Please provide the path to the file containing the input data.

No file selected.

[Download a License Personal Geodatabase Template](#)



**File selected to import:** Trial PGDB Import.mdb [Select New File](#)

### Additional Properties:

Table Name:

Licenses

Input Coordinate System:

GCS\_NAD\_1983

Output Coordinate System:

GCS\_NAD\_1983

Import Mode:

Full Import  Spatial Only  Attributes Only

Select the option “Spatial Only” and click VALIDATION

# Importing the GIS Data into FlexiCadaastre

Once the validation is finished FlexiCadaastre will show the page below and if no problems were found you may execute the import.

< BACK: PROPERTIES

NEXT: IMPORT >

Critical warnings are highlighted red in the grid below. Licenses with critical warnings will not be imported into FlexiCadaastre.

Users may proceed (by clicking NEXT) or take corrective measures on their geodatabase and begin the import process again.

There are 0 warnings in the list.



License Code	Field Name	Problem	Import Step
1			

**NOTE:** Any problems found with the data will be listed here and should be analysed on a case by case basis. To avoid issues please follow all the previous steps.

# Importing the GIS Data into FlexiCadaastre

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CANCEL

**Processing ... Please be patient.**

**Status:** 4 of 10 Licenses Imported

Once the import is finished click the FINISH button.

# Checking the Data

To make sure the spatial data has been successfully imported click on Licenses in the Main Menu of FlexiCadastré and search for the licenses that you have imported shape into.

Licenses > Search New Search

Code:       Jurisdiction:       Status Group:   
Name:       Type Group:       Status:   
Party:         Type:       Saved Searches:      

Search returned 3 results (36.00 ONCU) 🌱 ✖ 🖌 🗃 ☰

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All	Map	Code	Parties	Jurisdiction	Type	Status	Application Date	Grant Date	Expiry Date	Area	Map Reference	Projects
<input type="checkbox"/>		Felipe1	Felipe Allegretti (100.00%)	Ontario	Ontario: Mining Claim	Active	May/14/1998	May/14/1998	May/14/2016	16.00 ONCU	Canada, Ontario, Sudbury	North Range JV
<input type="checkbox"/>		Felipe2	Felipe Allegretti (100.00%)	Ontario	Ontario: Mining Claim	Active	Mar/01/2000	Mar/01/2000	Mar/01/2016	16.00 ONCU	Canada, Ontario, Sudbury	North Range JV
<input type="checkbox"/>		Felipe3	Felipe Allegretti (100.00%)	Ontario	Ontario: Mining Claim	Active	Dec/01/1997	Dec/01/1997	Apr/08/2016	4.00 ONCU	Canada, Ontario, Sudbury	North Range JV

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# Questions

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**Thank You**

*FlexiCadastre NAM Regional User Conference, Denver  
April 13<sup>th</sup> – April 14<sup>th</sup>, 2015*

spatial dimension