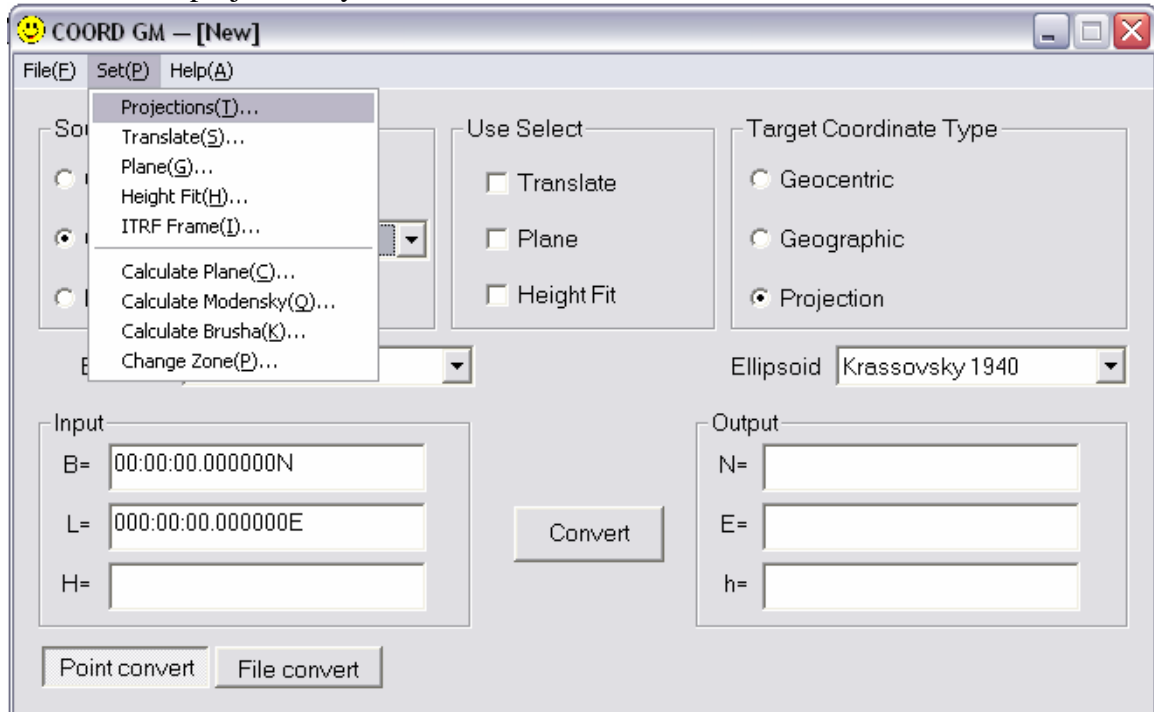
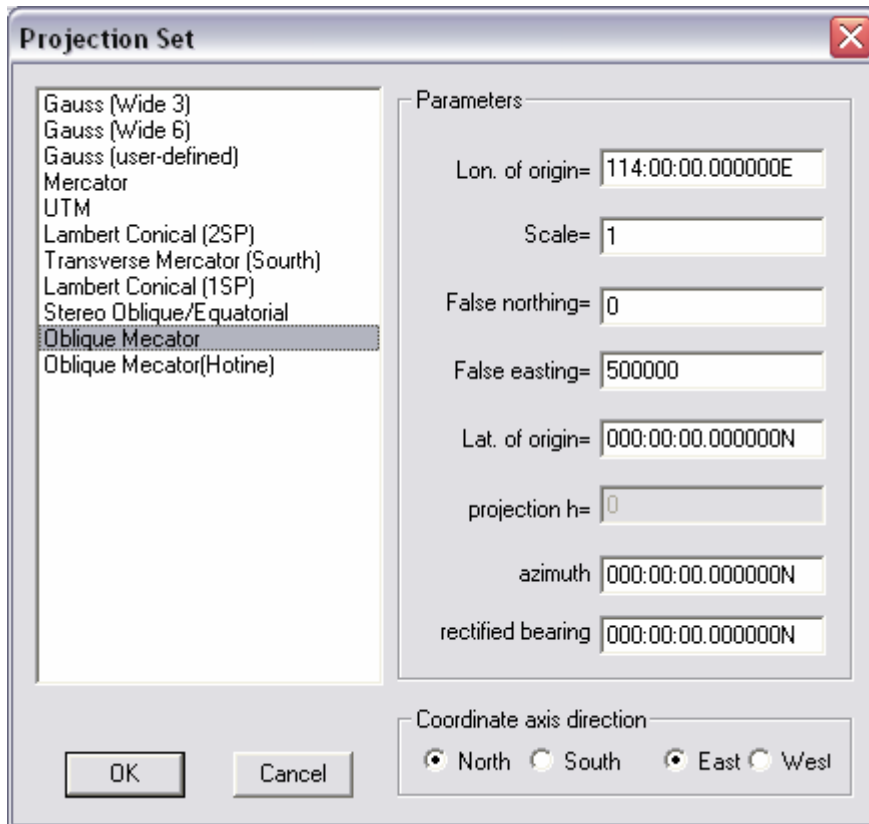


New Coordinate System with Four Parameters Method

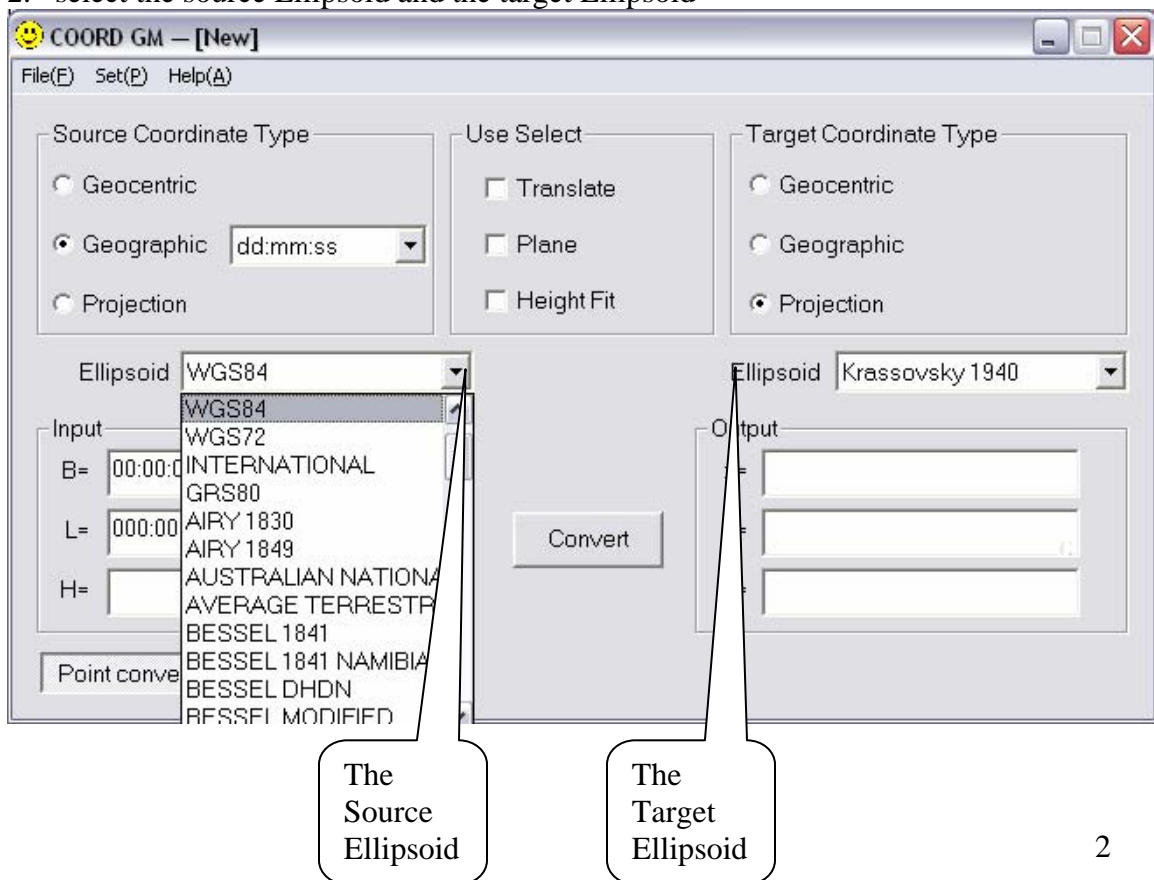
1. define the projection system



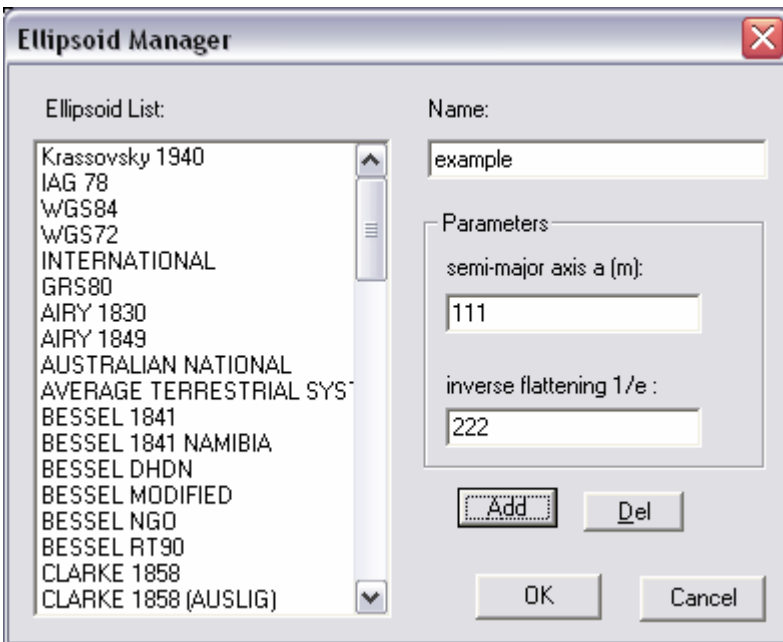
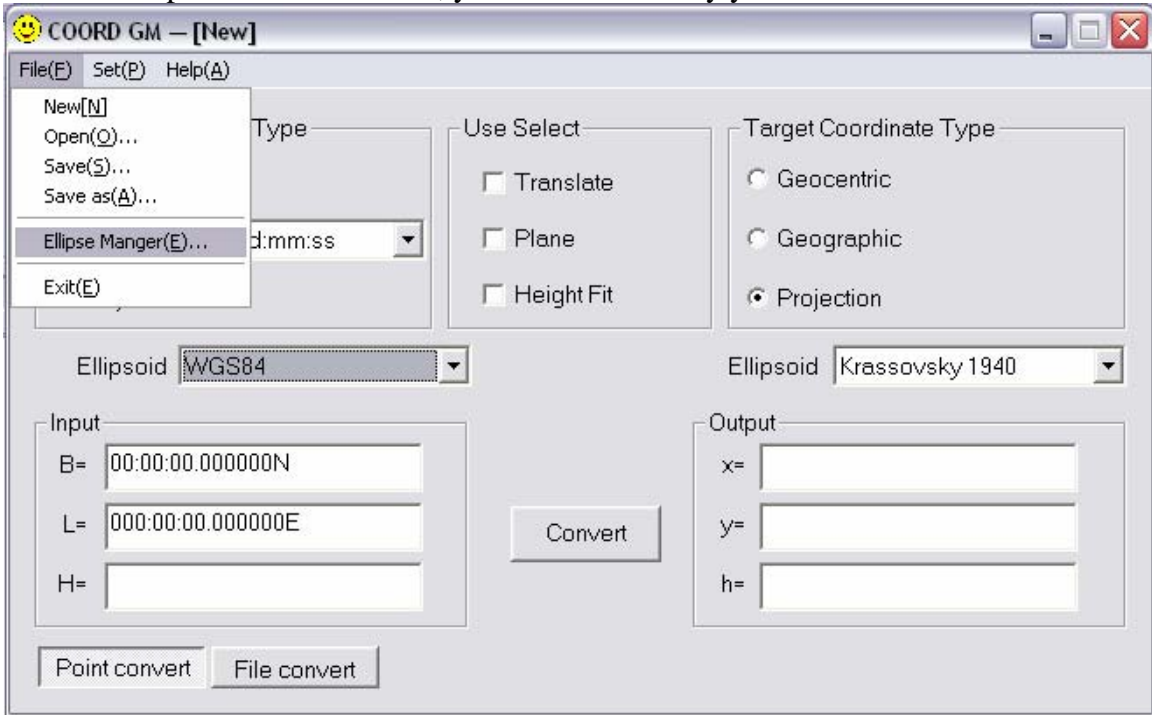


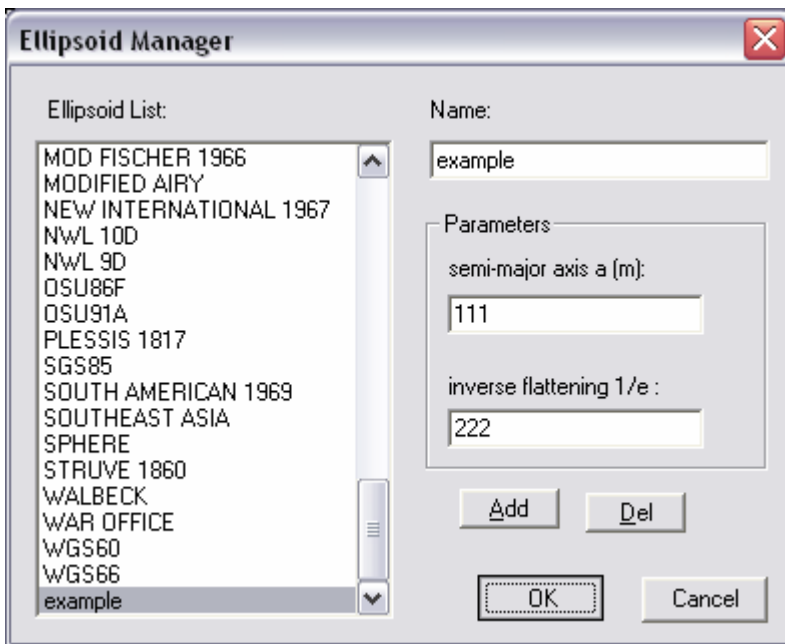
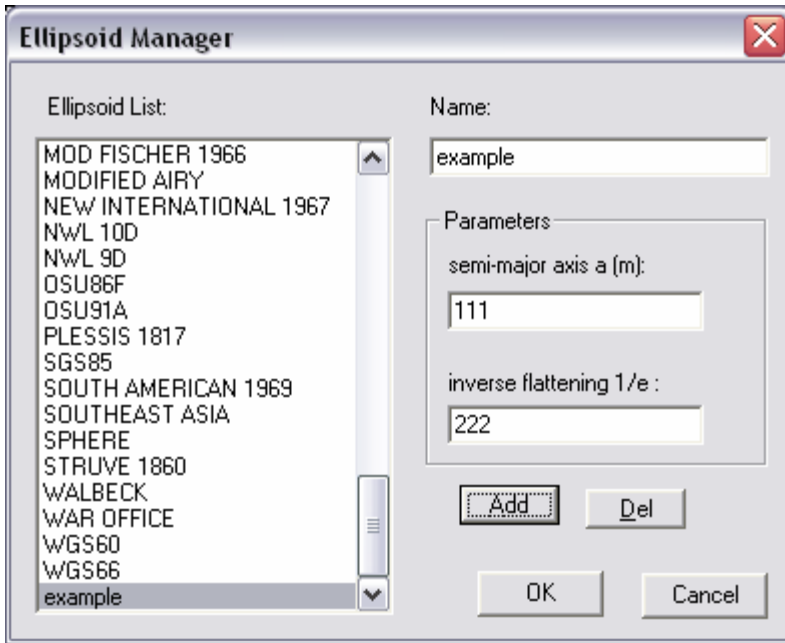
Click “Ok”

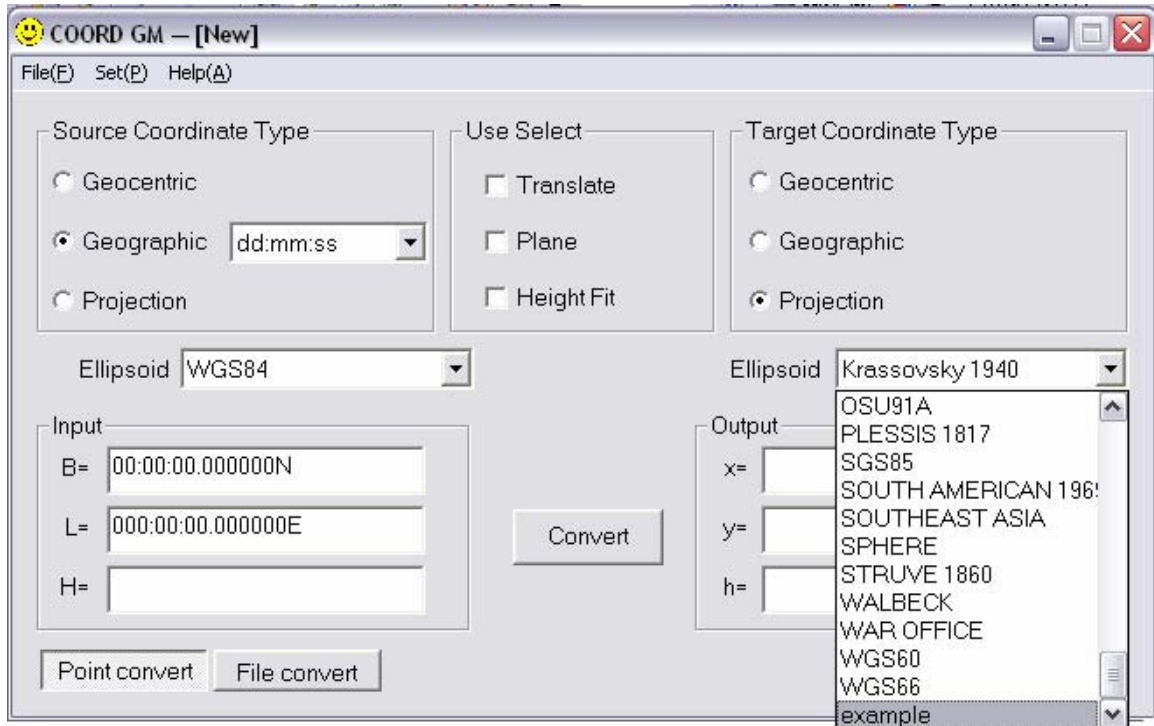
2. select the source Ellipsoid and the target Ellipsoid



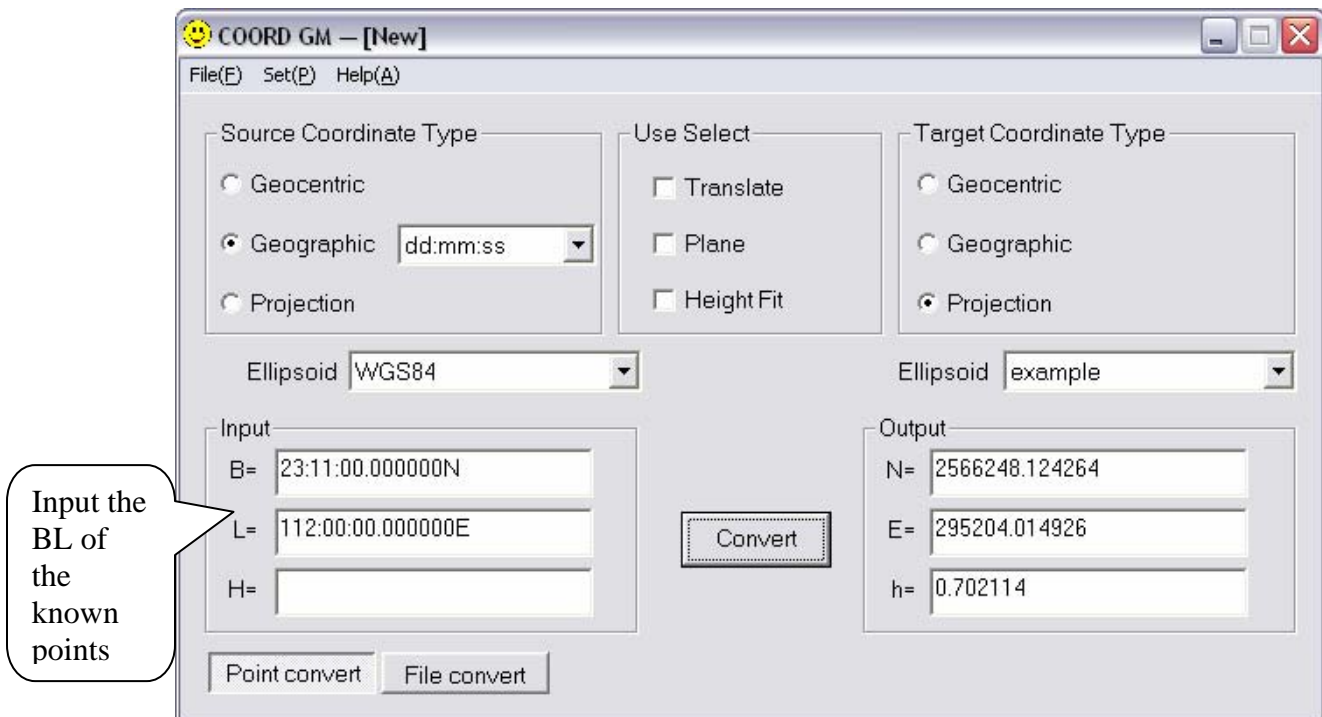
3. if the ellipsoid is not available, you can build one by yourself



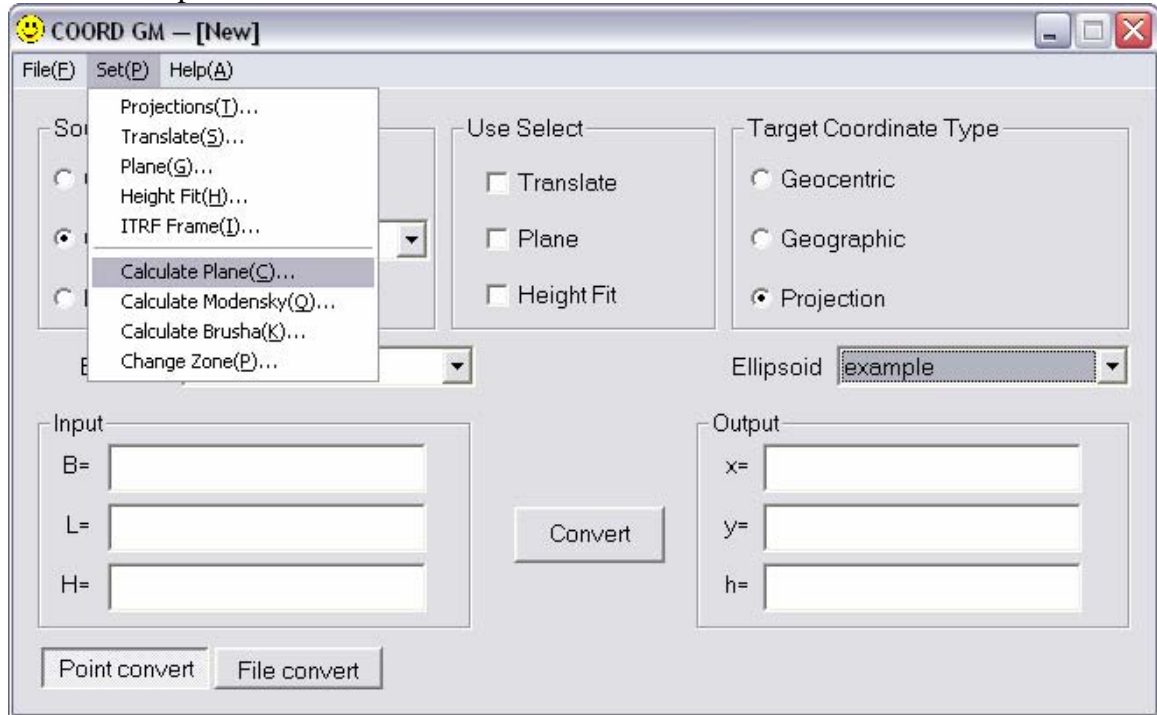




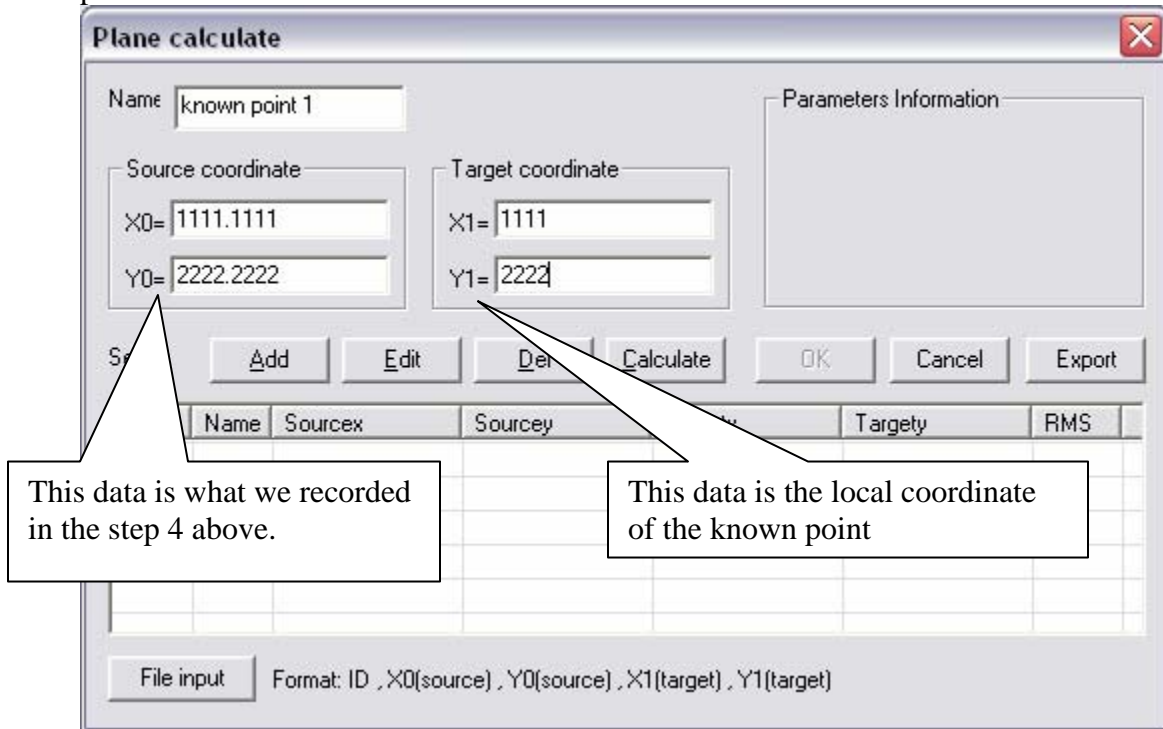
4. Convert the known points with the projection system you defined, point by point. Input the BL of the known points, then do “Convert”, record the result below the “output” for the later plane calculation.



5. calculate plane



Input the Source coordinate and Target coordinate of each known point as well as the point name.



Then "Add" point by point

Plane calculate

Name:

Source coordinate: X0= Y0=

Target coordinate: X1= Y1=

Parameters Information

Select:

Use	Name	Sourcex	Sourcey	Targetx	Targety	RMS
<input checked="" type="checkbox"/>	kno...	1111.1111	2222.2222	1111.0000	2222.0000	
<input checked="" type="checkbox"/>	kno...	33.3300	44.4400	33.0000	44.0000	
<input checked="" type="checkbox"/>	kno...	55.5500	66.6600	55.0000	66.0000	

Format: ID , X0(source) , Y0(source) , X1(target) , Y1(target)

Usually, two points or three points is enough. Please pay more attention to that the two or three known points should be within your project range and distributed uniformly so that they can do realize controlling. Then do "Calculate"

Plane calculate

Name:

Source coordinate: X0= Y0=

Target coordinate: X1= Y1=

Parameters Information

DX(m)=-0.523318
DY(m)=-0.546664
T(sec)=-18.55945731
K=1.000180002360

Select:

Use	Name	Sourcex	Sourcey	Targetx	Targety	RMS
<input checked="" type="checkbox"/>	kno...	1111.1100	2222.2200	1111.0000	2222.0000	0.030
<input checked="" type="checkbox"/>	kno...	333.3000	444.4000	333.0000	444.0000	0.157
<input checked="" type="checkbox"/>	kno...	555.5000	666.6000	555.0000	666.0000	0.184

Format: ID , X0(source) , Y0(source) , X1(target) , Y1(target)

Check the Dx, Dy, T and K. if Dx, Dy and T are too big, the result is wrong or not good. Usually, the scale should be 0.9999*** or 1.0000***. Then check the Source coordinate and Target coordinate of each known point or select another three points.

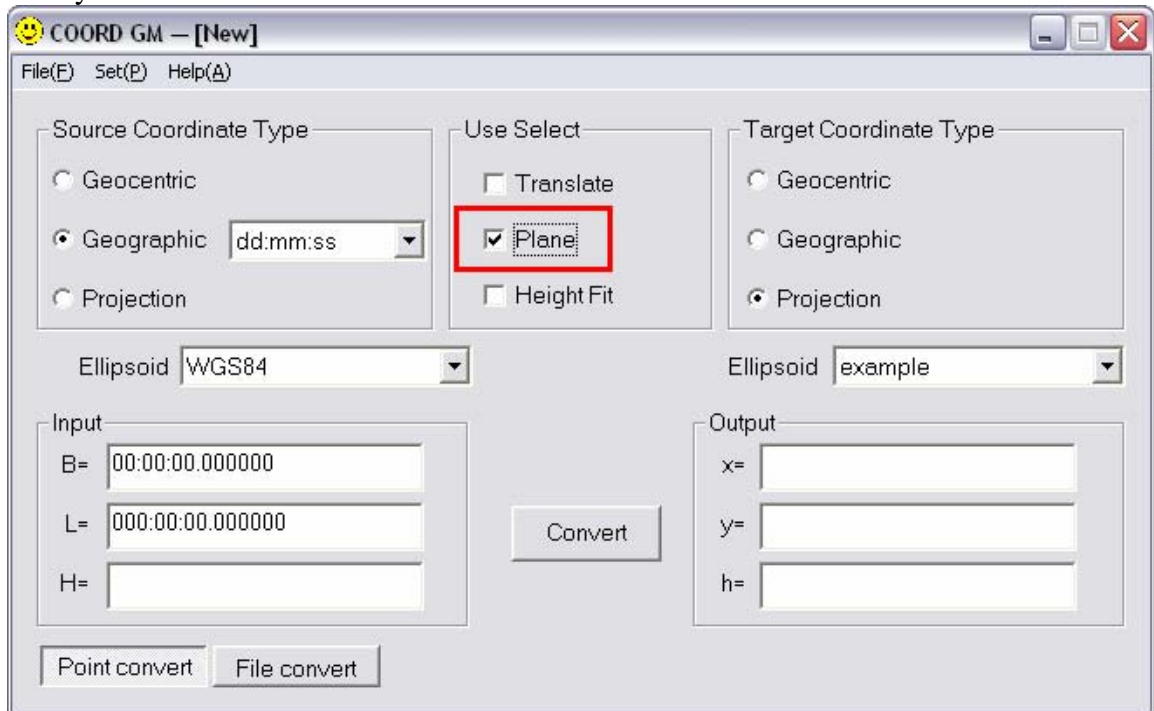
after the Dx, Dy, T and K to be ok, click “Ok”

The 'Plane convert' dialog box has two tabs: 'Four parameters' and 'Grid Fix'. The 'Four parameters' tab is active. It contains a 'Parameters' section with four input fields: 'shift Xo(m)' with value -0.523318, 'shift Yo(m)' with value -0.546664, 'rotation (d:m:s)' with value -000:00:18.559457, and 'scale K=' with value 1.00018000235987. Below these are two buttons: 'Add other' and 'Reverse calculate'. There is an unchecked checkbox labeled 'Add Two Param'. Below the checkbox are two more input fields: 'DN(m)' with value 0 and 'DE(m)' with value 0. At the bottom are three buttons: 'OK', 'Cancel', and 'Help'.

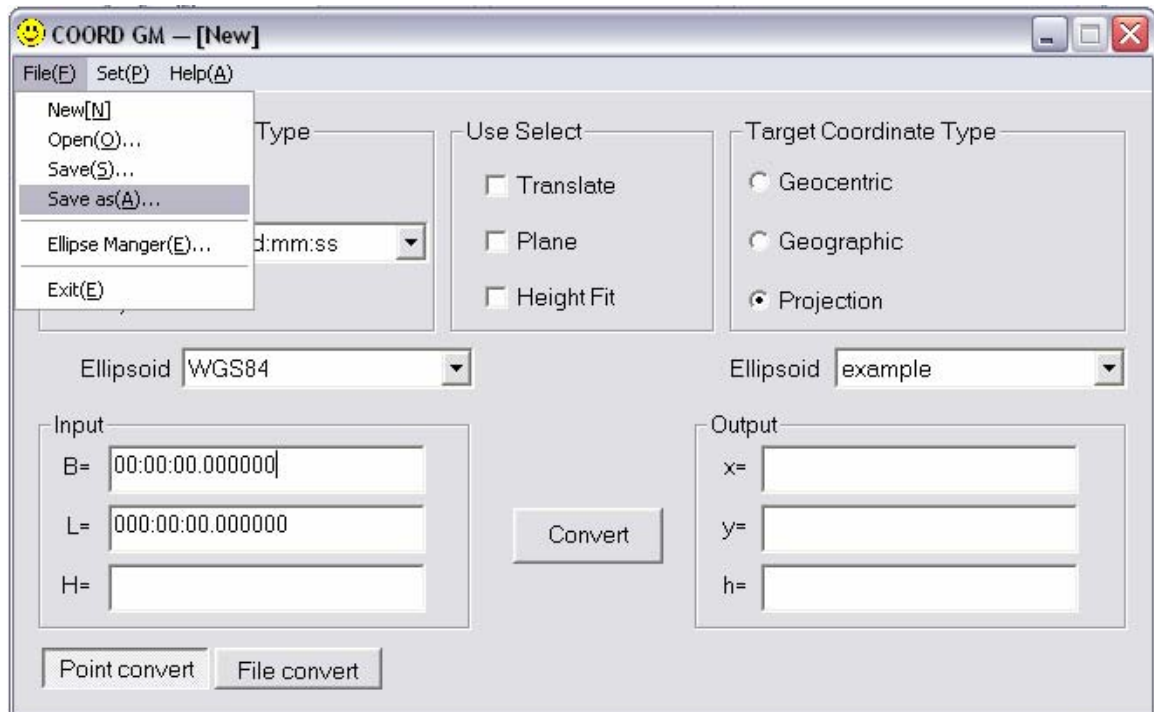
Do “Ok”

The 'Plane convert' dialog box is the same as the previous one, but with different values in the 'Parameters' section: 'shift Xo(m)' is 1.714286, 'shift Yo(m)' is 3, 'rotation (d:m:s)' is -000:04:27.182242, and 'scale K=' is 0.9935658271147. The 'Add other' and 'Reverse calculate' buttons are still present. The 'Add Two Param' checkbox remains unchecked. The 'DN(m)' and 'DE(m)' fields still have values of 0. The 'OK', 'Cancel', and 'Help' buttons are at the bottom.

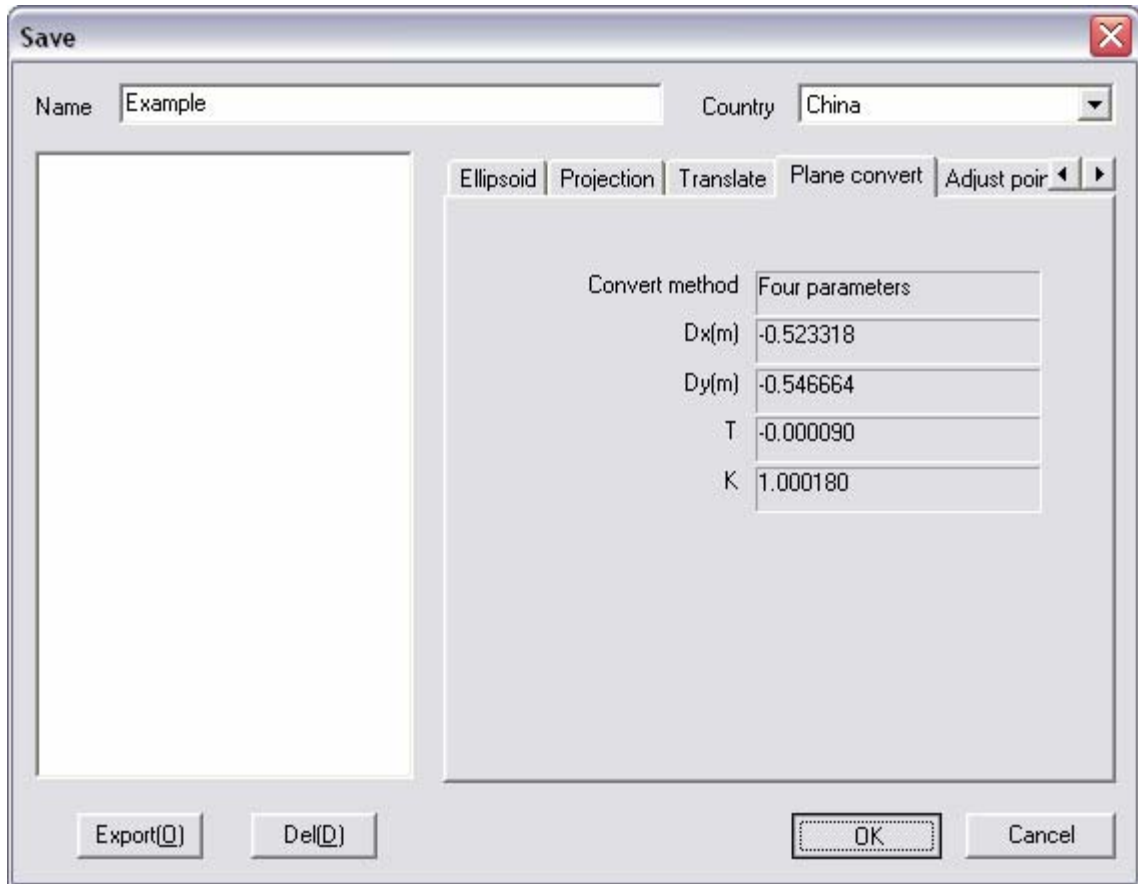
6. save this coordinate system
Firstly click the “Plane”



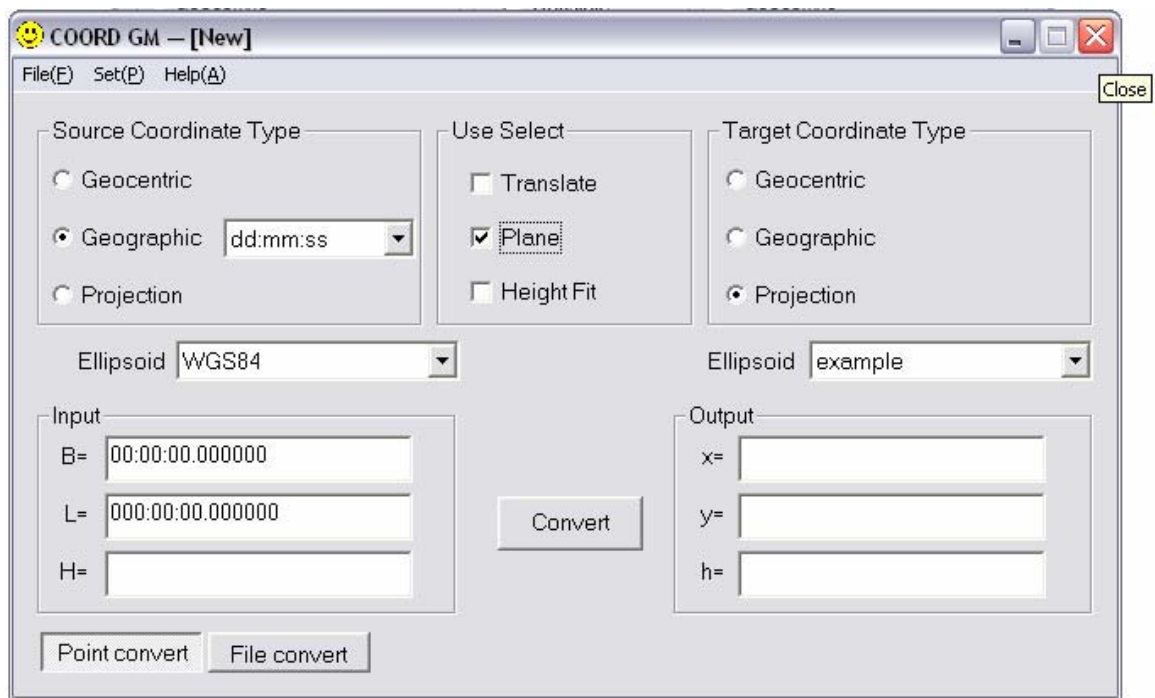
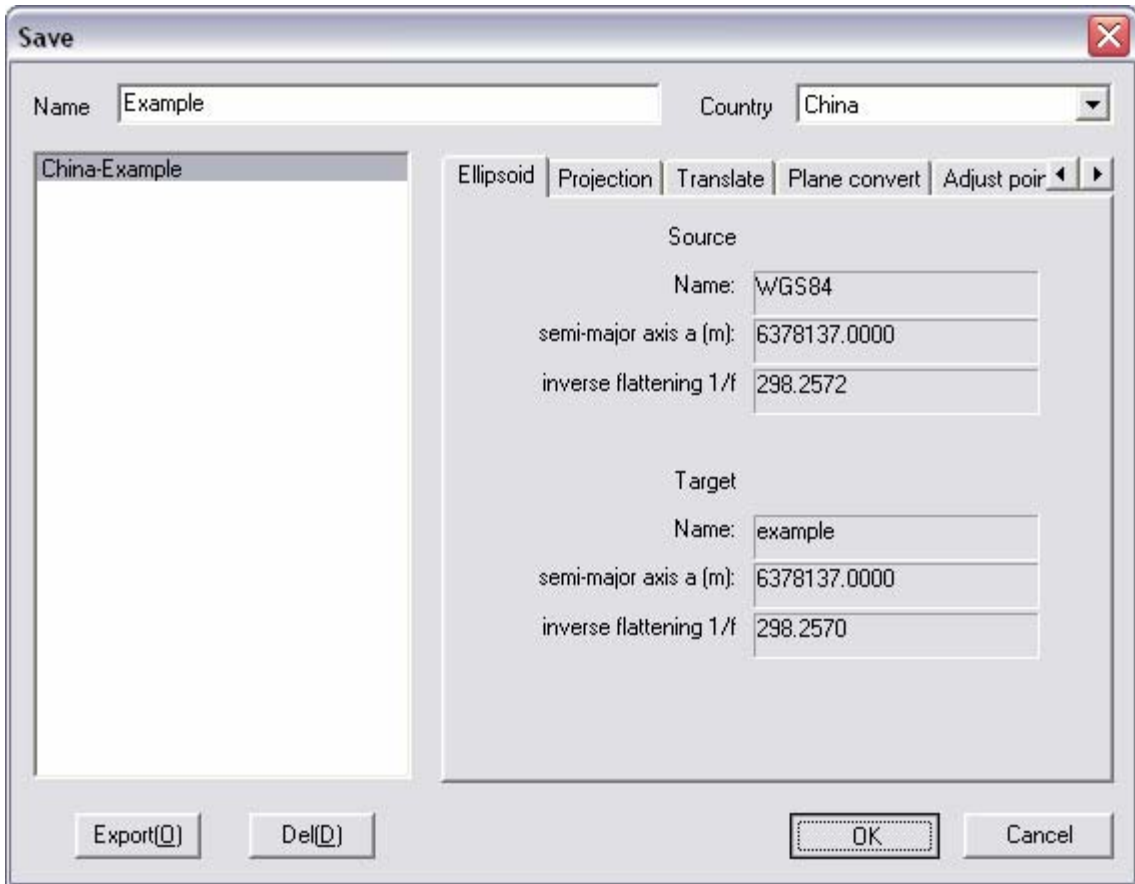
Then do “Save as..”



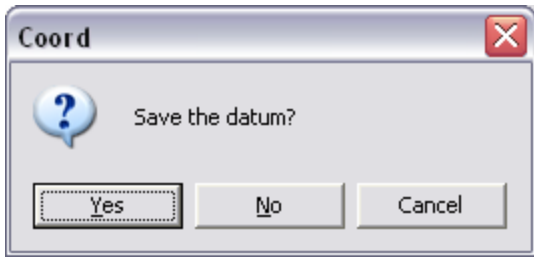
Select the country and new a name for the coordinate system



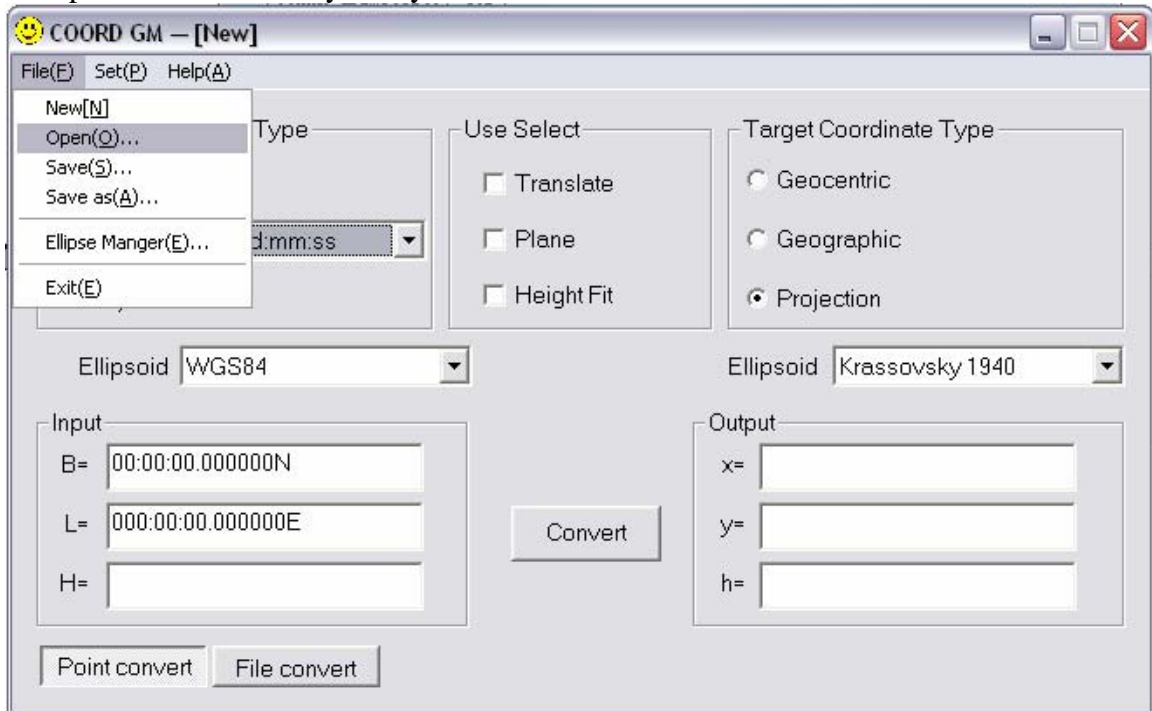
Then “Ok”. And select what you created and “Ok” again

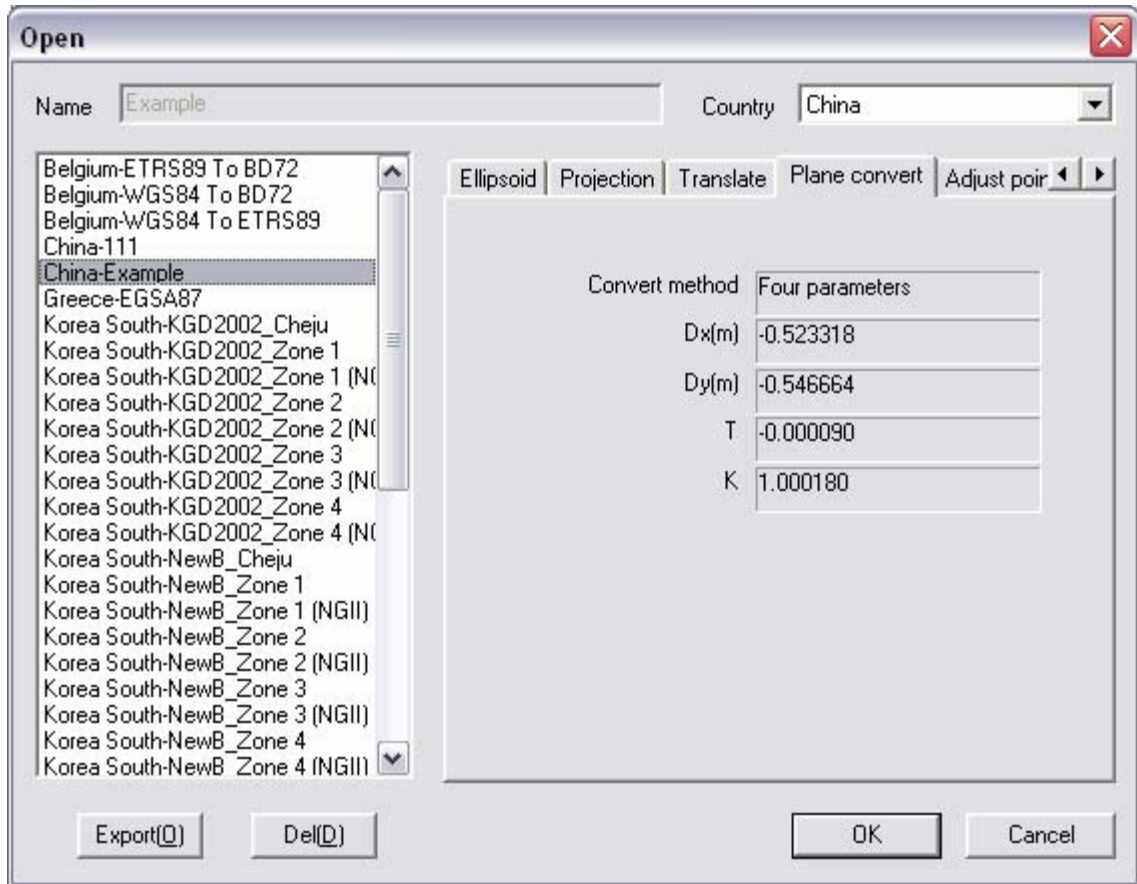


Close this software and “Yes”



7. open the coordinate system you created to check





So that you can select the coordinate you created when you use HDS2003.