

AEGIS 3 Goad and ECW module

Version 1.4



The Advisory Unit
Computers in Education

Copyright

All rights reserved. No part of this manual may be reproduced or stored in a retrieval system other than by or for the purchaser, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the copyright owner.

Licence

The AEGIS 3 Goad and ECW module licence specifies the number of stations allowed to run the software.

Ordnance Survey digital map data © Crown Copyright.
Aerial photography of Studland © Getmapping plc.
All trade marks are recognised.

AEGIS 3 Goad and ECW module © AU Enterprises Ltd 2005.

Edition 1.4
Published by AU Enterprises Ltd
126 Great North Road
Hatfield
Herts AL9 5JZ

Tel: 01707 266714. Fax: 01707 273684

www.advisory-unit.org.uk/aegis3/aegis_home.html

Goad and ECW Module

The Goad and ECW module for AEGIS 3 allows Goad Town Plans and ECW maps and aerial photos to be inserted into AEGIS 3.

What is a Goad Town Plan?

There are over 1,000 Goad Town Plans for the UK and Ireland that have been surveyed by the company Experian Goad and are available in digital format. The Advisory Unit is the only educational outlet for these plans and the Goad module allows schools to work with the plans and data in AEGIS 3.

The plans are detailed digital maps with polygons outlining each of the buildings on the map. They come complete with data on the functions of the buildings. This means that polygons (areas) on the map can be shaded immediately to show land use. Each building has its name, address and size in the table and has been classified in a number of different ways for plotting data on the map.

What is an ECW image?

This is a highly compressed data file that may also be georeferenced. ECW stands for Enhanced Compression Wavelet. ECW images such as maps or aerial photographs may be inserted into an AEGIS picture box or as a map. The ECW file may be on your hard disk, or network server, in addition, very large ECW files (terabytes of data!) may be loaded from an ECW server. For instance, the whole of the UK can be 'served' online as one seamless 1 : 50 000 Landranger map in an AEGIS worksheet and you can zoom in to show the detail clearly at the correct scale.

ECW maps and images may be linked with AEGIS maps and offer exciting opportunities for making maps and aerial photos come alive.

You may buy ECW aerial photographs from Wildgoose, a branch of Getmapping. These have a 25cm resolution on the ground.

Goad Town Plans

What is a Goad Town Plan?

There are over 1,000 digital Goad Town Plans for the UK and Ireland that have been surveyed by the company Experian Goad. The Advisory Unit is the only educational outlet for these plans and the Goad module allows schools to work with the plans and data in AEGIS 3.

The plans are detailed digital maps with polygons outlining each of the buildings on the map. They come complete with data on the functions of the buildings. This means that polygons (areas) on the map can be shaded immediately to show land use. Each building has its name, address and size in the table and has been classified in a number of different ways for plotting data on the map.

The module comes with a sample town plan of Grantham together with data for the buildings in the town centre. Using this map and data you can:

- Map the building functions of the CBD as area shading in different categories.
- Search for different building functions to show on the map as area shading.
- List the results of your search in the Data Table.
- Copy maps and data to a word processor for a report, or copy data to Excel for further processing.
- Add up all the square metres of land use for particular categories of buildings.
- Measure accurately on the map, for instance, to calculate Nearest Neighbour statistics.

You can also use the digital maps as a basis for your urban fieldwork to:

- Bring in a town plan with just the addresses of each building on the data table.
- Display a large-scale accurate town plan, zoom in to show streets and buildings for print outs to use in the field.
- Print out sections of the data table to act as data capture sheets.

There are some sample worksheets of Grantham in the Goad folder showing how the data may be used for different year groups and for fieldwork.

Grantham all data.aed – all the data from the digital Goad map.

Grantham easy.aed – 'Geographers' classification only.

Grantham fieldwork.aed – blank map with building addresses in the data table.

What is in the Goad Town Plan data?

The data is arranged in 14 fields as follows:

Field name	Explanation
Goad No.	A unique number to identify the premises
Name	The name on the premises
Activity	The main type of business carried out (Up to 296 different activities)
Floors	The number of storeys that the business uses
Number	Number of the building
Road Name	The road in which the building is situated.
Planning Class	The Local Authority Planning Classification for the building (12 classes defined in this field)
Goad Main Class	The main set of classifications defined by Goad into Retail, Service, Commerce and Vacant (4 classes)
Goad Sub Class	The sub set of classifications defined by Goad (15 classes)
Goad Category	A more detailed set of classifications defined by Goad (107 classes)
Classification	A 'geographers' classification, similar to that in the Hitchin example of AEGIS (16 classes)
Survey date	The date the Goad survey took place
Goad Area ft²	The area of the premises in square feet
Goad Area m²	The area of the premises in square metres

Loading data

You may bring all of the data fields with the Goad town plan into the AEGIS worksheet, or select which ones would be most useful to you.

Excel worksheet with these categories

The Excel worksheet called **Updated Goad List.xls** shows how all the activities have been classified under the different methods and also lists the classes in each category separately. Click on the tabs on the worksheet to find **Goad Town Plan classifications** and **Goad categories**.

Exploring the map and data

Open the Goad worksheet

Double click on the **Grantham all data.aed** AEGIS worksheet in the Goad folder within the Samples folder.

Or

Run AEGIS and go to **File, Open**, then find **Grantham all data.aed**. This file in the Goad folder in the Samples folder.

What's on the page?

The worksheet has a map of Grantham and a Data Table containing information about every building. Each building coloured in pale buff is listed in the Data Table with all the data about the premises.

Explore the map by changing the scale

Click on the map to make it active.



Use the **Zoom in** or **Rectangle zoom** buttons to increase the scale of the map.

Press and drag with the cursor to pan around the map.



Use the **Reset** or **Zoom Out** buttons to decrease the scale.

Explore the data table

Click on the data table to make it active. Use the scroll bars to see more of the data. Note that most of the data is set as keywords to make it easy to plot on the map.

Display data from the table on the map.

Click on the map again to make it active.



Click the **Display Data Wizard** to lead you through the sequence. Choose the following options:

1. **Plot Wizard Introduction** – Click on **Next** to continue.
2. **Which data to display?** Choose **Area shading**, then **Next**.
3. **Choosing Fields** – Click in the box beside **Goad class**, then **Next**.
4. **Choose label** – No need to click anything here. Just click on **Next**.
5. **Choosing colours** - **select a colour** for the items in the key, then **Next**.
6. **Plot name** - Give a name to your display, such as **Goad class**, then click **Next**.
7. **Summary** - Click on **Finish** to see the shaded map.



Use the Data Balloon to identify individual buildings and their records from the data table. Click on the button to make it active then move over the map to identify the buildings.

Hint: Go to **Map, Data Balloons, Fields** to choose which fields to display on the Data Balloon.

Search for certain types of Land use



Click on the **Search Wizard** button.

1. **Search the Data Table Introduction** – click on **Next** to continue.
2. **Choose a field** – click on **Classification**, then **Next** to move on.
3. **Find Keywords** – click on the **keyword(s)** for data that you wish to show on the map, then on **Next**.
4. **Save your search** – **type in a name** for the search if you wish, click **Next**.
5. **Summary** – click on **Finish** to see the search results on the map.

Show all the data again



Click on the **All Records** button to see all the data on the map again.

What next?

Display another field of data on the map

Use the **Display Data Wizard** again and choose another category to plot as area shading. This time go to **Change an existing plot** on the second screen of the Display Data Wizard.

Don't forget that there are hundreds of items in some fields, such as Goad categories and Activities, so avoid using these to display data. You can always search for keywords in these fields, then show the results on the map.

Choose different searches

Carry out another **search** to see if there is clustering of certain types of land use in different parts of the town.

Explore the other worksheets

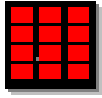
Go to **File, Open** and choose another worksheet in the Goad folder.

Grantham easy.aed just has the name, address and Geographers' classification in the data table. This makes it more straightforward for pupils in KS3.

Grantham Fieldwork.aed has the address of the property in the Data Table. You will need to add fields and type in your own survey data to create a land use map.

Useful tips

Print out the map only



Click on the map, then on the **Show Data** button to hide the Data Table. Extend the map to the margins of the page before printing.

Click on the **Show Data** button again to bring back the Data Table.

Hint 1: View the whole map area by changing the **100% zoom** to **Whole page**.

Hint 2: You can also change the size of the page to A3 by choosing **File, Page Setup** if you have an A3 printer.

Print out the data only

Choose **File, Print**, then the Data option to print the Data Table on an A4 sheet.

Add a key to explain the data



Click on the **Data Key** button to add or remove the data key.

Size and move the key to a suitable place on the worksheet.

Copy the map and data from a search

When a search has been made, not only are the results shown on the map, but they are also listed in the Data Table. You may wish to copy the map and certain fields from the Data Table into another program as part of a report.



Click on the **map** to make it active, then on the **Copy** button. The map is now ready to paste into another program.

Highlight the **data** you wish to copy from the Data Table, then click on the **Copy** button. The data is now ready to paste into another program.

*Hint: you can also use the **File, Export** to save the data for Excel.*

Remove some text from the map

The map may be rather cluttered in parts, but as it is made up of a number of vector layers these may be switched on or off easily.



Click on the **Layer Key**. This will bring up a box with a list of map layers.

As these are grouped, click on the cross beside Ground Floor to see all the layers at this level on the map. Switch off the following items to remove the names and activities from the main buildings on the map.

- Retail gf fascia
- Retail gf activity
- Non-retail buildings gf activity

(gf stands for Ground Floor).

Click on the **Layer Key** button again to remove the box from the screen.

Going further

There are some other useful techniques that you may wish to use with older pupils.

Measuring on the map

Use the **Map, Measure, Distance** command to switch on distance measuring. Click on the map to mark the starting point, then take the electronic string and click again until you reach the end of your 'walk' or direct distance. Double click to finish measuring. The total distance is shown on the Status Bar at the bottom of the screen. This is useful for working out the distance of a building from the perceived centre of the CBD.

Click again on **Map, Measure, Distance** to switch measuring off.

Adding a new field for measurements in the Data Table

This technique may be used to collect data for Nearest Neighbour analysis. In this case an additional field may be added to the Data Table for the measurements or the data may be entered directly into an Excel spreadsheet.



To create a new field in the Data Table, make it active, then click on the **Define Fields** button.

Add a new field title (such as **Centre distance**) and choose **Number** as the Data Type. Type in how many decimal places you require.

Click on **OK** to see the new field on the table.

You will find it easier to enter data if you go to the **Data** menu and switch off '**Keep Current Record at Top**'.

Finding the total area of buildings in your search

The Data Table contains a field with the area in square metres of each of the premises. You can find the total area for all the premises, or from the results of a search on particular functions, e.g. the total for all the clothing and shoe shops.

To do this:

1. Make the Data Table active by clicking in it.
2. Highlight the column with the area you wish to calculate.
3. Go to **Edit, Copy**, or click on the Copy button.
4. Load **Excel** and choose **Edit, Paste** to place data into the sheet.
5. Click in the cell below the data where you wish the total to appear.
6. Click on the Sigma button on the toolbar, then press the Enter Key.
7. The total area will be shown in that cell.

Adding new data for pedestrian count or traffic flow

It is possible to add more layers to the map, such as point layer for pedestrian count or a line layer for traffic flow, and add more fields to the data table for these surveys.

Adding another layer to the map

Please refer to **Section D** of the main AEGIS 3 manual for guidance on adding a point or line layer to the map.

The seed names for the new layer should be added at the end of the existing records in the Data Table.

Adding another field for survey data

Click on the Data Table to make it active.



To create a new field in the Data Table, click on the **Define Fields** button.

Add a new field title (such as **Pedestrian flow**) and choose **Number** as the Data Type.

Click on **OK** to see the new field on the table.

You will find it easier to enter data if you go to the **Data** menu and switch off '**Keep Current Record at Top**'.

Type your data into the new column in the same row as the seed name for that data.

Displaying more than one type of data at a time.

If you have a land use map already on the screen, you can show the new data as either a flow line or chart (according to whether the data is attached to a line or point on the map.)



Choose the **Display Data Wizard**.

1. **Plot Wizard Introduction** – click on **Next**.
2. **Change or add a plot** - choose **Add a new plot**, then click on **Next**.
3. **Which data to display?** – Click on **flow lines** or **charts** as appropriate, then **Next**.
4. **Choosing Fields** – Click on the **new data field** (such as Pedestrian flow)
5. **Choosing Labels** – just click **Next** to move on.
6. **Choosing colours** – choose colours for the key, then click **Next**.
7. **Plot name** – type in a name to identify the plot, then click on **Next**.
8. **Summary** – click on **Finish** to see the chart or line on the map.

Loading a Goad town plan into a worksheet

Most users of the Goad and ECW module have also ordered additional Goad Town Plans. These are sent on a CD which contains a separate folder for each town plan.

Important: if you copy the Goad Town plan data to a network or hard disk, you must copy the whole folder, including the data. The folder name is required by AEGIS when loading the data.

Inserting a Goad town plan



Start a **new page** in AEGIS.

Go to **Insert, Map** menu item. This will start the Insert Map Wizard.

1. **Introduction** – click on **Next** to continue.
2. **Choose map type** – click on **Goad plan**, then on **Next**.
3. **Choose a folder** - click on the **folder name** to highlight it. Do not open the folder. Click on **Next**.
4. **Goad plan map layers*** – click on the layers you require, then on **Next**.
5. **Goad plan data fields[#]** – click on the fields that you require, then on **Next**.
6. **Summary** – click on **Finish** to see the map and data table.

***Goad plan map layers.** Place a tick in the main group of the floor you require. This also switches on parts of the other layers for that floor. Choose the other layers only if you need more detail. You would normally only need to switch on the ground floor and nothing else.

Goad map layers - main groups	Explanation
Lower Ground	Layers for the lower ground floor plan
Ground Floor	Layers for the ground floor plan
First Floor	Layers for the first floor plan
Second Floor	Layers for the second floor plan
Third Floor	Layers for the third floor plan
Fourth Floor	Layers for the fourth floor plan
Retail Buildings	Retail buildings and precinct boundaries for all floors.
Retail labels	Fascia, Activity, Street number and other labels for retail premises only – all floors
Other buildings	Non-retail buildings on all floors
Other building labels	Activity and street number labels for non-retail buildings
Roads and pavements	Roads, pedestrian zones, pavements and road names
Car parks	Car parks on each floor
Car Park labels	Car park activity and other labels
Other Line detail	General line detail, archways and canopies
Other Labels	Labels and annotation for each floor
Rivers	Rivers
Symbols	Pedestrian crossings, one way streets and other symbols

Goad plan data fields. Click on the data fields necessary for the way you intend to use the Goad plan. Here are some suggestions:

Goad Plan Data Fields	All data fields	Easy plan data	Fieldwork survey skeleton
Name	☺	☺	
Activity	☺	☺	
Floors	☺		
Number	☺		☺
Road name	☺	☺	☺
Planning class	☺		
Goad main Class	☺		
Goad sub class	☺		
Goad category	☺		
Classification	☺	☺	
Survey date	☺		
Goad area ft ²	Choose which one you need		Choose which one you need
Goad area m ²			

Displaying data

The map is ready for plotting data into the polygons on the map because the Goad number field is automatically linked to the seed names in each polygon. The Goad number field is not an option as it is always required to map the data.

Use the **Display Data Wizard** and the **search** functions to explore the map.

Preparing a worksheet for fieldwork survey data

Insert the Goad Plan with fieldwork skeleton data

Insert the required Goad plan with the ground floor map layers and the fieldwork skeleton survey data fields into AEGIS.

Save the file as an AEGIS worksheet with a new name.

Add extra fields for the fieldwork survey

Choose **Data, Define Fields**. Type in the field names you require and select the appropriate data type for each one. For instance, you may wish to add new functions with the data type 'Keywords', and add your keywords to the list.

Print out sections of the map

Alter the size and scale of the map to print maps for each survey group.

Entering new data

When the survey has been completed by each group, pupils can add their data to the table in turn. It is easier if there is one definitive copy of the map on the network in an area that pupils can write to. Each group adds their data, then saves the file.

To enter data: first click on the seed of the building on the map, the record for that address will be come up to the top row of the data table. Type, or drop down the keyword list, to add the new data for that building.

If you have chosen to display the data as area shading, then the building you have just entered will be coloured in. This helps to check that all the data has been entered.

ECW maps and images

What is ECW?

ECW or **Enhanced Compression Wavelet** images are raster maps or photographs that have been reduced in size up to 95% of their full capacity. This enables very large files, up to 50 Terabytes (50,000 gigabytes), to be panned and zoomed at any resolution. For example, large aerial photographs can be viewed up to 25cm or less resolution on the ground. ECW files are georeferenced, i.e. there is information about the spatial position of the image in the file.

ECW images in AEGIS

ECW files may be inserted into AEGIS as pictures – in which case they are put in a picture box and do not have AEGIS map functions. However, ECW pictures may be linked together and panned and zoomed in conjunction to help pupils understand more about map scales and aerial images.

Example files. Look in the ECW folder in Samples:

Studland side by side.aed
Studland fade.aed

ECW map files in AEGIS

ECW files may also be inserted as maps into AEGIS as a raster background to which other vector layers may be added in the AEGIS Editor. This opens up possibilities for adding data to maps, and linking other georeferenced ECW images to the maps.

Example files. Look in the ECW folder in Samples

Studland ECW.aed Try zooming and fading the map.

ECW files on Image Web Servers

Image Web Servers host very large ECW files that can be accessed online. AEGIS can view these ECW files. The AEGIS worksheet may therefore access a very large image which is referenced within the file when the worksheet is saved. The ECW files remain on the server so the worksheet can only operate if the user is online.

Example files. Look in the ECW folder in Samples

ECW images online.aed

Where can I find ECW images?

On the web: There are Image Web Server sites that deliver sample files. See the links to these files in the ECW images online worksheet.

Buy your own files. You can purchase ECW images from Wildgoose. See the separate sheet (**Ordering ECW images.pdf**) for prices and ordering information.

Contact your Local Authority. Check if your Local Authority has digital aerial photographs in ECW format.

Properties of an ECW image (Picture box)

An ECW image has its own tool bar with special ECW tools.



ECW zoom tool

Click on this button to increase or decrease the scale of the image.



Drag on the image from top to bottom to increase the scale.

Drag from bottom to top and the image will decrease in scale.

ECW pan tool

Choose this button to pan around the map. Use the pan tool to move around the ECW image, as the pan function is not available all the time.

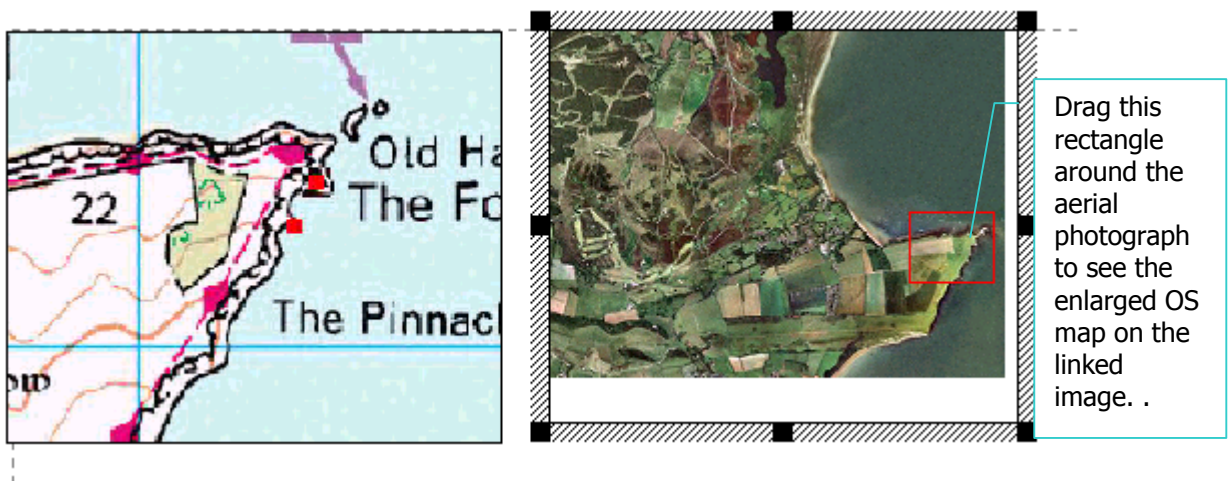


ECW stroll tool

If you have two ECW maps that are linked together (such as the Studland side by side worksheet) you may use this tool to stroll around the images at different scales. First make sure that the images have been reset to their original scale.



Click on the ECW stroll tool, then click and drag in one of the ECW images. You will note that a small red rectangle appears. This is the area that is zoomed (at 10 x the scale) in the other ECW image.



Properties of a raster map with an ECW background

Note that an ECW map has the same properties as any other AEGIS raster map background, except that it is a very high resolution map.

A raster ECW map does not have access to the special ECW tools.