

# InstantAtlas™ Tutorial

## Overview

InstantAtlas™, developed by GeoWise Ltd, is an online system for the display of geographically indexed quantitative data in a dynamic format to inform key temporal and geographical trends. InstantAtlas™ is supplied to Health Protection Agency NW as a customised template that is populated and updated with relevant data from the Regional Epidemiology Unit. InstantAtlas™ is made available to colleagues through the Health Protection Agency NW website as part of the suite of surveillance data outputs produced by the RE Unit.

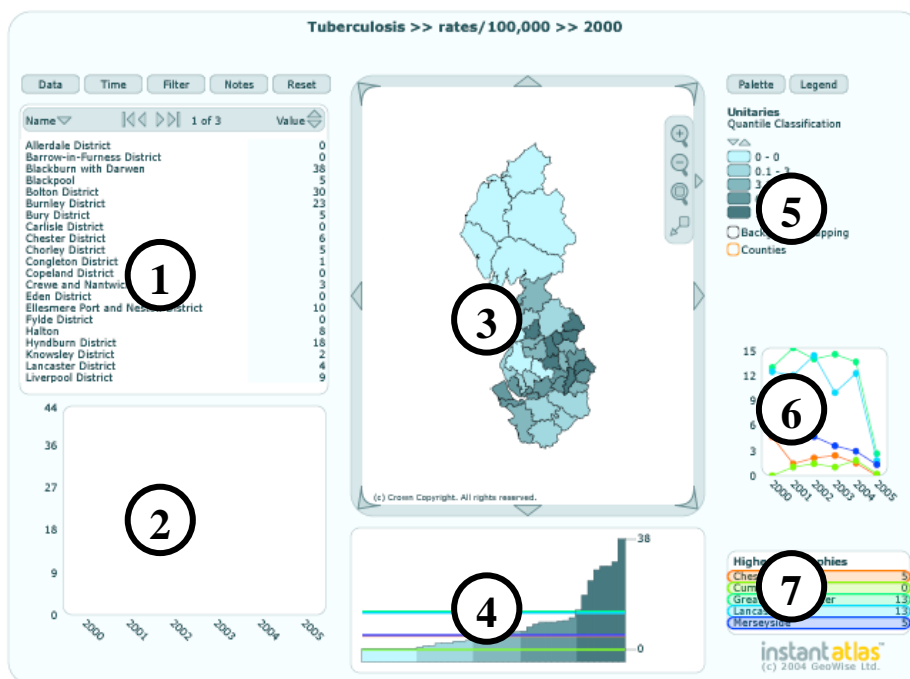
In order to use "InstantAtlas" you will need to download and install a scaleable vector graphics (SVG) viewer. You can download both PC and Mac versions of the SVG viewer for free direct from the Adobe website (<http://www.adobe.com/svg/viewer/install>).

If your computer is on a network you may need to be logged on as an administrator to successfully install the viewer. Please contact your network administrator for more information.

## Basics

The InstantAtlas template developed for Health Protection Agency NW displays the same data simultaneously in a number of different ways. The template consists of (see Fig 1 below):

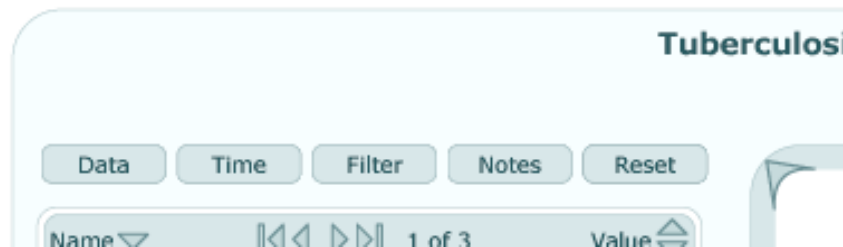
1. A list of data by relevant geographical areas (ie PCTs or LAs)
2. A timeline displaying data by year or month
3. A thematic map of the North West Region (showing either PCT or Local Authority boundaries) with optional background mapping and higher level boundaries (SHA or county)
4. A bar chart of data by geographical area ordered according to magnitude of value
5. An interactive map legend allowing manipulation of how the data appears on the map
6. A graph showing data aggregated by higher level boundaries over time
7. A table displaying the selected data aggregated by higher geography



**Fig 1**  
Overview of template showing with the various components numbered

## Selecting the data to be displayed

InstantAtlas can be used to display a variety of data from core spreadsheets. The data to be viewed is selected using the 5 buttons in the top left corner of the atlas (Fig 2).



**Fig 2** Buttons for selecting the data

**Data** – lists the datasets available for display with InstantAtlas (NB submenus available)

**Time** – lists the time periods available for the chosen dataset

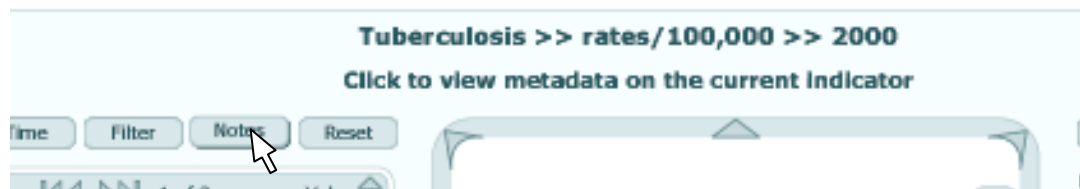
**Filter** – geographically filters the data by higher geography

**Notes** – information ('metadata') on the dataset chosen

**Reset** – clears any selections made within the atlas

Data chosen in this way is simultaneously displayed in the template as a 'snapshot' or 'continuous' data. Snapshots of data are defined by the year and area selected and exhibited in the geographical area list (1 above), the thematic map (3), the bar chart (4) and the higher geographies list (7).

The snapshot details (ie the time and nature of the data) are always shown in the atlas title (Fig 3). The subtitle also gives useful information according to what has been selected or highlighted by the mouse cursor.



**Fig 3** Title of atlas showing dataset and year being viewed, subtitle showing button function

In addition to the items of snapshot data, continuous data is also displayed in the atlas in the time lines (2 and 6) to give context to the particular view displayed on the map and various lists. You will notice that changing the setting in the time filter button will change the snapshot areas of the atlas but not the continuous areas.

## Worked Example

**Aim** – to familiarise yourself with the different components of InstantAtlas HPA NW by viewing the change in notifications of mumps in Cheshire Local Authorities between 2003 and 2005

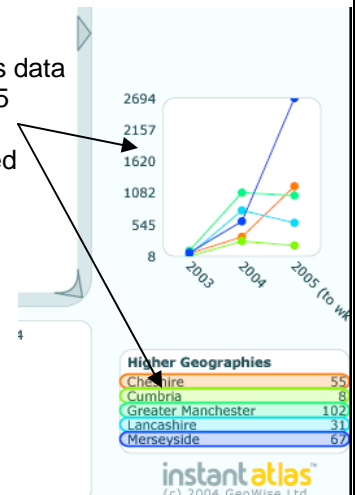
1. Open the 'Data by Local Authority' atlas using the link on the Health Protection Agency NW website
2. First select mumps then notifications from the drop down lists using the 'Data' selection button at the top left of the Atlas
3. Next choose '2003' from the 'time' selector button next to 'data'
4. You will notice the title of the atlas now reads 'Mumps >> notifications >> 2003'



- You will also notice that a map of the whole region is displayed (at 3) and an alphabetical list of Local Authorities is given (at 1). These are both snapshots of data for 2003.
- The bottom right hand corner of the atlas shows a graph of continuous data for all five counties in the NW and a snapshot list for 2003 (showing 55 notifications in Cheshire). You can see that notifications increased between 2003 and 2004 and that numbers have dramatically increased again in 2005.

Now focus your view down to Cheshire. Select 'Cheshire' from the drop down list at the 'filter' selector button

- The map will zoom in to Cheshire and the list of Local Authorities (at 1) will decrease as will the number of bars in the bar chart at 4.
- To orientate yourself on the map, click the 'Background Mapping' button to the right of the map window. Background mapping will only appear at a preset zoom level as it slows display down too much when the whole region is mapped.



## Viewing data by individual unit area

As you have probably already discovered, the different methods of data display in InstantAtlas can be linked by selecting or highlighting individual geographical units (PCTs or LAs). Hovering the mouse over the map automatically highlights (in yellow) the PCTs/LAs on the map but also displays the relevant data in the timeline (2) and the ranking of the highlighted area in the bar chart (4) and in the list of geographical areas (if the highlighted area is on the currently viewed list)(1). The name of the highlighted area and the value of data is also shown in the subtitle of the atlas.

The highlighted area can be **selected** by clicking it (either the map, bar chart or list). The colour changes to red and the data remains selected even when the mouse moves across to another area. In this way, you can compare data from different areas. Your selection will remain even if you change the time period of data and the disease/data viewed. To unselect all areas, click the 'Reset' button at the top left of the atlas.

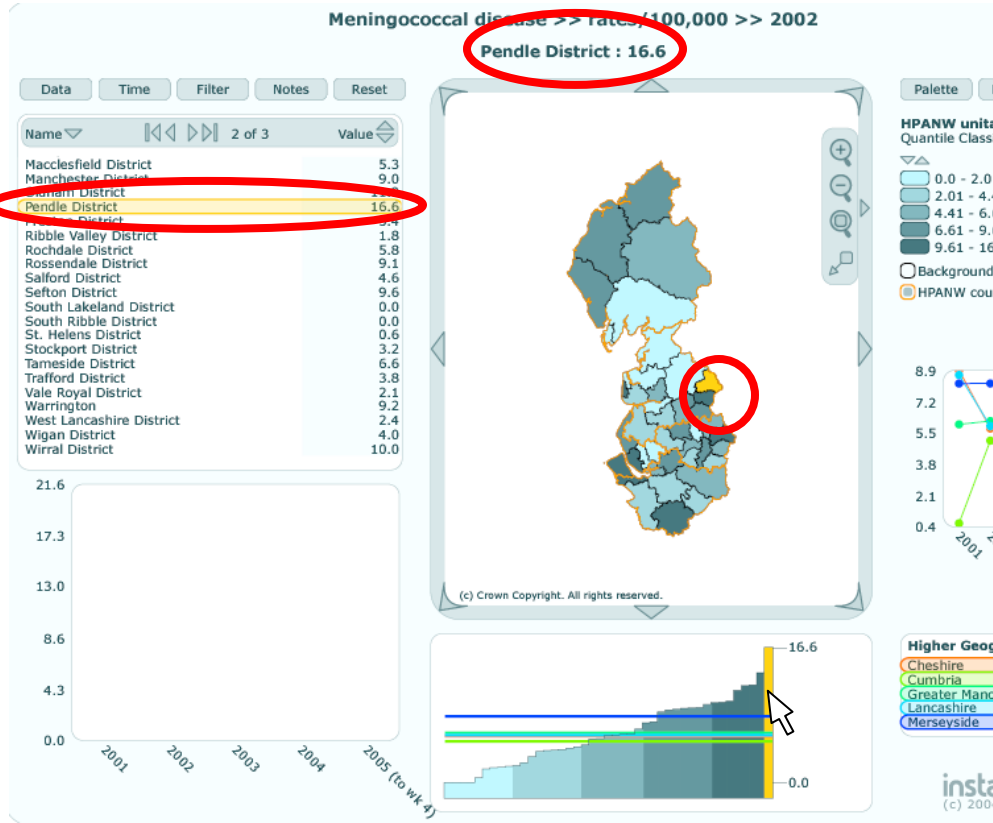
## Worked Example

**Aim** – to familiarise yourself with viewing data from individual geographic areas and build up comparative displays

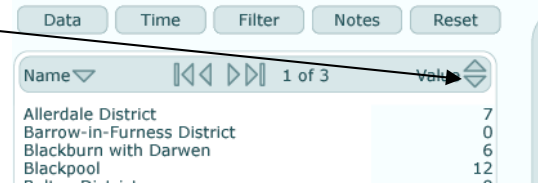
- Open the 'Data by Local Authority' atlas using the link on the Health Protection Agency NW website
- First select 'meningococcal disease' then 'rates/100,000' from the drop down lists using the 'Data' selection button at the top left of the Atlas
- Next choose '2002' from the 'time' selector button next to 'data'
- You will notice the title of the atlas now reads 'meningococcal disease >> rates/100,000 >> 2002'
- Hover the mouse over Central Manchester to view the rate of meningococcal disease in Manchester district. You can view this on the Atlas subtitle which should read 'Manchester District: 9.0'. You will notice that a timeline of rates between 2001 and 2005 will also appear (at 2).
- If you do not know the location of a Local Authority, you can also highlight it from the list (at 1). The default order for the list is alphabetical. Find 'Manchester' by clicking onto the second page of the list using the single forward arrow at the top of the list

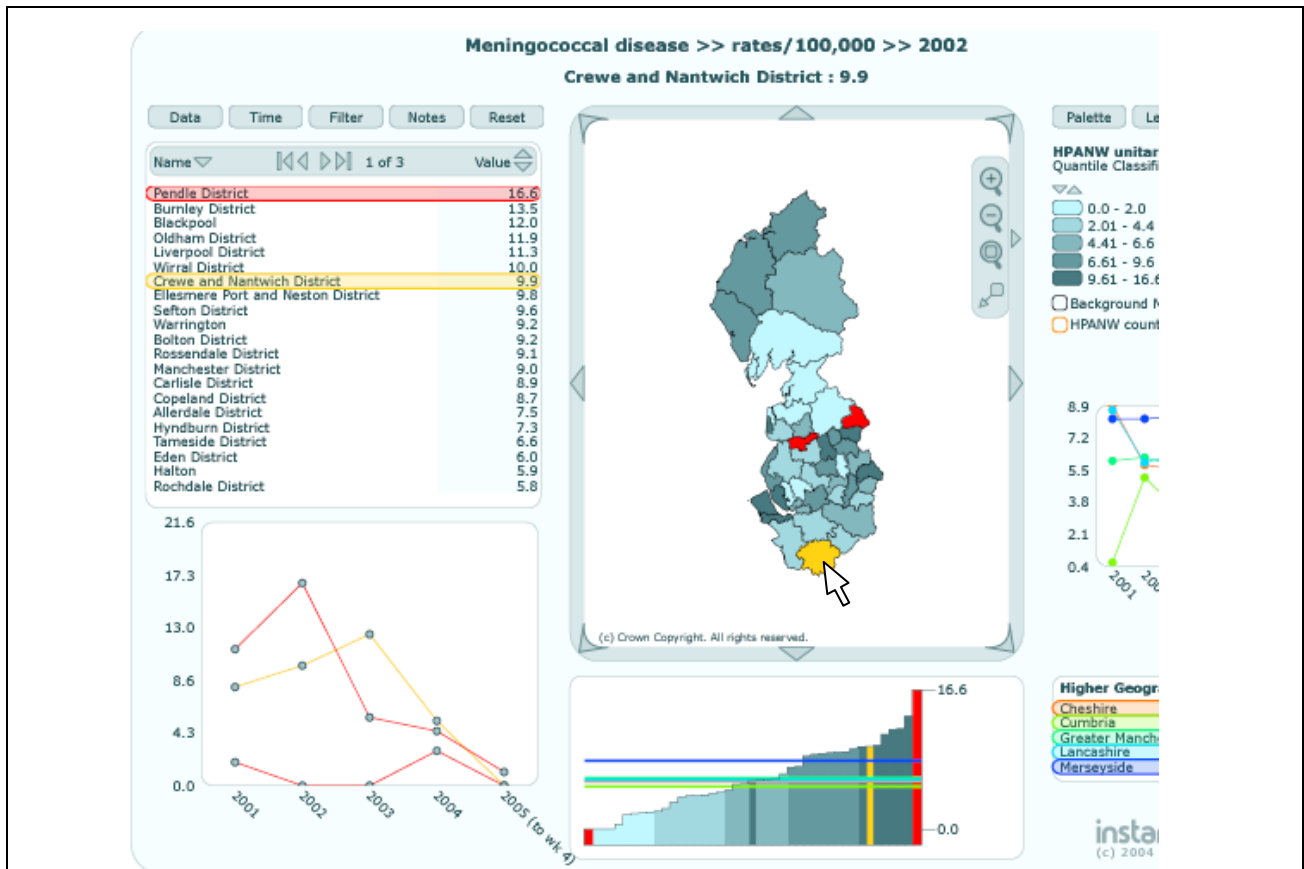


7. Hover the mouse over Manchester District and you will notice again that a timeline appears in the bottom left corner and that Manchester Local Authority is highlighted on the map.
8. With both the methods of highlighting Manchester above, you will also notice that a portion of the bar chart (at 4) is also highlighted (about 2/3 of the way along the chart). This shows the ranking of Manchester in 2002 in terms of meningococcal incidence.
9. Highlight the local authority with the highest incidence in 2002 from this bar chart by hovering the mouse over the extreme right bar. You will see (figure below) from the map, the atlas subtitle and the list of Local Authorities that this is Pendle and the incidence in 2002 was 16.6/100,000.





10. You can quickly view the ranking of each local authority by changing the order of the LA list from alphabetical to value. Click the bottom arrow next to value and the list will re-order in descending order (with Pendle at the top).
11. Select Pendle by clicking on it (this can be done on the list, on the map or on the bar chart). The yellow highlighted colour will change to red and the timeline will become fixed.
12. Also select the Local Authority with lowest incidence in 2002. This should be listed as 'South Ribble District'.
13. You will notice that the timeline (at 2) now has two unchanging red lines plotted, one for South Ribble and one for Pendle. If you hover the mouse over each line, the Local Authority depicted will appear in the Atlas subtitle. If you hover over one of the data points, the value of that point will also be shown in the subtitle.
14. You can still compare other Local Authorities to those selected by hovering the mouse over the map, list or bar chart. For instance, hover the mouse over the southernmost county in the NW, Crewe and Nantwich. You will see that although the incidence in 2002 is only 9.9/100,000 and some way below Pendle in ranking, the incidence rises in 2003 to around 13 (see figure below).





- With Pendle and South Ribble still selected, you can look at the data for other years to see how their ranking change with respect to the whole region. Select 2003 from the drop down list at the 'Time' button to the top left of the atlas. You will notice that Pendle drops half way down the ranking but South Ribble remains at the bottom.
- To clear the selections made, you can either click the individual Local Authorities or click the 'Reset' button at the top left of the Atlas.

## Changing the view of the map

The map window can be viewed at a number of different scales and the appearance of the data also adjusted. First, you can navigate around the map using the arrows at its border and the  and  magnifying glass buttons to the right of the map. As with all other buttons in the Atlas, hovering the mouse cursor over a button will display its function in the subtitle of the Atlas. The reset button (below zoom out) returns the map to the whole region scale and the resize enlarges the map to cover over other components of the Atlas. As we have seen, you can also select background mapping to the right of the map and this will appear after two zoom ins to the regional map. SHA/County boundaries can also be selected and these will appear as orange lines on the map.

The other main ways to change the view of the map are using the 'Palette' and 'Legend' buttons. Palette gives a selection of different colours for the map shading and Legend lets you choose the range by which to present the data; continuous, quantile, equal interval or outliers. The number of ranges can also be adjusted using the arrows above the actual legend to best fit the data displayed.

Finally, the Atlas can be copied and pasted into another document (eg a presentation or report) by right clicking anywhere on the Atlas and selecting 'Copy SVG'. It can then be pasted into another document as a normal picture would be.

