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What's New in WiseImage Pro Geo Edition 7

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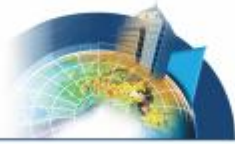
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1. New Geo Features

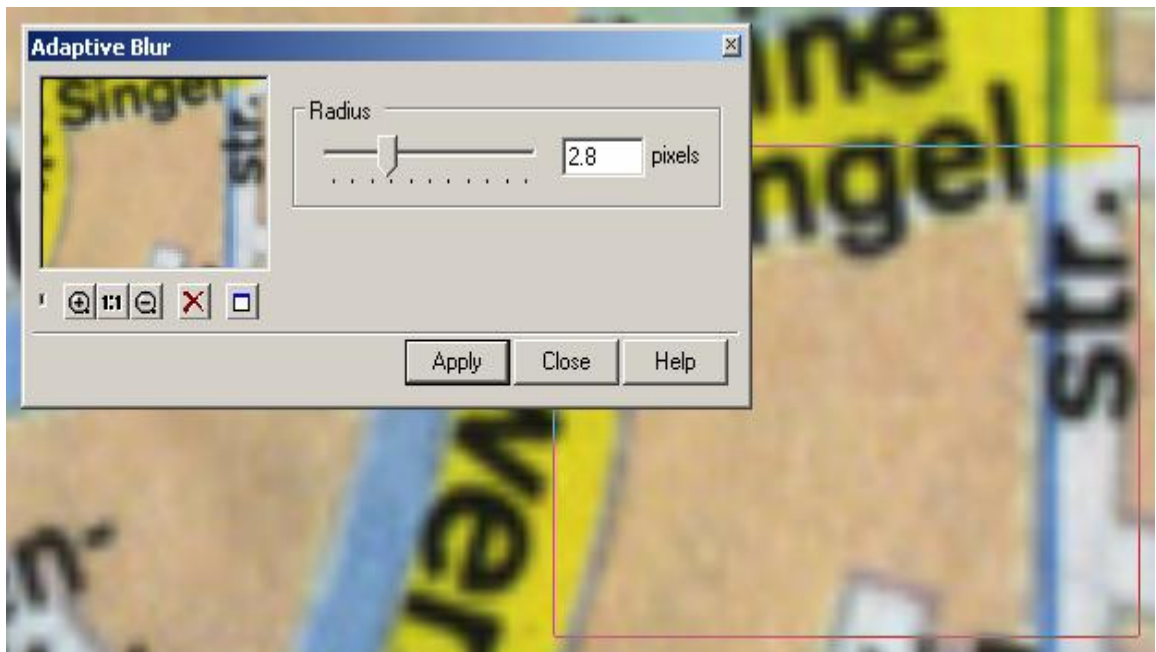
Adaptive Blur

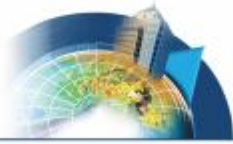
Menu: *Filters / Adaptive Blur...*

This tool is designed for blurring not uniform color areas inside the color transition boundaries in the image. It works on grayscale and color images.

The *Radius* slider sets the radius value, which determines the depth (in pixel) of the filter effect on the color area.

This tool in contrast to the *Blur* filter tries to recognize color transition boundaries in the image and leave them unchanged, without smoothing.





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R2V Color Conversion

Menu: *Convert / Color conversion options*

This command is intended for recognition of the linear objects on the color schematic raster images (plans, schemes, topographical maps). As a result, you get polylines broken in places of mutual crossings.

To work with R2V Color Conversion:

Step1

Adjust the binarization parameters (similarly to Adaptive Binarization):

Switch on the *Export Raster to Layer* checkbox.

Switch off the *Show Vectors* button and switch on the *Show Raster* button.

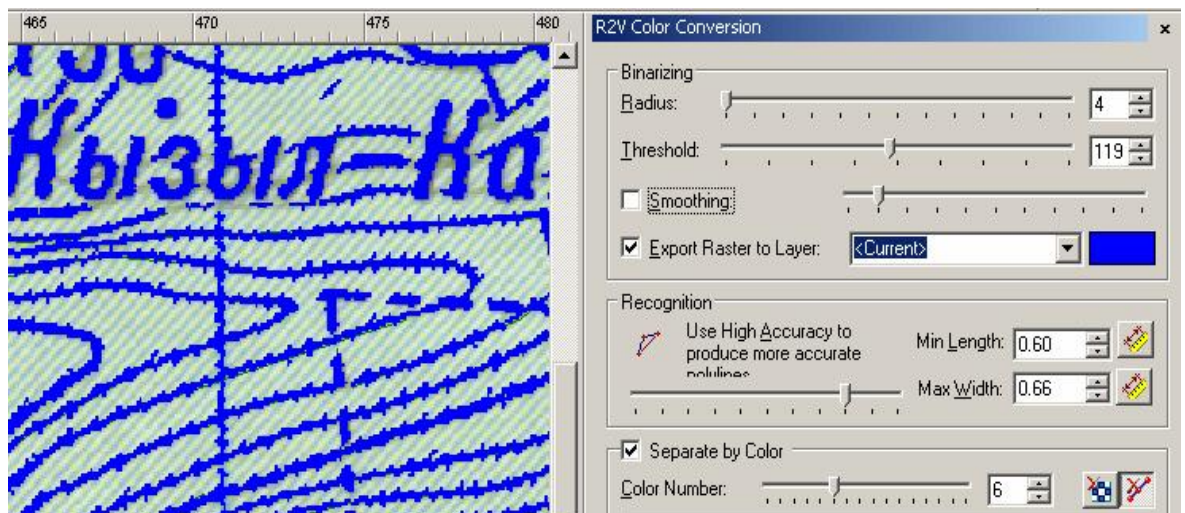


Move the *Radius* slider to its minimal position (equal to 4).

Gradually increase the *Threshold* value until the required objects appears.

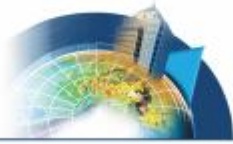
Use the *Smoothing* filter if the objects have a rough border.

NOTE: At the same time, closely positioned lines might conglutinate and small objects might disappear.



Turn off the *Export Raster to Layer* checkbox after adjusting the binarizing settings.

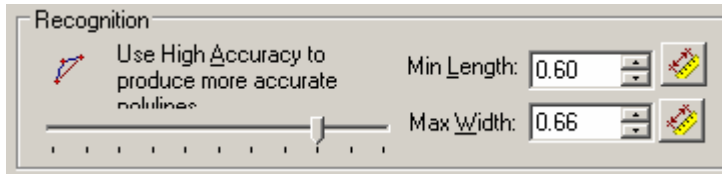
If you need this monochrome raster is necessary, you can switch this checkbox on after all other settings adjustment are complete.



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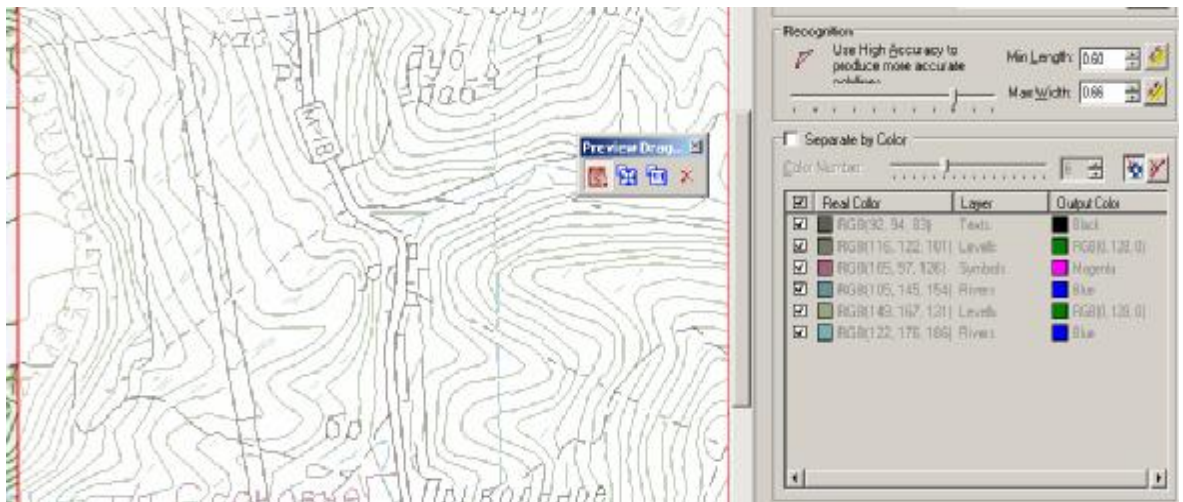
Step 2

Set the *Recognition* parameters: Max Width, Min Length and Accuracy. Those parameters are equal to those for monochrome images in the *R2V Options* dialog and the *Raster Properties* toolbar.



Step 3

Switch off the *Separate by Color* checkbox and define a preview area so that you can see all the objects of all the colors resented in the raster image.



Visually check up the quality of recognized objects, their color and a degree of conformity to the raster image. Recustomize parameters if necessary.

If you want to see lines of different colors on separate layers, switch on the *Separate by Color* checkbox.

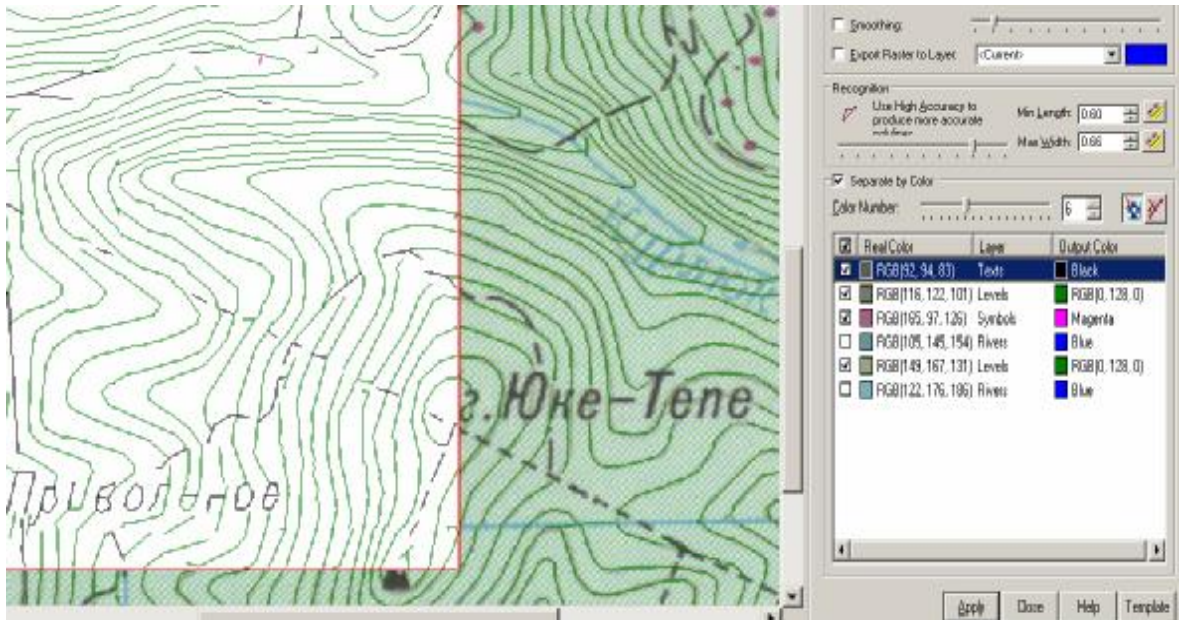
Set the *Color Number* value (usually 1-2 colors more than the real number). The program automatically defines the table of colors and casts the color of an object to the nearest one. Switching on/off the *Export to Layer* checkbox which is located at the beginning of every color table string, you can visually check up all objects of this color.

After defining the correct number of colors you can define another target color and a layer for each of real color.



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If you do not want to export a line of a certain color, switch off the *Export* checkbox at the beginning of this string.

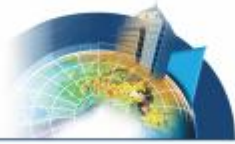


Step 4

Click the *Apply* button to start vectorization process or save the parameters to a file for further use.

You can also launch vectorizator with current settings through the *Raster2Vector*

command .



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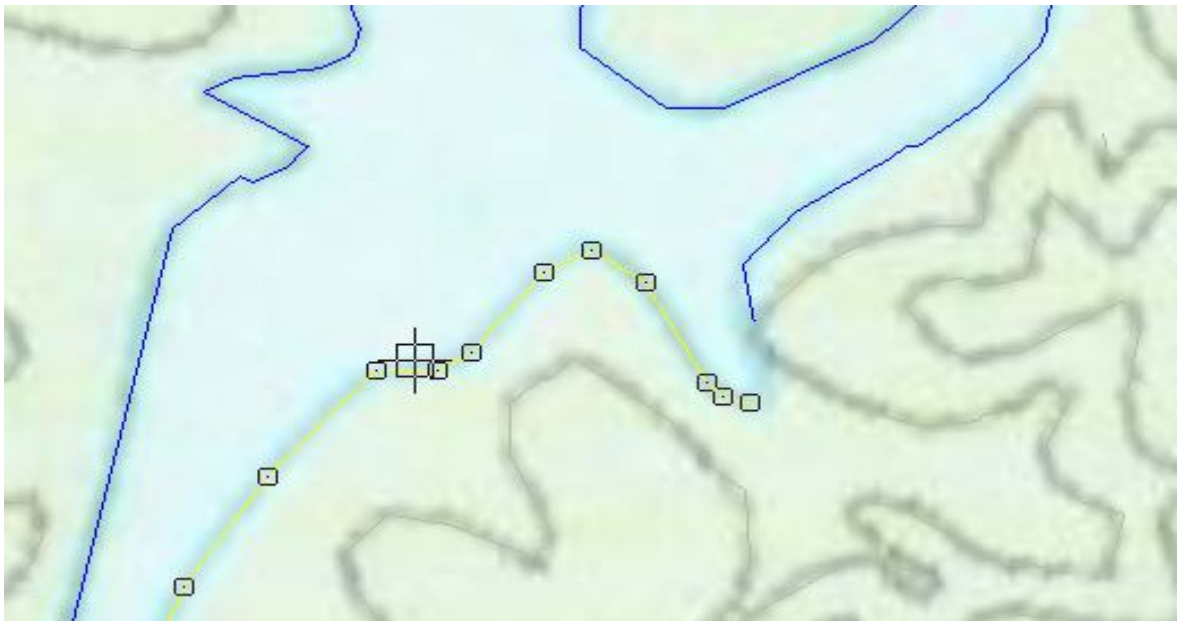
Collect Polylines

Menu: *Correct / Collect Polylines*

This command is designed for assembling polylines which are created after the trace or automatic vectorization commands. It is best to use the raster image as a substrate for the results control.

To work with Collect Polylines

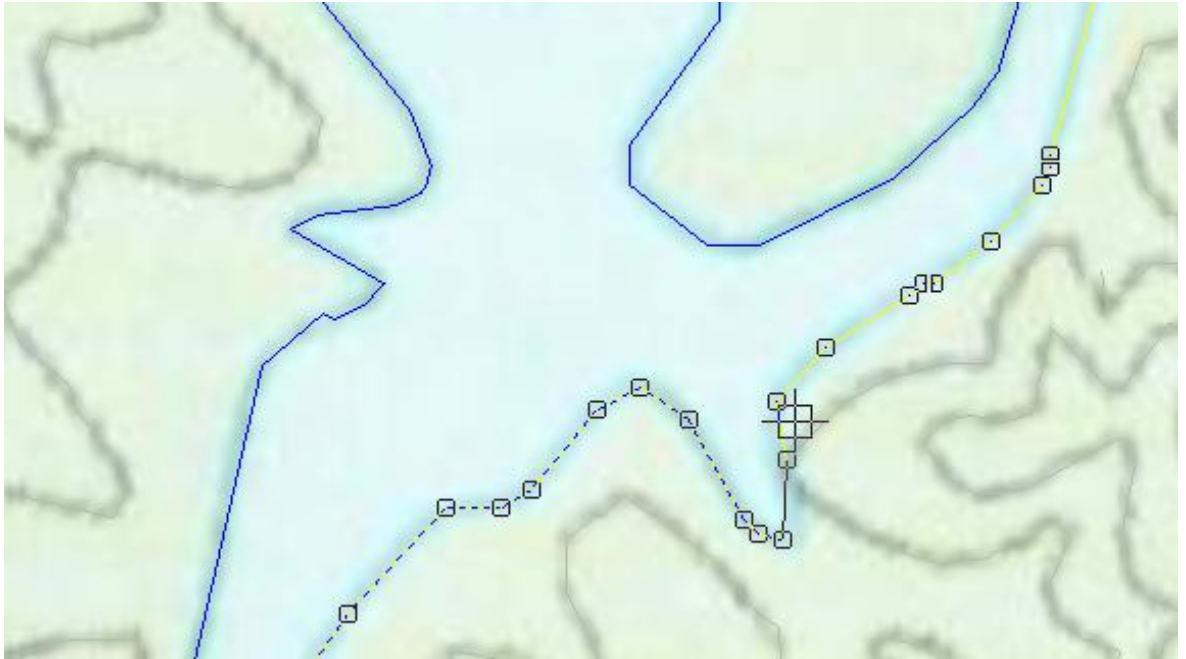
Click the first polyline.



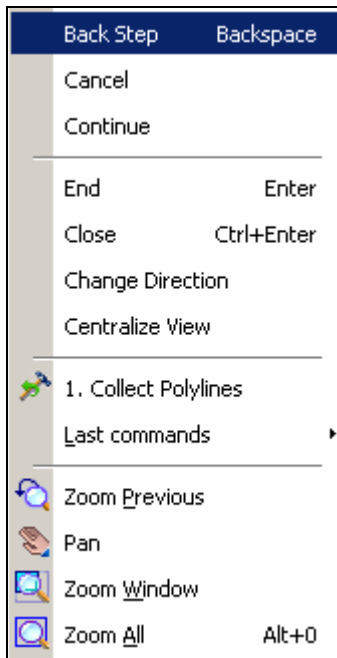


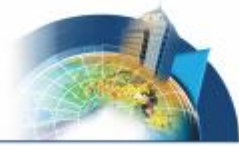
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While the cursor is moving, you can see which polyline will be added to the current one and what you will have in result. Choose the next polyline by clicking on it. Click the next polyline. The program automatically pans to the end point of the resulting object.



Use the right-button menu to manage this command.





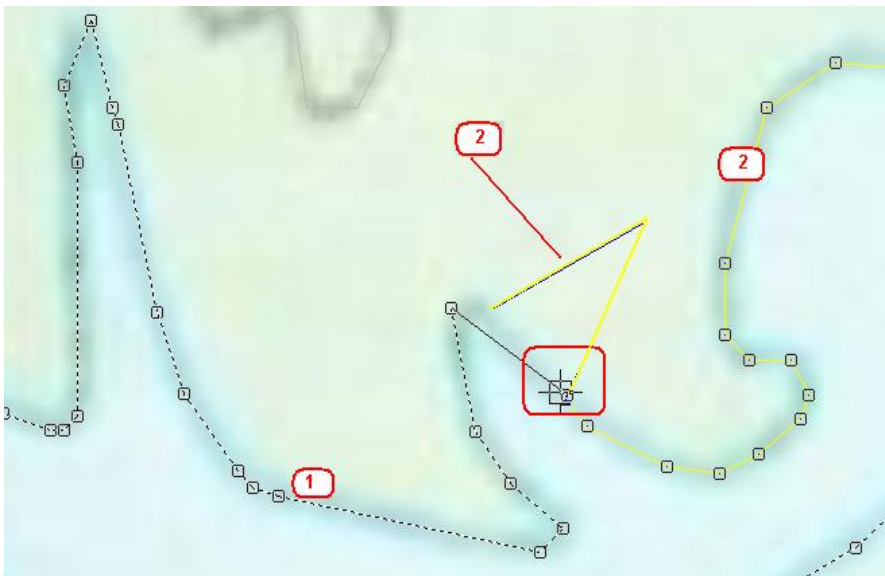
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It is possible to use special modes for modifying the resulting object during polyline assembling process:

Case1: Polyline 1 has a stray tail, and you need to attach it to polyline 2. Press CTRL and click a point on the current polyline 1 in which it must be broken. You will continue polyline assembling from this point.



Case 2: Polyline 2, which you want to append, has a stray head. Press CTRL and specify a point on polyline 2 to which it must be attached. It will be broken in this point and added to polyline 1.

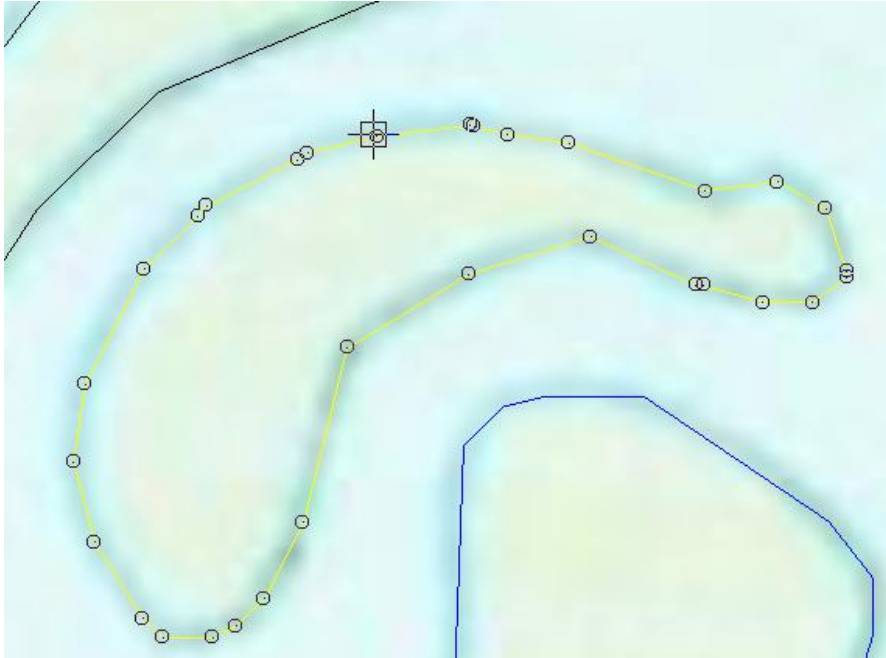




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Case 3: You need to close a current polyline.

Press CTRL and click on one of the current polyline end points. The polyline will close and the command will be finished. The closed polylines are highlighted with rounds, instead of a square form for grips.



Case 4: You need to draw a segment of a polyline manually.

Press SHIFT and draw as many segments as necessary.





Case 5: It is necessary to add some vertices to a current polyline. Press CTRL+SHIFT and add a necessary number of vertices.



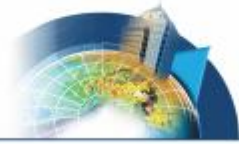
The Properties of the resulting polyline

Inspector-[C:\CSoft\...\MapChik.jpg*]	
Command	Collect Polylines
Auto Properties	No
Layer	Default
Color	<input checked="" type="checkbox"/> By Layer
Line Type	SolidLine
Start Marker	<none>
End Marker	<none>
Line Width	0.00 mm
Fill	No
Elevation	0.00 mm
Extended Data	
Hyperlink	

This command adds a new item into the *Inspector* window: *Auto Properties*.

If the *Auto Properties* item is off (No), then you can change the properties of the resulting polyline (such as color, thickness, markers) in *Inspector* during the command running.

Otherwise the resulting polyline will inherit the current properties.

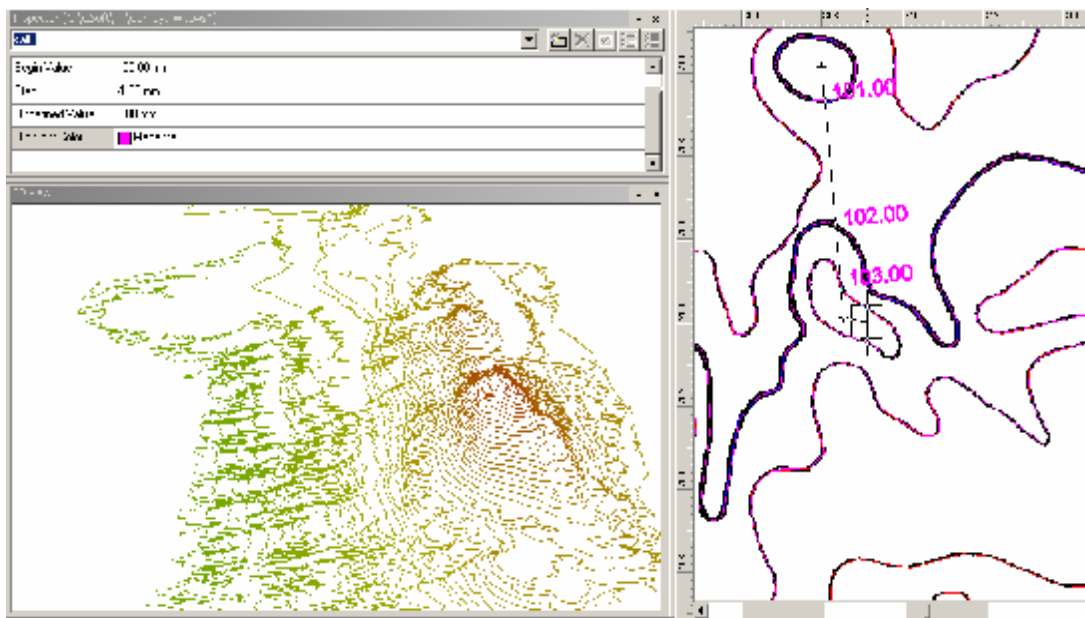


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Improved Arrange Elevation

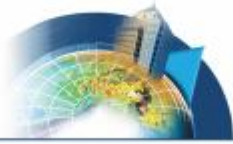
The arrange elevation command has been improved and became more handy and obvious. It highlights all already processed polylines with the user defined color and shows elevation values during the command execution.

You can open the 3D View window during Arrange Elevation to see all changes in 3D projection.



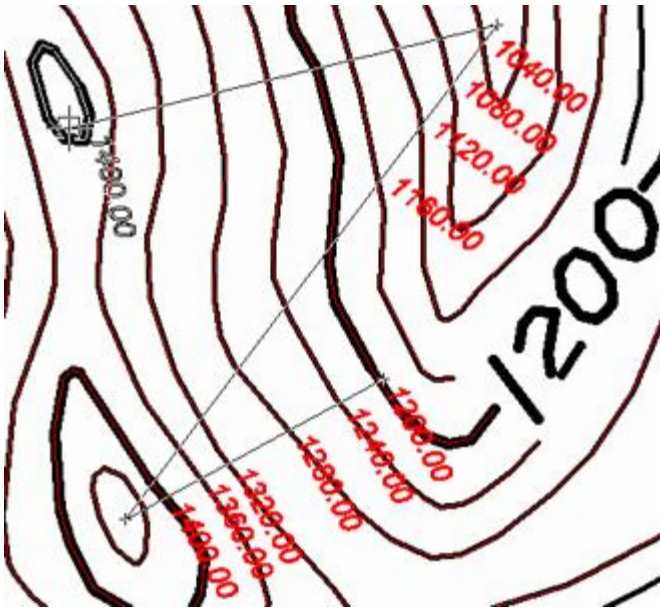
But the main advantage is that the command automatically calculates the elevation of the newly specified polylines basing on the elevation of the polylines which already have been processed in the current command session. So now you don't need to recalculate and reenter *Begin Value* and *Step* for every new logical group of isolines – they are calculated automatically!

For example, you know the control isoline elevation, which is located between others isolines, and the *Step* value. In the previous command version it had to be run twice, redefine the *Begin value* and the *Step* for the group of isolines which lies on the one side from the control isoline and for the group which lies on the other side. Or you had to calculate the *Begin value* for the extreme isoline before the command execution.



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Now you only need to select isolines on the one hand from the control isoline, and then on the other hand. The step will possess the inverse value. Simply as never!



3D View

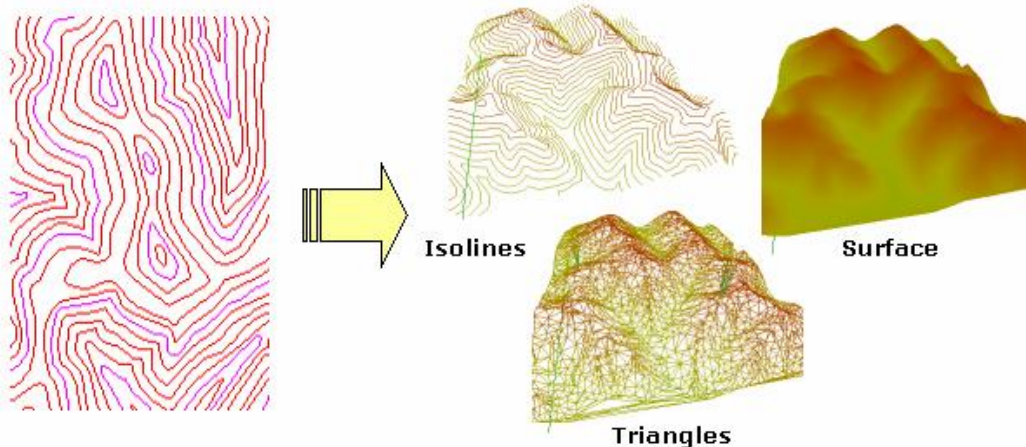
Menu: *View / 3D View*

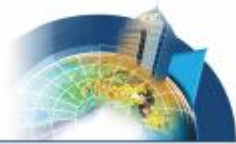
This window shows a drawing in 3D projection where the Z coordinates represent elevation values. You can zoom, pan and rotate a drawing in this view using the mouse and/or buttons.

You can specify various view projections and surface view styles.

In the previous versions it was very difficult to trace the arrange elevations errors.

Now you can use 3D view during the arrange elevation process as all document changes are dynamically reflected in this view.





2. Document Features

Profiles

Using profiles you can switch document options on the fly and import/export document settings between different documents and/or workstations.

Every WiselImage profile can store:
interface settings (customize options, preference options),
file format settings,
paper settings.

You can create a number of profiles, but only one of them could be a *current* one.

By default, WiselImage stores your current options in a profile named <<Unnamed>>.

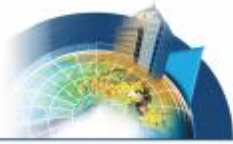
The profile information is stores in the system registry.

While you modify interface settings, file formats and paper settings, your current profile is automatically changed.

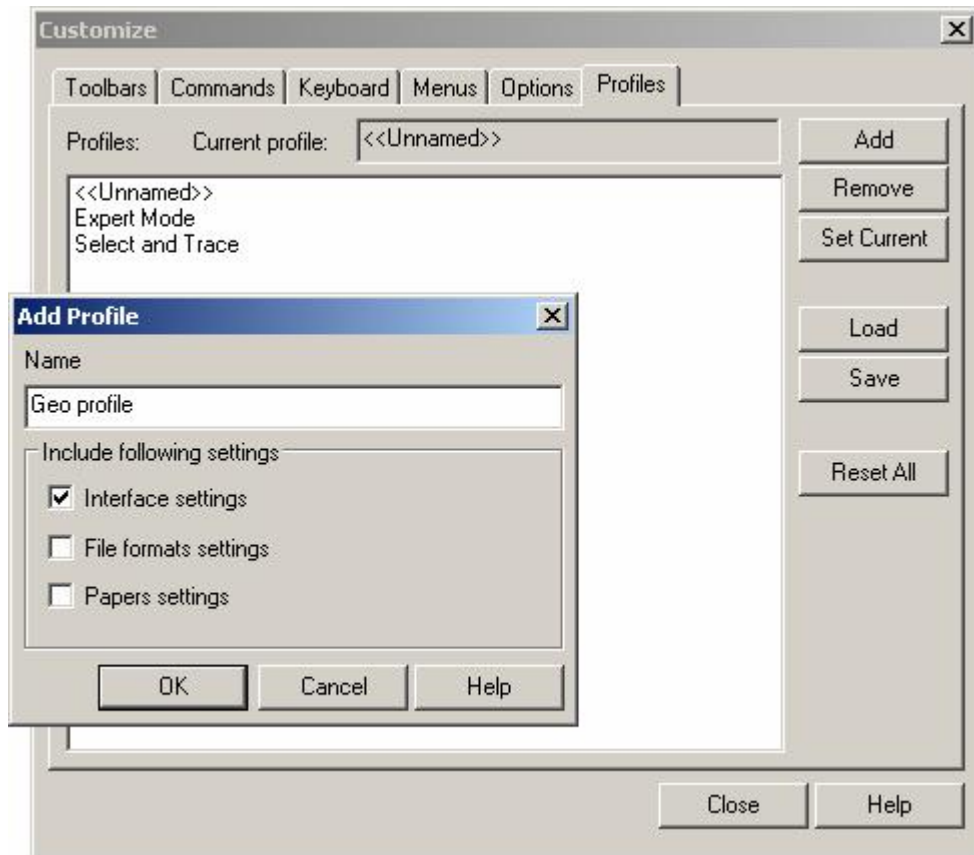
Note: Export a profile to a file once and import it every time you need, to prevent unwanted current profile modifying (see Profile import/export).

Use the *Switch to Profile* dialog (Menu: *Tools / Switch Profile...*) to switch profiles or choose a necessary profile in the *Profile Manager* (the *Profiles* tab in the *Customize* dialog box) and click the *Set Current* button.





While the *Switch to Profile* dialog is used for profiles rapid switching and creation, the *Profile* tab is used for creation, removing, switching, exporting and importing profiles.



Profile creation

A newly created profile inherits the current profile settings.

Every WisedImage profile contains all three parts (the interface settings part, the file format settings part and the paper settings part). However you can specify, during a new profile creation, which part you want to read from a profile each time it is loaded (make it current).

For example, you create the new profile "Interface5" and specify that it must contain only the interface settings. So, when you make this profile current next time, it will change only the interface settings, but not file formats and papers. However, actually profile "Interface5" stores complete information about all three parts, but every time WisedImage reads only the interface settings part.

Profile import / export

The current profile can be saved (exported) into a file with a .WIP extension. Once you save a profile, you can export a WIP file to different computers. So, for example, you can transfer predefined settings to all workstations in your department in a moment.



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If you make changes to your current profile during a WiseImage session and you want to return those changes back, then you can import WIP file with a beforehand exported profile.

During profile export you should specify which of its three parts must be written down into a file. Import of WIP file modifies only those parts of a current profile, which were saved into this file. Other settings will stay unmodified. For example you can export only the paper settings.

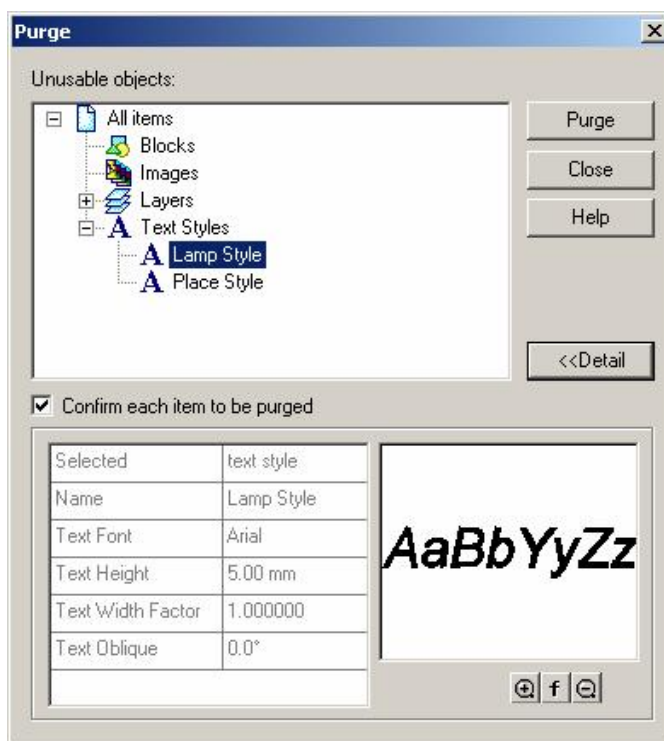
If an imported profile (a WIP file) includes the interface settings part, then WiseImage creates a new profile which has the name of the imported profile. This newly created profile automatically becomes the current one.

Otherwise, if an imported profile does not include the interface settings part, then the remaining part(s) adjust the current profile settings and current profile name becomes like: **Current Profile Name+Imported Profile Name**

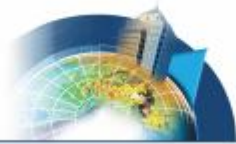
For example: **Vector recognition profile+Corporate paper formats**

Purge

As usual, frequently modified documents contain a lot of unused named objects such as block definitions without block insertions, image definitions without image insertions, layers which do not contain objects, old text styles. To easily detect and remove all this stuff use the *Purge* dialog. The *Purge* dialog (*Menu: Tools / Purge*) shows all unused objects.



This dialog shows only those objects, which could be safely removed from the document. For example, a block definition cannot be purged if it is nested inside another block.



Text Style

All texts in a WiseImage document have a text style associated with it.

Text style defines such text characteristics as: *Font, Height, Width Factor, and Obliquity.*

To inherit any text property from the associated text style, this property value must be set to *By Style.*

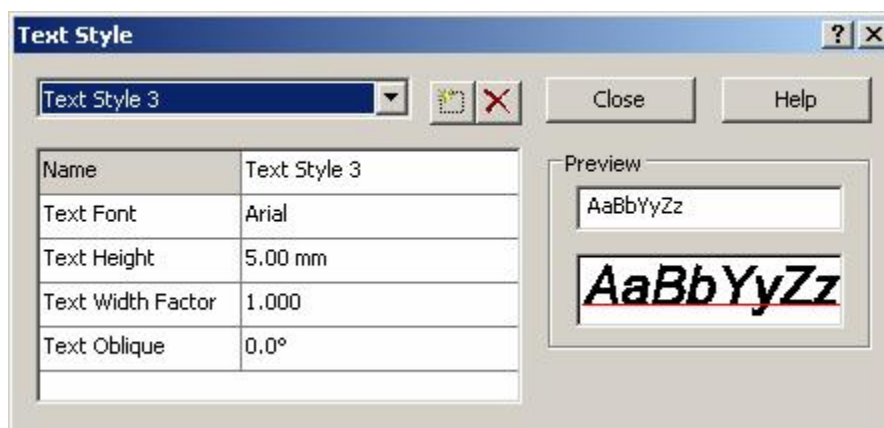
Using text styles, you can change text properties for a number of objects on the fly.

Just modify any parameter of the required text style, and every WiseImage text in this document, which inherits the value for this property from the modified text style, will be changed in a moment.

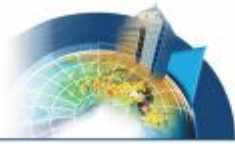
You can change text style for Text, Multiline text, Dimension text, Block, by changing a value of the *Text Style* property in *Inspector.*

Text Style	Caption Style
Text Font	By Style
Text Height	By Style
Text Width Factor	By Style
Text Oblique	By Style

You can create a new text style and delete or modify an existing one in the *Text Style Manager* (Menu: *Tools / Text Style...*; Toolbar: *Settings / Text Style Manager*).



You can fast and easy delete all unused Text Styles from the document using the *Purge* dialog.



Text oblique angle

WisImage text has a new property – *Text Oblique*, which defines the forward or backward slant of the text. This angle represents an offset from 90 degrees.

Text Oblique	15.0°
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Oblique

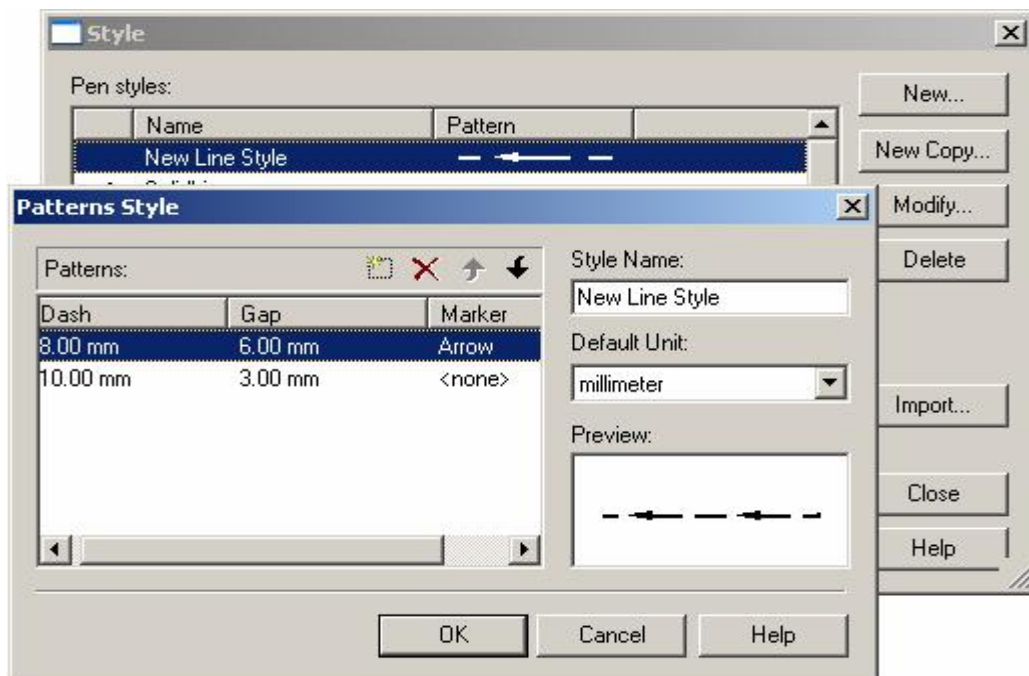
Line style improvements

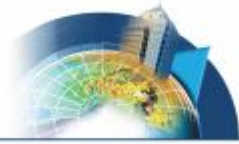
Importing AutoCAD line styles

Now you can import line styles from the AutoCAD linetype definition file (.LIN file). Click the *Import...* button in *Line Style Manager* (Menu: *Tools / Style...*).

Markers in line styles

You can use markers which are stored in .MRK files (create with *Tools / Create Marker...* dialog) in line styles. Just specify one or several existing markers during line style creation or modifying.





3. Critical Improvements

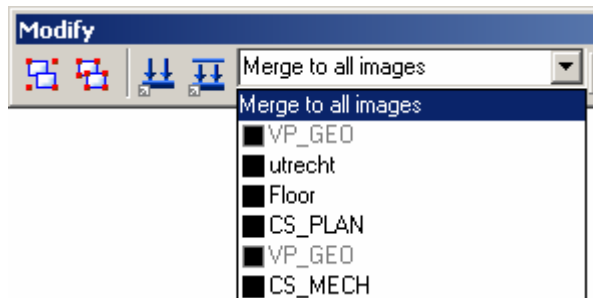
Merge to selected image

In the previous WisImage versions it was so inconvenient to merge the data on the single raster image from several existing ones. Especially in case of projects with multiply raster layers.

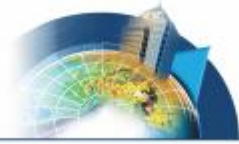
The new version eliminates this bottleneck trouble.

Now you can specify the target raster image for the *Merge* and *Merge a Copy* commands.

Just choose this target image from the combo-box on the *Modify* toolbar.



In conjunction with such a powerful feature as the *Selection Source* property in *Inspector*, you get the ability to merge specified raster data onto a specified raster image from multitude of other images without unnecessary manipulations with layers and images visibility switching before merging.



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Color Search and Replace

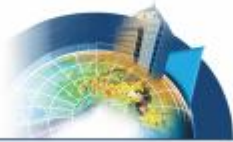
This tool enhancement allows you to search and replace raster objects on grayscale and RGB raster images. With this new ability WiselImage eliminates a distinction between bitonal and full color raster object recognition.

It may be useful for topographical color maps with symbolic notations



and air photographic maps editing.

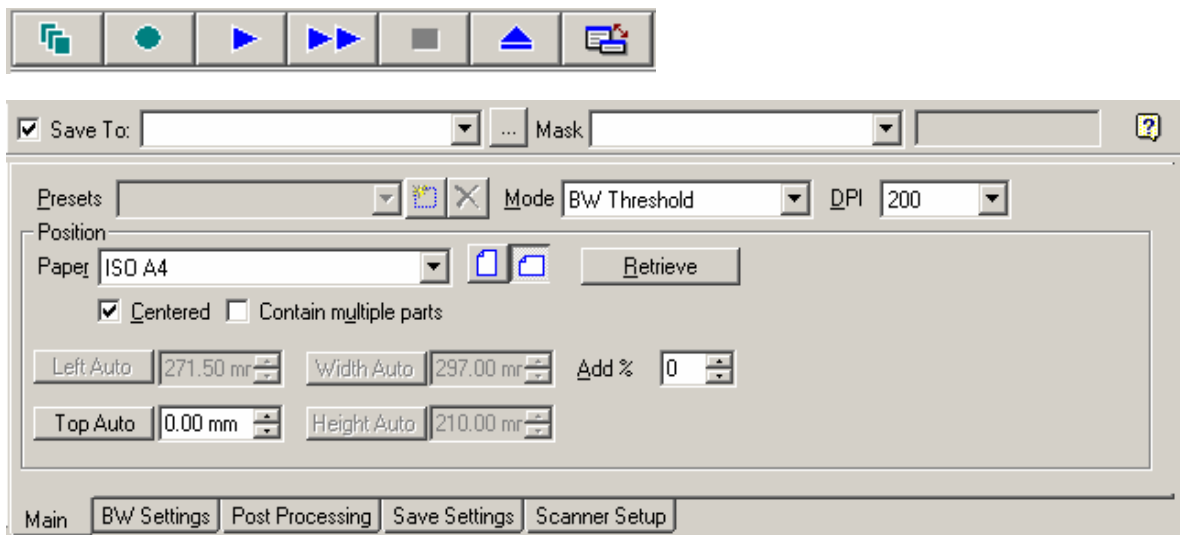




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WiseScan

WiseScan has become a new generation of WiseImage scan performance. WiseScan presents a system designed to work with large-format monochrome and color scanners. This system has already been included in RasterID application and now its part named "scan to view" is used in WiseImage. Scanned images can be saved and processed using special scenarios. Convenient interface of scan control and compact layout of all WiseScan settings in one dialog with tabs allow you to make settings and scan fast and easily. Now you needn't use a separate scan program – you can execute scanning and processing using the same program.



Custom (user defined) properties

From this release you can add new custom options to WiseImage objects. Right click on the Inspector window and choose *Add Property* menu item. You can add *text*, *integer number*, *float number*, *Yes/No (boolean)* data as a value for the new property. Creation of new properties is available from script.

Custom properties may be useful for script treatment.

You can store additional information in any object in document for your script purposes.

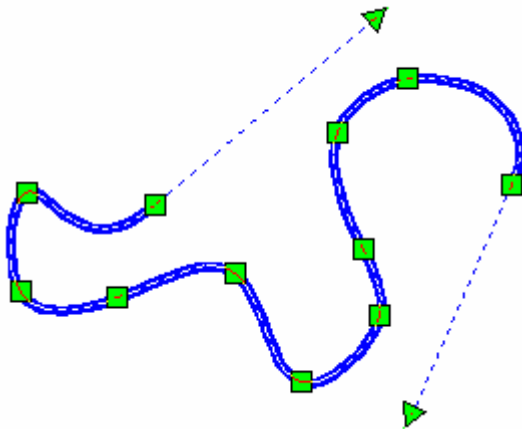
Also with this ability you can import/export (not supported yet) additional properties to other formats where these properties exist.





4. Vector Drawing

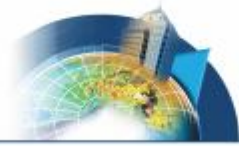
Tangents of spline end points

All WiseImage splines have the start and end tangents (tangent vectors), which specify the tangency of the spline curve at the start and the end points. The end points of the tangent vectors have triangular grips, which are used for specifying tangent's direction and length.



You can also use the *Start Tangent* and *End Tangent Inspector* items to edit tangents properties. Edit vector coordinates there or click the  button to set tangents into the default position.

Start Tangent	-16.07, -30.29	
End Tangent	-48.71, -41.11 mm	

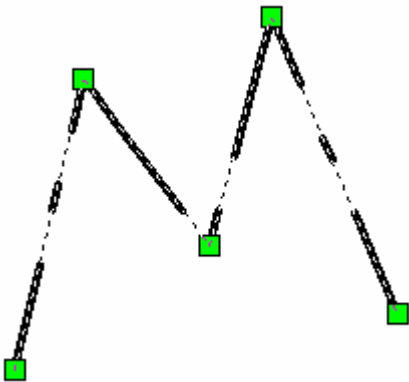


Fit dashed lines

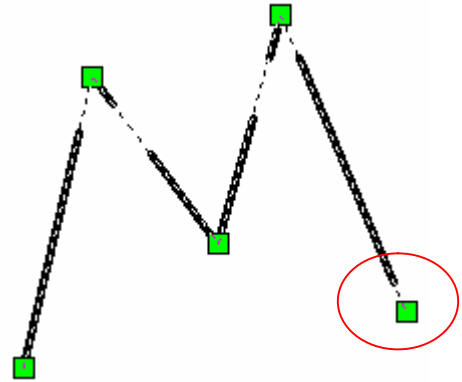
When drawing objects with dashed line style WiselImage tries to adapt visual view of dashed contour at expense of slightly changing of dashed and spaced size lengths. This method does not affect the objects geometry, but makes their dashed contour view more correct to provide a reasonable display. For example, in this mode WiselImage guarantees that the endpoints of lines, polylines, and arcs will be started and ended with a dash.

Now you can switch off this mode to view contour as it is, without changing dashes and spaces length. See the *Display View / Fit Dashed Lines* item in the *Preferences* dialog.

Fit Dashed Lines is ON



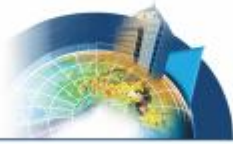
Fit Dashed Lines is OFF



Default precision for dimension text

You can set dimension *Text Precision* property to the *Default* value, which means that the text precision value will be inherited from the current coordinate system precision.

(See the current coordinate system precision in the *Coordinate System* dialog).



5. New Selection Methods

Can WiselImage sophisticated and intelligent raster selection mechanism be improved? Yes, of course! The two new additional raster selection methods have been added to this release: *Contour selection* and *Brush selection*.

Brush selection

Select toolbar / *Brush Selection* button 

Just brush a raster area, which you want to select.
This selection method is useful for intricate areas.



This command has the following properties in Inspector:

Brush Style

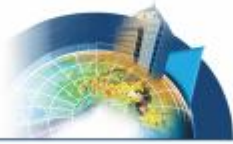
Choose the brush style from the combo-box:

- Circle brush
- Square brush
- Slash brush
- Backslash brush

Brush Size

Choose the brush size from combo-box or specify your own value.

This command can only be applied to raster objects.



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Contour selection

Select toolbar / *Contour Selection* button 

This command creates raster image selection by selected contour of vectors. Select closed contour from vector objects, run this selection and you will get a selected raster area inside it.

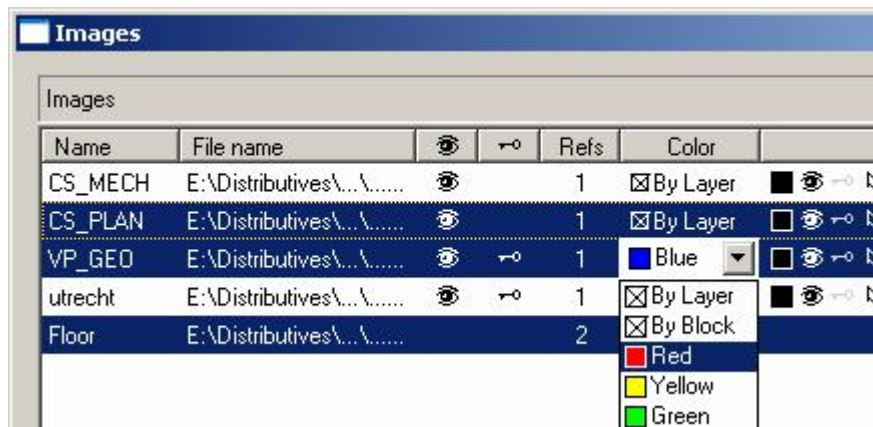
This command can only be applied to raster objects.



6. Interface

Multiselection and arrangement in Layer / Image / Block Manager

The Block Manager, the Image Manager and the Layer Manager have become more user friendly with their new multiselection ability. Select those items which you need with SHIFT or CTRL keys and edit parameters for all of them. Press CTRL key and click items for a sampling selection. Use SHIFT key for continuous selection.



Another new feature of these dialogs is the items arrangement ability based on their properties. Just click the table column caption to arrange items by this property.

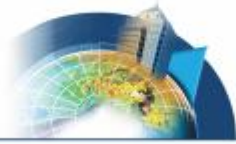
Full Screen Mode

Another new WiselImage interface feature is the *full screen* mode ability. It enlarges useful workspace to the maximum value at the expense of hiding WiselImage window caption and cropping outermost toolbars and status bar. You can turn on this mode for one of custom profiles and switch it momentary. See the *Customize* dialog / *Options* tab / *Misc* / *Full Screen Application Window* checkbox.

Show Width button

The *Show Width* switch (Menu: *View / Show Width*) has been added to the WiselImage status bar.

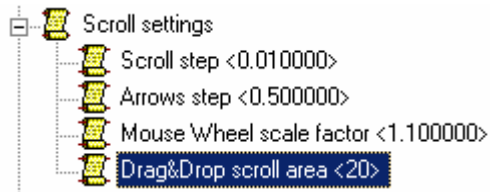




Drag-and-drop scroll area

You can drag any vector objects to the area that lies over the viewport borders using viewport scroll possibility during drag-and-drop.

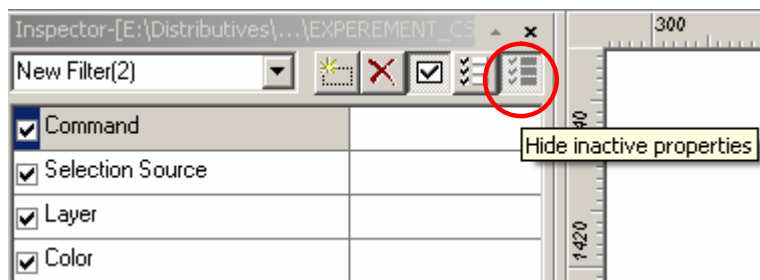
The *Scroll Settings / Drag & Drop scroll area* item in the *Preferences* dialog specifies the width of the invisible viewport borders used for scrolling a current view during drag process.



The 0 value indicates that the border size is equal to zero i.e. the viewport scrolling capability during dragging is off. The 80 value represents the maximum border size.

Hide inactive properties feature for inspector filter editing

This WiselImage version has a new button "*Hide inactive properties*" in the Inspector window which hides inactive properties during creation of a new filter or editing an existing one. This makes Inspector filter editing faster and more comfortable.

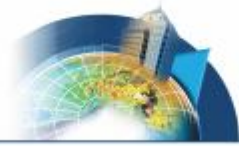


Script arguments option

Now scripts can use additional individual parameters (arguments) for different launch sessions. (Such scripts must implement the *ScriptSetup* function). The script must define a type and a number of arguments. So, for example, you can assign different arguments to the buttons that run the same script.

This feature means the same for a script as the preferences dialog for WiselImage. It is used to specify those script custom settings that will be rarely changed.

Create a toolbar button for the script and right-click on it. Click the *Arguments...* button in the appeared *Tool Setup* dialog and then specify arguments for this button (launch session).



7. File Management

DWF format import

You can import AutoCAD DWF (Design Web Format) files into WiseImage document using *File / Import...* dialog. DWF is a highly compressed file format that is created from a DWG file. DWF files are easy to publish and view on the Web.

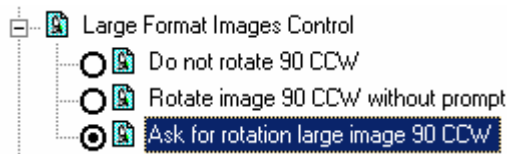
Large format images control

This feature is applicable for very wide panoramic images. WiseImage can open raster images with unlimited height (limited by the computer physical memory), but it places a limitation on raster image width.

But now WiseImage has the ability to open very wide images. Those images will be rotated in the program memory by 90 degrees counter-clockwise when opened, but only in memory, and visually it will not be rotated.

NOTE: However such a wide image will be saved to a raster file as rotated by 90 degrees.

You can set options for this feature in *Preferences / Large format images control* item.

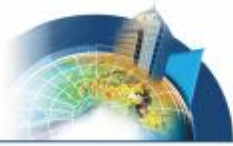


DWG import/export improvement

First of all, import to /export from DWG file of markers scale is now more correct.

Also there is an additional ability of dimension text converting.

Unfortunately, there is no blameless method to convert AutoCAD dimension text to WiseImage dimension text and vice versa, because the dimension text of one application has its specific properties and document concatenations, which is missing in another application.



Consistent Software

Now you can choose the method of dimension text conversion (in the Preferences dialog):

1. *Text* – This method allows you to convert a WiseImage dimension text field (the text with its numeric part (%N)) to a plain (word-for-word) AutoCAD text, i.e. a text without a numeric part. Such text will not be changed in case of dimension transformation, but visually it will be identical to the source. This method may be useful if DWG format is used as an archive format for finished drawings.

2. *Auto* – This method allows you to convert a text with maximum likelihood to save all document concatenations. But if there is no sensible ability to do this, then a text will be converted in the same way as in the first method (a plain word-for-word text).

For example, AutoCAD has no such UCS property as *scale*. So if a WiseImage document has *UCS scale* unequal to 1 and *Convert to UCS* checkbox is OFF, then there is no ability to convert dimension text as it is – the dimension values in the WiseImage document and in the AutoCAD document would be different.