



## COEUR D'ALENE TRIBE INFORMATION TECHNOLOGY

# GIS Program

Spring 2014

Volume 1, Issue 1

## GIS Program plans for new imagery of Reservation

The Coeur d'Alene Tribe has a long history of GIS Data development and mapping services. In the past 20 years a wide variety of projects have been done both for the Tribe and for outside entities while under contract.

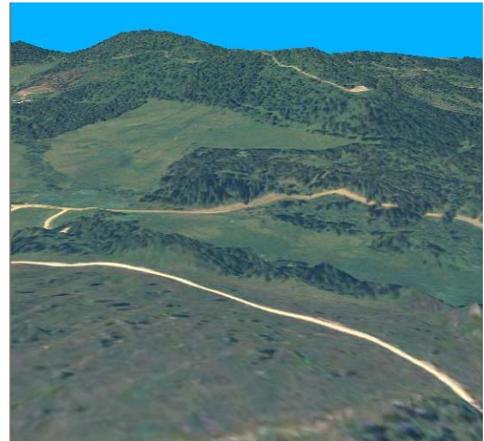
The Tribe has spent many years perfecting its ability to speedily collect and compile data for the creation of GIS Tribal data.

An important component for the GIS Program is our high resolution imagery. This imagery has had many uses across the reservation, which have included feature extraction of structures, roads inventory, wildland fuels evaluations, stream woody recruitment estimates, vegetation mapping, and editing of the National Hydrography Dataset.

This high resolution imagery has proven so useful that the GIS Program is looking into the feasibility of acquiring updated imagery data.

While the cost of high resolution imagery

has decreased significantly in recent years, it is still a considerable expense that in past years was offset by partnering with other departments and entities. A practice we welcome. If any departments, programs, or entities are interested in partnering to offset the cost of new imagery, please contact the GIS Manager, James Twoteeth at 208-686-2089 or email: [jtwoteeth@cdatribe-nsn.gov](mailto:jtwoteeth@cdatribe-nsn.gov).



### Inside this issue:

<b>Fiber to Home</b>	<b>2</b>
<b>WWP</b>	<b>2</b>
<b>BMC Community</b>	<b>2</b>
<b>GIS Tips &amp; Tools</b>	<b>3</b>
<b>GIS Trivia Quiz</b>	<b>6</b>

## National Hydrography Dataset updated by CDA GIS

The USGS is responsible for maintenance of the National Hydrography Dataset (NHD). USGS also has a mandate to consult with tribes for work and projects done on tribal lands. The Tribe in cooperation with other Federal agencies has been maintaining hydrographic datasets for over 20 years, but have been limited due to time and funding in examining the changes that have occurred, and then updating those changes.

Through a grant from USGS, GIS will use current NHD tools and specifications to update the NHD for tribal lands. It also provides us experience and

expertise with NHD tools, update procedures, and NHD specifications. Accurate data is important for several reasons. For example, when managing stream recovery, it is necessary to determine the property ownership for the stream segments in order to communicate and coordinate with the affected owners. In hydrologic modeling, calculating the length of the stream is an essential input value. This value can change considerably after some time. Spatial and attribute data editing and upload of these layers to the National Hydrography layer will provide more accurate hydrographic data for the area.

## CDA Information Technology: Fiber To the Home

Construction on the Fiber to the Home project began last year with the laying of the backbone fiber line from Liberty Lake all the way down to the southern part of the Coeur d'Alene Reservation. Financial, geologic and geographic challenges often mandated adjustments to the original design. GIS has played an active role in those adjustments creating customer counts and other spatial analyses to assist IT-Broadband in evaluating

the best options for providing these broadband services to all customers. The power to use spatial analysis to determine the placement of the fiber lines, the broadband towers and for establishing the wireless target areas has proven to be a great asset. Additionally, GIS is producing web-based and paper maps illustrating the fiber routes, the types of line placements, the tower locations, and the wireless service areas to visually support the

necessary reports for the various agencies involved in this endeavor.



## Coeur d'Alene Tribe Wetland Program Plan: Wetland Work Group

The Wetland Work Group spearheaded by Tiffany Allgood and Amy Anderson from Environmental Programs has formed an interdisciplinary group from several Tribal Departments for the primary purpose of developing the Tribe's first Wetland Program Plan.

GIS provides a support role for the group by providing data support, analysis of historic and current wetlands, and mapping.

There are several tasks to be completed, but one of the final outcomes is to provide the Tribe with improved

knowledge of past and current Tribal wetland areas, which would assist in assessing areas for wetland restoration, protection, and monitoring.

## Benewah Medical Center Community Program

The Benewah Medical Center Community Program is getting ready to kick off its "Walkathon!" GIS has been busy mapping walking routes that will show the distance and location of other Native American Reservations from Plummer. This will provide a range of goals for walkers this coming year.

In addition, a web map will be available to monitor and show an individuals progress towards their goal by being able to update online their daily, weekly, or monthly walking distance. Individual progress can then be displayed in the web map. The web map will also provide some demographic information for the reservations.



# GIS Tips and Tools

## How to create a geodatabase feature class from x y data

In our newsletters , we hope to answer some of the more frequent questions we receive from the Tribe's GIS users.

Creating locational data with GPS units has become a common task and showing your location points in ArcGIS is a useful display option.

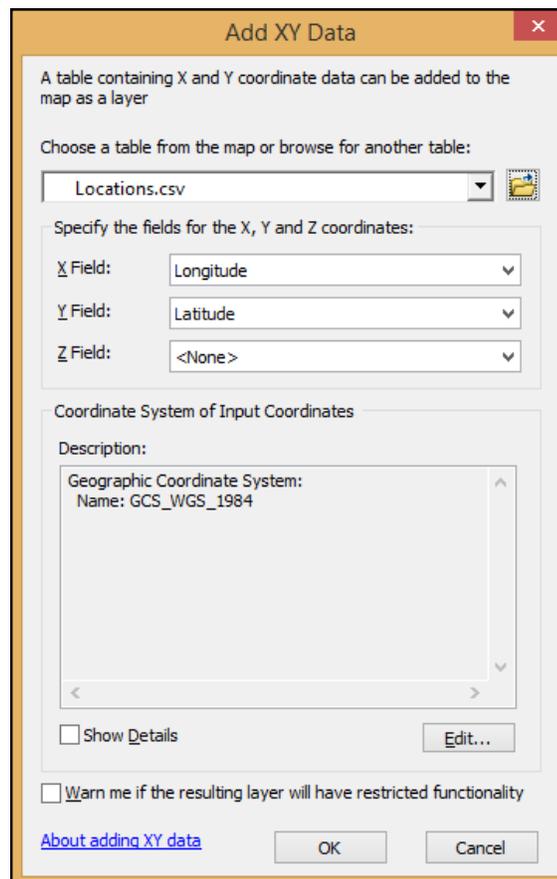
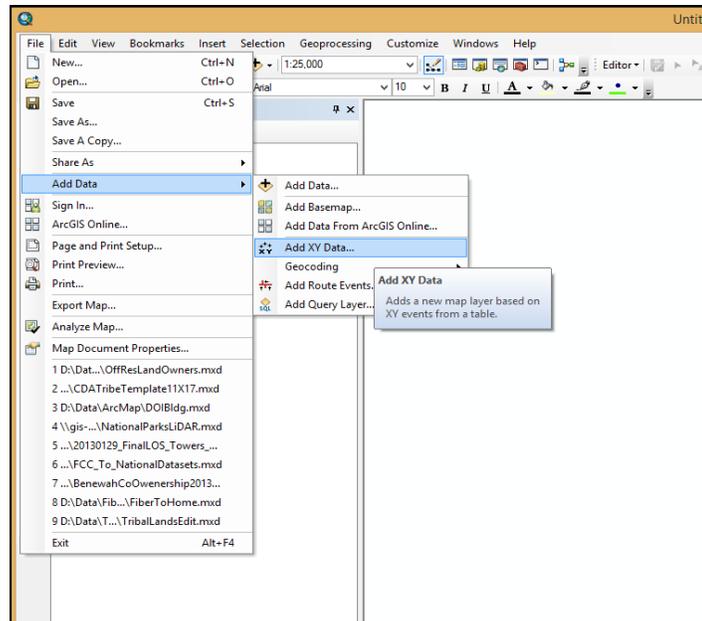
Data typically used in X Y event themes in ArcMap need to be in a comma delimited text format. With newer versions of ArcGIS, **Excel** files can be used directly if the data is in a tabular format. Excel is also a good way to format your data if you have to hand enter it from paper field notes so that ArcGIS can read the data correctly. Saved in a **csv** file format, when opened in notepad, should look similar to:

```
Site,Latitude,Longitude
1,47.256639,-116.958368
2,47.262618,-116.951118
3,47.243112,-116.964532
```

To begin, open up a new ArcMap document, and click **File>Add Data>Add X Y Data**. The add XY Data dialog box opens. Browse to the location of your **csv** or **Excel** file. Make sure the X and Y fields are populated with the correct field from the file (in the example, Latitude and Longitude). These field names could be anything and are commonly X and Y. Set the **coordinate system** by clicking the **Edit** button. Go to **Geographic Coordinate Systems>World** and select **WGS 1984**. Click **OK**.

Click **OK** to view the data.

Don't worry if you receive a warning that there is no ObjectID. It will not effect you using it. It will not be a permanent layer.



# GIS Tips and Tools

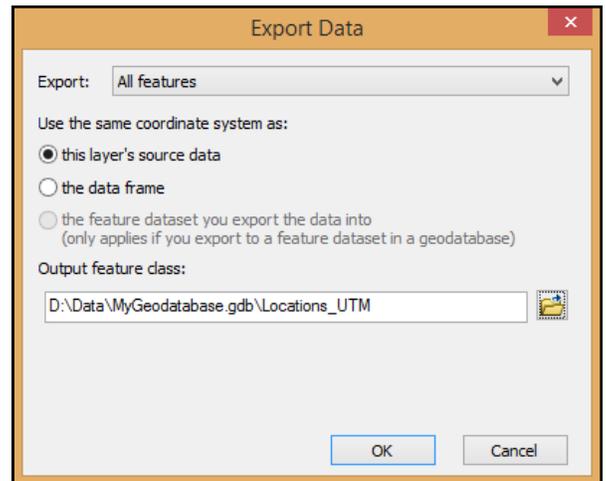
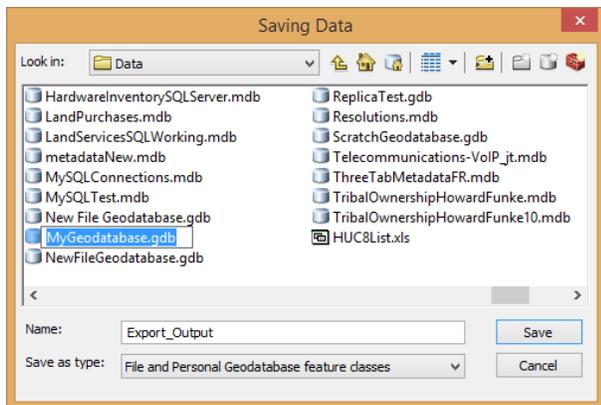
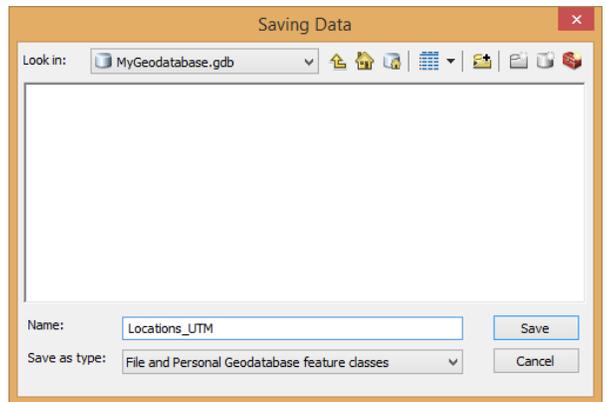
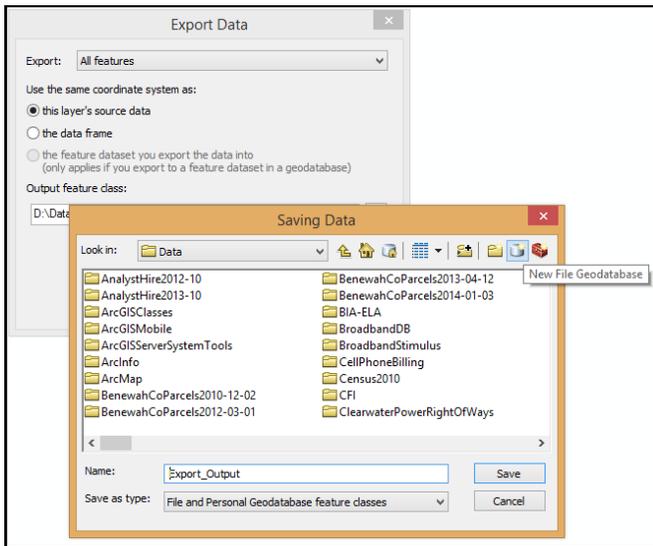
## How to create a geodatabase feature class from x y data, continued

It should show in the **Table of Contents** as an event layer and will have the word **Event** at the end of the name.

To make a permanent feature class, right click on the event layer you just made and choose **Data > Export Data**. Leave all of the settings at default. For **Output feature class** in the **Saving Data** dialog box,

click the browse button and navigate to the folder where you want the data to live. When you are there, click the **New File Geodatabase** button in the dialog box and give it a name.

Double click it to go into it. Put the name of your new data in the **Name** field and click **Save**. Then click **OK** to export your data.



Choose **Yes** when prompted to add the exported data to your ArcMap.

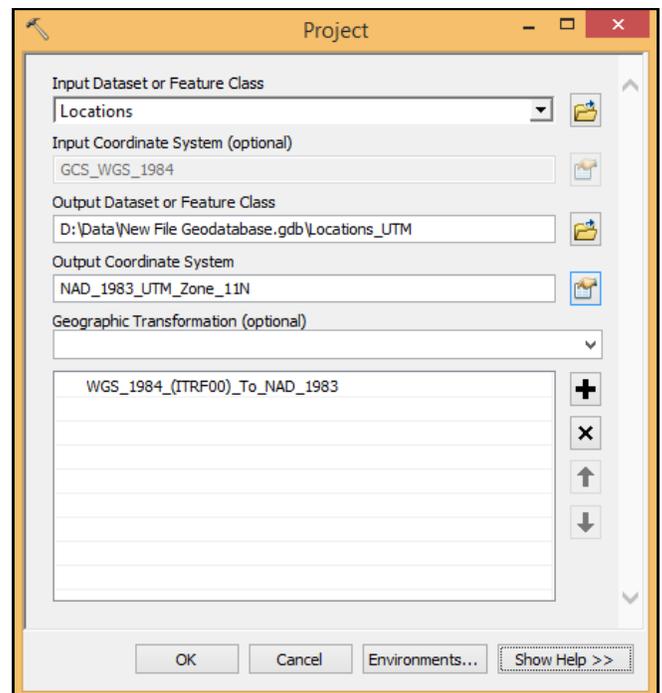
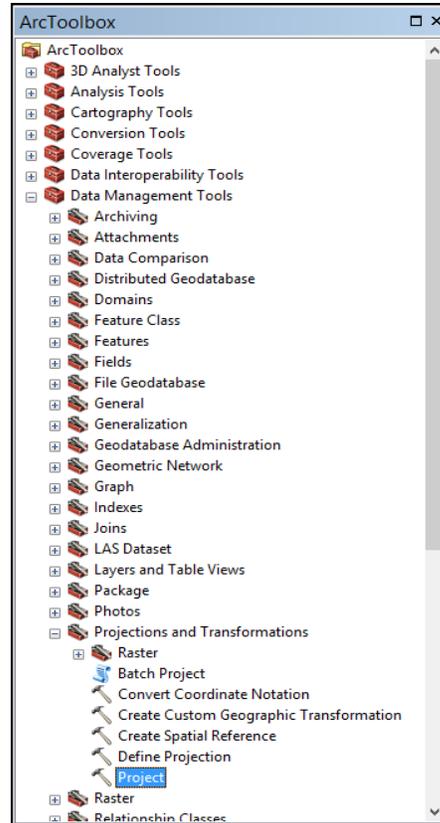
# GIS Tips and Tools

## How to create a geodatabase feature class from x y data, continued

Now this new feature class needs to be projected into the standard Coeur d'Alene Tribe coordinate system. Click the **ArcToolbox** button on the main toolbar. Navigate to **Data management>Projections and Transformations**. Double click the **Project** tool.

In the **Project** tool, choose the feature class you made in the previous step for the **Input Dataset or Feature Class**. For the **Output Dataset or Feature Class**, browse to your new geodatabase and enter a new name for the projected data. For the **Output Coordinate System**, click on its browse button. Navigate to **Projected Coordinate Systems>UTM>NAD 83** and choose **NAD 1983 UTM Zone 11 N** and then click **OK**. Click **OK** on the Project tool to finish. It may take a few minutes to complete depending on the number of points in the data. It will automatically add the new feature class to your ArcMap project.

You now have a permanent feature class in your new geodatabase that you can use with any of the Tribe's other data.



### Contact us:

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## Updated Reservation maps available

The GIS Program has updated the official Coeur d'Alene Reservation map. Please notify James Twoteeth, GIS Manager, at jtwoteeth@cdatribe-nsn.gov to replace any outdated maps.

## GIS to implement new Help Desk system

The GIS Program is planning to implement "Track-It" workflow system to help manage and document GIS work and data requests. Briefly, all requests will formulate at the Help Desk, and if the GIS Technician is able to assist, they will do so; however, if they are unable to assist an email will be sent to the GIS Manager, who will then assign the work to other GIS staff based on the work requests level of complexity.

**Please contact us with any questions or comments. If you have any GIS user questions for the next newsletter's "Tips and Tools" section, please submit them.**

### GIS Program websites:

Internal: <http://intranet/Pages/GIS.aspx>

External: <http://gis.cdatribe-nsn.gov/>

### GIS Trivia Quiz

The primary GIS software provider used by the Coeur d'Alene Tribe is from:

- Intergraph
- The Environmental Systems Research Institute (ESRI)
- Microsoft
- Earth Resource Data Analysis System (ERDAS)

The process of representing a 3 dimensional or spherical surface on a flat plane is called:

- Photogrammetry
- Interpolation
- Map Projection
- Echolocation

Approximately how many layers does the current Coeur d'Alene Tribe GIS have?

- 245
- 1040
- 60
- 350

"Rubber Sheeting" refers to a process for:

- Potty training a toddler
- Artificially improving the resolution of an Orthophoto
- Aligning features to ensure they are correctly joined together
- Preparing your windows for a hurricane

• Aligning features to ensure they are correctly joined together  
• 1040  
• Map Projection  
• The Environmental Systems Research Institute (ESRI)  
**Trivia Quiz answers:**