INTRODUCTION

In this example two New Zealand coast line layers have been added to ArcMap; nzcoast_nztm is projected in NZGD2000 (NZTM) and nzcoast_nzmg in New Zealand Map Grid (NZMG). Since nzcoast_nztm was opened first, the Data Frame (overall) coordinate system has been set to NZTM. We now want to convert nzcoast_nzmg to NZTM.

Note: This same process can be used to transform from NZTM to NZMG (take note at step 7).

PROCESS



2) Zooming in on the Data Frame shows the difference between the two projections. From ArcToolbox, select:

Data Management Tools>Projections and Transformations>Feature>Project, which brings up the Project window



3) a) Choose the Input Dataset or Feature Class.

- b) The Output Dataset or Feature Class should automatically have been filled in after step a). Change the output pathname if you want to store it elsewhere.
 a) New click on the ison to the right of Output Coordinate System
- c) Now click on the icon to the right of **Output Coordinate System**

noject	IJŇ
Input Dataset or Feature Class	-
a) 🖉 nzcoast_nzmg	
Output Dataset or Feature Class b/k:\gis_project\layers\nzcoast_nzmg_Project.shp	
Output Coordinate System	
Geographic Transformation (optional)	
+ ×	
	-
OK Cancel Environments Show Help	>>

4) Choose Select from the Spatial Reference Properties

Coordinate System	
Name: Unkn	own
Details:	
	<u> </u>
	<u> </u>
Select	Select a predefined coordinate system.
Import	Import a coordinate system and X/Y, Z and M domains from an existing geodataset (e.g.
	feature dataset, feature class, raster).
New 🔻	Create a new coordinate system.
Modify	Edit the properties of the currently selected coordinate system.
Clear	Sets the coordinate system to Unknown.
Save As	Save the coordinate system to a file.
	OK Cancel Apply

- 5) a) Open the **Projected Coordinate Systems** folder
 - b) Open the **National Grids** folder
 - c) Open the **New Zealand** folder
 - d) Choose NZGD 2000 New Zealand Transverse Mercator.prj Then click Add.

Browse for Coordinate System	×
Look in: 😰 Coordinate Systems] <u>⊾ ⊇∭⊒ ﷺ ∭88</u>
Geographic Coordinate Systems Projected Coordinate Systems Browse for Coordinate System Look in: Projected Coordin	ate Systems
Continental County Systems Gauss Kruger National Grids Polar Look in:	Coordinate System
Name: Pr State Systems Utm Show of type: St World Name: Pr	Accra TM 1 NW.prj Arin el Abd Aramco Lambert.prj bcontinent
A j Name: Name: Na Show of type: Sp Accra Gh Accra Gh Name:	Browse for Coordinate System Image: Coordinate System Image: Coordinate System Image: Coordinate System Image: Coordinate System Image: Coordinate System Image: Coordinate System Image: Coordinate System 987 T Image: Coordinate Cordinate Cordit.prj 987 T Image: Coordinate Cordinate Cordit.prj 987 NZGD 2000 Observation Point Circuit.prj Image: NZGD 2000 Wellington Circuit.prj 987 NZGD 2000 Timaru Circuit.prj Image: NZGD 2000 Wellington Circuit.prj 987 NZGD 2000 Timaru Circuit.prj Image: NZGD 2000 UTM Zone S85.prj 987 NZGD 2000 UT
	Name: NZGD 2000 New Zealand Transverse Mercator.prj Add Show of type: Spatial references Cancel

6) The details of the chosen coordinate system are now displayed. Click **OK**.

Spatial Reference	Properties	? ×
Coordinate System		
Name: NZGD	_2000_New_Zealand_Transverse_Mercati	or
Details:		
Alias: Abbreviation: Remarks: Projection: Trans Parameters: False_Easting: 1 False_Lotthing; Central_Meridia Scale_Factor: 0 Latitude_01_01: Linear Unit: Mete Geographic Coor Name: GCS_NZC	verse_Mercator 1000000.000000 1000000.000000 299600 999600 gin: 0.000000 r (1.000000) dinate System: 50_2000	
Select	Select a predefined coordinate system.	
Import	Import a coordinate system and X/Y, Z an domains from an existing geodataset (e.g., feature dataset, feature class, raster).	/d M
New 🔻	Create a new coordinate system.	
Modify	Edit the properties of the currently selecte coordinate system.	d
Clear	Sets the coordinate system to Unknown.	
Save As	Save the coordinate system to a file.	
	OK Cancel Ap	ply

- 7)
- a) Choose the **Geographic Transformation**. Note: **Always use NTv2**, which is the most accurate transformation algorithm.
- b) Click OK





8) The Project window will now show the transformation running. Close the Project window when the transformation has finished. The layers should now line up.





Remove the original NZMG (e.g. nzcoast_nzmg) layer (Right-click on layer and 10) a) Remove)



Rename the newly created layer to reflect the new coordinate system if necessary.