

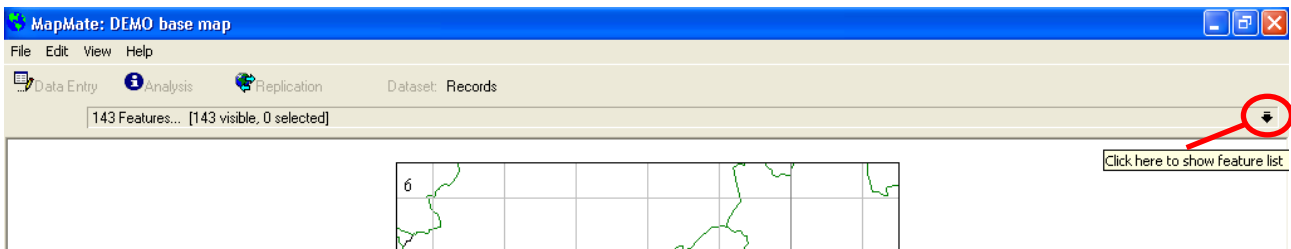
Mapping worksheet

A: base maps

1. Set up a base map for your county (use File – New Map – Base Map Wizard) that shows both the vice-county and modern county boundaries.

Tip: when creating a base map, always save it with a name that includes the words “Base Map”, otherwise it will not be automatically listed as a base map (but see below for how to find a map to use as a base map when it is not listed as a base map).

2. Close the map you’ve just created. Open it again. Delete it (File – Delete).
3. Set up another base map for your county, this time showing only the modern county boundaries.
4. With a base map open, move the mouse cursor over the map. Note how the grid reference and coordinates for the cursor location are shown in the grey bar at the bottom of the window, and how this changes as you move the cursor around. Does your map also display which vice-county and modern county the cursor is in? If not, hover the cursor over the lower grey bar, and right-click. Select “Show Admin Area”. Right-click again and select “Show Vice-county”.
5. Open up the Feature List (by clicking on the small black drop-down arrow at the top-right of the window).



6. Look through the list to see the various elements (“Features”) that go to make up the complete map. Experiment by clicking on the ticks in the first column to turn some of the Features off and on again, and see what effect this has on the map (some are more obvious than others).
7. Experiment with right-clicking over one of the Features in each column (“Feature”, “Type”, “Visualisation” etc.) and see what options are available for editing the Feature under each column heading. (Not all columns offer any editing options; in some columns there are options listed that do not apply to all Features.)
8. Try some of these options, e.g. change the colours of the grid lines by right-clicking the “100km Grid” Feature under the “Colour” heading and then clicking on Line Colour.

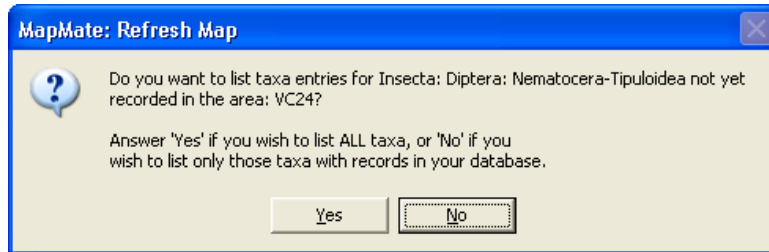
B: species atlases

1. Create an atlas for your species group in your county (use File – New Map – Atlas Wizard).
2. Under “Select Taxa and Sites Groups for this Atlas” choose appropriate settings. NB that the choice for sites/geographical area that you make here determines which records will be displayed on the map, and this can be a different area from the choice you subsequently make for the background base map (although in most cases you would want to choose the same area for each).
3. Under “Choose a base map” select the map you created in step 9 of the previous exercise. If you can’t find the correct base map, try clicking on the Preview button. If the map you want is not listed as a base map, it may be in one of the other categories – in the “View” list at the bottom of the Preview window try choosing “Maps in this Dataset” (or “All Maps”).
4. Under “Choose Feature Title Style” you can decide how the titles of your atlas maps will be displayed, e.g. vernacular (= English name) first, followed by scientific name in brackets; or Code number first followed by vernacular and scientific. NB that this choice also sets the sort order for the atlas maps, e.g. if you choose “Vernacular (Scientific)” your mapped species will be listed in alphabetical order of English name; if you choose “Code scientific (vernacular)” your mapped species will be in order of their code number (usually this equates to being in taxonomic order, so that related species are grouped together).

5. Choose the other options for size, shape and colour of the atlas dots. For the name of the map to be saved, you can usually accept the name that MapMate offers, but you can over-write this with something else if you prefer.

Tip: For the "Precision" setting, at county level a 2km size works well, or you can try the "Absolute" option to display crosses at the precise location of each grid reference.

6. Click on OK – you will now see a rather confusing message:



If you click on "Yes", your atlas will show a map for each species on the UK list for your species group, regardless of whether you have records for all these species. If you click on "No", your atlas will only show a map for species that have records in your database. (If you subsequently record a new species for your county, a map for this species will not appear in your atlas unless you "Rebuild" it: go to File – Rebuild.)

7. You should now have an atlas containing maps for each of the species in your chosen group. Open up the Feature List (by clicking on the small black drop-down arrow at the top-right of the window). You should see the list of species, and be able to select the map you want to view by clicking on the appropriate species name.
8. Just as you did with the base map, it is possible to edit the various Features within the atlas maps. However, before you can do this you have to be able to "View" the "Feature List" (this is equivalent to making the map editable). Go to the View menu and choose "Feature List".

[Alternative shortcut 1: Instead of going to the View menu, you can just click on the pale purple tick, to the left of the Feature List – it will turn dark purple when the Feature List is viewable.]

[Alternative shortcut 2: Instead of going to the View menu, you can use a keyboard shortcut: Ctrl+D]

9. The Feature List will now contain quite a lot of different Features, including a "Data Subject" for each species in the list, and various others. It is easiest to work with this list if you sort it into order by Feature Type – click on the column heading "Type" to sort into alphabetical order, then click on the same column heading again to sort in reverse order (reverse order seems to work best). If this has worked correctly you should now have the Data Object "All Records" at the top of your Feature List, and the base map at the bottom of the Feature List.
10. As before, there are various options available by right-clicking in different columns for the different Feature Types. Try, for instance:
 - Changing the colour of the Data Object
 - Make the Data Object style an open circle (from the "Style" column)
 - Make the Data Object 3000 metres wide
 - Make the title 4000 metres wide
 - Make the base map invisible (untick it), then visible again.

C: customising species atlases

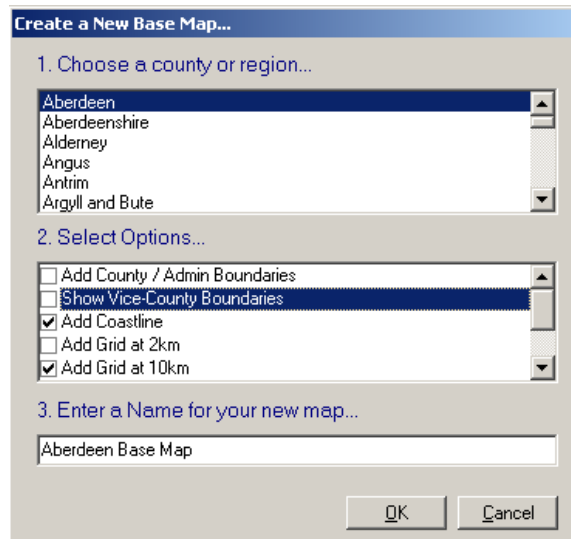
To add custom features to your map, you must first enable “Show Feature Detail”. Most of the things you can add to a basic map are done from the Edit – Insert menu.

1. Add a phenology diagram (= flight period chart) to your map. First draw a box (click and drag) where you want the chart to appear, then select “Keep This”. Now go to Edit – Insert and choose Periodicity/Flight Plot.
2. By default this shows the number of records per week; you can change it to the number of individuals per week by going in to the Feature List, finding the Periodicity Plot in the Type column, and right-clicking over this Feature in the Visualisation column.
3. Other simple Features that can be added by drawing a box, keeping it, and selecting the relevant option from Edit – Insert:
 - Text – Text Annotation [e.g. “map produced by Fred Bloggs” – same text appears on each map in atlas]
 - Text – Date stamp [can be customised by finding “Date Stamp” in the Type column of the Feature List, and right-clicking over the copyright symbol in the Feature column – choose “Rename” and type extra text after the copyright symbol, e.g. “© County Bird Group”]
 - Text – Query Based Annotation [click on the drop-down list to see some commonly used queries, e.g. to show on each atlas map how many records there are for each species, or when the latest record was; these are queries on the underlying database and update automatically each time a new record is added]
4. You may find that your text annotations are in various different font sizes. These can be changed and made consistent by finding the relevant text in the Feature List and right-clicking over the measurement in the “Size” column – I find that setting the Size to 5000 metres works well for most text (you can set this by using the “User Defined” option when you right-click in the Size column).
5. You may wish to move the text annotations to a different part of the map. First, select them by clicking on the relevant row in the Feature List – the row will then be highlighted in purple. Now put the cursor over the map and right-click, choosing “Move Selected Text”. A box will now appear to be attached to your cursor – move it to where you want the text to be, right-click again and choose “Drop Text Here”.

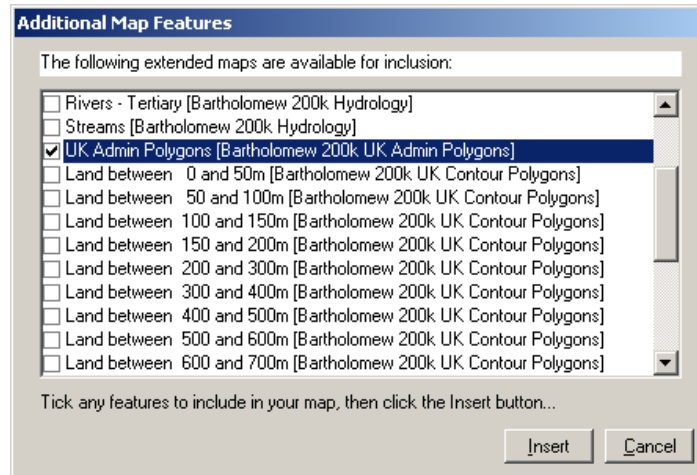
D: Additional mapping notes

Adding in VC polygons

A standard base map, created using the wizard as described above, will show the vice-county boundaries as lines, but these are made up of lots of individual parts, making it difficult to change the colours easily. An alternative is to set up a base map as above, but make sure that neither modern county nor vice-county are ticked:



Having created an 'empty' base map, go to Edit – Insert – More Map Features, and choose either UK Admin Polygons (for modern counties), or Vice County Polygons:



The advantage of using these polygons is that they can be much more easily edited to change colours etc., as there is only a single entry in the Feature List for each county.

As you can see on the above screenshot, there is a whole range of things that can be added to maps. It is possible to add these direct to the atlas maps, but in my experience it is much easier to add them to base maps (e.g. so that you have your "county base map", and another one called "county base map plus water features", "county base map plus contours", etc.). You can then insert these base maps into the atlas maps (via Edit – Insert – Another Map), which makes it easier to see and control what appears in the atlas.

Editing the underlying SQL

You may wish to edit the underlying query language for the data shown on your maps, e.g. if you have inserted a data object for records in years before 2000, you might want to change that to years before 2002. To edit the SQL, you first have to find the Data Object/s in your map's Feature List.

(When seeking the Data Object/s, remember that, as stated above, it is easiest to sort your Feature List by Feature Type – click on the column heading "Type" to sort into alphabetical order, then click on the same column heading again to sort in reverse order).

Having found the data object you want to edit, right-click over the data object's name in the Feature column, and choose "Show Underling Data". You will now see a MapMate Browse list. Click on the button at the top labelled SQL. This opens up the SQL that the map is using to produce the data behind its dots. It is possible to edit this SQL – there are limits to how complicated the edits can be, but for simple things like changing dates in the WHERE clause it works well. Remember to click on the Save button when you've done your edits, and you'll then have to reload your map before any change becomes obvious.

Copying Data Objects

It is possible to right-click over a data object in the Feature List, copy it, and then paste it. E.g. if you have a data object set up for records between 1990 and 1999, you could copy this, and then edit it so it shows records between 2000 and 2009. NB that when you do the copy and paste, you must rename the second copy to something different from the first. If you don't do this, when you go to edit the SQL for one of the data objects the edit will get saved into both data objects.