Old Datum and Projection Conversion (T12)

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The Projection Conversion tool allows you to change the location data in a dataset from its existing datum and/or projection to some other datum and/or projection.

For a practical introduction to this tool, see the Guided Tour "Managing INTREPID datasets (G09)".

For changing the cell size of a grid or rotating a grid about the grid origin, , use the Grid Operations tool (See "Grid Operations (T25)" for instructions).

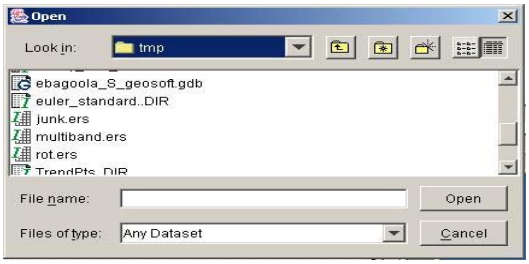
See "INTREPID's supported datums and projections (R09)" for information about datum and projection specifications, including adding your own datums and projections, and defining your own local projections.

- In general, False Easting, False Northing and Scale Factors are available as well as spherical and ellipsoidal equations for most projections.
- INTREPID has most commonly used projections for each region of the world. You can easily add projections of your own to suit your requirements.
- We also support local projections. You can define your own local grid, which is tied into a recognised international projection using tie point, angle, units etc..

Using the Projection Conversion tool

>> To use the Projection Conversion tool

1 Choose **Projection Conversion** from the **Utility** menu of the Project Manager, or type the command **`projconv.exe`**. INTREPID will launch a file chooser for the Projection Conversion tool.



2 Select the input dataset that you wish to transform (vector or grid), and click **Open**. INTREPID will launch the Projection Conversion tool.

3 If you have previously prepared file specifications and parameter settings for Projection Conversion, load the corresponding task specification file using **Load Options** from the **File** menu. (See "Specifying input and output files" below for detailed instructions.) If all of the specifications are correct in this file, go to step 9. If you wish to modify any settings, carry out the following steps as required.

4 By default the tool will choose the input X and Y fields to be the pair that are currently assigned as the **X** and **Y** aliases. (You can also check the current Alias definitions by highlighting the dataset in the **Filename** panel of the Project Manager). If you wish to select a different pair of X and Y fields as input, use the arrows located on the right hand side of the tool to activate the pull-down menus which will allow you to select a different set of input fields.

5 By default the tool will transform a set of X and Y co-ordinates. However it can also perform a datum height conversion. If this option is ticked then you can also select a height field to be transformed.

6 Under **Output Fields**, either type new names for the output fields, or select names from the drop down list if you wish to overwrite existing ones.

7 Specify the output Datum and Projection parameters. Use the arrows located on the right hand side of the tool to activate the pull-down menus which contains lists of available Datums and Projections in INTREPID. By default the input Datum is assigned to the output Datum.

8 If you wish to record the specifications for this process in a task specification (**`.job`**) file in order to repeat a similar task later or for some other reason, choose **Save Options**. (See "Specifying input and output files" for detailed instructions.)

9 Choose **OK** to perform the projection conversion. A message will appear informing you when the process is completed.

10 To exit from Projection Conversion, choose **OK**.

11 If you are processing a grid dataset INTREPID displays the **Cell Size** dialog box. (This is mainly for adjustment when you are converting between degrees and metres distance units.) Specify the cell size required. (See "Specifying input and output files" for details).

You can view Help information by clicking the box marked with the black square.

You can execute Projection Conversion as a batch task using a task specification file (**`.job`**) file that you have previously prepared. See "Using task specification files" for details.

Specifying input and output files

You must specify a new pair of X and Y fields for the output of the datum / projection conversion. You cannot over-write the input fields. INTREPID will optionally adjust the X and Y aliases after the process, assigning the newly created output fields to be the recognised **X** and **Y** aliases. You may choose to leave the input fields assigned to the **X** and **Y** aliases, in which case you can turn this option off. INTREPID will retain the input fields. You can use the Project Manager to assign the **X** and **Y** aliases to any of the existing geolocated fields. See "Switching between existing datums/ projections" for instructions.

Vector dataset notes: By default the tool will choose the input X and Y fields to be the ones that are currently assigned as the **X** and **Y** aliases. The dataset must have the following aliases identifying appropriate fields.

Alias	Field
X	X coordinate (location)
Y	Y coordinate (location)

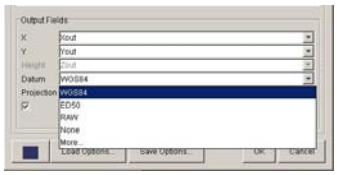
See "Vector dataset field aliases" in INTREPID file and directory structure (R05) for more information about aliases.

Load Options If you wish to use an existing task specification file to specify the Projection Conversion process, use this menu option to specify the task specification file required. INTREPID will load the file and use its contents to set all of the parameters for the Projection Conversion process. (See "Using task specification files" for information about task specification files).

Save Options If you wish to save the current Projection Conversion file specifications and parameter settings as a task specification file, use this menu option to specify the filename and save the file. (See "Using task specification files" for more information).

Selecting datum and projection for the output

Use the Datum or Projection pull-down menu to specify the output datum and projection.



When you choose the Datum or Projection pull-down menu, INTREPID displays a list of available datums or projections. This is a list of the names of the datum or projection parameter files in the directory **`$INTREPID/proj`**.

If you have Datums or Projections that you use more often than others, you can assign these to the top of the pull-down lists. To do this, edit the **`$INTREPID/config/preferences.cfg`** file and insert your preferred Projections into the **`Recent_Projections`** list, and your preferred Datums into the **`Recent_Datums`** list.

See "INTREPID's supported datums and projections (R09)" for:

- Details of the datums and projections provided with INTREPID,
- Instructions for defining your own implementations of projections,
- Instructions for using the Select Datum and Select Projection dialog boxes.

Checking that datum to datum transformations are correct

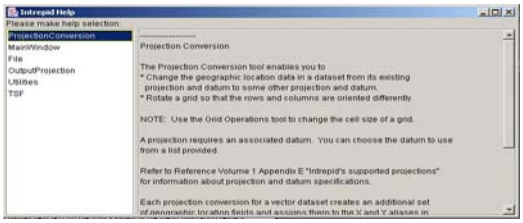
See "Testing datum to datum transformations (R10)".

Exit from Projection Conversion

A message will appear informing you when the process is completed. To exit from Projection Conversion, choose OK.

Help

You can use the help menu to display help text on the topics shown in the menu illustration below.



Using task specification files

You can store sets of file specifications and parameter settings for Projection Conversion in task specification (**`.job`**) files.

>> To create a task specification file with the Projection Conversion tool

1. Specify all files and parameters.
2. From the **File** menu, choose **Save Options**. Specify a task specification file (INTREPID will add the extension **`.job`**) INTREPID will create the file using the current parameters.

For full instructions on creating and editing task specification files see "INTREPID task specification (`.job`) files (R06)" files.

>> To use a task specification file in an interactive Projection Conversion session

1. Launch the file chooser and select the input dataset.
2. Choose **Load Options**, select the task specification (**`.job`**) file, modify any settings as required, then choose **OK**.

>> To use a task specification file for a batch process Projection Conversion task

1 Type the command **projconv.exe** with the switch -**batch** followed by the name (and path if necessary) of the task specification file.

For example, if you had a task specification file called **surv_conv.job** in the current directory you would use the commands

```
projconv.exe -batch surv_conv.job
```

Task specification file example

Here is an example of an Projection Conversion task specification file.

```
Process Begin
      Name  = projconv
      XIN   = F:\ebagoola\easting
      YIN   = F:\ebagoola\northing
      XOUT  = F:\ebagoola\Xout
      YOUT  = F:\ebagoola\Yout
      Parameters Begin
            ToDatum= "WGS84"
            ToProj= "TMAMG55"
            UpdateSurveyInfo= Yes
      Parameters End
Process End
```

Switching between existing datums/projections

Each time you perform a datum and/or projection conversion on a vector dataset, you will either create a new pair of geo-located fields, or overwrite an existing pair. You can switch the dataset between the existing geo-locations simply by assigning the geo-located pair you want to be the current **X** and **Y** aliases. See "Editing the dataset aliases" in INTREPID Old Project Manager (T01) for instructions. If the required projection and datum fields already exist in your dataset, you only need to re-assign the **X** and **Y** aliases - you do not need to run the Projection Conversion tool.