

NBN Distribution Maps Made Easy.

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Since this was first published there have been changes in NBN web services which make it easier for you to incorporate maps direct from the NBN in your website. See <http://www.nbn.org.uk/News/Latest-news/Get-map-URL.aspx> for embedding interactive maps and http://data.nbn.org.uk/Documentation/Web_Services/Atlas_Grade_Maps/ for atlas grade maps.

Introduction

Below I describe a method you can use to get a live NBN map on your website in one line of HTML. This is an order of magnitude simpler than trying to use the web services directly.

Web Services

NBN Web Services are a set of functions that allow a website developer to request information and maps from the NBN Gateway to use in their own website. To use them you need to be able to write in a programming language, such as Java, PHP or ASP, and be clear about how the functions work. You can read all about this at <http://data.nbn.org.uk/library/webservices/wsIndex.jsp>

NBN Web Services provide a lot of power and flexibility but, if all you want is a simple distribution map for a species, then BRC can take the effort out of it almost completely. We can provide an intermediate web page which you request, with a parameter indicating the species you want to map, and then you include this in your web page. That is it.

IFrames

How do you include one web page in another? The answer is to use the HTML tag <iframe>. This creates a box, with a width and height that you can specify, in which is displayed another web page, specified by the src attribute. It's just like inserting a picture with the tag.

An example might look like the following

```
<iframe width="400" height="300" src="http://www.bbc.co.uk"></iframe>
```

The page that we have created at BRC for displaying maps has the URL <http://www.brc.ac.uk/schemes/NBNWidget/tvkGridmap.aspx>.

Taxon Version Keys

And how do you specify which species you want in the map? We add what is called a query string to the URL which includes the taxon version key (TVK) of the species.

To find the TVK of a species, go to the NBN Gateway (<http://data.nbn.org.uk/>) and search for the species of interest. Assuming the search finds what you are looking for, click on the link to grid map of the distribution. You will see in

your browser a URL ending something like `.../gridMap.jsp?srchSpKey=NHMSYS0000875473`. The taxon version key is the bit at the end, `NHMSYS0000875473` in this example.

So, the one line of HTML required to insert an NBN map into a web page ends up looking something like the following:

```
<iframe width="400" height="600"
src="http://www.brc.ac.uk/schemes/NBNWidget/tvkGridmap.aspx?tvk=NHMSY
S0000875473"></iframe>
```

And that would be one line if the page was not so narrow. All you need to do is modify the TVK to that of the species you want to display.

Getting Stylish

If you have spent a lot of time making your website beautiful you may well be offended to have the resultant map appear with different fonts and colours from the rest of your site. If you have used cascading style sheets (CSS) to style your site, however, it is just a matter of extending the query string to specify your style sheet and we will apply it to the map and surrounding text.

Simply replace “*yourdomain*” and “*yourstyles*” in the line below with the path and file name to your style sheet.

```
<iframe width="400" height="600"
src="http://www.brc.ac.uk/schemes/NBNWidget/tvkGridmap.aspx?tvk=NHMSY
S0000875473&css=http://yourdomain/yourstyles.css"></iframe>
```

Customising the Map

By specifying more parameters in the query string we can exploit more of the options offered by the NBN Web Services. It is possible to change the map size, zoom in on a vice county, select a particular data set and more. The full list of parameters supported is shown in the table below.

| Parameter name | Value | Description |
|----------------|----------------------------------|---|
| tvk | Obtainable from the NBN website | The taxon version key of the species for which you want the map. You must provide this |
| ds | Obtainable from the NBN website | A comma-separated list of the dataset keys of the datasets you want shown on the map. If not specified all available datasets are shown. |
| res | Either 100m, 1km or 2km | The size of the squares to show on the map. If not specified the resolution is 10km. Remember not all datasets can be viewed at higher resolutions. |
| w | A number up to 800 | The width, in pixels, of the map. If not specified the width is 350. |
| h | A number up to 800 | The height, in pixels, of the map. If not specified the height is 350. |
| gd | Either 10km, 100km or 10km_100km | Specifies a grid to overlay the map. If omitted, no grid is shown. |

| | | |
|--------|--|--|
| bg | Either os or vc. Note that these values are in upper case | Specifies a background of either an Ordnance Survey map or Vice County boundaries. If omitted, no background is shown. |
| vc | The numeric ID of the vice county, obtainable from the NBN website | Zooms the map in to a particular vice county if specified. |
| zoom | One of the following: england scotland wales highland | Zooms the map to the named area. You may combine this with either a w or h parameter but don't use all 3 together as they will conflict. |
| b0from | A year | If specified, defines the start year for data to be displayed (inclusive). If not specified, defaults to 1AD |
| b0to | A year | If specified, defines the end year for data to be displayed (inclusive). If not specified, defaults to the current year. |
| b0fill | A hexadecimal colour code | If specified, defines the fill colour. Defaults to red. |
| b0bord | A hexadecimal colour code | If specified, defines the border colour. Defaults to black. |
| b1from | A year | As b0from but for a second data layer that appears under the first |
| b1to | A year | As b0to but for a second data layer that appears under the first |
| b1fill | A hexadecimal colour code | Fill colour for second data layer. Defaults to orange |
| b1bord | A hexadecimal colour code | Border colour for second layer. Defaults to black |
| b2from | A year | As b0from but for a third data layer that appears under the second |
| b2to | A year | As b0to but for a third data layer that appears under the second |
| b2fill | A hexadecimal colour code | Fill colour for third layer. Defaults to yellow |
| b2bord | A hexadecimal colour code | Border colour for third layer. Defaults to black |

Note that values are case sensitive and that there should be no spaces anywhere in the query string. Each parameter is separated from the previous one by an '&' and is written *ParameterName=Value*

How do I get a dataset key?

Go to the NBN Gateway (<http://data.nbn.org.uk/>) and follow the links to Explore Datasets. Navigate the hierarchy to reach the dataset of interest and you will see in your browser a URL ending something like

.../taxonDataset.jsp?dsKey=GA000367. The dataset key is the bit at the end, GA000367 in this example.

How do I get a vice county ID?

Download the table from

<http://data.nbn.org.uk/library/webservices/wsVCDownload.tab>

What is a date band?

If you are interested in looking at a change in distribution you can show the records for one date range in one colour and overlay this with the records for a different date range in a different colour. You can show up to three date bands which are defined by the b0, b1 and b2 parameters. Always begin with b0, your top-most layer, and work down.

How do I specify a hexadecimal colour code

Colours are defined by their mix of red, green and blue. The amount of each colour is specified by a number from 0, meaning none, to a maximum of FF counting in hexadecimal (base 16). A leading 0 is added to ensure each number has 2 digits. Writing the 3 amounts together as one number, giving them in order red, green, blue, creates a 6-digit colour code. Thus red is FF0000, magenta is FF00FF, white is FFFFFFFF.

Customising the output

If you have tried this out you will have found that you get more than just a map for your money. You get a title, a link to NBN terms and conditions, the map, a link to an interactive map on the NBN website, a list of datasets and the powered by NBN logo. It may be that you won't want to see all of those things as they are presented so they can be turned off. Be aware that, if you do turn off some of these items, you should ensure that the information is elsewhere on your site so that you are abiding by the NBN rules. Just add the following parameters to your query string.

| Parameter name | Value | Description |
|-----------------------|------------------------------|---|
| title | sci, com or 0 | Enables either the scientific name or the common name as a title or disables it. If omitted, the scientific name appears. |
| terms | 0 or 1 | Disables or enables the link to terms and conditions. Enabled by default. |
| link | 0, 1 or new | Disables or enables the link to the interactive map. Enabled by default. Links to the original map by default but the value <code>new</code> selects the revised version. |
| ref | 0 or 1 | Disables or enables the list of datasets. Enabled by default. |
| logo | 0 or 1 | Disables or enables the NBN Gateway logo. Enabled by default. |
| maponly | 0 or 1 | <code>maponly=1</code> is equivalent to setting all the preceding parameters to 0 and leaves only the map. |
| css | The full path to a CSS file. | And lets not forget this previously mentioned parameter. Currently the following standard tags are used in the output. <code><h3></code> , <code><p></code> , <code></code> , <code><a></code> , <code></code> , <code></code> |

New Interactive Map

If you set the parameter `link=new` then the link to the interactive map points to the new (2012) style of map. See <http://www.nbn.org.uk/News/Latest-news/Get-map-URL.aspx>. This map can take its own set of query string parameters to determine the output. If you want to include any of these parameters in the link then you can do so by adding them to our query string with a prefix of "link_" in the parameter name.

For example

```
http://www.brc.ac.uk/schemes/NBNWidget/tvkGridmap.aspx?tvk=NHMSYS0000875473&link=new&link_baselayer=Shaded
```

Conclusion

I hope this is useful to you and has been easy to understand. These are live maps, regenerated each time the web page is viewed, so they always contain the most up to date information available from the NBN Gateway.

If you would like to discuss any aspect of your website with BRC, contact Jim Bacon by email, jame2@ceh.ac.uk, or telephone 01491 692253.