How to Label along Lines

Alongline labeling refers to annotating along line objects. It is widely used in highways, rivers, navigations, etc.

Alongline labeling can be used in Uniform, Ranges thematic maps. You can find this function on the Advanced tab of the Label Map window. Only 2D line, route/network layers are supported.

Here are parameters about Alongline Labeling.

Introduction

1. **Expression**

   Expression is used to display the contents of labels on the map. It is on the Properties tab.

   All fields of the specified layer are listed on the drop-down list. You can choose a proper field as label to display.
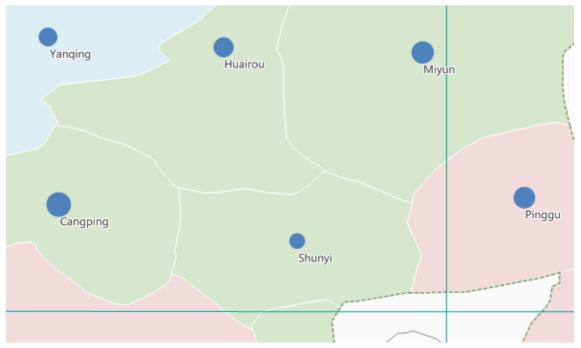

Figure: Display single field

In addition, you can choose the last item "Expression..." in the drop-down list. In this case, you may custom the displaying labels by SQL Expression.

If you want to display more than one fields, you should input the expression like this: Expression1 [/] Expression2 [/] Expression3 [/]..., where the [/] cannot be omit. If more than one fields are displayed on the map, Alongline Labeling is not available.
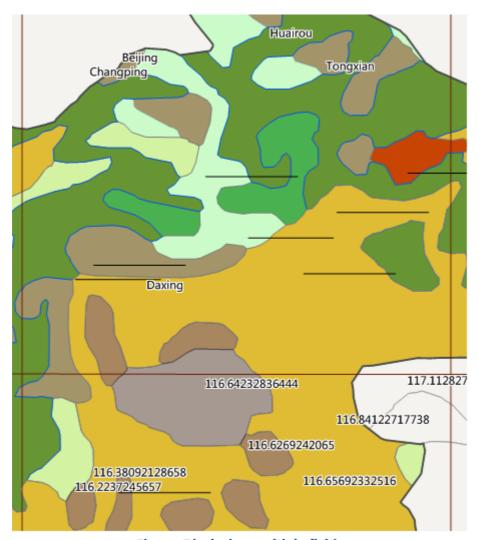

Figure: Displaying multiple fields

2. **Alignment**

Alignment is used to set the position of labels. You can find this function on the Properties tab.

There are 12 types of alignment, where 9 types are anchor-based and 3 types are baseline-based. For more information about alignment, see Alignment.

3. **Label Direction**

There are 5 directions. You can find this function on the Advanced tab.

SuperMap Deskpro .NET will first judge the direction, whether it is horizontal or vertical (judgment criterion: if the angle between a line and the horizontal direction is less than 60 degrees, this line direction is regarded as horizontal, otherwise vertical); for the horizontal direction, the label is placed from left to right or from right to left; for the vertical direction, the label is placed from up to down or from down to up.

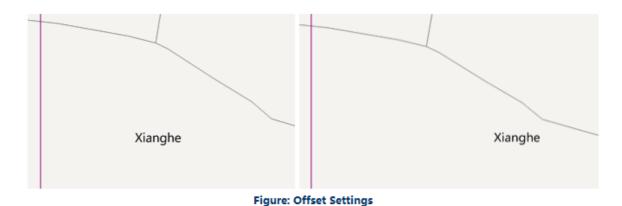| Label Direction	Description
Along the normal of the line	Up to down or left to right according to the line trend.
From top to bottom, right to left	Up to down or left to right according to the line trend with labels.
From top to bottom, right to left	Up to down or right to left according to the line trend with labels.
From bottom to top, left to right	Down to up or left to right according to the line trend with labels.
From bottom to top, right to left	Down to up or right to left according to the line trend with labels.

In addition, the start of labeling is related to alignment. For how to choose a proper alignment, see Alignment.

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4. **Offset Settings**

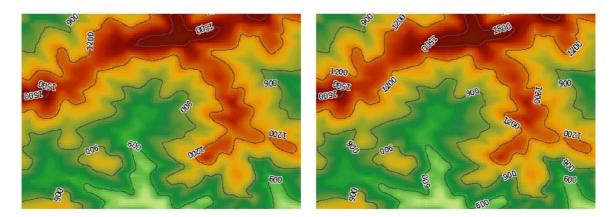You can adjust the position of labels by setting offset. This function is on the Properties tab.

If you check Alongline Labeling, labels are offset to the normal of the lines. In this case, Offset X determines the offset, but Offset Y is invalid.

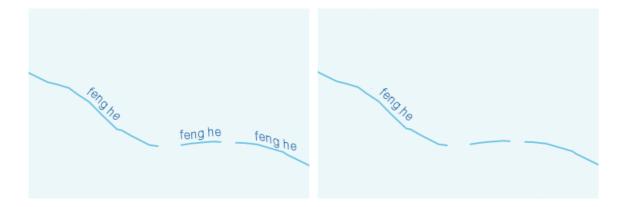
Figure: Offset Settings

5. **Repeat**

If the line is overlong, you may set Repeat Interval and Fixed Repeat Interval to better display labels. This function is on the Advanced tab.

Repeat Interval manages the distance between two labels (the first capital of the former label to the first capital of the next label). It is only supported when Fixed Repeat Interval is checked.

Remove Repeat Label is used to remove multiple repeat labels if a line object contains several subobjects. If Remove Repeat Label is unchecked, every subobject is labeled; if checked, only the maximum subobject within visual extent is labeled.

The following figure shows the comparison between the unchecked and the checked.
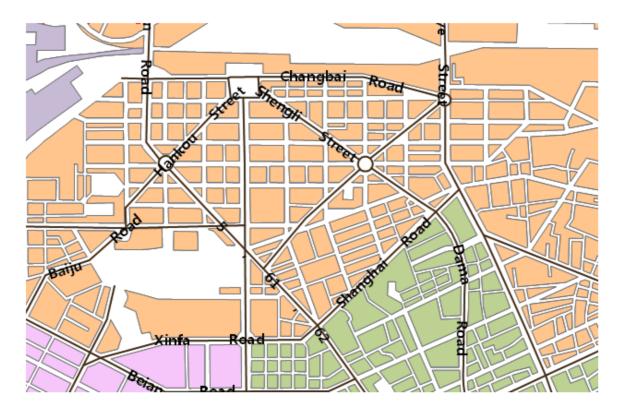

How to Label Roads

Roads are often abstracted into line objects (some times area objects). Narrow roads can be represented by single lines and broad roads can be represented by double lines. When labeling roads with their names, there are two matters to consider: the labels should along the direction of the road, and the short road also need to be labeled.

This document introduces how to label roads with an example.

Main Contents:

This example including three parts: Data preparation, Creating label map and map decoration.

This example including the following steps:

Step 1: Data preparation

Step 2: Creating road label map

Step 3: Configure and decorate base map

Note

Label along line in ranges label map, composite label map and label matrix map are alike, only some parameters are different. For more details,see Thematic Mapping.

Step 1: Preparing Data

This example uses the Changchun road data in the sample data of SuperMap iDesktop 9D .

Basic Steps

1. Launch SuperMap iDesktop 9D .
2. In the workspace manager, right click the workspace node and select "Open File Workspace".
3. The "Open Workspace" window appears, locate to [Installation directory]\SampleData\City, select Changchun.smwu, click "Open".
4. Click datasource node to expand all the datasets in the datasource, select RoadLine1 and ResidentialArea, right click and select "Add to New Map" to add the selected datasets to the map window.

All the loaded datasets are displayed in the map window, RoadLine1 is the road data to label and ResidentialArea is the residential area data.

Step 2: Creating Road Label Map

Basic Steps

This map is used to highlight the names of the roads, create a uniform label map and label the roads, enable the label along line function and set the advanced settings.
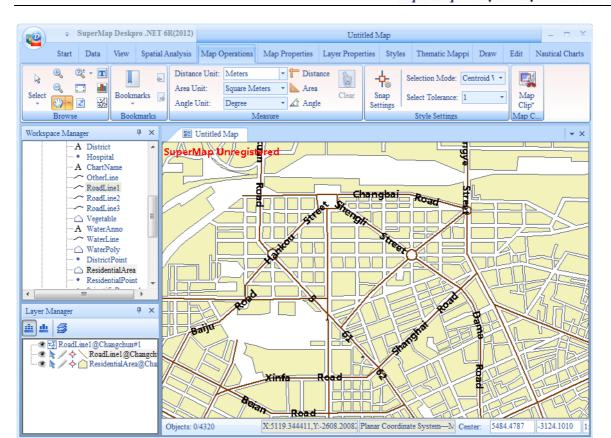
1. Select RoadLine1 in the layer manager.
2. In the Maps tab, click New in the Thematic Mapping group. Select the Uniform template of Label Map in the pop up window.
3. The settings in the "Properties" page: Select "NAME" field in the expression. Use default values for the other parameters.
4. The settings in the "Styles" page:

Parameters	Value
Font	Microsoft YaHei
Font Size	15
Align	Center
Font Effects	Bold

Use default values for other parameters.

5. The settings in the "Advanced" page of the "Uniform Label Map" window:
   Check "Alongline Labeling" and "Fixed Angle".
6. Modify the display style of RoadLine1. Select RoadLine1 in the Layer Manager, right click and select "Style Settings" in the context menu, in the Line Symbol Selector, set the style as System0, width as 0.6 millimeter and the color as RGB(121,57,4).

The display is as the following:

Step 3: Configuring Base Map and Decorating

Basic Steps

After created the label thematic map, it is needed to add base map and groom the map.
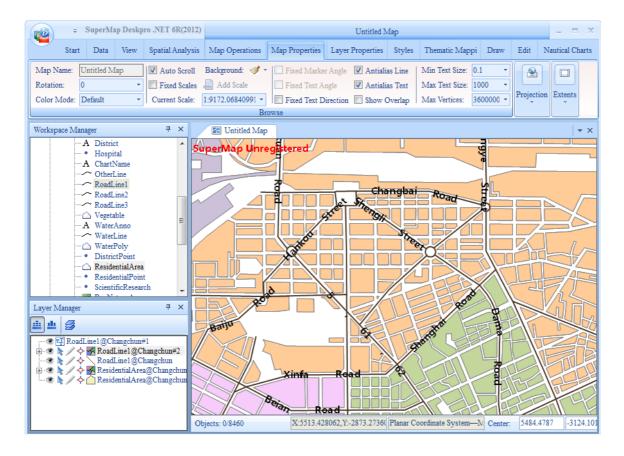
1. ResidentialArea is the region dataset representing the residential area. In the Maps tab, click New in the Thematic Mapping group. Select the Default template of Unique Values Map in the pop up window. Select the expression as CLASSID, the style settings of the items are as the following:

Items	Style settings values
32021	Color: RGB(255,203,151); Line Style: NULL
32022	Color: RGB(247,204,251); Line Style: NULL
32023	Color: RGB(195,214,155); Line Style: NULL
32024	Color: RGB(255,255,155); Line Style: NULL
32025	Color: RGB(255,218,191); Line Style: NULL
32026	Color: RGB(204,193,217); Line Style: NULL

Use default values for other parameters.

2. Adjust the order of the layers.
   Remove ResidentialArea, its thematic value map is in the bottom, RoadLine1 is on the top.
3. Select Line Antialiasing and Text Antialiasing in the Basic on the Map Properties tab.
4. Save the map with the map "Labeling along roadr"

The result map is as the following:

How to Label Rivers

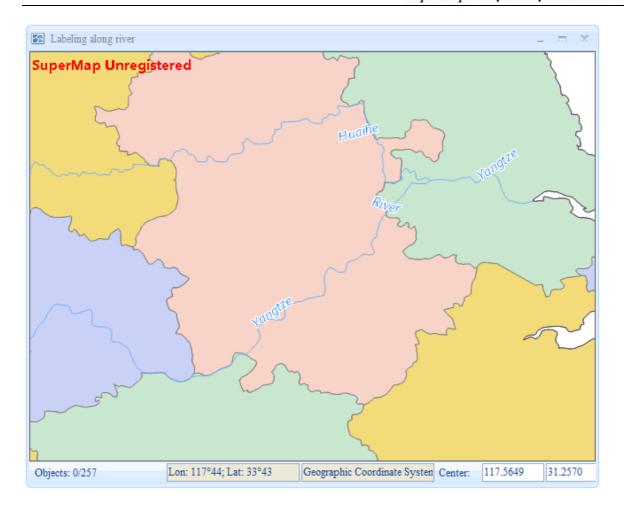The water body on the earth including rivers, lakes and oceans. In a small-scale or middle-scale map, curving lines are used to represent the shape and location of rivers. When labeling the rivers, label along line is used.

This example introduces how to use repeat labeling to label rivers.

Main Contents:

Use repeat labeling in SuperMap iDesktop 9D to get a standard and beautiful drainage thematic map

This example including the following steps:

Step 1: Data preparation

Step 2: Create thematic map

Step 3: Configure and decorate base map

Step 1: Preparing Data

Sample data China400 is used for this example.

Basic Steps

1. Launch SuperMap iDesktop 9D .
2. Click the "Start" button on the top left of the interface and select "Sample Data" in the menu. Open China400.smwu in the list.
3. Click the datasource node and the datasets are unfolded, double click to add MainWater_L, Provinces_R and County_L to the current map window.

Below is the introduction to each dataset.

Dataset	Description	Details
MainWater_L	Major rivers.	Create Uniform label map with the NAME field.
Provinces_R	Provinces	The region layers used to configure the base map.
County_L	Border	National, provincial boundaries and coastlines in base map

Step 2: Creating River Map

This map is used to highlight the river labels. Repeat labeling is used since the rivers are very long.

Basic Steps

1. Select MainWater_L in the layer manager.
2. In the "Maps" tab, click "New" in the "Thematic Mapping" group. Then select Uniform template in the Label Map, select "NAME" in the expression.
3. Set the "Properties" tab in the "Uniform Label Map" window as the following:

Parameters	Value
Offset Unit:	0.1 mm
False Easting	-40

4. Set the "Styles" tab in the "Uniform Label Map" window as the following:

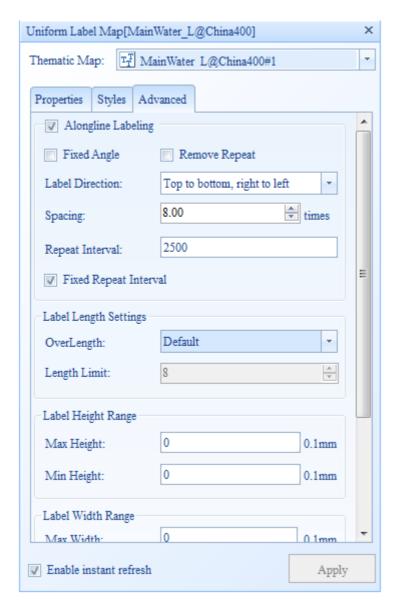| Parameters	Value
Font	SimSun
Font Size	15
Italic Angle	40
Text Color	RGB(0,113,255)
Font Effects	Italic, Outline, Fixed Size.

Use default values for other parameters.

5. Set the "Styles" tab in the "Uniform Label Map" window as the following:

Parameters	Value
Splined Text	Check
Fixed Text Angle	Check
Label Direction:	From top to bottom, right to left
Spacing:	8
Repeat Interval:	2500
Fixed Repeat Interval	Check

Spacing represent the spacing between text in the label, the range is 1-8, this means the spacing can be 1-8 times of the font height. Here set it as 8. Set Repeat Interval as 2500, representing the distance between the last character of label text and the first character of the next label text is 2500 map unit. Use default values for other parameters.
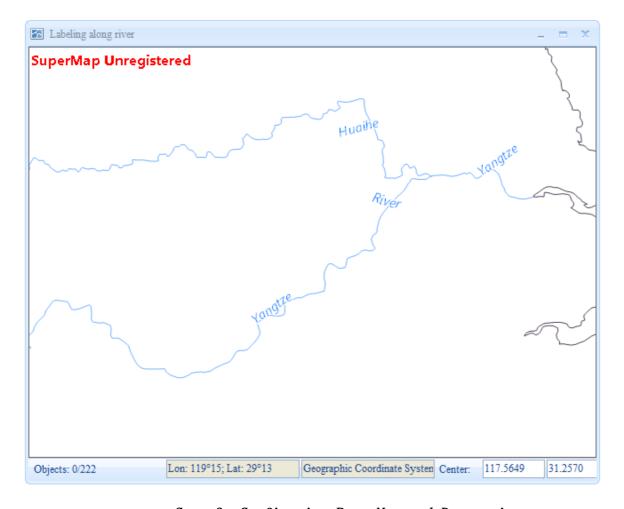
The "Advanced" tab of the Uniform label map is as the following:

Add: 6/F, Building 107, No. A10, Jiuxianqiao North Road, Chaoyang District, Beijing, 100015, CHINA, 100015
E-mail: request@supermap.com   Website: www.supermap.com

For detail information about the parameters, see: <u>Advanced tab</u>.

6. Modify the display style of MainWater_L. Select MainWater_L in the Layer Manager, right click and select "Style Settings" in the context menu, in the Line Symbol Selector, set the width as 0.1 millimeter and the color as RGB(115,178,255).
7. Select "Line Antialiasing" and "Text Antialiasing" in the Basic of the Map Properties tab.
8. Save the map with the map "Labeling along river"

The map configured is as the following:

Step 3: Configuring Base Map and Decorating

After created the label thematic map, it is needed to add base map and groom the map.

Basic Steps

1. Select Provinces_R in the layer manager.
2. In the Maps tab, click New in the Thematic Mapping group. Select the Default template of Unique Values Map in the pop up window, and select the ID in the expression.
3. Set the style of the unique values map items in the "Properties" page of the "Unique Values Map" window.

ID	Styles
1	Color: RGB(202,209,247); Line Style: NULL
2	Color: RGB(201,231,207); Line Style: NULL
3	Color: RGB(248,211,199); Line Style: NULL
4	Color: RGB(249,234,204); Line Style: NULL

4. Remove Provinces_R form the layer manager.
5. Select County_L layer in the layer manager, right click and select "Style Settings" form the context menu, the "Line Symbol Selector" appear, select "National Boundary" form the root group.
6. Adjust layer order. Provinces_R unique values map at the bottom, Country_L is at the middle and MainWater_L is on the top.
7. Select Line Antialiasing and Text Antialiasing in the Basic on the Map Properties tab.
8. Save the map with the map "Labeling along river"

The map configured is as the following:

Add: 6/F, Building 107, No. A10, Jiuxianqiao North Road, Chaoyang District, Beijing, 100015, CHINA, 100015
E-mail: request@supermap.com   Website: www.supermap.com