Statistisk sentralbyrå
Statistics Norway

Notat

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PX-Map2 User Manual

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1 PX-Map2 - introduction

1.1 What PX-Map2 is and what it is not

PX-Map2 is a tool for presenting statistical data.
PX-Map2 is not a tool for analysing statistical data.

By using PX-Map2 "analyses" happens in the user's brain while viewing maps and other graphics.

1.2 History

In recent years Statistics Norway, in line with the majority of National Statistical Institutes, has increased the use of thematic maps and other graphic means in different ways of disseminating statistics. The demand for thematic maps was increasing, and Statistics Norway decided to develop in-house systems for production of thematic maps when no off-the-shelf products were considered satisfactory due to price/performance, complexity of user-interface and interfaces with statistical data/statistical databases

PX-Map is one of the contributions to the PC-Axis Family from Statistics Norway. The former versions of PX-Map were developed in 2 different developing environments. PX-Map 1.x – the Windows version - was developed in Visual Basic, and PX-iMap - the Web version - was developed in ASP. When further developments were demanded, Statistics Norway decided to freeze the existing PX-Map modules and start from scratch, developing source code that easily could be utilized for both Windows environment and Web environment. The choice of development technology and tools were .Net, C# and Java Scripts (js). Another important change was replacing ESRI shape file format for basic map data with the format Scalable Vector Graphic (SVG).

PX-Map2**,** as the previous versions of PX-Map, supports PC-Axis file format as well as character separated text files for the statistical input data.

1.3 Why using PX-Map2

PX-Map2 gives an instant and visualized overview of your statistical data. The thematic maps, the data distribution view and bar charts are easy, and not least efficient, ways to communicate a message to people. It is intuitive reading a thematic map compared to "reading a table of figures" see Figure 1, Figure 2 and Figure 3.

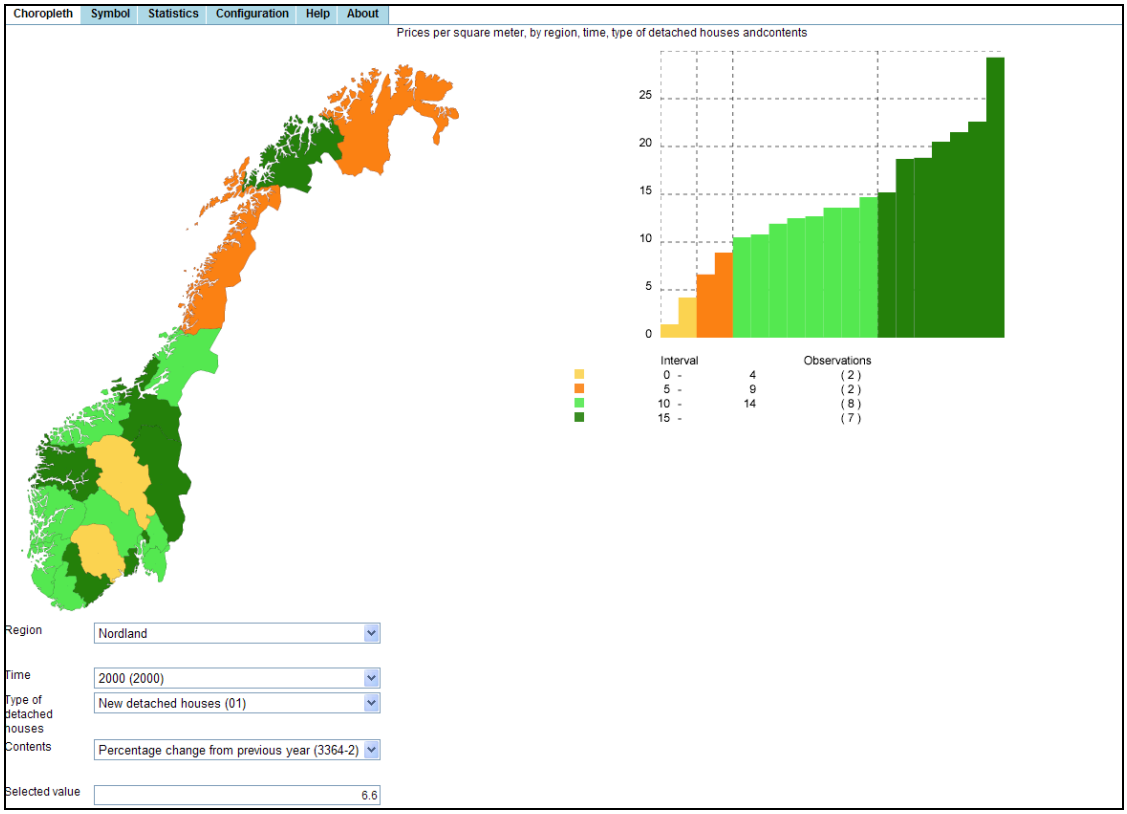

Figure 1 Chorpleth map illustrating the figures in the grey-dotted column in Figure 2

Prices per square meter, by region, time, type of detached houses and contents

	2000				2007			
	New detached houses		Used detached houses		New detached houses		Used detached houses	
	Price per square meter (NOK)	Percentage change from previous year	Price per square meter (NOK)	Percentage change from previous year	Price per square meter (NOK)	Percentage change from previous year	Price per square meter (NOK)	Percentage change from previous year
01 Østfold	8 868	12,5	7 125	18,7	19 014	18,6	14 637	12,4
02 Akershus	11 249	14,7	11 228	17,4	23 241	16,6	21 278	12,8
03 Oslo	14 598	22,6	15 645	17,0	27 468	10,5	31 046	10,5
04 Hedmark	9 117	20,5	5 551	12,3	17 562	4,5	11 842	7,1
05 Oppland	7 790	4,2	5 811	13,5	17 288	17,0	11 697	9,4
06 Buskerud	9 012	10,5	7 605	16,9	20 178	11,6	15 138	9,4
07 Vestfold	9 898	15,2	8 120	14,8	21 830	13,8	16 220	13,1
08 Telemark	7 378	1,4	5 667	8,8	16 807	15,3	12 527	14,8
09 Aust-Agder	9 096	18,8	6 862	11,1	16 709	18,4	13 666	18,3
10 Vest-Agder	8 311	11,9	6 670	8,0	17 565	15,7	16 035	15,8
11 Rogaland	8 359	10,8	7 835	8,0	19 825	18,2	18 955	18,8
12 Hordaland	8 311	13,6	7 581	16,2	18 384	12,0	19 893	12,2
14 Sogn og Fjordane	8 359	18,7	5 671	7,7	14 243	15,0	11 754	15,4
15 Møre og Romsdal	8 311	13,6	5 825	11,1	18 061	23,4	12 144	14,5
16 Sør-Trøndelag	9 520	29,3	6 980	13,5	18 456	11,6	16 389	6,0
17 Nord-Trøndelag	8 139	12,7	5 207	11,7	17 470	14,2	9 544	8,9
18 Nordland	8 234	6,6	5 468	7,2	16 562	21,6	13 079	14,8
19 Troms Romsa	9 202	21,5	6 889	15,6	19 000	16,0	17 218	7,4
20 Finnmark Finnmárku	8 491	8,9	4 930	5,2	16 432	:	15 084	4,0

Figure 2 Regional statistics for detached houses in Norway. Counties.

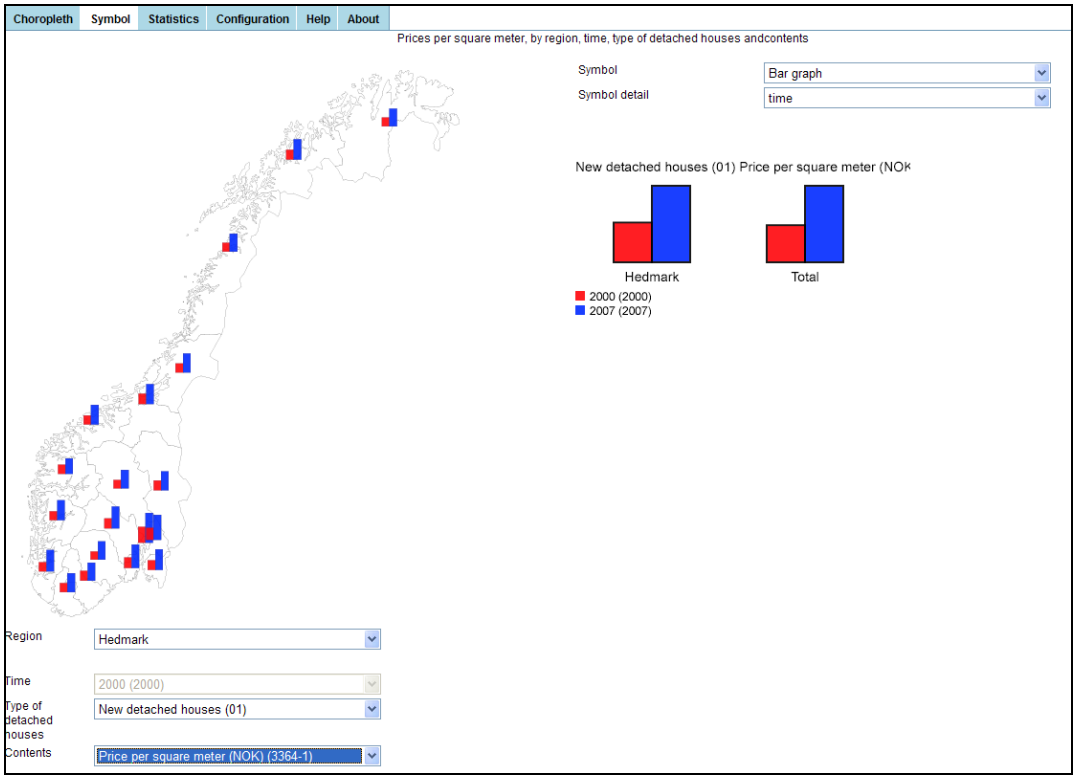

Figure 3 Symbol map with bars illustrating the figures in red- and blue-marked columns in Figure 2

PX-Map2 provides functionalities that give several possibilities to visualize subsets of your dataset in different ways. Some of them are:

- several variables in one dataset
- symbol maps with pies
- symbol maps with charts
- symbol maps with circles in different colours for negative and positive figures
- tool tips in symbol maps
- choropleth maps with 2 colour scales round a user defined threshold value
- scrolling a variable produces “fake” animation
- pointing to a region in the map highlights the corresponding bar in the Data Distribution View and opposite: the corresponding region is highlighted when pointing to a bar in the Data Distribution View
- end user settings of colours are stored in Cookies

2 Launching PX-Map2

Make sure that your system is set up ready to run PX-Map2 – see Chapter 6.

2.1 As a standalone program

Look up **PxMap2.exe** in the Catalogue "PxMap2" in your Windows explorer.
Double-click on PxMap2.exe.

You get the following picture on your screen:

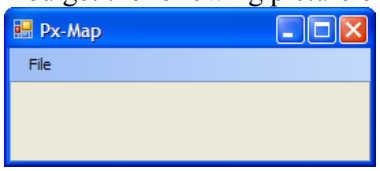

Figure 4 PX-Map2 as a standalone program

Point to File and then Open … (see Figure 5)

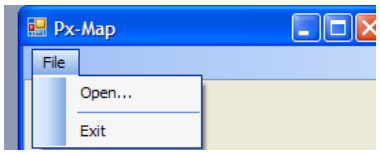

Figure 5 File Open...

An Open Dialog Box appears and shows the same directories and files as in Figure 30 . Go to the pxdata catalogue. Select the file containing the Statistical data you want to visualize in PX-Map2. This file has to be a PC-Axis file (.px) or a character separated text-file – see Chapter 7 for details of statistical data requirements.

Opening the file results in a choropleth map on your screen. The map's default attributes (colour, language, type of classification etc) are based on the settings in the Configuration file (config.xml) of PX-Map2. These settings can be changed – see Chapter 6.7 for adaptation of the Config.xml file.

2.2 From PC-Axis

Launch PX-Map by pressing the button in PC-Axis. In advance make sure that your PC-Axis installation is set up ready to run PX-Map2, for details see Chapter 6.6.

IMPORTANT - the MAP keyword is required in the PC-Axis files, and its value has to be the name of the SVG file representing the basic map. Ex. if your PC-Axis file contains municipality data, the SVG file has to contain the coordinates for the relevant municipalities. See chapter 8 for more information about map requirements.

2.3 From Excel

To launch PX-Map2 from an excel spreadsheet requires a macro installed in advance. See chapter 6.10 for details.

After installing the macro the button  is visible on the standard toolbar. When clicking the button some dialog boxes are displayed before PX-Map2 is launched.

3 Making maps

3.1 General

To decide what kind of map (choropleth or symbol) that best suits your data see chapter 5.2 for information.

The default map type is choropleth (can be changed in the Config.xml file see Chapter 6.7).

The colour picker in PX-Map2 is a simplified version of the original colour picker made by Kevin Hughes – see chapter 5.3 for link to the original colour picker.

3.2 Colour picker

The colour picker works in the same way for choropleth and symbol maps.

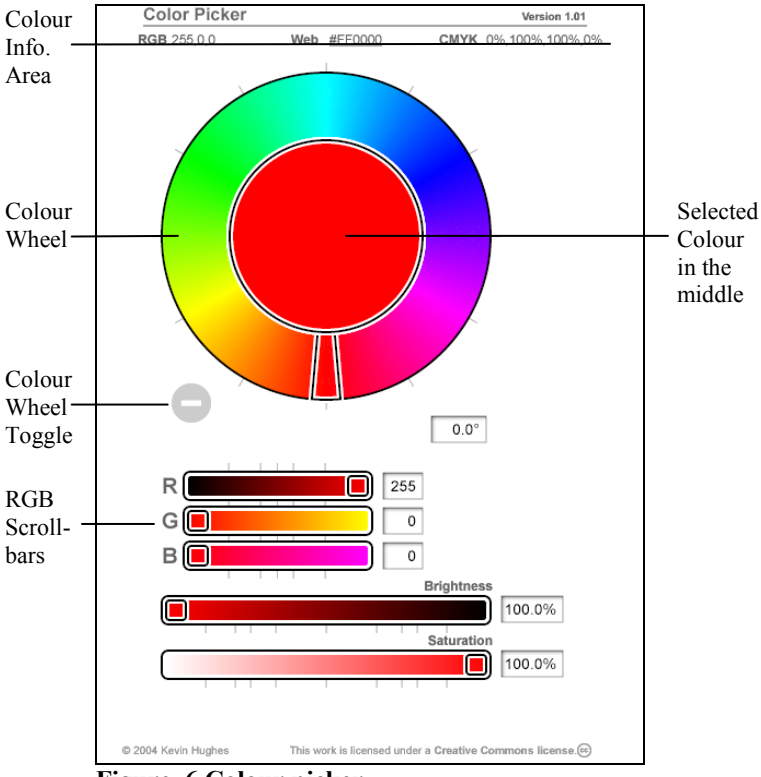

Figure 6 Colour picker

"The most noticeable thing about the Color Picker is the **color wheel**. You can click on the rainbow-ish area of the wheel to select a color, or click and drag the **color wheel arm** to choose a color. Your selected color will appear in the center. The **color wheel toggle** initially looks like a minus sign at the bottom left corner of the color wheel. Click it to hide the outside "rainbow" part of the color wheel, and click the toggle again to show it. At top is the **color**

information area. Your selected color will appear as RGB values, hexadecimal (Web) values, and CMYK values. You can select, copy, and paste these values as needed into other applications."

"The **saturation and brightness scrollbars** allow you to change the saturation and brightness (aka value) of the selected color. You can drag the scrollbar widgets or click anywhere within the scrollbars to change color. In the same manner, you can select colors by using the **red, green, and blue (RGB) scrollbars**"

Another way of selecting colour:

"Click within the sliders and the color wheel near a gray tick mark to snap to that value. The color wheel has tick marks every 30 degrees. The saturation and brightness sliders have quarter and third marks and marks at 10, 20, 80, and 90 percent. The RGB sliders have marks at 50 percent and every 20 percent which snap to Web safe colors."

The quoted text is copied from http://www.kevcom.com/colorpicker/.

3.3 Choropleth maps

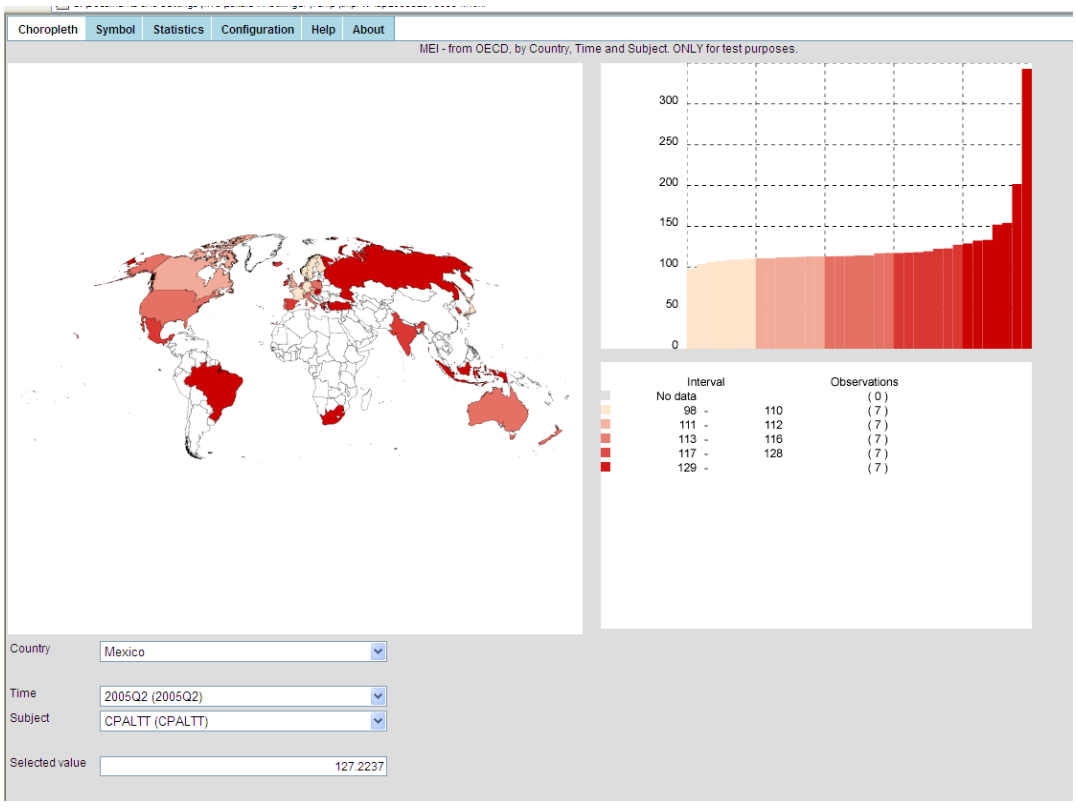

Figure 7 Example of a default map made from a PC-Axis file

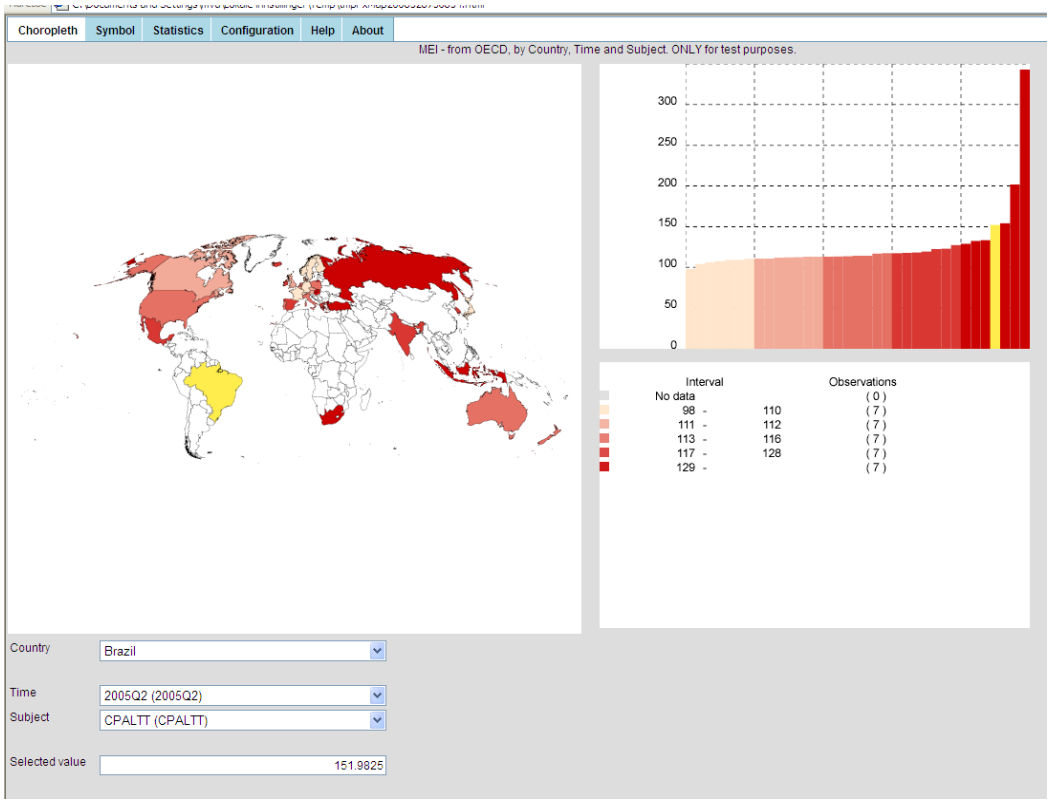

Figure 8 Dynamic viewing of variables

Pointing in the map highlights the actual polygon (region - ex. country, county, municipality, ..) and the corresponding bar in the data distribution view (bar chart). In the example in Figure 8 the mouse pointer has been moved over Brazil.

When scrolling the drop-down-lists the map, the bar chart and the legend change dynamically.

3.4 Symbol maps

PX-Map2 provides 3 types of symbol maps - circles, pies and bar charts. See chapter 5.2 for recommendations for use of the different symbol types.

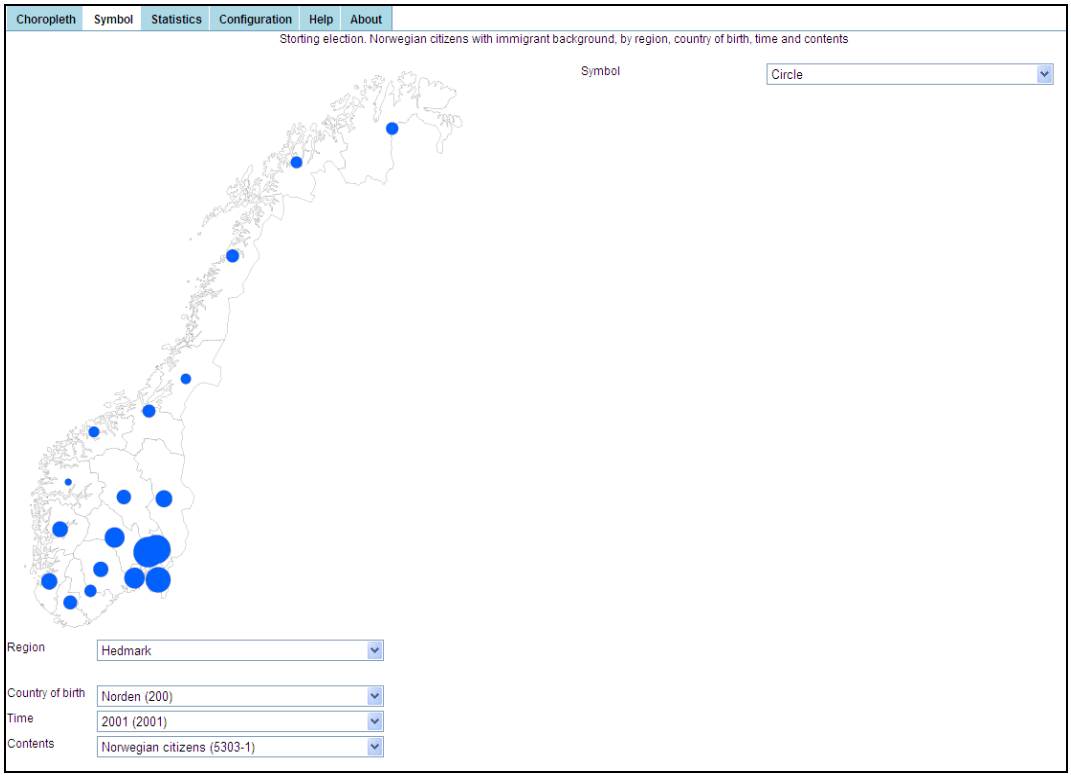

Figure 9 Symbol map with circles

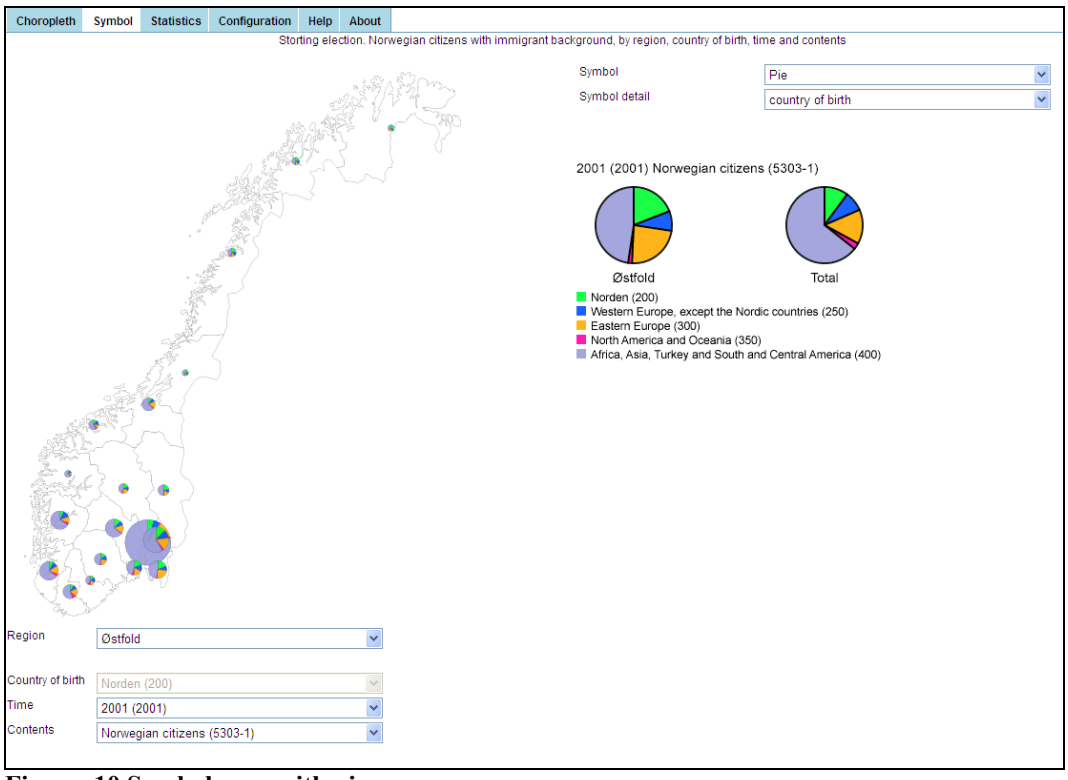

Figure 10 Symbol map with pies

3.5 Statistics

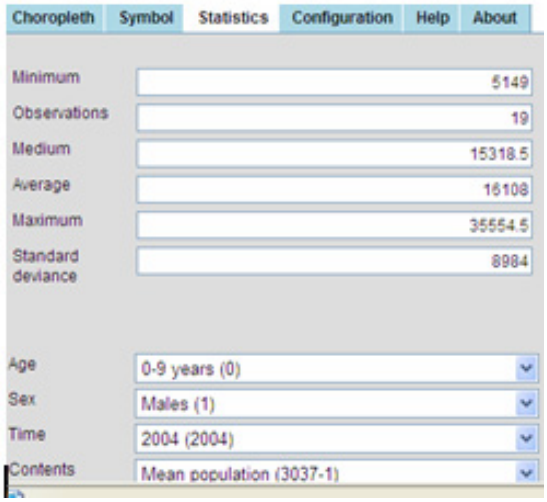

Figure 11 Statistics - example

The statistic figures change dynamically when scrolling the drop-down-lists.

3.6 Configuration

3.6.1 Of choropleth map

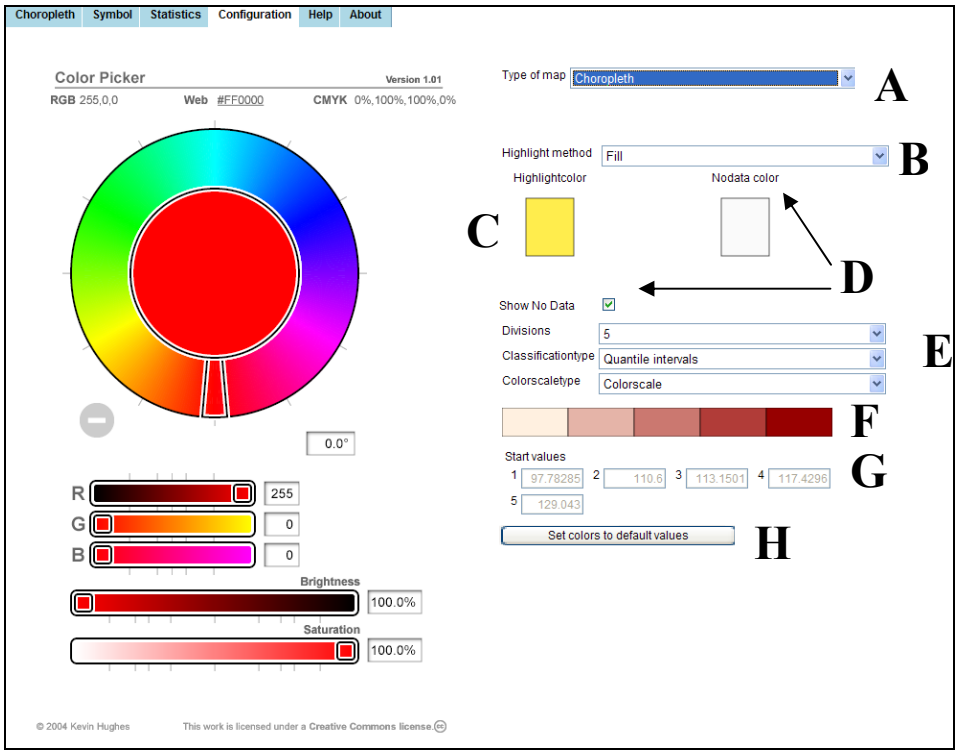

Figure 12 Configuration of choropleth map

A - Type of map

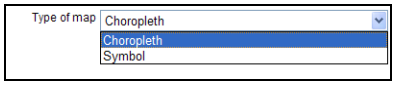

Figure 13 Type of map

Be sure to have selected relevant type of map before manipulating the settings

B – High light method

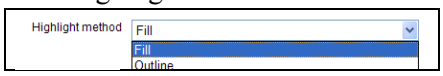

Figure 14 Highlight method

The highlight method tells how the selected polygon (region) in the choropleth map should be coloured, either filling the polygon with the highlight colour or only outline the polygon with the highlight colour.

C – High light colour

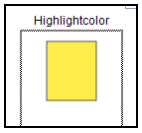

Figure 15 Highlight colour

The highlight colour can be changed by selecting the desired value in the colour picker (see chapter 3.2) and click the Highlightcolor field.

D – Show No data

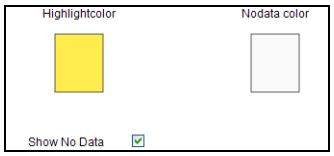

Figure 16 Show No Data and No Data colour

The Show No Data box must be ticked if polygons (regions) without values should be shown. These polygons will then be shown in the colour selected in the No Data colour field, see chapter 3.2 for selection of colours.

Untick the Show No Data box if polygons without data not should be shown.

E – Divisions, classification type and colour scale type

Figure 17 Divisions

Could be a number between 2 and 9

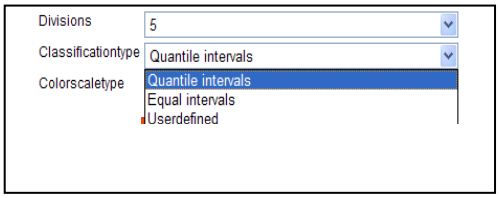

Figure 18 Classification type

PX-Map2 provides 2 statistical classification types – i.e. quantile classification and equal intervals. In addition it is possible to set limit value for each class (userdefined).

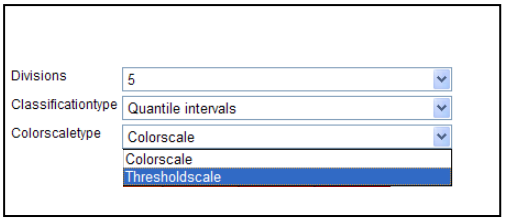

Figure 19 Colour scale type

When Colorscale is selected a one-scale colour bar is displayed (see Figure 20). This colour bar can be modified by clicking the first and/or last colour with the selected colour. The colours between are generated automatically.

When Tresholdscale is selected a two-scale colour bar is displayed (see Figure 21)

F – Colour bar

Figure 20 One-scale colour bar

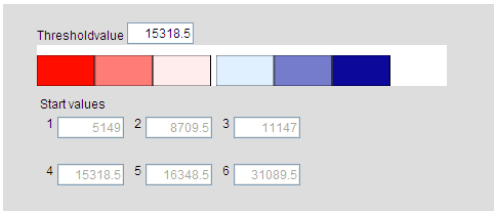

Figure 21 Two-scale colour bar

G – Start values

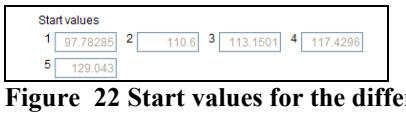

Figure 22 Start values for the different classes

The start values are automated generated for equal intervals and quantile intervals. You can set your own start values if you choose Userdefined classification type.

H – Set colours to default values

Click the button to set colours to default values.

3.6.2 Of symbol map

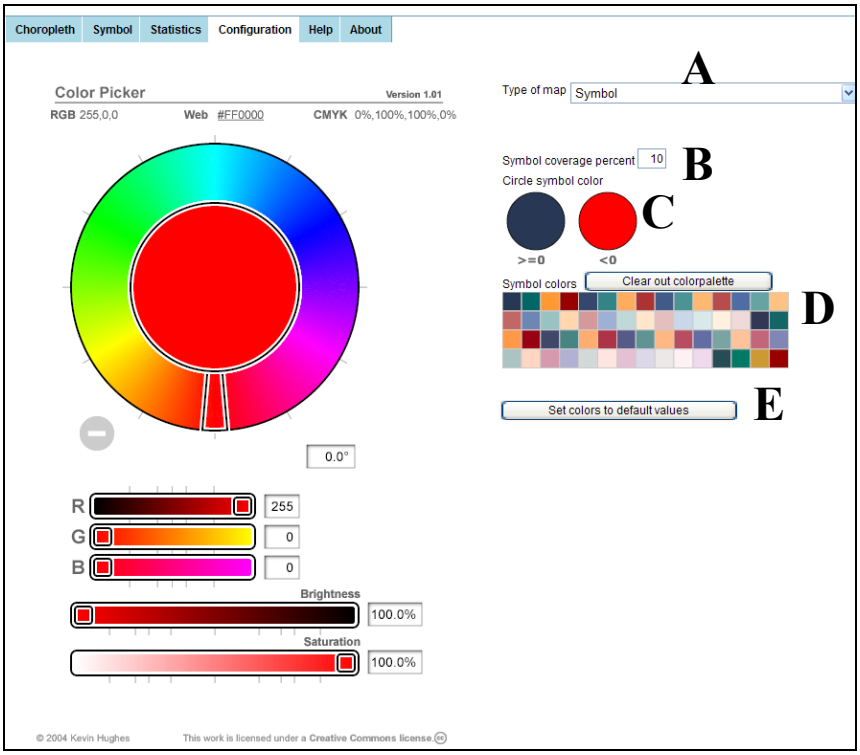

Figure 23 Configuration of symbol map

A – Type of map - symbol.

B – Symbol coverage percent. This percentage is the total area of all symbols in proportion to the total area of the map polygons.

C – Circle symbol color. The end user can choose different colours for circles representing negative and positive figures.

D – Symbol colors. Clear out colorpalette – Reset the colours.

These colours are for other symbols than circles.

The colour palette can be customized by the user. One can keep and modify a working set of colors. Click once on an empty (or filled) square to fill that space with the selected color. These colours are stored in a cookie on the computer.

E – Set colors to default values. The default values are set, but can be modified in the Config.xml file. It is the *item id = "Colorpalette"* that "holds" the default values which are defined by RGB values.

3.7 Help

The text in the Help pane is all written in the Language.xml (see chapter 6.8).
There is an own section in the Language.xml for the help text, see below:

```
<Section>
        <Description>Help-section</Description>
        <Phrase id="HelpSVGGeneral">
```

```
                    <Translation lang="en"> Press the right mousebutton for General SVG-functionality </Translation>
                    <Translation lang="nb-NO"> Press høyre museknapp for generell SVG-funksjonalitet </Translation>
                    <Translation lang="nn-NO"> Press høyre museknapp for generell SVG-funksjonalitet </Translation>
        </Phrase>
        <Phrase id="HelpSVGZoomIn">
                    <Translation lang="en">Zoom In - Press the Ctrl-key while clicking the left mouse-button and dragging the mouse-pointer to area of interest </Translation>
                    <Translation lang="nb-NO">Zoome inn - hold CTRL-knappen inne mens venstre museknapp holdes nede og dra musepeker til ønsket område </Translation>
                    <Translation lang="nn-NO">Zoome inn - hold CTRL-knappen inne mens venstre museknapp holdes nede og dra musepeker til ønsket område</Translation>
        </Phrase>
        <Phrase id="HelpSVGZoomOut">
                    <Translation lang="en">Zoom Out - Press the Ctrl-key and the Shift-key at the same time and click the left mouse-button </Translation>
                    <Translation lang="nb-NO">Zoome ut - hold CTRL-knappen og Shift-knsppen inne samtidig og klikk venstre museknapp </Translation>
                    <Translation lang="nn-NO">Zoome ut - hold CTRL-knappen og Shift-knsppen inne samtidig og klikk venstre museknapp </Translation>
        </Phrase>
        <Phrase id="HelpSVGPan">
                    <Translation lang="en">Pan - Press the Alt-key and the left mouse-button while dragging the mouse-pointer </Translation>
                    <Translation lang="nb-NO">Panorere - hold Alt-knappen inne og venstre muse-knapp mens musepeker flyttes </Translation>
                    <Translation lang="nn-NO">Panorere - hold Alt-knappen inne og venstre muse-knapp mens musepeker flyttes </Translation>
        </Phrase>
        <Phrase id="HelpSVGIdentityInMap">
                    <Translation lang="en">Identify a region in the map - mouseover a polygon shows the name of the selected region in the Region-field</Translation>
                    <Translation lang="nb-NO">Identifiser en region i kartet - pek med musa i kartet og regionens navn vises i regionsfeltet </Translation>
                    <Translation lang="nn-NO">Identifiser en region i kartet - pek med musa i kartet og regionens navn vises i regionsfeltet </Translation>
        </Phrase>
        <Phrase id="HelpSVGIdentityInHistogram">
                    <Translation lang="en">Identify a region by pointing in the Histogram </Translation>
                    <Translation lang="nb-NO">Identifiser en region i kartet ved å peke i datafordelingen </Translation>
                    <Translation lang="nn-NO">Identifiser en region i kartet ved å peke i datafordelingen </Translation>
        </Phrase>
        <Phrase id="HelpSVGColourPicker">
                    <Translation lang="en">Change colours: Point and move in the colour-wheel - the selected colour is shown in the middle of the wheel. To use this colour - just
point and click in the field you want to change colour</Translation>
                    <Translation lang="nb-NO">Forandre farger: Pek og roter i fargehjulet. Den valgte fargen vises i midten. For å benytte denne fargen, pek og klikk i det feltet du
ønsker å endre farge. </Translation>
                    <Translation lang="nn-NO">Endre farger: Pek og roter i fargehjulet. Den valgte fargen vises i midten. For å benytte denne fargen, pek og klikk i det feltet du
ønsker å endre farge.</Translation>
        </Phrase>
</Section>
```

More informative text can be added within any of the Phrase paragraphs. Example, see Figure 24.

```
<Phrase id="HelpSVGGeneral">
        <Translation lang="en"> Press the right mousebutton for General SVG-functionality. Here you can write anything you want, but it is a good idea if it has something to do with
        the use of the Norwegian map module PX-Map2. Good Luck </Translation>
</Phrase>
```

Figure 24 Extending Help text

4 Functionalities in PX-Map2

4.1 Zoom in, zoom out and pan

It is possible to zoom in, zoom out and pan in all SVGs in PX-Map2. The map picture and the data distribution view are separated SVGs.

The way to zoom and pan depends on the SVG functionality supported by your browser. Using Adobe Reader in Microsoft Internet Explorer the SVG functionalities are viewed and can be selected by right-clicking in the SVG. Examples, see Figure 25.

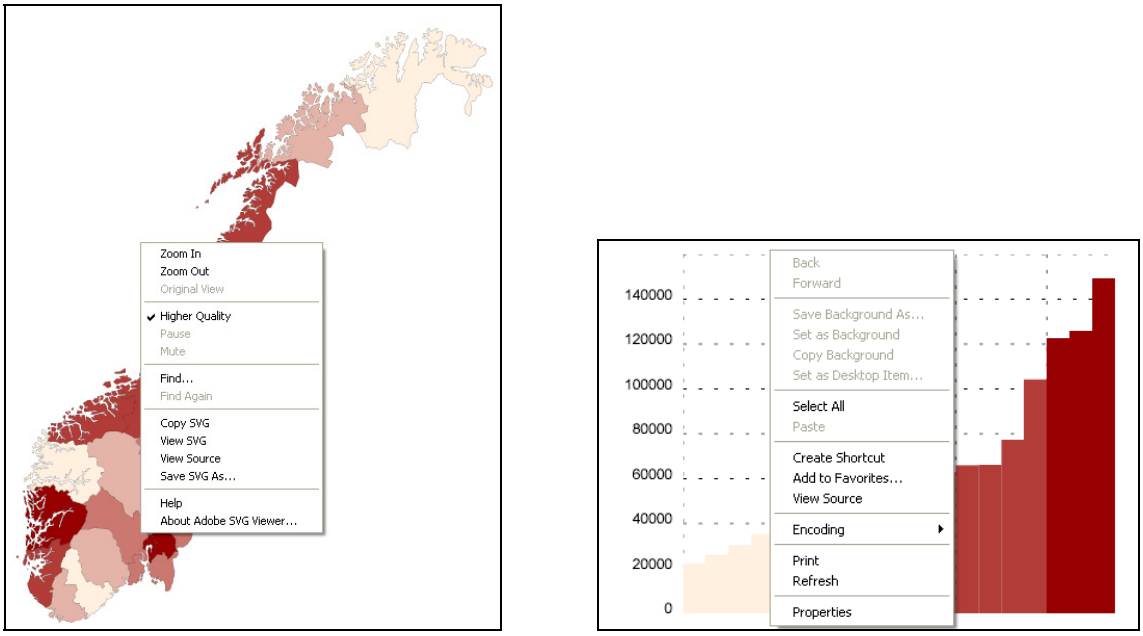

Figure 25 Functionalities in Adobe SVG Reader

4.2 Copying an SVG picture to Word, Powerpoint etc.

Select *Copy SVG* see Figure 25.
Open a document in Word, Powerpoint or similar.
Select *Edit* and *Paste special* and *picture*.

4.3 Print functionality

The PX-Map2 preview and print functionalities make use of the corresponding functionalities in the current browser.

When using Microsoft Internet Explorer (IE) , the direction of the print-out must be set to *landscape* to get all the screen content printed.

Use of Microsoft Internet Explorer (IE) and the preview functionality is shown in the example below.

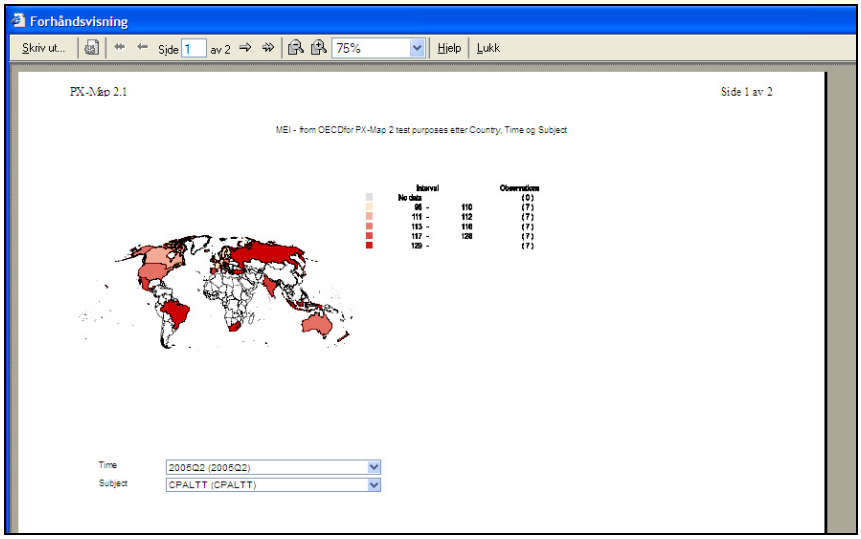

Figure 26 Preview of print functionality in IE (Norwegian version)

5 Tips &Tricks

5.1 Avoiding Warning message in Microsoft Internet Explorer

Depending on the security level on your computer, a warning message can be shown when running SVG applications in Microsoft Internet Explorer (IE).

This message seems very annoying, and to avoid the message it is possible to change the security level: In the IE menu select:

Tools - Internet Options – Advanced
Tick off "*Allow active content to run in files on My Computer*" (see Figure 27)

BE AWARE that this permission may cause opening of a security hole in IE, especially if the computer is directly connected to Internet.

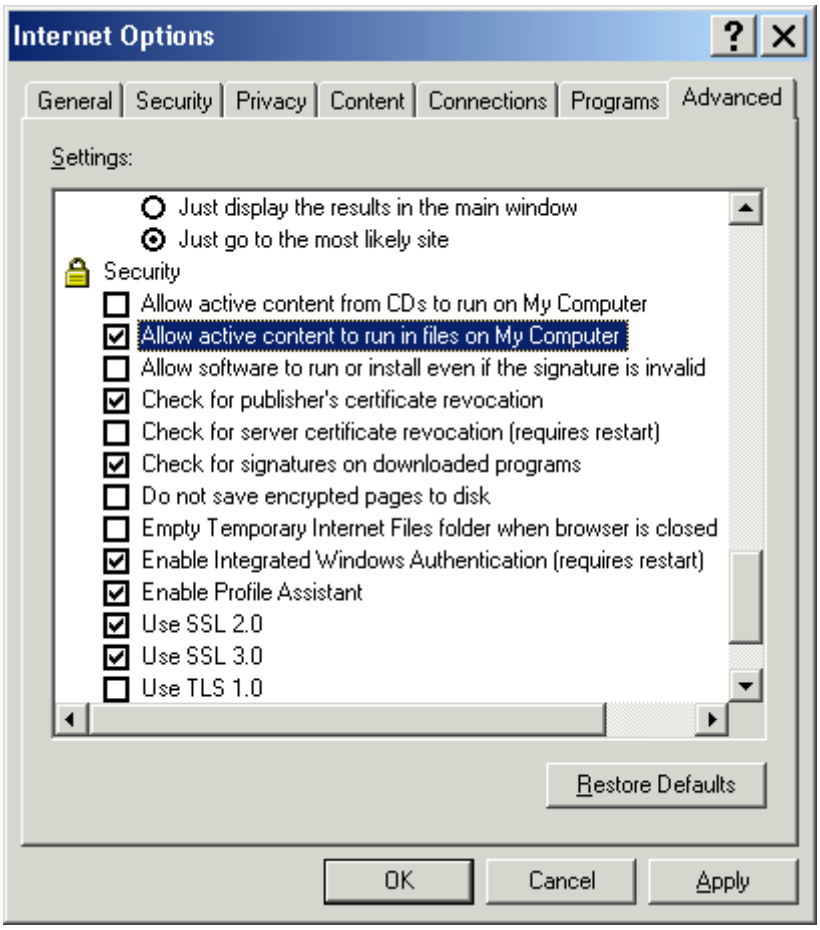

Figure 27 Internet Alternatives

5.2 Symbol map or choropleth map – when the one and when the other?

A rule of thumb is to choose **choropleth maps for relative numbers** (ex. percentages, per thousand inhabitants) and **symbol maps for absolute numbers** (i.e. exact figures for the variables).

For symbol maps not all symbols are suited for all kind of data.

Pies are suitable for classifications that make a total (100 per cent of a phenomena - ex. gender (male and female)).

Pies are NOT suitable for time series.

Bar charts are suitable for time series, but can be used for other purposes as well.

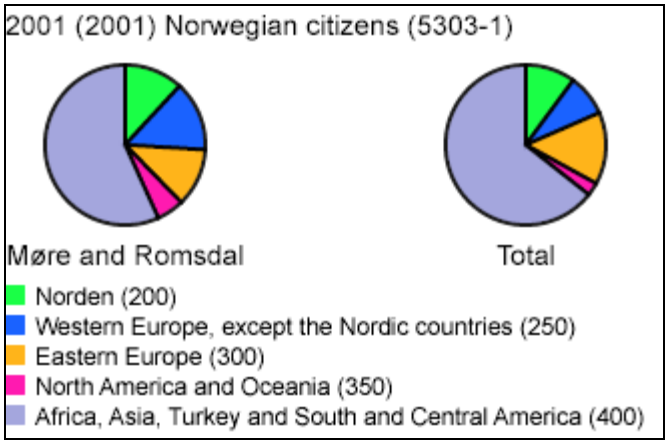

Figure 28 Ex. of a classification (phenomena) that sums up to a total (100 per cent) shown in pies

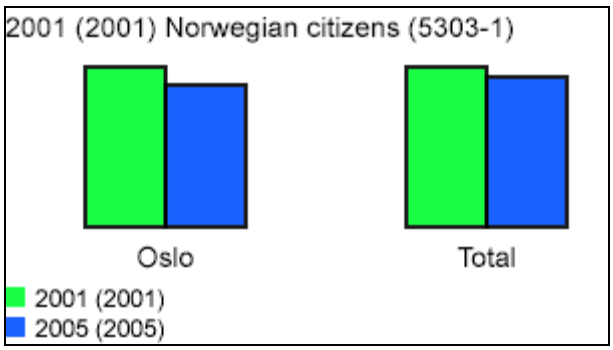

Figure 29 Ex. of a time series classification shown in bar charts

5.3 Useful links

http://www.w3.org/Graphics/SVG/	- this site provides all kind of SVG-related information.
http://www.kevcom.com/colorpicker/	- the homepage of the colour picker used in PX-Map2.
http://www.pc-axis.scb.se/	- this is the homepage for PC-Axis (also including links to other PX-modules)

6 Super User's Guidance

6.1 System Requirements for PX-Map2

Microsoft .NET Framework Version 2.0 must be installed on the machine dedicated for PX-Map2. The machine can be a local PC or a Web Server.

The need for a separate installation or not of Microsoft .NET Framework Version 2.0 depends on your Operation System (OS). For example: the framework is embedded in Windows XP.

The Framework is free of charge and can be downloaded from http://www.microsoft.com/downloads.

6.2 System Requirements for the Client (local PC)

6.2.1 Different browsers

PX-Map2 supports two different browsers, Microsoft Internet Explorer and Mozilla Firefox. To run PX-Map2 properly the program needs to know the current browser.

The default browser can be set in the configuration file, see Chapter 6.7

6.2.2 Microsoft Internet Explorer

- Microsoft Internet Explorer (IE) 6.0 +
- Adobe SVG Reader

Microsoft IE does not have native SVG support thus **Adobe SVG Reader** must be installed on the Client.

Adobe SVG Reader is free of charge and can be downloaded from
http://www.adobe.com/svg/viewer/install

6.2.3 Mozilla Firefox 2.0+

Firefox 2.0+ has native SVG-support i.e. no SVG-plugin is required.

6.3 No installation of PX-Map2 required

Unpack the zip-file and run the program **pxmap2.exe** stored in the main directory named PxMap2.

PX-Map2 to requires the directory structure illustrated in Figure 30 to run properly.

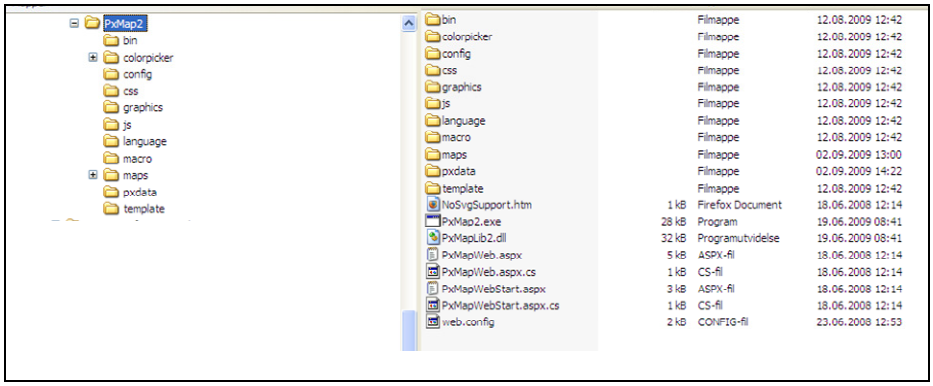

Figure 30 Catalogue structure required for PX-Map2

PxMap2.exe and PxMapLib2.dll has to be stored in the main directory.

6.4 Adaptations for Web server

The ***bin*** catalogue and the files NoSvgSupport,htm, PxMapWeb.aspx, PxMapWeb.aspx.cs, PxMapWebStart.aspx PxMapWebStart.aspx.cs are only used by the WEB solution.

- .NET 2.0 Framework must be installed on the web server
- Unpack the PX-Map2 zip-file to a catalogue (physical) on the web server

- Map the virtual catalogue on IIS (Internet Information server) to the physical catalogue (PxMap2)

6.5 Adaptations for PX-Web

For download and information about PX-Web - - go to http://www.pc-axis.scb.se/ .

Do the adaptations as 6.4 and place the folder under PX-Web.

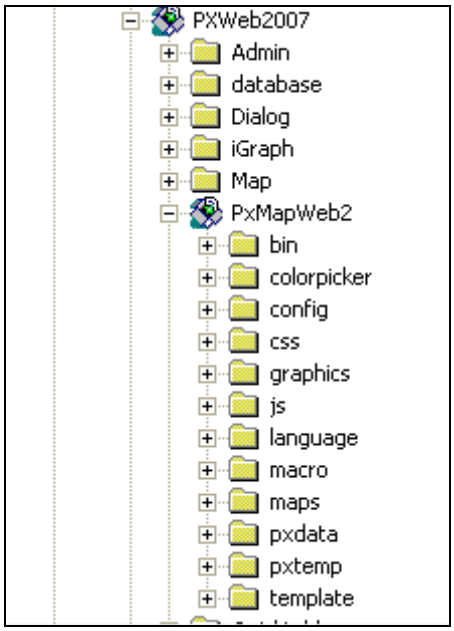

Figure 31 PX-Map2 (named PX-MapWeb2) in the PX-Web structure

Create a folder for temporary files under PxMapWeb2, called for instance pxtemp. Give write permission to this folder.

In Global1.asp in PX-Web dialog/includes make the change

mapversion=2
Outputmap="../PxMapWeb2/pxtemp"

PX-Map starts with PxMapWeb.aspx.

6.6 Adaptations for PC-Axis

The .ini file **pcax2000.ini** must be adapted if PX-Map2 should be launched from PC-Axis. The pcax2000.ini is located in the WINDOWS catalogue on your local disc.

Open the .ini file in a text editor (ex. Notepad) and change the [PXMAP] part to:

Pgm=<program path>
Pathtxt=<temp directory path>

Example from the pcax2000.ini file in Statistics Norway:

…
[PXMAP]
Pgm=C:\Programfiles\PxMap2\PXMap2.exe
Pathtxt=C:\temp
…

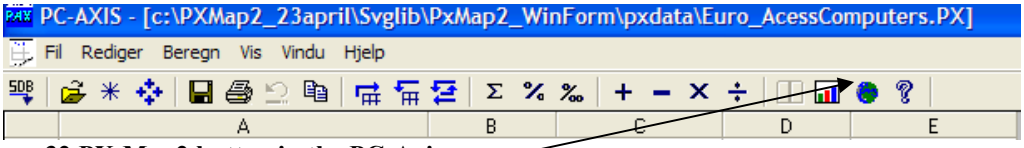

Figure 32 PX-Map2 button in the PC-Axis menu

6.7 Adaptation of Config.xml file

6.7.1 General

The Config.xml file contains all default attributes for the controls in PX-Map2. These attributes are among others language, colours, classification type, Number of classifications, font types and font sizes.

If an end-user changes colours when running PX-Map2 this will NOT affect the config.xml file. This kind of change is stored in a cookie on the client.

For editing XML-files it is recommended to use an XML-editor (ex. XMLSpy), but a traditional text editor like Notepad can be used as well.

An example of a Config.xml file is shown in Appendix D.

The config.xml is more or less self-describing, thus only some specific attributes are explained in this document – for more details see Chapter 11.

6.7.2 Setting primary, secondary and default languages

```
<Item id="LanguagePrimary">en</Item>
<Item id="LanguageSecondary">nb-NO</Item>
<Item id="LanguageDefault">en</Item>
```

For the time being it is only the default language (<Item id="LanguageDefault">**XX**</Item>) that is in use. **XX** can be language code for any language.

Check that the language code in the config.xml file is consistent with the language code in the language.xml file.

6.7.3 Setting default classification type

<Item id="ClassificationTypeDefault">**XX**</Item>
This setting is reserved for future use.

6.7.4 Setting minimum, default and maximum number of divisions (classifications)

```
<Item id="DivisionsMinimum">N</Item>
<Item id="DivisionsDefault">N</Item>
<Item id="DivisionsMaximum">N</Item>
```

These settings are reserved for future use.

6.8 Adaptation of Language.xml file

6.8.1 General

PX-Map2 supports unlimited number of languages. Adding a new language or updating existing language in PX-Map2 is done by editing the language.xml file. This file is located in the Language catalogue, see Figure 30.

For editing XML-files it is recommended to use an XML-editor (ex. XMLSpy), but a traditional text editor like Notepad can be used.

As default the Language.xml file consists of English ("en") and the two Norwegian official languages ("nb-NO" and "nn-NO"), see Appendix C.

The language.xml file is built up of different sections. The only sections to be added/changed or deleted are the Translation sections (ex. <Translation lang="**nb-NO**">**Kart**</Translation>).

IMPORTANT - do **NOT** delete the English Translations while this is the default language of PX-Map2.

6.8.2 How to delete an existing language:

For all Translation sections: delete all existing Translation sections for language(s) of no interest.

Example – deletion of the Norwegian languages:

```
- <Phrase id="Map">
    <Translation lang="en">Map</Translation>
    <Translation lang="nb-NO">Kart</Translation>
    <Translation lang="nn-NO">Kart</Translation>
</Phrase>
```

After deletion:

```
- <Phrase id="Map">
    <Translation lang="en">Map</Translation>
</Phrase>
```

6.8.3 How to add a new language:

For all Translation sections: copy and paste an existing Translation section.
Change "xx" in the lang="xx" to your language code (ISO certified language codes are recommended) and translate the text between the brackets > and < to your language.

Example – adding a new language (copy and paste):

```
- <Phrase id="Map">
    <Translation lang="en">Map</Translation>
</Phrase>
```

After copy and paste:

```
- <Phrase id="Map">
    <Translation lang="en">Map</Translation>
    <Translation lang="en">Map</Translation>
</Phrase>
```

Adaptation to German for the phrase *Map*:

```
- <Phrase id="Map">
    <Translation lang="en">Map</Translation>
    <Translation lang="de">Karte</Translation>
```

```
</Phrase>
```

If the new language is desired as the default language for PX-Map2, the Config.xml file must be updated, see Chapter 6.7.

6.9 Changing the layout of PX-Map2

Important: *Edit the files with care! Tip: make copies of the files in advance.*

It is possible to change the size and placement of the different modules in PX-Map2 layout. Both screen and print layout may be changed. This is done by CSS, *Cascading Style Sheets*, and provides possibilities for describing presentations. By altering values in *layout.css* and / or *layout_print.css* (both files placed in the *css* folder under your PX-Map2 installation) the screen and / or print layout will be changed.

Figure 33 shows examples of elements that can be modified, and their relation to the *layout.css* file.

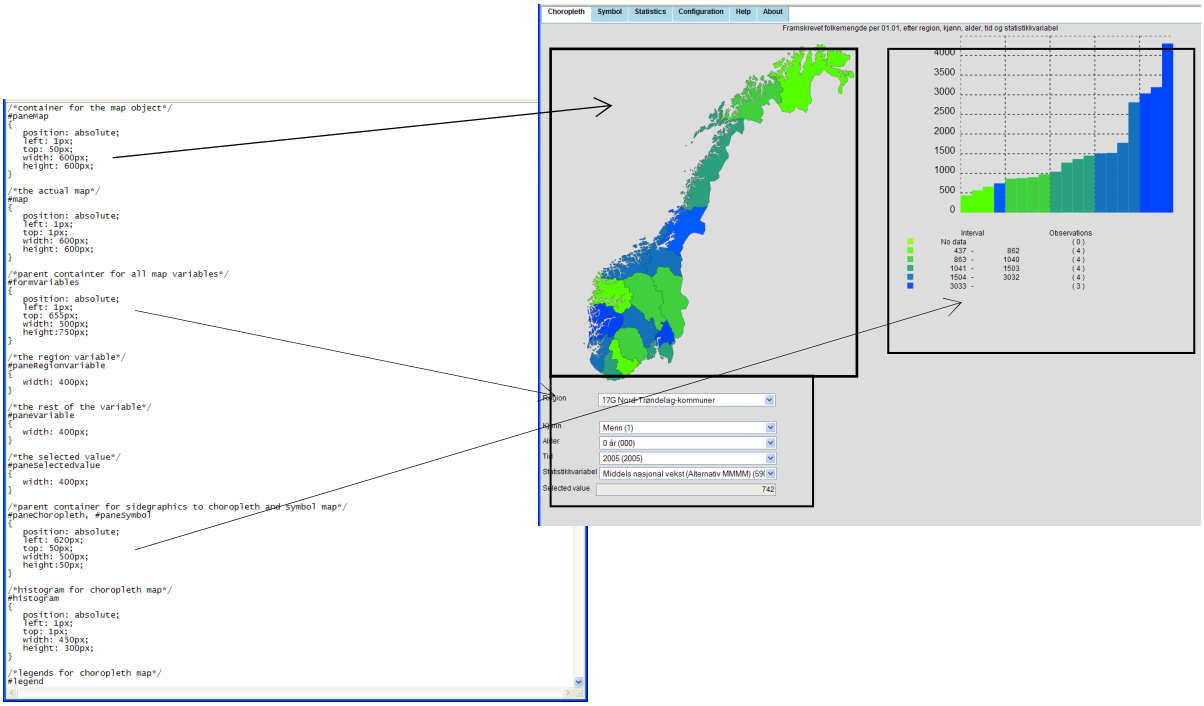

Figure 33 CSS files and their relation to the user interface

The files *layout.css* and *layout_print.css* include comments to help finding the elements that are adaptable.

The values possible to modify are written in brackets below the unique identity marker for each different object in the user interface. For example, resizing the map is done by first finding the identity *#map*, and then setting the desired values for the *width* and *height* attributes.

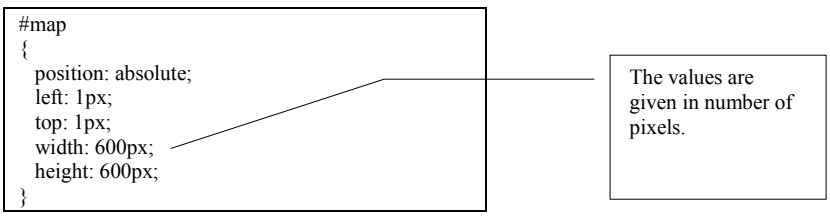

Figure 34 Section from CSS file

Some experience in CSS is recommended before doing any modifications. For more information about CSS see http://www.w3.org/Style/CSS/.

6.10 Installing and configuring the Excel-macro

To run PX-Map2 from Excel it is required to install an Excel macro in advance. The macro is *Install PX-Map Excel.xlb* and it looks up Registry for the path where PX-Map2 is stored on your computer. The Registry is updated by PX-Map2 itself. That means PX-Map2 has to be launched at least once before the xlb-macro can be activated. Unless the xlb-macro shows the message box in Figure 35.

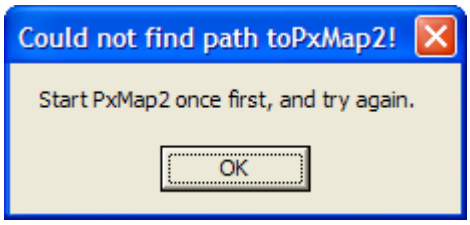

Figure 35 Excel – message box "Could not find path to PX-Map2"

To install the macro double-click the file *Install PX-Map Excel.xlb* in the *macro* folder on your PX-Map2 installation. The macro will be added to your Excel installation, and the file *dialog.ini* is copied to your user catalogue, typical *c:\Document and Settings\<yourname>*.

The macro creates a new toolbar called PX-MapExcel with the button  in Excel – see Figure 36.

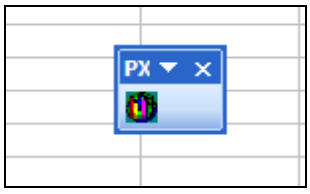

Figure 36 Excel - Toolbar for PX-Map

As default two languages, Norwegian [47] and English [1] are supported in the system. The language elements are defined in the file *Dialog.ini* mentioned above. It is possible to add other languages by editing the dialog.ini file in a text editor (ex. Notepad). Copy and paste all elements under the English language code **[1]**, and translate to the language desired.

To find the language code for your Excel installation, do as follow:

- Launch Excel
- Press Alt + F11 (opens the Visual Basic environment)
- Press Ctrl + g (opens the Immedialte window)
- Write ?Application.International(xlCountryCode)
- Press ENTER

Excel will answer with a number which is the language code you have to use in the dialog.ini file.

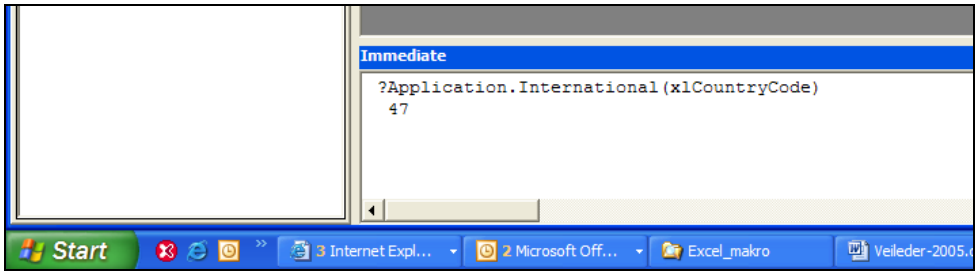

Figure 37 Checking the CountryCode in Excel. 47 is Norwegian

[1]
MenuText = PX-Map from Excel
DescText = Shows data in PX-Map
Folder1 = Choose the folder containing PX-MapExcel.xla
Folder2 = Check or choose your folder for Excel Addins
ToolTipText = PX-Map
Finished1 = The installation is finished.
Finished2 = You will find a new button at the right end of the Standard Toolbar,
Finished3 = and an option called 'PX-Map from Excel' in the 'Insert' menu, below the option 'Diagram'.

OpenSheet = You must have an open (and visible) worksheet containing data.
…
…
…
UF2lbl19 = (yellow typeface)
UF2chk1 = Let the macro add leading zero
UF2cmdOK = Continue
UF2cmdCancel = Cancel

[47]
MenuText = PX-Map kart
DescText = Viser data i PX-Map
Folder1 = Oppgi mappenavn, der filen PX-MapExcel.xla finnes
Folder2 = Kontroller, eventuelt oppgi din mappe for Excel-tillegg:
ToolTipText = PX-Map
Finished1 = Verktøy for visning av Exceltabell i PX-Map er installert.
Finished2 = Du skal finne en ny knapp lengst til høyre på Standardverktøylinja,
Finished3 = og et valg som heter 'PX-Map kart' på 'Sett inn'-menyen, nedenfor valget 'Diagram'.

OpenSheet = Du må ha et åpent (og synlig) regneark med data.
…
…
…
UF2lbl19 = (gul skrift)
UF2chk1 = La makroen legge til innledende 0
UF2cmdOK = Fortsett
UF2cmdCancel = Avbryt

Figure 38 Example of Dialog.ini file

7 Statistical data Requirements

7.1 PC-Axis file format (.px)

“The file format consists of optional and mandatory keywords: The mandatory keywords are illustrated by this example:

```
MATRIX="BE001";
SUBJECT-CODE="BE";
SUBJECT-AREA="Population";
TITLE="Population by region, time, marital status and sex.";
STUB="region";
HEADING="time","marital status","sex";
VALUES("region")="Sweden","Stockholm","Örebro";
VALUES("time")="1990-12-31";
VALUES("marital status")="unmarried","married","total";
VALUES("sex")="men","women";
CONTENTS="Population";
UNITS="numbers of persons";
DECIMALS=0;
DATA=
2155484 1842207 1710484 1713821 4244017 4346613
167965 162184 110463 111697 316041 358411
28909 26791 23822 23982 58352 62592
```

The first records of the file contain metadata and consist of a key word followed by text within quotation marks and a semicolon. Longer texts are divided into several records (except for value text or variable names which must in one line when in parenteses after a keyword). Texts are delimited with quotation marks which means that a text itself cannot contain a quotation mark.

If the keyword CHARSET is missing it means that all texts are in DOS text format, so that the same files can be used both in the DOS and the Windows version of PC-AXIS. In the Windows version the texts are translated into Windows format when read. When a file is saved in PC-AXIS file format it is always saved in DOS text format in versions prior to 2000.
Starting with version 2000 the files can be either in DOS or Windows texts. If they are in Windows texts this information is added: CHARSET=”ANSI”;

The keywords can be either mandatory, i.e. the file cannot be read in PC-AXIS if the key word is missing, or optional, e.g. footnotes for tables.

Starting with version 2005 it is possible to have more than one language in a px file. The second language is repeated for all necessary keywords. CONTENTS=”Population”;, CONTENTS[sv]=”Befolkning”; etc. Which languages are available are given in the keyword LANGUAGES.”

The text quoted is the introduction to the entire documentation of PC-Axis file format and can be found at:
http://www.pc-axis.scb.se/TechDoc.asp

When a PC-Axis file is used as a basis for making maps in PX-Map, the keyword MAP is required. The MAP keyword is used as a link to the basic map. The value is the name of the svg file that holds the maps coordinates.

Example:

```
MAP("region")="Norway_municipality.svg";
```

Name of the svg file (the extension is optional)

7.2 Text format - character separated (.txt, .csv, …)

While PC-Axis files includes both data and metadata the text files valid for PX-Map2 include only data in addition to the name of the basic map (the svg file) and headings for the different columns. Figure 39 shows an example of a valid text file.

```
Norway_Municipality.svg
Mun_nr;Pop_density, number/km2; Pop 0-14 years per cent;Pop 15-64 years per cent;Pop 65 years and more per cent;Total Population;Area included lakes, km2
0101; 41,38; 18,4; 62,8; 18,8;26523;641
0104; 416,54; 17,6; 65,8; 16,6;26242;63
0105; 115,78; 18,0; 65,2; 16,8;47122;407
0106; 232,47; 18,1; 64,7; 17,2;67415;290
0111; 39,62; 18,2; 66,3; 15,5;3487;88
0118; 4,54; 18,9; 61,3; 19,8;1458;321
0119; 7,97; 17,5; 61,7; 20,8;3290;413
…
…
```

Figure 39 Example of a semicolon separated text file valid for PX-Map2

The first row refers to the SVG map "holding" the geographic data. The second row contains the header names of the different columns with statistical data. All rows from the 3rd to the end are statistical figures. The first column must always refer to the *regions* defined in your map. The regions could be municipalities, counties or other geographical divisions.

7.3 Excel format

The spreadsheet must contain at least two columns with data. The first column has to include the regions, and the following column(s) the statistical variable(s). The first row should contain the header text of the region and the different variables. The following rows must contain the statistical figures.

When clicking the button  the macro opens a dialog box asking for a basic map from your PX-Map2 installation see Figure 40.

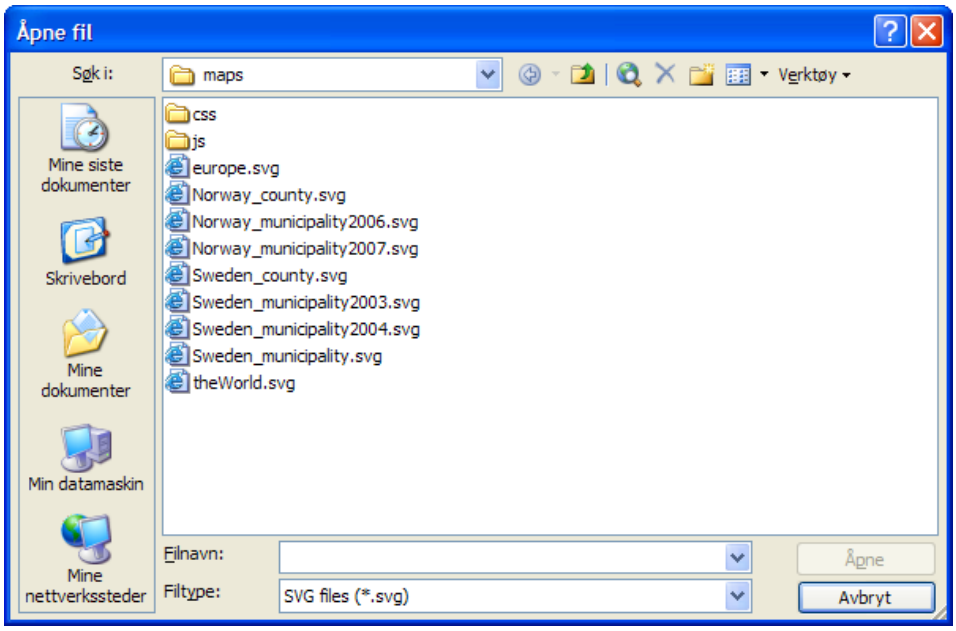

Figure 40 Excel – dialog box asking for the basic map

After the map is chosen a new dialog box appears requiring the figures to be visualized in PX-Map.

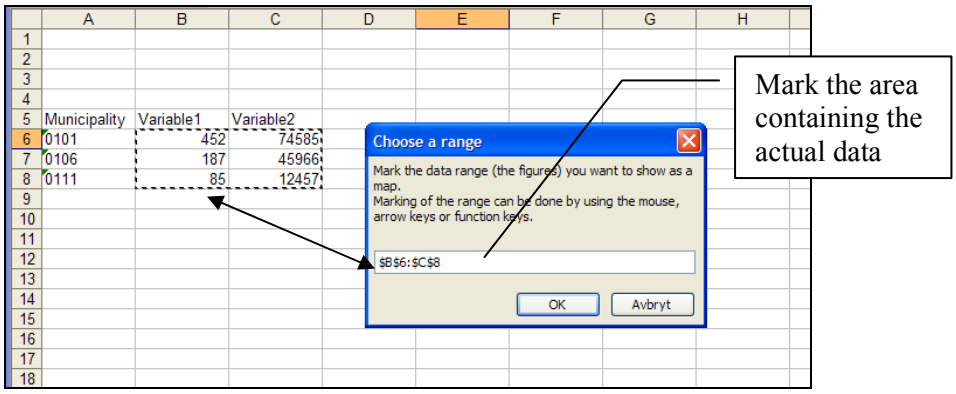

Figure 41 Excel – dialog box requiring the data range

After the data range is marked, the macro highlights a row as a proposal for column titles – see Figure 42.

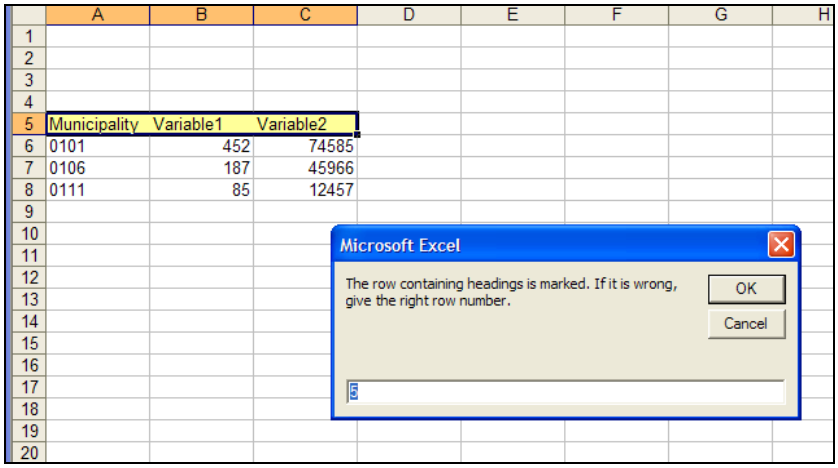

Figure 42 Excel – dialog box requiring the row number of column titles

If the proposed row is not the right one, then type the right row number.

The macro performs several checks of the parameters and data. If there are error(s) then error messages are displayed – see Figure 43 for example of an error message.

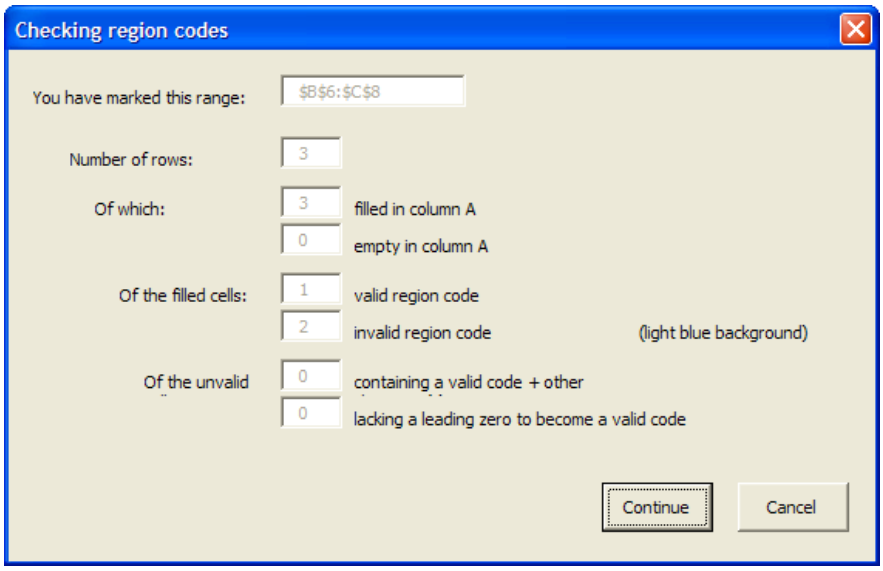

Figure 43 Excel – example of error message

When no error, then PX-Map2 is launched, and a choropleth map is made immediately.

8 Basic Map data Requirements

8.1 Preparing SVG maps

PX-Map2 requires a valid SVG file as format for the basic map data. Due to the fact that a lot of users have their map data stored in ESRI shape format Statistics Norway provides a routine for converting shape files to valid SVG files.

8.2 Shape file requirements

To be able to make symbol maps in PX-Map2 the basic map data requires attributes for a label-point (x- and y- coordinates) for each polygon (region). If this is lacking, PX-Map2 can not create symbol maps. In addition to the coordinates, PX-Map2 needs the area attribute for each polygon. The area attribute is used for calculating the total size of all symbols in the final map so the symbols will have an appropriate size in proportion to map.

IMPORTANT – it is required that the x-coordinate attribute and the y-coordinate attribute MUST have the names **x_coord** and **y_coord** respectively. Similarly the area attribute MUST have the name **area**.

Hint - you can find suitable scripts on **http://arcscripts.esri.com**/ that help calculating x_coord, y_coord and area. Statistics Norway has used addxycoo.ave to generate the *x_coord* and *y_coord* and Xtools to calculate *area*.

The program MapViewSVG (http://www.mapviewsvg.com) is an extension for ArcGIS 8.x/9.x or ArcView GIS 3.x by ESRI. It provides the possibility to convert maps from ArcView GIS / ArcGIS into SVG format.

The transformation routine provided by Statistics Norway includes 2 programs. The first one - **ogis2svg.exe** (which uses the shp2pgsql.exe) - can be downloaded for free on http://www.carto.net/papers/svg/utils/shp2svg/ . This program converts a shape file to an SVG file. The second program - **transform.exe** - is made by Statistics Norway. Transform.exe adds some functionality (defined in the style sheet **svg2svg.xsl**) to the final SVG file. These functionalities are essential for PX-Map2 to work properly.

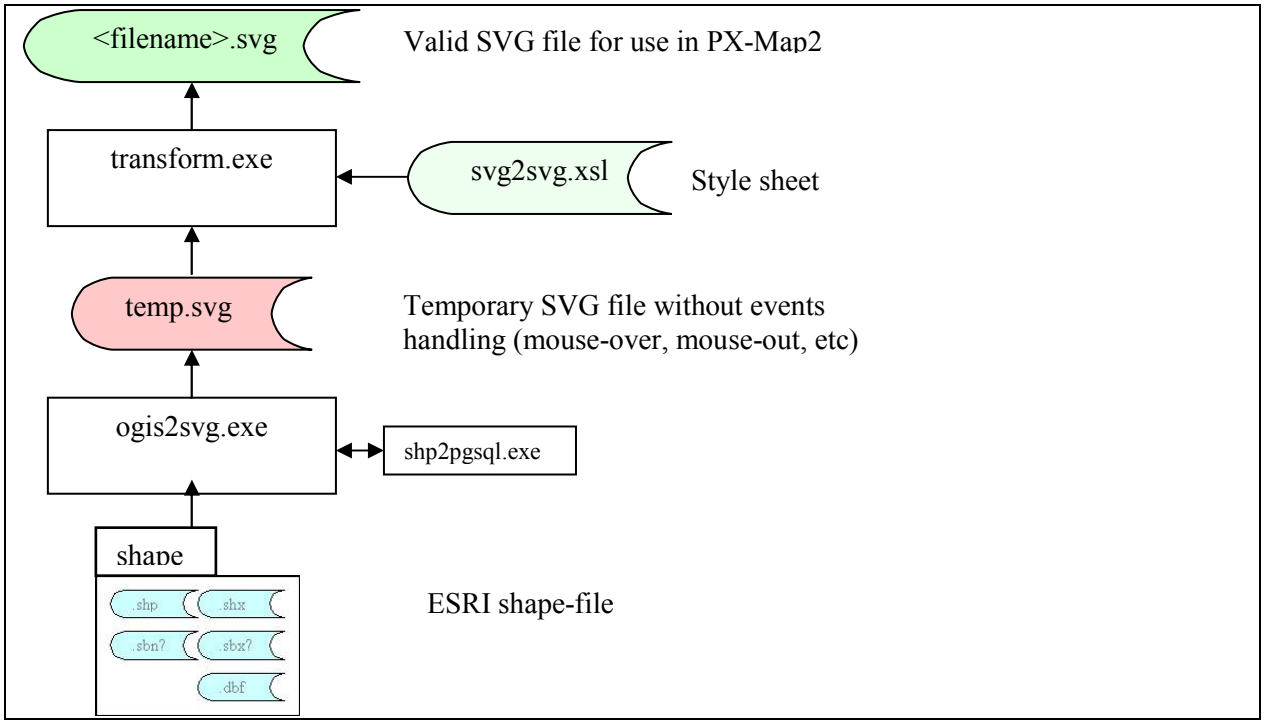

Figure 44 Dataflow for transforming shape files to SVG file

8.3 Running the programs (transformation from shape to SVG)

ogis2svg.exe
The program ogis2svg.exe must be run from the command prompt on your computer.

IMPORTANT 1 - be sure that **shp2pgsql.exe** is stored in the **same directory as ogis2svg.exe**

Ogis2svg.exe is dependent of shp2pgsql.exe to run properly.

To see the syntax: Write the program-name + ENTER-key:

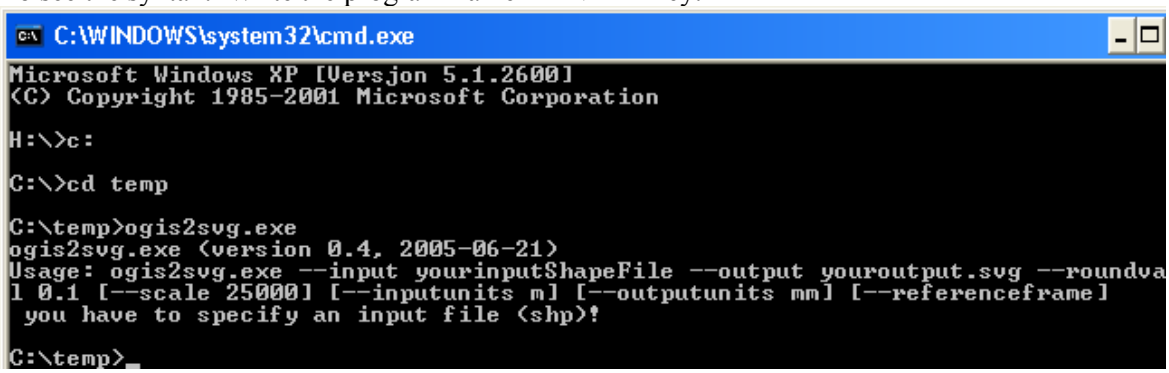

Figure 45 Running ogis2svg.exe from the Command prompt - syntax

The syntax is, as the example above shows:

>ogis2svg.exe --input yourinputShapeFile --output youroutput.svg --roundval 0.1 [--scale 25000] [--inputunits m] [outputunits mm] [--referenceframe]

The mandatory parameters (without brackets) are the only used for PX-Map2:

>ogis2svg.exe --input yourinputShapeFile --output youroutput.svg --roundval 0.1

```
C:\temp>ogis2svg.exe --input europe.shp --output temp.svg --roundval 0.1
```

Figure 46 Running ogis2svg.exe from the Command prompt - example

In the example above yourinputShapeFile = Europe.shp and youroutput.svg = temp.svg

Click the ENTER-key and the program requests which attributes to be included in the SVG file.

IMPORTANT 2 **-** include ONLY the 4 attributes **area**, **x_coord**, **y_coord** and **the attribute that should be the unique SVG-ID** (i.e. the attribute that is the link to your statistical data. In the example below this attribute is **iso_code**)

```
working on layer temp ...
converting shapefile to a temporary sqlfile ... done.

tablename: temp

The following attributes are available. Please select the attributes you want to
 include in the SVG export:

Attribute=gid, Type=serial; Do you want to include it [y|n]?n
Attribute=country, Type=varchar; Do you want to include it [y|n]?n
Attribute=area, Type=int8; Do you want to include it [y|n]?y
Attribute=iso_code, Type=varchar; Do you want to include it [y|n]?y
Attribute=x_coord, Type=float8; Do you want to include it [y|n]?y
Attribute=y_coord, Type=float8; Do you want to include it [y|n]?y

You selected the following Attributes: area, iso_code, x_coord, y_coord
Which one would you like to select as a unique svg-id?
Type in attribute Name or 'none' if you don't want to include a unique id:
iso_code


 you selected "iso_code" as a unique attribute ...


Do you want to group the data according to one attribute? (type 'y' or 'n')
n

Would you like to include event-handlers to the individual elements? Type (y|n)
n

Geometry type = MULTIPOLYGON
Converted 49 MULTIPOLYGON objects - Done.
xmin: -2711301.8, xmax: 6242058.1, ymin: 4109558.2, ymax: 11412317.7
writing SVG file ...
removing temporary sqlfile ...done!

done!
```

Figure 47 Dialogs when running ogis2svg.exe

Transform.exe

☞ Start the program *transform.exe* in Windows-environment (i.e. double-click in Windows Explorer). the below screen-picture is shown.

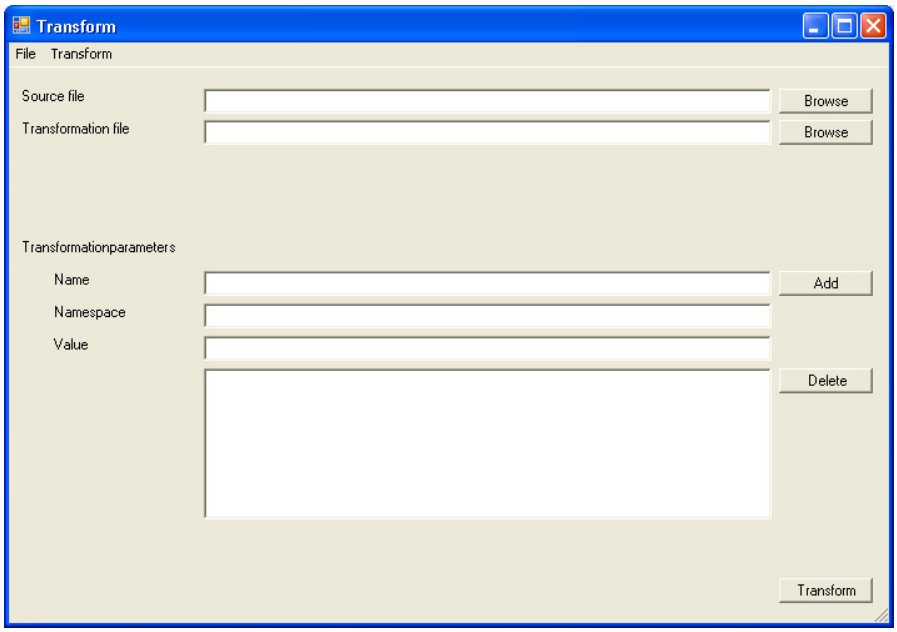

Figure 48 Dialog-entry for Transform.exe

The Transformation parameters, the add-key and delete-key are not utilized for the time being.

☞ The source file must be your temp.svg file. Select it by writing the filename and path in the field or find it by using the Browse-button.

☞ The Transformation file must be **svg2svg.xsl**. Select it by writing the filename and path in the field or find it by using the Browse-button

Before starting the transformation your dialog-box should look like this:

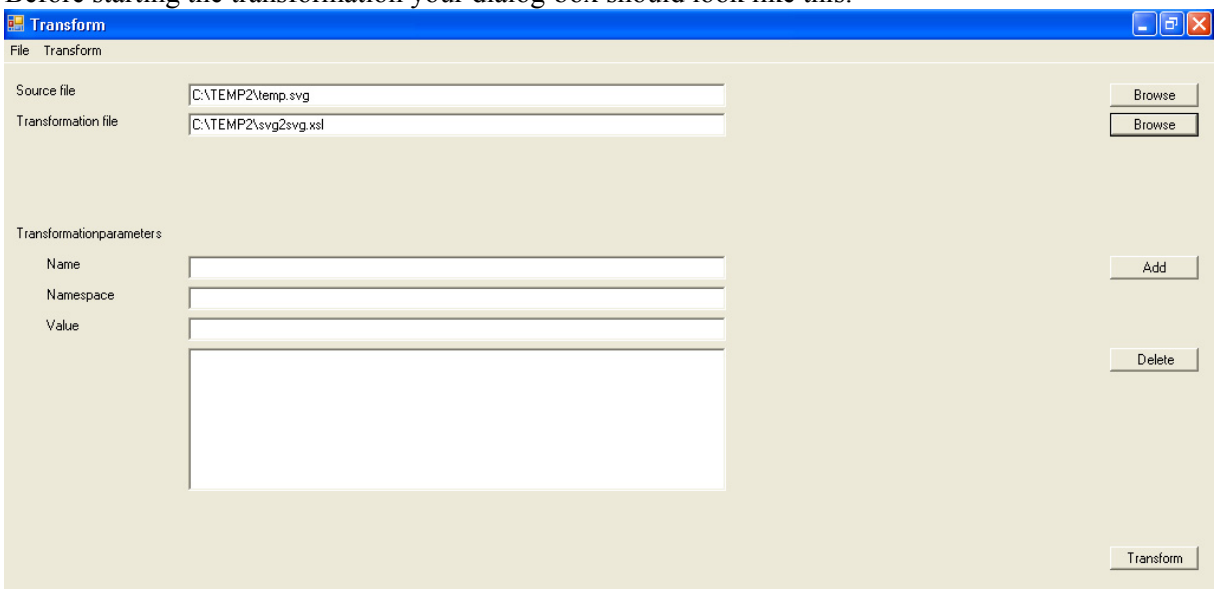

Figure 49 Dialog-entry for Transform.exe - example

☞ Press the Transform-button (a dialog-box, *Save to file,* appears)

☞ Write the name of your output-file in the dialog-box

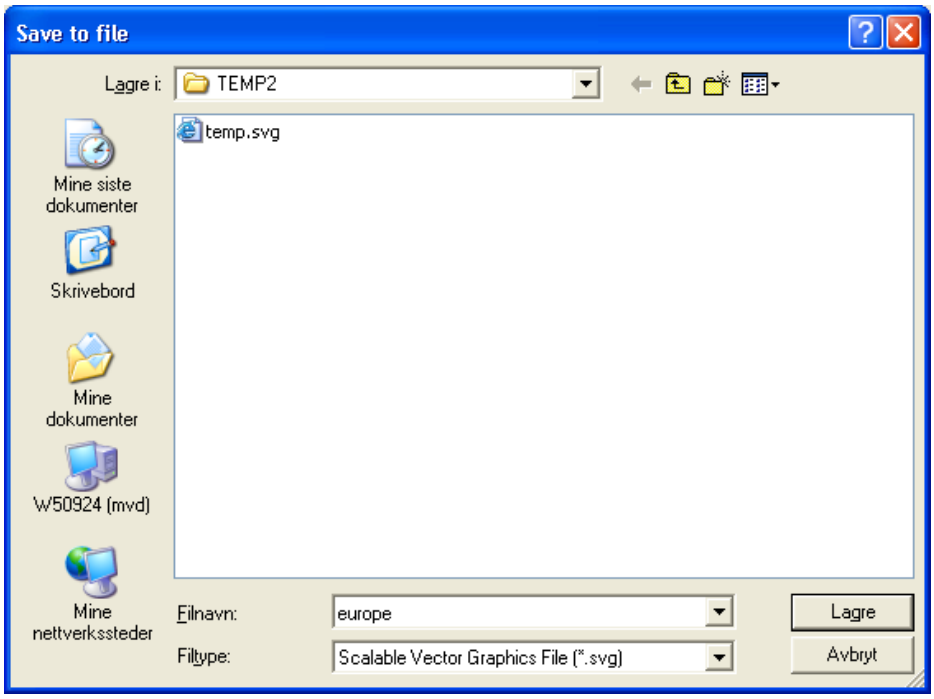

Figure 50 Saving the temp.svg

The transformation starts immediately after the save-key (“Lagre” in Norwegian) is pressed.
In the example above the output SVG file is named "europe", and the filename extension is automatic set to .svg.

9 Known bugs

9.1 General

When using Microsoft Internet Explorer (IE) and Adobe SVG Reader, sometimes the spacebar or the ENTER-key has to be pushed for some SVG controls to be activated. This problem is due to security in IE and not to PX-Map2. To avoid this see Chapter 5.1.

9.2 PX-Map2

- The PX-file needs both keywords STUB and HEADING for PX-Map2 to run properly.
- Error in Config.xml when checking Registry for default browser.
- Character separated files (ex. sdv-files) with blank cells (“no data”) are not read correctly by PX-Map2.

10 Acknowledgements

Thanks to Kevin Hughes for his Color Picker.

11 Downloads and contacts

PX-Map2 and Transform exe (ShapeToSVG20061215.zip) can be downloaded from www.ssb.no/pxmap .

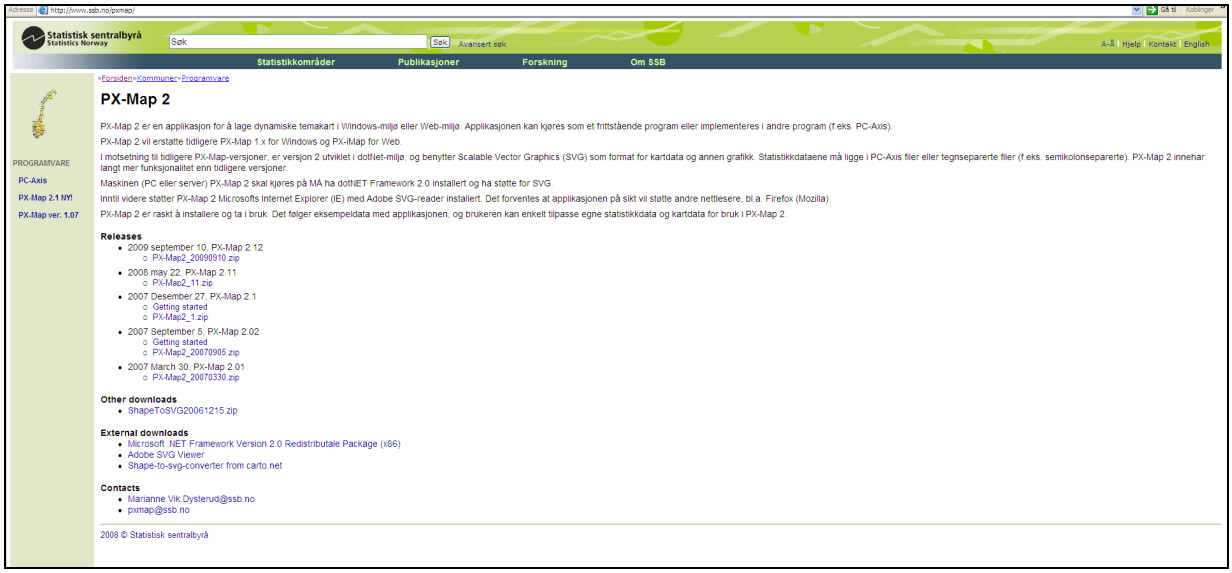

Figure 51 PX-Map homepage

Appendix A - temp.svg

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE svg PUBLIC "-//W3C//DTD SVG 1.1//EN" "http://www.w3.org/Graphics/SVG/1.1/DTD/svg11.dtd" [
<!ATTLIST svg
        xmlns:attrib CDATA #IMPLIED
>
<!ATTLIST path
        attrib:area CDATA #IMPLIED
        attrib:x_coord CDATA #IMPLIED
        attrib:y_coord CDATA #IMPLIED
>
]>
<svg width="100%" height="100%" viewBox="-2935135.8 -11594886.7 9401027.9 7667897.5" xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:attrib="http://www.carto.net/attrib/">
        <g id="temp" fill="none" stroke="black" stroke-width="4700.5" stroke-linecap="round" stroke-linejoin="round">
                <path id="temp_AL" attrib:area="4.804e+010" attrib:x_coord="2242885.90079" attrib:y_coord="5026111.20700"
d="M2152532.9 -5135204l27259.4 -102382.8l68599.8 21256.9l25714.6 76784.5l59132.1 154889.6l0 7347.3l-72276.7 124068.5l-29651.9
38604.4l-68570.2 -123580.6l-10207.1 -196987.8z" />
                <path id="temp_AD" attrib:area="461605662" attrib:x_coord="181618.14641" attrib:y_coord="5239118.28458"
d="M198297.4 -5247924.1l-3706.5 17611.7l-27798.7 -2514l-1853.3 -12579.9l33358.5 -2517.8z" />


…..
…..

                <path id="temp_AT" attrib:area="1.800e+011" attrib:x_coord="1484451.46051" attrib:y_coord="6052656.03535"
d="M1352870.7 -5924559.6l-122314.1 18977.2l-66717 -8127.9l0 -2711.3l-87102.7 -29877.2l-9266.2 0l-2223.9 -9800.6l-5189 -
22910.3l3706.6 -43807.1l75414.7 19310.8l20954.2 5358l35211.6 -27414.2l94515.5 -5493.1l131580.7 0l33358.4 -16500.9l-12972.7 -
88544.1l96368.8 -92281.9l59682.4 34568.8l70045.1 -59911.3l177991.4 24774.4l62930.9 126161.2l-44477.9 55232.9l-11119.5 11004.1l-
46331.2 109278.1l-14826.2 13563.6l-111194.8 31116.5l-111194.8 31006.3l-44477.9 -8077.9l-172352.2 -64894.2z" />
        </g>
</svg>
```

Figure 52 Temp.svg - example

The lines within the curly bracket should be identical for all temp.SVG files that are input to the program transform.exe.

Appendix B - <filename>.svg

Example - europe.svg.

```
<?xml version="1.0" encoding="utf-8"?>
<?xml-stylesheet type="text/css" href="css/map.css"?>
<!DOCTYPE svg PUBLIC "-//W3C//DTD SVG 1.1//EN" "http://www.w3.org/Graphics/SVG/1.1/DTD/svg11.dtd" [
   <!ATTLIST svg xmlns:attrib CDATA #IMPLIED >
   <!ATTLIST path attrib:area CDATA #IMPLIED attrib:x_coord CDATA #IMPLIED attrib:y_coord CDATA #IMPLIED >
]>
<svg width="100%" height="100%" viewBox="-2935135.8 -11594886.7 9401027.9 7667897.5" preserveAspectRatio="xMidYMid meet"
zoomAndPan="magnify" onload="init( evt );" xmlns="http://www.w3.org/2000/svg" xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns:attrib="http://www.carto.net/attrib/">
<metadata id="version">1.0</metadata>
<!--**** There are a lot of identifiers that start with a number. According to the XML-standard this is not allowed. The workaround is using a
textprefix-->
<metadata id="idprefix">ID_</metadata>
<metadata id="timeprefix">TIME_</metadata>
<script type="text/ecmascript" xlink:href="js/map.js"><!-- // empty // --></script>
<script type="text/ecmascript">
var map;

function init( evt ){
        map = new Map( evt.target.ownerDocument );


        if ( parent.registerMap ){
                var type = parent.registerMap( map );
                map.setType( type );
        }
}

function mouseover( region_id ){
        if ( map ){
                map.onmouseover( region_id );
        }
}

function mouseout( region_id ){
        if ( map ){
                map.onmouseout( region_id );
        }
}
//                      </script>
<!--**** The map title **********************************-->
<title>TITLE</title>
<!--**** The map description ************************-->
<desc>DESCRIPTION</desc>
<g id="regions" stroke="black" stroke-width="4700.5" stroke-linecap="round" stroke-linejoin="round" fill="none">

<path id="ID_AD" attrib:area="461605662" attrib:x_coord="181618.14641" attrib:y_coord="5239118.28458"
onmouseover="mouseover('AD')" onmouseout="mouseout('AD')" d="M198297.4 -5247924.1l-3706.5 17611.7l-27798.7 -2514l-1853.3 -
12579.9l33358.5 -2517.8z" />
<path id="ID_AL" attrib:area="4.804e+010" attrib:x_coord="2242885.90079" attrib:y_coord="5026111.20700"
onmouseover="mouseover('AL')" onmouseout="mouseout('AL')" d="M2152532.9 -5135204l27259.4 -102382.8l68599.8 21256.9l25714.6
76784.5l59132.1 154889.6l0 7347.3l-72276.7 124068.5l-29651.9 38604.4l-68570.2 -123580.6l-10207.1 -196987.8z" />
…
…
…
```

Figure 53 Example of a ready-to-use svg-file

Appendix C - Language.xml

Example – some parts of language.xml.

```
<?xml version="1.0" encoding="UTF-8" ?>
- <Language version="1.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="language.xsd">
- <Section>
<Description>Application phrases</Description>
- <Phrase id="Version">
<Translation lang="en">Version</Translation>
<Translation lang="nb-NO">Versjon</Translation>
<Translation lang="nn-NO">Versjon</Translation>
</Phrase>
</Section>
- <Section>
<Description>Statistics phrases</Description>
- <Phrase id="Statistics">
<Translation lang="en">Statistics</Translation>
<Translation lang="nb-NO">Statistikk</Translation>
<Translation lang="nn-NO">Statistikk</Translation>
</Phrase>

… continues
…
…

- <Phrase id="HelpSVGIdentityInMap">
<Translation lang="en">Identify a region in the map - mouseover a polygon shows the name of the selected region in the Region-
field</Translation>
<Translation lang="nb-NO">Identifiser en region i kartet - pek med musa i kartet og regionens navn vises i regionsfeltet</Translation>
<Translation lang="nn-NO">Identifiser en region i kartet - pek med musa i kartet og regionens navn vises i regionsfeltet</Translation>
</Phrase>

… continues
…
…

- <Phrase id="AlertWaitMessage">
<Translation lang="en">This might take a few seconds.</Translation>
<Translation lang="nb-NO">Dette kan ta flere sekunder.</Translation>
<Translation lang="nn-NO">Dette kan ta fleire sekund.</Translation>
</Phrase>
- <Phrase id="AlertAreaAttribMissing">
<Translation lang="en">Area attributes are missing. Symbols can not be created.</Translation>
<Translation lang="nb-NO">Areal attributter mangler i kart-svg. Symbol-kart kan ikke genereres.</Translation>
<Translation lang="nn-NO">Areal attributter manglar i kart-svg. Symbol-kart kan ikkje lagas.</Translation>
</Phrase>
</Section>
</Language>
```

Figure 54 Example from a Language.xml file

Appendix D - Config.xml

Example – config.xml adapted for Statistics Norway.

```
<?xml version="1.0" encoding="UTF-8" ?>
- <Config version="1.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="config.xsd">
  <Item id="LanguagePrimary">en</Item>
  <Item id="LanguageSecondary">nb-NO</Item>
  <Item id="LanguageDefault">en</Item>
  <Item id="EmbedMapWidth">500</Item>
  <Item id="EmbedMapHeight">600</Item>
  <Item id="EmbedPieWidth">350</Item>
  <Item id="EmbedPieHeight">500</Item>
  <Item id="EmbedHistogramWidth">450</Item>
  <Item id="EmbedHistogramHeight">300</Item>
  <Item id="EmbedColorscaleWidth">400</Item>
  <Item id="EmbedColorscaleHeight">210</Item>
  <Item id="EmbedThresholdscaleWidth">400</Item>
  <Item id="EmbedThresholdscaleHeight">450</Item>
  <Item id="EmbedSingleColorWidth">400</Item>
  <Item id="EmbedSingleColorHeight">100</Item>
  <Item id="ClassificationTypeDefault">quantile</Item>
  <Item id="DivisionsMinimum">3</Item>
  <Item id="DivisionsDefault">5</Item>
  <Item id="DivisionsMaximum">9</Item>
- <!--  Encodings: ASCII, ANSI, UTF7, UTF8, UNICODE or BIGENDIANUNICODE
  -->
- <!--  The input-encoding.
  -->
  <Item id="DataFileEncoding">ANSI</Item>
- <!--  The output-encoding.
  -->
  <Item id="HtmlTemplateFileEncoding">UTF8</Item>
- <!--  Set to "SystemDefault" if default system web-browser should be used, or specify browser (e.g. "C:\Programfiles\Internet
Explorer\IEXPLORE.EXE").
  -->
  <Item id="DefaultWebBrowserPath">SystemDefault</Item>
  <Item id="ColorScaleStart">rgb(255,240,224)</Item>
  <Item id="ColorScaleEnd">rgb(153,0,0)</Item>
  <Item id="ColorThresholdScaleNegativeStart">rgb(153,0,0)</Item>
  <Item id="ColorThresholdScaleNegativeEnd">rgb(255,240,224)</Item>
  <Item id="ColorThresholdScalePositiveStart">rgb(224,240,255)</Item>
  <Item id="ColorThresholdScalePositiveEnd">rgb(0,102,102)</Item>
  <Item id="ColorHighlight">rgb(255,237,77)</Item>
  <Item id="ColorBlank">rgb(250,250,250)</Item>
  <Item id="ThresholdValue">0</Item>
  <Item id="ColorScaleStartR">255</Item>
  <Item id="ColorScaleStartG">240</Item>
  <Item id="ColorScaleStartB">224</Item>
  <Item id="ColorScaleEndR">153</Item>
  <Item id="ColorScaleEndG">0</Item>
  <Item id="ColorScaleEndB">0</Item>
  <Item id="ColorThresholdScaleNegativeStartR">153</Item>
  <Item id="ColorThresholdScaleNegativeStartG">0</Item>
  <Item id="ColorThresholdScaleNegativeStartB">0</Item>
  <Item id="ColorThresholdScaleNegativeEndR">255</Item>
  <Item id="ColorThresholdScaleNegativeEndG">240</Item>
  <Item id="ColorThresholdScaleNegativeEndB">224</Item>
  <Item id="ColorThresholdScalePositiveStartR">224</Item>
  <Item id="ColorThresholdScalePositiveStartG">240</Item>
  <Item id="ColorThresholdScalePositiveStartB">255</Item>
  <Item id="ColorThresholdScalePositiveEndR">0</Item>
  <Item id="ColorThresholdScalePositiveEndG">102</Item>
  <Item id="ColorThresholdScalePositiveEndB">102</Item>
  <Item id="ColorHighlightR">0</Item>
  <Item id="ColorHighlightG">0</Item>
  <Item id="ColorHighlightB">0</Item>
  <Item id="ColorBlankR">255</Item>
  <Item id="ColorBlankG">255</Item>
  <Item id="ColorBlankB">255</Item>
  <Item id="ColorSymbolText">rgb( 0, 0, 0 )</Item>
```

```
<Item id="ColorCircleSymbol">rgb( 40, 56, 84 )</Item>
<Item id="ColorCircleSymbolNegative">rgb( 255, 0, 0 )</Item>
<Item id="ColorSymbolStroke">rgb( 40, 56, 84 )</Item>
<Item id="ColorPalette">'rgb( 40, 56, 84 )', 'rgb( 0, 102, 102 )', 'rgb( 255, 153, 51 )', 'rgb( 153, 0, 0 )', 'rgb( 53, 72, 107 )', 'rgb( 51, 133, 133 )', 'rgb( 255, 173, 92 )', 'rgb( 173, 51, 51 )', 'rgb( 65, 90, 135 )', 'rgb( 76, 148, 148 )', 'rgb( 255, 184, 112 )', 'rgb( 184, 76, 76 )', 'rgb( 79, 109, 163 )', 'rgb( 102, 163, 163 )', 'rgb( 255, 194, 133 )', 'rgb( 194, 102, 102 )', 'rgb( 108, 134, 182 )', 'rgb( 153, 194, 194 )', 'rgb( 255, 214, 173 )', 'rgb( 214, 153, 153 )', 'rgb( 158, 177, 212 )', 'rgb( 191, 217, 217 )', 'rgb( 255, 229, 204 )', 'rgb( 229, 191, 191 )', 'rgb( 200, 216, 234 )', 'rgb( 217, 232, 232 )', 'rgb( 255, 240, 224 )', 'rgb( 240, 217, 217 )', 'rgb( 50, 56, 84 )', 'rgb( 20, 102, 102 )', 'rgb( 255, 153, 71 )', 'rgb( 153, 0, 20 )', 'rgb( 63, 72, 107 )', 'rgb( 71, 133, 133 )', 'rgb( 255, 173, 112 )', 'rgb( 173, 51, 71 )', 'rgb( 85, 90, 135 )', 'rgb( 96, 148, 148 )', 'rgb( 255, 184, 132 )', 'rgb( 184, 76, 96 )', 'rgb( 99, 109, 163 )', 'rgb( 122, 163, 163 )', 'rgb( 255, 194, 153 )', 'rgb( 194, 102, 122 )', 'rgb( 128, 134, 182 )', 'rgb( 173, 194, 194 )', 'rgb( 255, 214, 193 )', 'rgb( 214, 153, 173 )', 'rgb( 178, 177, 212 )', 'rgb( 211, 217, 217 )', 'rgb( 255, 229, 224 )', 'rgb( 229, 191, 211 )', 'rgb( 220, 216, 234 )', 'rgb( 237, 232, 232 )', 'rgb( 255, 240, 244 )', 'rgb( 240, 217, 237 )', 'rgb( 40, 76, 84 )', 'rgb( 0, 122, 102 )', 'rgb( 205, 153, 51 )', 'rgb( 153, 0, 0 )', 'rgb( 53, 92, 107 )', 'rgb( 51, 153, 133 )', 'rgb( 205, 173, 92 )', 'rgb( 173, 51, 51 )', 'rgb( 65, 110, 135 )', 'rgb( 76, 168, 148 )', 'rgb( 205, 184, 112 )', 'rgb( 184, 76, 76 )', 'rgb( 79, 129, 163 )', 'rgb( 102, 183, 163 )', 'rgb( 205, 194, 133 )', 'rgb( 194, 102, 102 )', 'rgb( 108, 154, 182 )', 'rgb( 153, 214, 194 )', 'rgb( 205, 214, 173 )', 'rgb( 214, 153, 153 )', 'rgb( 158, 197, 212 )', 'rgb( 191, 237, 217 )', 'rgb( 205, 229, 204 )', 'rgb( 229, 191, 191 )', 'rgb( 200, 236, 234 )', 'rgb( 217, 252, 232 )', 'rgb( 205, 240, 224 )', 'rgb( 240, 217, 217 )', 'rgb( 50, 56, 84 )', 'rgb( 20, 102, 102 )', 'rgb( 205, 153, 71 )', 'rgb( 133, 0, 20 )', 'rgb( 63, 72, 107 )', 'rgb( 71, 133, 133 )', 'rgb( 205, 173, 112 )', 'rgb( 153, 51, 71 )', 'rgb( 85, 90, 135 )', 'rgb( 96, 148, 148 )', 'rgb( 205, 184, 132 )', 'rgb( 164, 76, 96 )', 'rgb( 99, 109, 163 )', 'rgb( 122, 163, 163 )', 'rgb( 205, 194, 153 )', 'rgb( 174, 102, 122 )', 'rgb( 128, 134, 182 )', 'rgb( 173, 194, 194 )', 'rgb( 205, 214, 193 )', 'rgb( 194, 153, 173 )', 'rgb( 178, 177, 212 )', 'rgb( 211, 217, 217 )', 'rgb( 205, 229, 224 )', 'rgb( 209, 191, 211 )', 'rgb( 220, 216, 234 )', 'rgb( 237, 232, 232 )', 'rgb( 205, 240, 244 )', 'rgb( 220, 217, 237 )'</Item>
<Item id="OutlineStrokeWidthFactor">5</Item>
<Item id="SymbolCoveragePercentage">10</Item>
<Item id="SymbolFillOpacity">0.9</Item>
<Item id="SymbolStrokeOpacity">1</Item>
<Item id="SymbolToolTipFillColor">rgb( 102, 163, 163 )</Item>
<Item id="SymbolToolTipFillOpacity">0.7</Item>
<Item id="SymbolToolTipStrokeColor">rgb( 53, 72, 107 )</Item>
<Item id="SymbolToolTipStrokeOpacity">0.7</Item>
<Item id="SymbolToolTipTextColor">rgb( 255, 255, 255 )</Item>
<Item id="SymbolToolTipTextOpacity">1</Item>
<Item id="SymbolToolTipTextAnchor">start</Item>
<Item id="SymbolToolTipTextFont">Courier</Item>
<Item id="SymbolToolTipTextFontSize">10</Item>
<Item id="SymbolKeyRectangleX">0</Item>
<Item id="SymbolKeyRectangleY">-20</Item>
<Item id="SymbolKeyRectangleWidth">10</Item>
<Item id="SymbolKeyRectangleHeight">10</Item>
<Item id="SymbolKeyRectangleRX">0.5</Item>
<Item id="SymbolKeyRectangleRY">0.5</Item>
<Item id="SymbolKeyRectangleOpacity">1</Item>
<Item id="SymbolKeyTextFont">Arial</Item>
<Item id="SymbolKeyTextFontSize">12</Item>
<Item id="SymbolKeyTextColor">rgb( 0, 0, 0 )</Item>
<Item id="SymbolKeyTextOpacity">1</Item>
<Item id="SymbolKeyTextX">15</Item>
<Item id="SymbolKeyTextY">-10</Item>
<Item id="SymbolKeyTextAnchor">start</Item>
<Item id="Font">arial</Item>
<Item id="TextSize">20</Item>
<Item id="NumOfSymbolDetailWaitLimit">1500</Item>
</Config>
```

Figure 55 Example of a config.xml file