

All about AEGIS 3

Basic information

AEGIS 3 is a GIS program designed for schools that allows digital maps and data to be displayed by students on an **interactive worksheet** on the screen. The program comes with a number of ready-made example worksheets to use in the classroom and has facilities for adding your own maps and data to carry out classwork, fieldwork and controlled assessments.

What is an interactive worksheet?

Where is the best place to site a new bench?

Lesson 1
Step 1
Decide which data is needed to make a decision on siting the bench. Temperature? Wind Speed?
Step 2
Decide where to take recordings of the temperature and wind speed. Mark the places on the map.
Step 3
Record the data.

Lesson 2
Load the prepared AEGIS file. Add the data to the table and explore the map using the Help Sheet.
How can you find the best place for a bench using your data?

	Location	Temperature	Wind Speed
1	Site 1	10.6	6
2	Site 2	10.1	6
3	Site 3	13.1	2
4	Site 4	12.0	4
5	Site 5	13.5	1
6	Site 6	12.0	2
7	Site 7	10.5	5
8	Site 8	14.5	0
9	Site 9	11.0	2
10	Site 10	12.3	2
11			

Decide how you would find the best place to sit. Would you want it warm or cool? Sheltered or windy?

Use the AEGIS 3 Help Sheet
http://www.advisory-unit.org.uk/pdf/help/get_started_aegis.pdf
1. Display a bar chart of temperature on the map.
2. Search for the warmest places - where are they?
Type your answer here:
3. Display the wind speed on the map.
4. Search for the most sheltered places - where are they?
Type your answer here:
5. Are there any places that are warm and sheltered?
Add your answer to the sentence opposite.

RGB Aerial Photography © GeoPerspectives

This detailed aerial photography was obtained from Bluesky.

I think the best place for a bench is Site ____, because the temperature is ____ and the wind speed is ____.

Here's a Year 7 example of an interactive worksheet showing microclimate around the school grounds. Students were set the challenge of siting a new bench and had to collect temperature and wind speed data from around the school.

The teacher prepared an aerial map of the school grounds with the survey points located on it and added a table with the temperature and wind speed. Students added their data to the table and investigated the warmest, coolest, most sheltered and windiest places by searching the data and displaying the results on the map.

They decided on the most suitable place for the bench when they had investigated these spatial aspects of the data.

Which worksheets are provided with AEGIS?

These files accompany AEGIS 3 (v.2.0a and above)

KS3

Microclimate	Making charts of Microclimate around the school
Brazil population	Population 2000 for choropleth mapping
Italy	Seven files on Italy covering Employment, GDP Index, Infant Mortality and the North-South divide.
Baldock	Baldock traffic survey with photos and notes
Olympics London	Olympic site 2012 with photos, notes and school's data
Studland	Aerial views and OS Landranger map of Studland with photos and notes.

GCSE

China	Five files on China for choropleth mapping of consumer goods, employment sectors, industrial emissions, population and tourism.
Helvellyn	Glaciation exercise with photos and notes
Ingleborough	Limestone landscape with photos and notes
Settle	Using GPS to display fieldwork data on the map
Sphere of Influence	Desire line mapping of journeys to Hitchin.

AS Level

Carlisle Census	Mapping data on population cohorts in Carlisle.
London World City	choropleth mapping to indicate whether London is a World City.
Census boundaries	Lower Layer Super Output boundaries (LLSOA) for England and Wales ready for plotting ONS census data.

World Development 2000

World maps and Year 2000 data with activities for choropleth mapping of social and economic indicators.

World development 2005

World maps and year 2005 data with activities for choropleth mapping of social and economic indicators. This file is a basis for adding new data from the World Bank website.

These modules are now included in the AEGIS package

Goad module

Goad examples	Land use mapping in Grantham, Lincs and a Goad plan to practice inserting into AEGIS.
ECW examples	World physical map. Studland maps illustrating features of ECW.

MasterMap module

Buildings starter	an example for making a land use map of building functions.
Road network starter	an example for making a traffic survey map.
MasterMap files	a practice OS MasterMap GMZ file to insert into AEGIS.

There are more free example files to download from the [resources page](#) on the Advisory Unit's web site.

Existing AEGIS users can still purchase these modules.

How can I use these worksheets?

You can manipulate the maps and data to display charts, flowlines, choropleth maps and thematic maps.

Tutorials on the Advisory Unit's web site demonstrate some basic GIS skills.

- Displaying charts on a map
- Displaying a choropleth map

How can I make my own worksheet?

It's easy to prepare your own worksheets with maps and data. The manual and tutorials on the web site demonstrate some more advanced GIS skills. You will need a digital map, data and perhaps photos and notes to add to locations on the map. You can then create GIS activities to support classwork topics, process fieldwork data and carry out controlled assessments.

Tutorials on the Advisory Unit's web site demonstrate some more advanced GIS skills.

- Inserting a map
- Inserting a data table

Which digital maps can I use in AEGIS?

Digital maps are in two main formats: **raster** (an image of a map) and **vector** (industry-standard layered maps). A modest subscription will enable you to download and use a variety of Ordnance Survey maps from a website.

Raster maps

Ordnance Survey maps: at 1: 10 000, 1:25,000, 1: 50 000, 1: 250 000 scales

Aerial photographs: these maps can be copied or downloaded from the web and inserted into AEGIS.

Scanned maps: save your scanned maps for AEGIS in JPG, BMP or TIF format.

Maps copied and saved from any web site.

Vector maps

Ordnance Survey MasterMap

These large scale OS maps are very detailed and have layers ideal for making land use maps, traffic flow maps and for mapping other environmental data.

Here are some tutorials for OS MasterMap:

- What is OS MasterMap
- Loading an OS MasterMap
- Making a Land Use map
- Making a Traffic Survey

Goad plans

AEGIS has exclusive education rights to more than 1,000 town centre and retail park plans produced by Experian Goad for in the UK and Ireland. They come as a three-year licence with detailed large-scale maps and a database of buildings ready for land use mapping.

Shapefiles

Shapefile format is a standard for vector maps produced by ESRI. Most census boundaries and other Local authority vector maps are supplied as Shapefiles. These usually come with some data attached to them which can be plotted immediately. There are web sites where Shapefiles of different countries with their internal boundaries may be downloaded and used in AEGIS.

Can I add photographs?

You can add your own digital photographs from fieldwork to hotspots on the AEGIS map. It is really useful to illustrate the map with images of the immediate environment to complement your data.

What GIS functions does AEGIS provide?

Importing maps: raster maps in BMP, JPG, TIF, ECW formats. Vector maps in GML, GMZ (OS MasterMap), Goad plan, SHP (ESRI Shapefile), NTF (OS Land-Line). Online access to certain ECW files.

Data types: text, numbers, grid references, pictures, keywords, date, notes.

Data functions: creating new fields for existing ones, calculating the sum, maximum, mean of a field.

Map functions: measuring distances and areas, panning, zooming, accessing grid references, overlaying maps (e.g. historical and current maps) and fading between them, cloning a map,

Displaying data: area shading for choropleth and thematic maps; flow lines, bar charts, proportional pie charts, proportional circles, coloured circles.

Editing: adding areas, lines and points to a map; adding and revising map layers, cropping a map, changing the scale.

Search functions: searching on text fields (string, substring), searching for a range of numbers, saving searches, combining searches. **General functions:** copying and pasting maps and text, importing rtf and Word files into text boxes, customising buttons, protecting map, text, data and picture boxes, adding hyperlinks to text boxes.

Exporting maps: GIS (AEGIS format). BMP, JPG, TIF, EMF

Technical

AEGIS 3 System requirements:

AEGIS 3 will run on Windows XP and above. The program itself has modest memory requirements and will run with small files in 512K, although will perform faster on higher specification computers.

If large raster files are used the amount of available memory becomes more of an issue. In this case the use of the ECW format will be an advantage.

AEGIS 3 requires up to 12 MB of disk space, depending upon what software is already installed. The samples and documentation take up another 120MB.

There is a network 'wrapper' MSI on the CD-ROM that can be used with Windows servers from version 2000 and above. The MSI should be installed at the server. The package will accommodate thin client systems.

The samples and documentation should be made available to staff, who can then transfer them to curriculum areas on the network if needed.

What support is there for AEGIS?

Technical support

The Advisory Unit has a free technical help line with advice for network managers on installation queries and for teachers who wish to have help in using the program.

Telephone 0844 800 6654 or email sales @advisory-unit.org.uk with your queries.

Curriculum support

The Advisory Unit offers AEGIS training courses at your school.

The Advisory Unit's website has free downloads of new AEGIS worksheets, help sheets and other resources, including links to other sites with AEGIS materials.

We provide a free help line and can talk you through any problems you may have in using the program. Telephone 0844 800 6654 or email sales @advisory-unit.org.uk with your queries.

For more curriculum guidance try the '*Nine GIS Lessons at KS3 and GCSE*' or the '*AEGIS Project Book*'

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