

Map Tiling

Map Tiling in **WindFarm** is the process of dividing a map image into a number of tiles and also creating a set of images at lower resolutions. If active, when a map image is accessed in **WindFarm** the image is converted automatically and stored in a *.mapa (**map archive**) file in the same folder and with the same name as the image. As a result when you move a map image make sure you move the *.mapa file with it to avoid having to recreate the tiled map.

This tutorial should be completed after the Map Region tutorial in order that various map regions and maps in the Adam Hill project are available. You can of course just read it.

If you are starting the tutorial after an interruption or after closing **WindFarm** then the Adam Hill project needs to be open in the Designer.

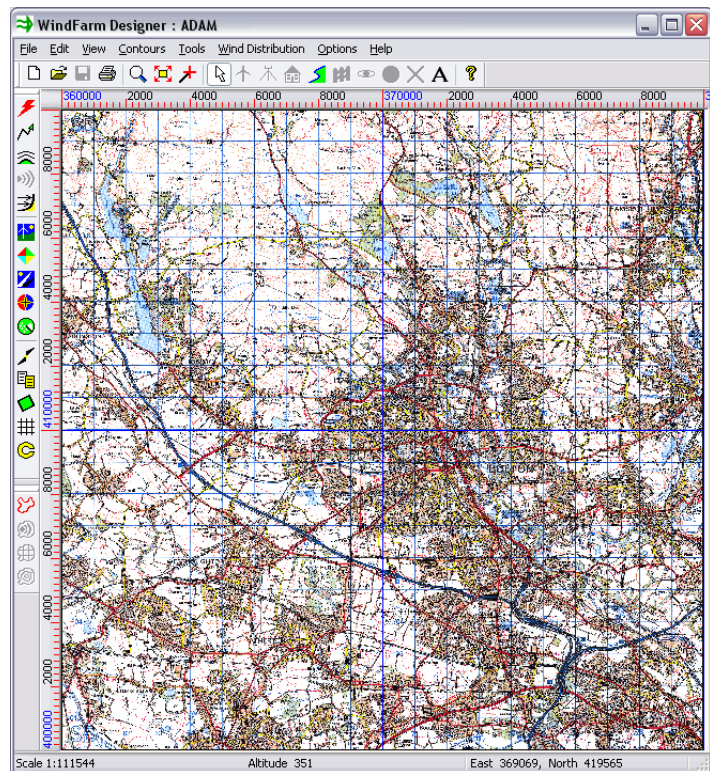
Choose Select Map Region from the Options menu.

Select ADAM002 (20km x 20km) and click on Open to view this region.

Now choose Select Background Map from the Options menu and choose SD60.PNG from the list of files.

You will now be viewing the full 20km square region that we originally set up for the project.

Select "Close Project" from the File menu.



Single Maps

Switch **WindFarm** into map tiling mode by clicking on ctrl-M. This is only active when there is no project open.

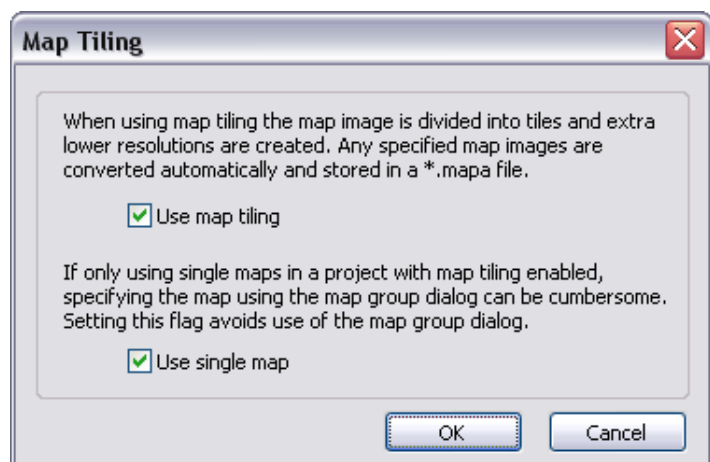
The Map Tiling dialog will display.

Click on the "Use map tiling" check box and then the "Use single map" check box.

Using single maps is very similar to the previous method of using maps in **WindFarm**, except the maps will be tiled.

The use of map groups will be covered later.

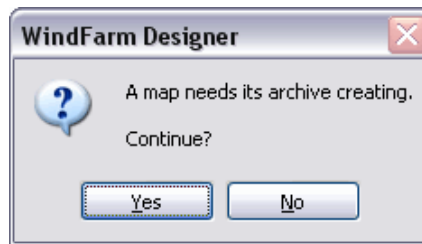
Click on OK.



Open the Adam Hill project from the File menu.

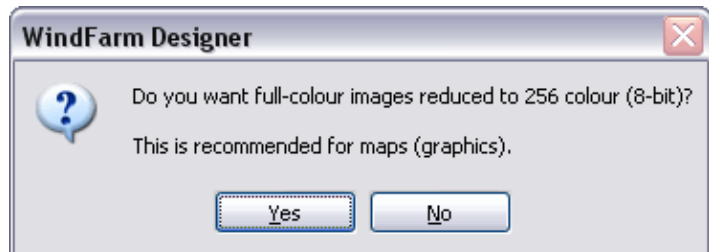
As the background map is not tiled you will be asked if you want to continue to create the map archive.

Click on Yes.



Click on Yes when asked if the image should be reduced to 8-bit colour.

This is recommended for maps (graphics).



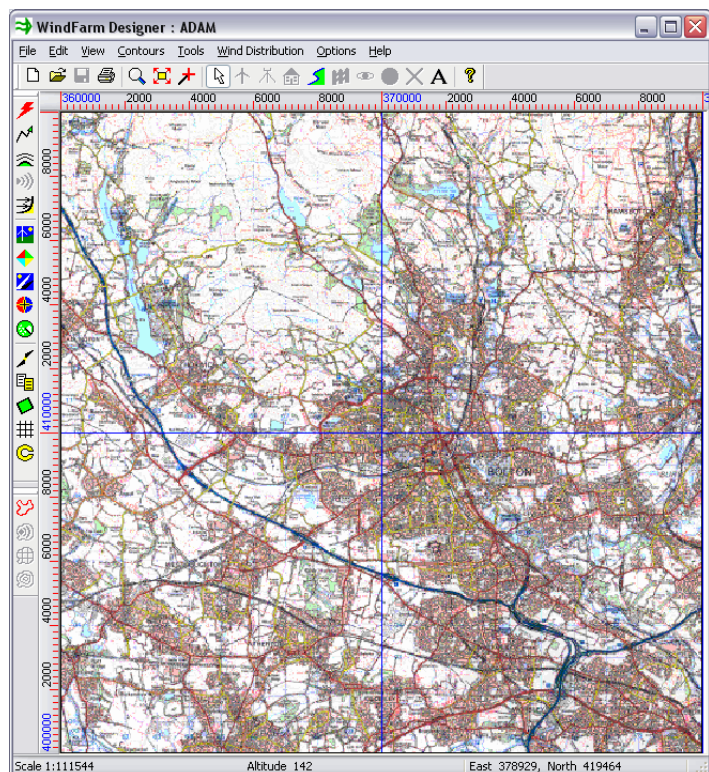
A progress dialog will appear while the map image SD60.PNG (4000 x 4000 pixels) is converted. It should be just a few seconds. A test conversion of a 20000 x 20000 pixel image took about 5 minutes on a 7-year old PC.

When complete the map will be displayed.

Try zooming in and scrolling, Both will be quicker than using the untiled image.

Try switching on Active Scroll from the Options menu, which allows you to click and drag the map with the left mouse key.

Selecting a different background map by editing the project or by using "Select Background Map" from the Options menu works as normal because we are using the single map option. If you do try a different map then you will get the "A map needs its archive creating..." and "Do you want full-colour images reduced to 256 colour..." dialogs again.

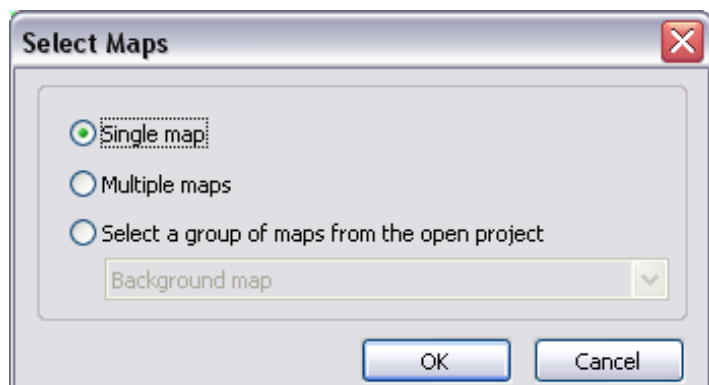


Background maps are also used in the ZVI, Shadow Flicker, Radar, Grid Viewer and Contour Viewer modules.

If you try to open a background map in any of those modules, while map tiling is switched on, you will first see the Select Maps dialog. Try this with the Grid Viewer if you want.

By selecting "Single Map" the usual map selection dialog will be shown.

Map groups will be explained next.

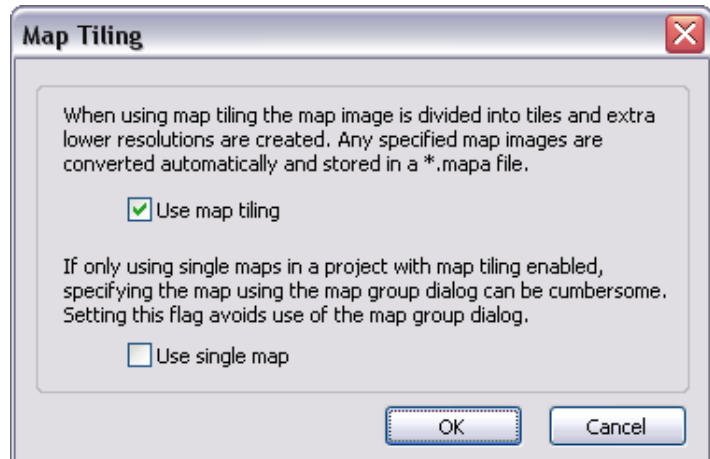


Map Groups

Select "Close Project" from the File menu.

Click on ctrl-M and switch off the "Use single map" check box.

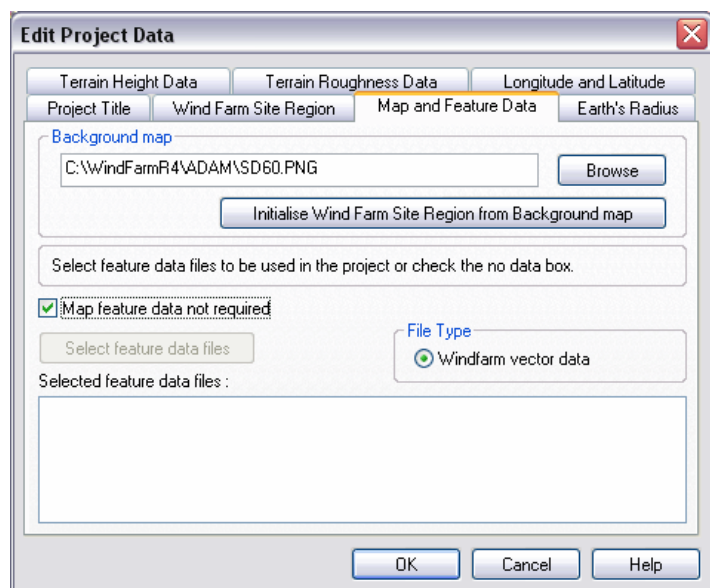
Click on OK.



Open the Adam Hill project again from the File menu.

Select "Edit Project" from the Edit menu and then the Map and Feature Data page. SD60.PNG is the presently selected map.

Click on the Browse button.

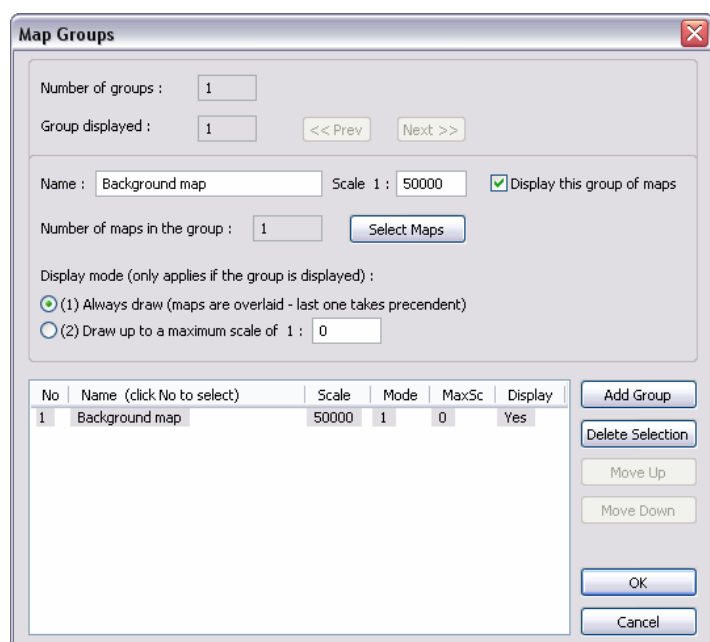


The Map Groups dialog is displayed, which allows multiple maps to be selected in a number of groups.

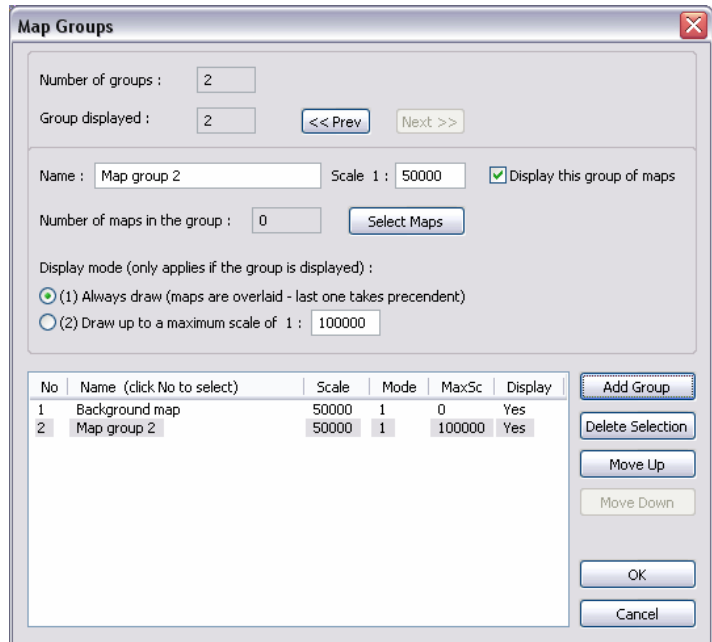
When single map use is not selected as the map tiling option then you must specify all maps that you want to display in the Designer as a member of a group even if there is just a single map.

The existing single map (SD60.PNG) is a member of the Background map group. It is set to be displayed and always drawn.

Click on the Add Group button.



A new group will be added with the default name of Map Group 2, a scale of 1:50000 and a maximum scale of 1:100000 to displayed and always drawn.



Map Groups

Number of groups : 2

Group displayed : 2 << Prev Next >>

Name : Map group 2 Scale 1 : 50000 ☒ Display this group of maps

Number of maps in the group : 0

Display mode (only applies if the group is displayed) :

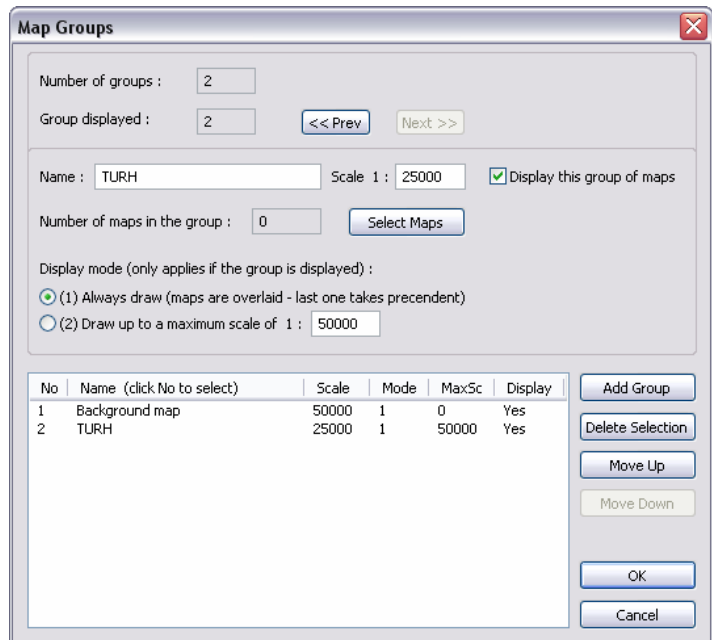
☒ (1) Always draw (maps are overlaid - last one takes precedent)

☐ (2) Draw up to a maximum scale of 1 : 100000

No	Name (click No to select)	Scale	Mode	MaxSc	Display
1	Background map	50000	1	0	Yes
2	Map group 2	50000	1	100000	Yes

Edit the name to TURH, the scale to 1:25000 and the maximum scale to 1:50000. The list box values will change at the same time.

Click on Select Maps.



Map Groups

Number of groups : 2

Group displayed : 2 << Prev Next >>

Name : TURH Scale 1 : 25000 ☒ Display this group of maps

Number of maps in the group : 0

Display mode (only applies if the group is displayed) :

☒ (1) Always draw (maps are overlaid - last one takes precedent)

☐ (2) Draw up to a maximum scale of 1 : 50000

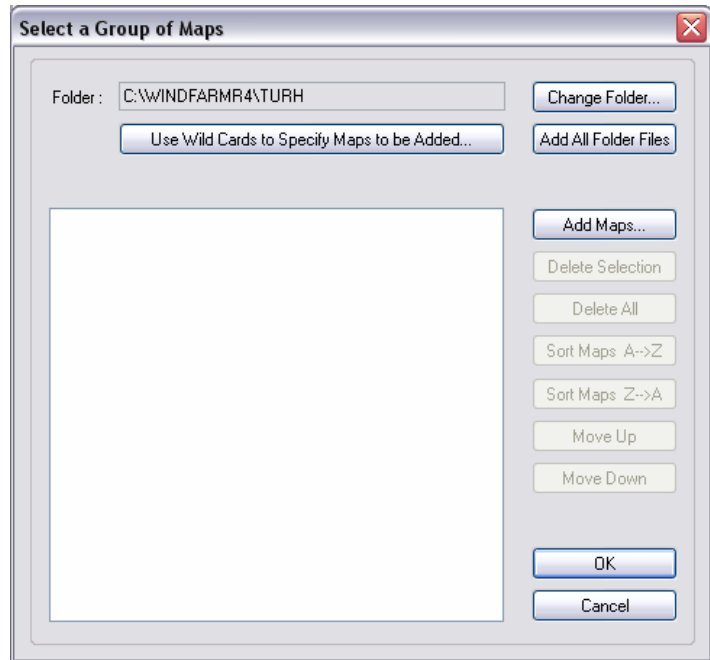
No	Name (click No to select)	Scale	Mode	MaxSc	Display
1	Background map	50000	1	0	Yes
2	TURH	25000	1	50000	Yes

The Select a Group of Maps dialog is displayed.

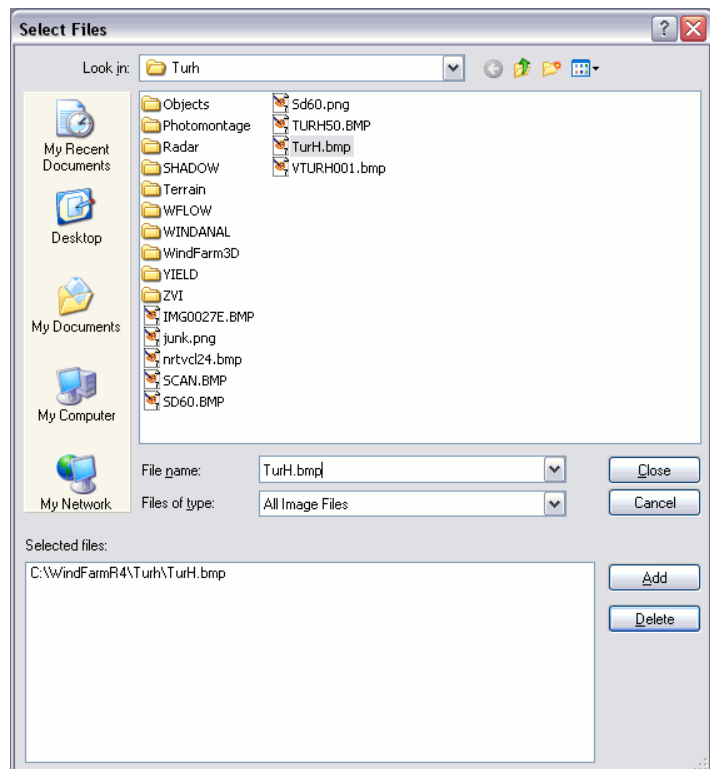
Here you need to select map images that will form the group. Typically a set of maps at the same scale that cover a region would form a group. If the maps overlap then the later ones in the list take precedent.

Click on the Change Folder button, navigate to and accept C:\WindFarmR4\TURH as the folder. If all your maps are in one folder, then use of the “Add All Folder Files” or “Use Wild Cards to Specify Maps to be Added” options may be the easiest option.

Click on the Add Maps button.

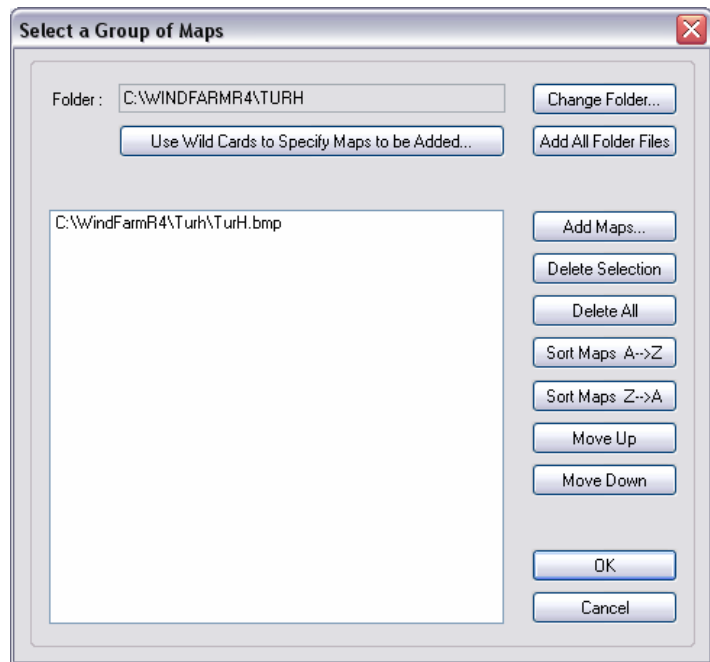


In the displayed Select Files dialog select TurH.bmp and click the Add button and then the Close button.



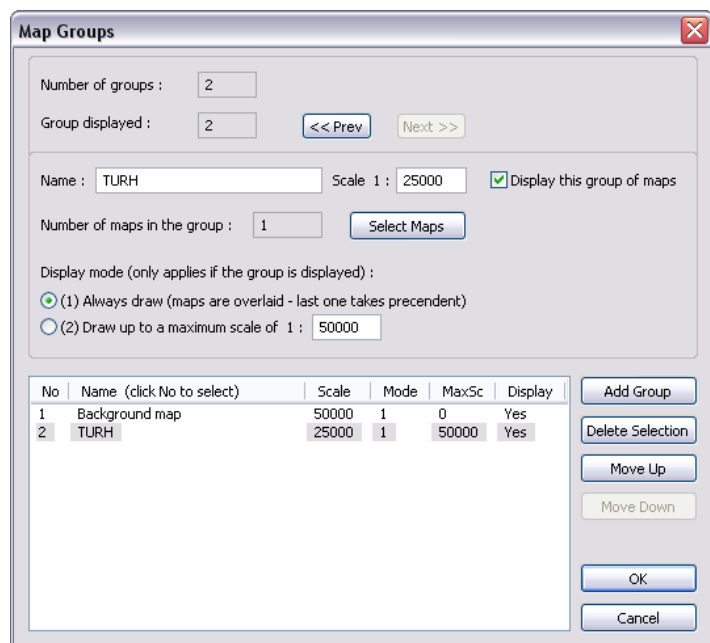
The full file name is then displayed in the files list box in the group dialog.

Click on OK.



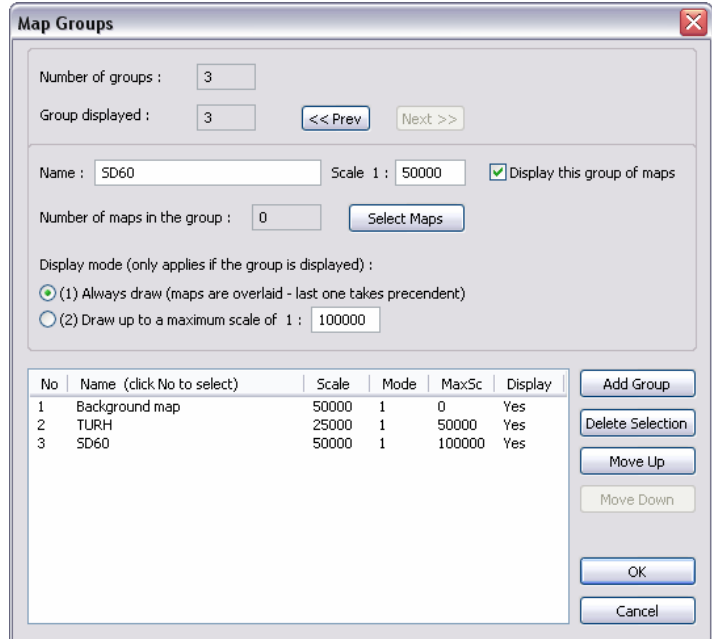
You are returned to the Map Groups dialog.

Click on the Add Maps button again.



This time name the new group SD60 and check the scale is 1:50000 and the maximum scale 1:100000.

Click on Select Maps.



Map Groups

Number of groups : 3
 Group displayed : 3 << Prev Next >>

Name : SD60 Scale 1 : 50000 ☒ Display this group of maps
 Number of maps in the group : 0 Select Maps

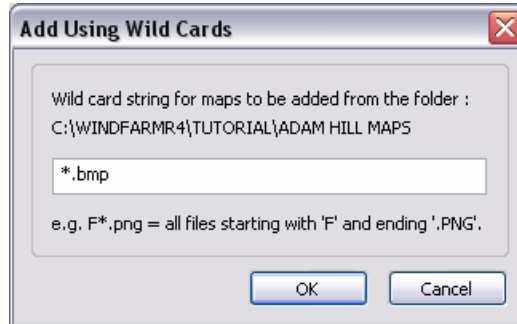
Display mode (only applies if the group is displayed) :
☒ (1) Always draw (maps are overlaid - last one takes precedent)
☐ (2) Draw up to a maximum scale of 1 : 100000

No	Name (click No to select)	Scale	Mode	MaxSc	Display
1	Background map	50000	1	0	Yes
2	TURH	25000	1	50000	Yes
3	SD60	50000	1	100000	Yes

Add Group
 Delete Selection
 Move Up
 Move Down
 OK
 Cancel

In the selection dialog change the folder to C:\WindFarmR4\Tutorial\Adam Hill Maps

Click on the "Use Wild Cards to Specify Maps to be Added" button, specify *.bmp in the text box and click on OK.



Add Using Wild Cards

Wild card string for maps to be added from the folder :
 C:\WINDFARMR4\TUTORIAL\ADAM HILL MAPS

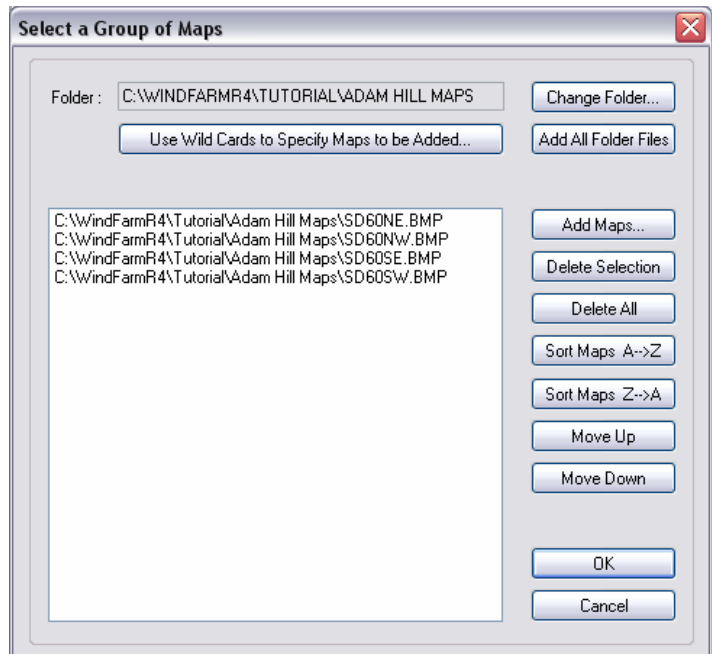
*.bmp

e.g. F*.png = all files starting with 'F' and ending '.PNG'.

OK Cancel

The four 10km x 10km maps making up SD60 are now in the files list box.

Click on OK.



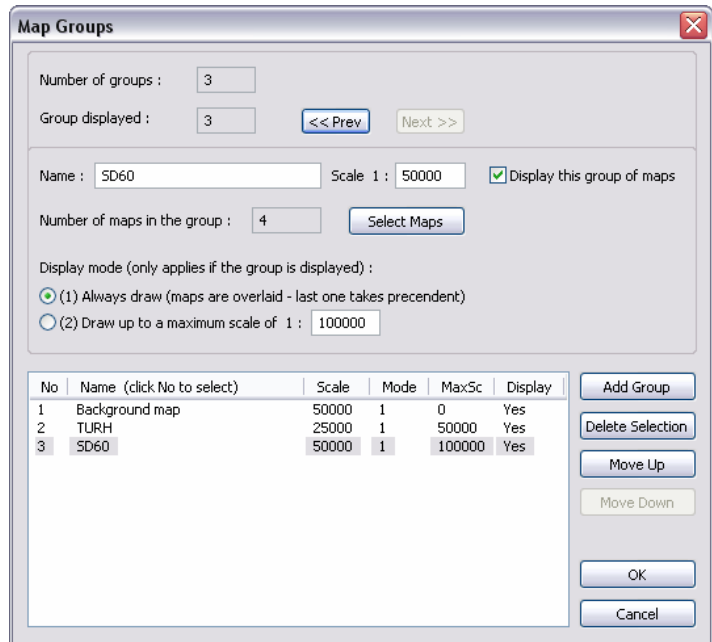
Select a Group of Maps

Folder : C:\WINDFARMR4\TUTORIAL\ADAM HILL MAPS Change Folder...
 Use Wild Cards to Specify Maps to be Added... Add All Folder Files

C:\WindFarmR4\Tutorial\Adam Hill Maps\SD60NE.BMP
 C:\WindFarmR4\Tutorial\Adam Hill Maps\SD60NW.BMP
 C:\WindFarmR4\Tutorial\Adam Hill Maps\SD60SE.BMP
 C:\WindFarmR4\Tutorial\Adam Hill Maps\SD60SW.BMP

Add Maps...
 Delete Selection
 Delete All
 Sort Maps A->Z
 Sort Maps Z->A
 Move Up
 Move Down
 OK
 Cancel

We now have 3 groups displayed in the Map Groups dialog.



Map Groups dialog box configuration:

- Number of groups : 3
- Group displayed : 3
- Name : SD60
- Scale 1 : 50000
- ☒ Display this group of maps
- Number of maps in the group : 4
- Display mode (only applies if the group is displayed):
 - ☒ (1) Always draw (maps are overlaid - last one takes precedent)
 - ☐ (2) Draw up to a maximum scale of 1 : 100000

No	Name (click No to select)	Scale	Mode	MaxSc	Display
1	Background map	50000	1	0	Yes
2	TURH	25000	1	50000	Yes
3	SD60	50000	1	100000	Yes

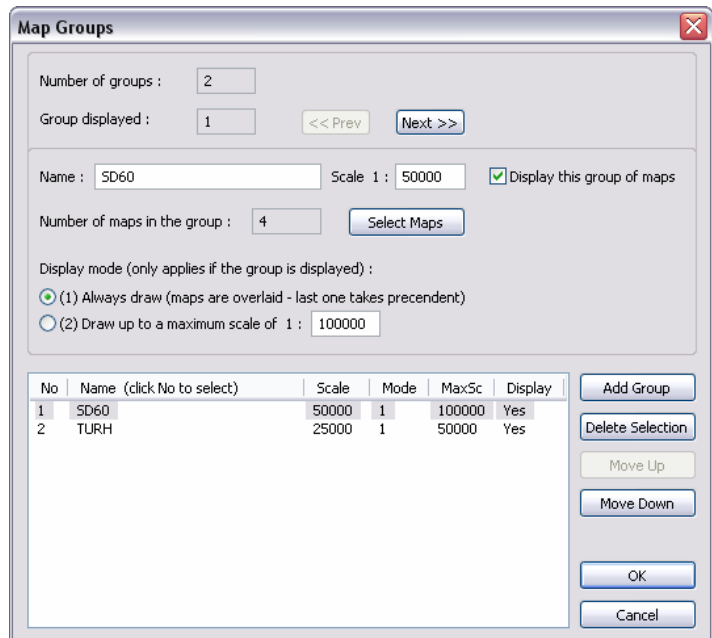
Click on "1" in the No column or twice on the Prev button to select the Background map group.

Now click on the Delete Selection button to remove the Background map group.

Click on "2" in the No column or on the Next button to select the SD60 map group.

Now click on the Move Up button. The later map groups in the list take precedent over the earlier ones when they are drawn, similarly to the individual maps within a group. Therefore, the TURH map group will overlay the SD60 group.

The groups are now set up so click on OK.



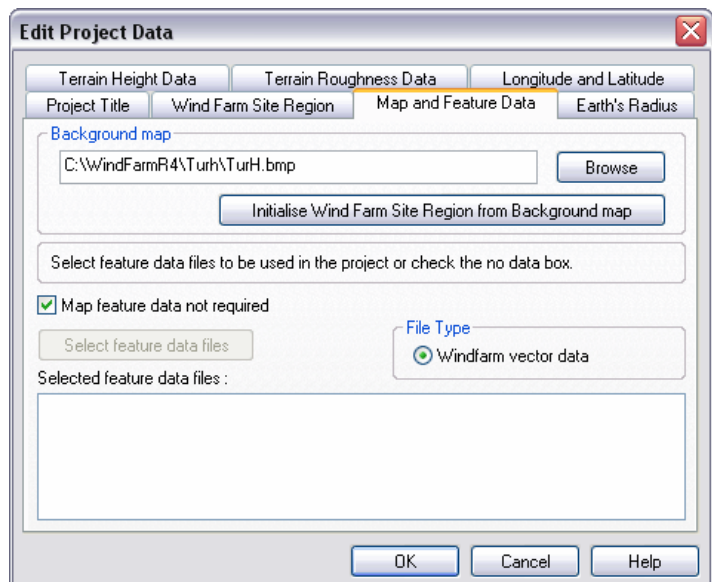
Map Groups dialog box configuration:

- Number of groups : 2
- Group displayed : 1
- Name : SD60
- Scale 1 : 50000
- ☒ Display this group of maps
- Number of maps in the group : 4
- Display mode (only applies if the group is displayed):
 - ☒ (1) Always draw (maps are overlaid - last one takes precedent)
 - ☐ (2) Draw up to a maximum scale of 1 : 100000

No	Name (click No to select)	Scale	Mode	MaxSc	Display
1	SD60	50000	1	100000	Yes
2	TURH	25000	1	50000	Yes

When map groups are used the last map from the last group is specified as the name specified in the Background Map text box.

Click on OK.



Edit Project Data dialog box configuration:

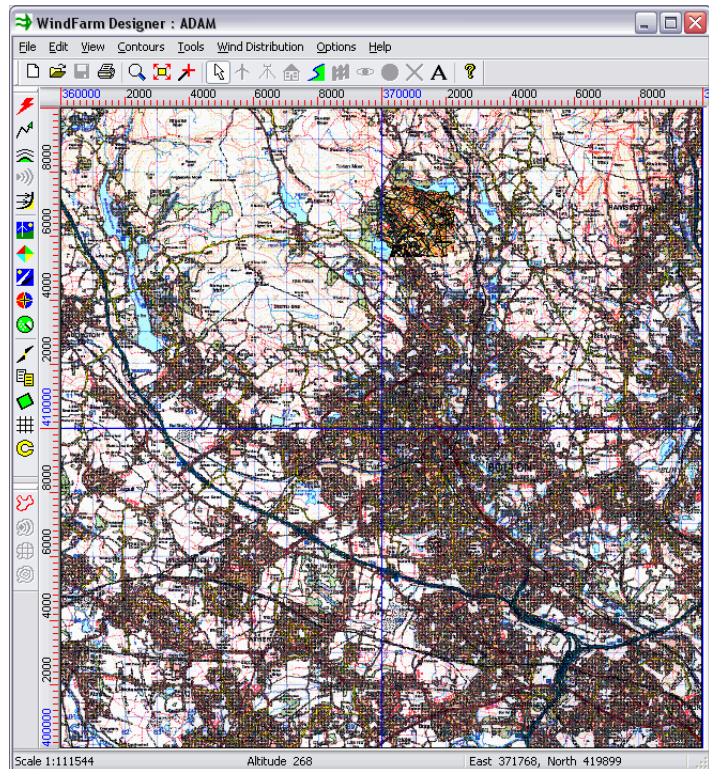
- Terrain Height Data
- Terrain Roughness Data
- Longitude and Latitude
- Project Title : Wind Farm Site Region
- Map and Feature Data
- Earth's Radius
- Background map : C:\WindFarmR4\Turh\TurH.bmp
- Initialise Wind Farm Site Region from Background map
- Select feature data files to be used in the project or check the no data box.
- ☒ Map feature data not required
- Select feature data files
- File Type : ☒ Windfarm vector data
- Selected feature data files :

When maps that have not been tiled before are included in the map groups a dialog will be shown specifying the number that need creating.

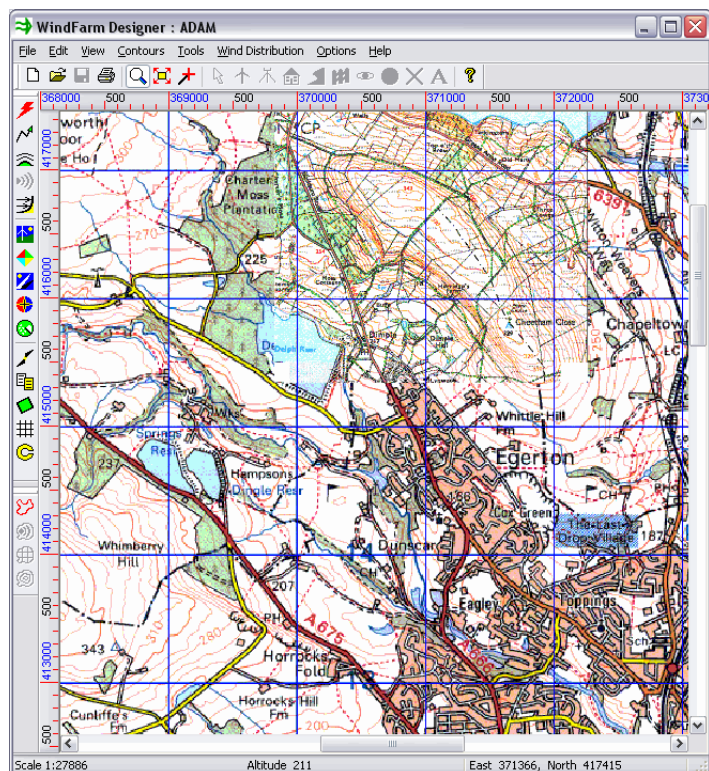
Click on Yes and Yes again to have them converted to 256 colour.



The Designer now shows the full 20km map with the 1:25000 image overlaid near the middle top of the map.



Click on the zoom button and then click near the overlay to zoom-in and see the maps in more detail.

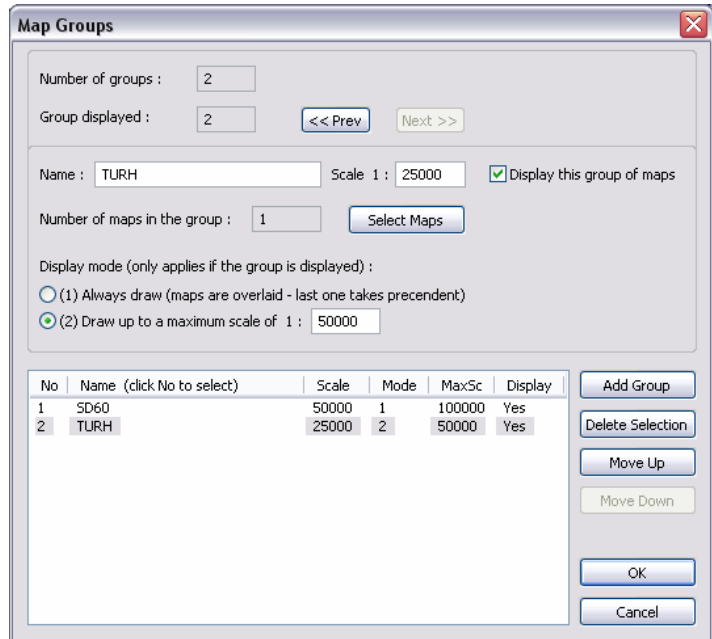


Select "Edit Project" from the Edit menu, then the Map and Feature Data page and click on the Browse button to edit the map groups.

Click on the Next button to select the TURH group.

Click on the Display mode (2) to draw up to the maximum scales. In this mode the TURH group will not be displayed if the scale is greater than 1:50000.

Click on OK twice to return to the Designer and try using the zoom button again to see how the TURH overlay is not shown for scales greater than 1:50000.



Map Groups

Number of groups : 2
 Group displayed : 2 << Prev Next >>

Name : TURH Scale 1 : 25000 ☒ Display this group of maps

Number of maps in the group : 1 Select Maps

Display mode (only applies if the group is displayed) :

☐ (1) Always draw (maps are overlaid - last one takes precedent)

☒ (2) Draw up to a maximum scale of 1 : 50000

No	Name (click No to select)	Scale	Mode	MaxSc	Display
1	SD60	50000	1	100000	Yes
2	TURH	25000	2	50000	Yes

Add Group
 Delete Selection
 Move Up
 Move Down
 OK
 Cancel

Select Background Map from the Options menu.

When in map tiling mode and not using a single map the Map Group Display Selection dialog is shown. This allows you to select which groups to display and change the display mode. Therefore, to display a new map or set of maps you need to add another map group to the project.

Click on OK.



Map Group Display Selection

Number of Groups : 2 << Prev 5 Next 5 >>

Group Name	Display	Display Mode (Multiple Groups)	
		Always	Up to Maximum Scale
SD60	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> 1 : 100000	<input type="radio"/>
TURH	<input checked="" type="checkbox"/>	<input type="radio"/>	<input checked="" type="radio"/> 1 : 50000

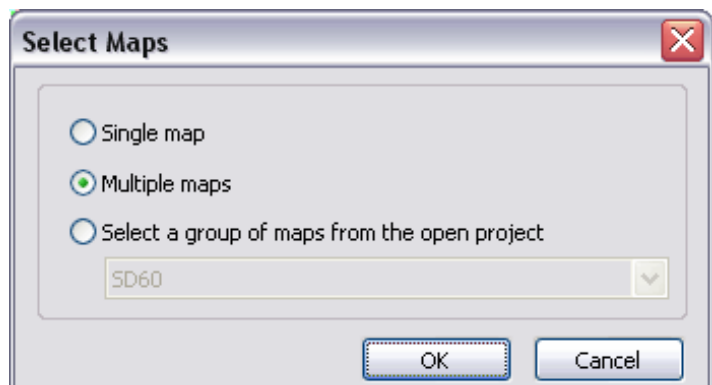
OK Cancel

Map Groups in Other Modules

To see how map groups are used in other modules (ZVI, Shadow Flicker, Radar, Grid Viewer and Contour Viewer) start the Grid Viewer from the tool bar or from the Tools menu and then select Open Background Map from the Options menu.

The Select Maps dialog is displayed.

Select Multiple maps and click on OK.



Select Maps

☐ Single map

☒ Multiple maps

☐ Select a group of maps from the open project

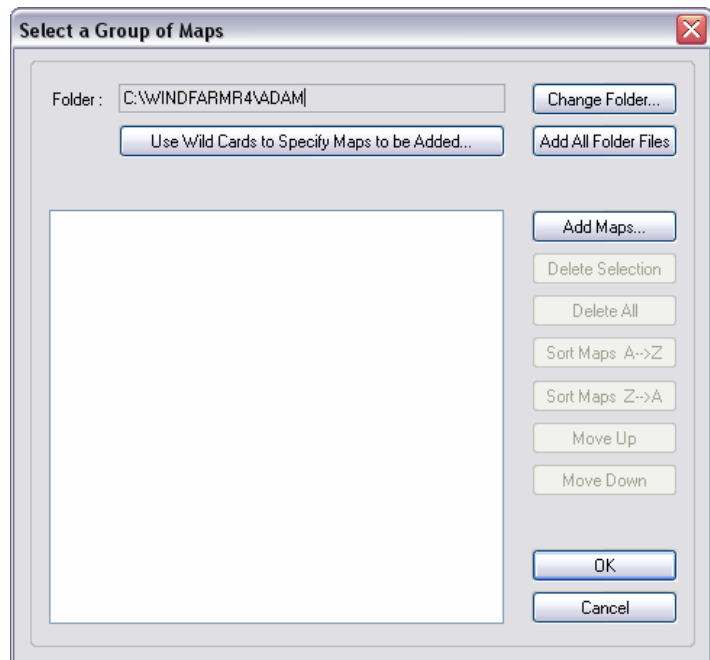
SD60

OK Cancel

The Select a Group of Maps dialog that has been used in the Designer is displayed.

A set of maps is selected for in the same way as described earlier.

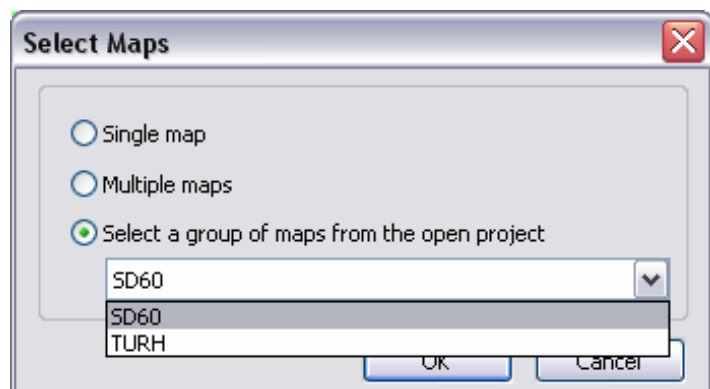
Click on OK.



Select Open Background Map from the Options menu again and choose “Select a group of maps from the open project”.

Click on the dropdown arrow and see the two groups that have been created in the project available for selection.

Select one of them if you want to experiment or click on Cancel. Close the Grid Viewer when finished.



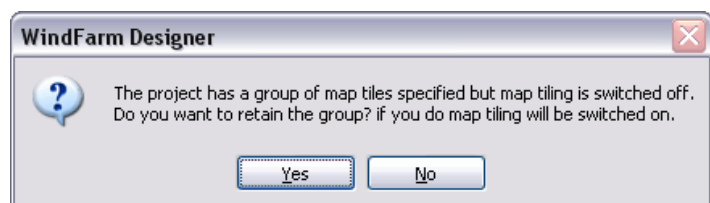
Back in the Designer close the project from the File menu and then close **WindFarm**.

Map Tiling as a Test Feature

It is important to realise that map tiling is a new feature in **WindFarm** and still being tested. The setting is retained when **WindFarm** is closed. Therefore, if you only want to use map tiling on particular projects you will need to switch map tiling off before you open another project. When fully released map tiling will be on by default.

So that a previously set up group(s) of maps in a project is not lost when tiling has been switched off for another project, you will be given the option to switch on map tiling when you open a project with map groups.

Click on Yes to retain the group and switch map tiling back on.



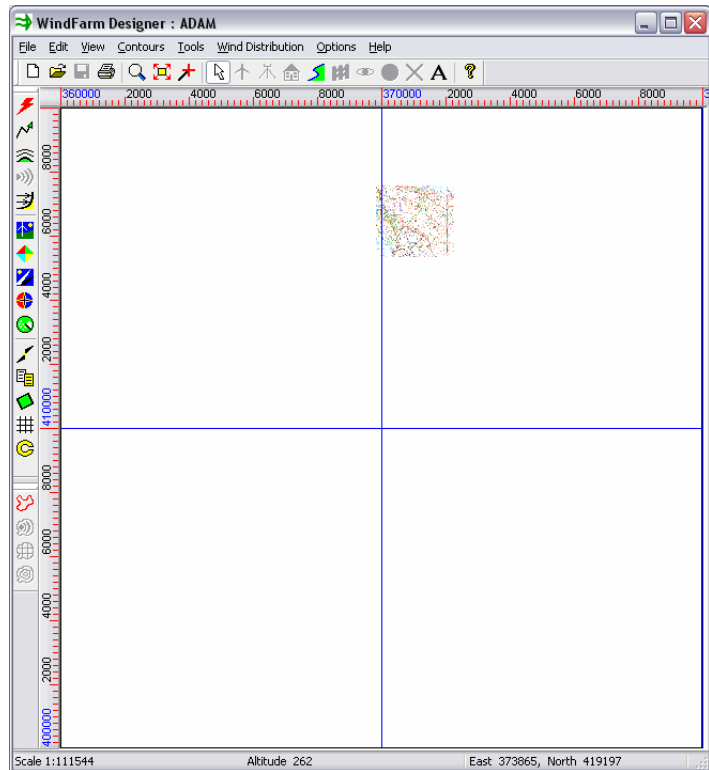
To return to the present map handling and especially if you are continuing with other tutorials click on No.

When map tiling is switched off in this way the project reverts to using the last map specified in the group of maps – in this case TURH.bmp.

Therefore the display will show the 20km region with just the small map visible.

From the Options menu use Select Map Region to select ADAM001 (our original 2km square region) and Select Background Map choosing ADAM.PNG from the list of files to return to the original site map region.

You are now in the same state as the end of the Map Regions tutorial and can continue with the other tutorials.



Summary

We have:

- 1 Seen how to switch on map tiling
- 2 Used map tiling with single maps
- 3 Created map groups in the project
- 4 Controlled the map group display
- 5 Used map groups in modules other than the Designer