OSGeo
Your Open Source Compass

OPENJUMP

INDIAN INSTITUTE OF SCIENCE

Energy and Wetlands Research Group
CES
Indian Institute of Science
Bangalore - 560012

CiSTUP

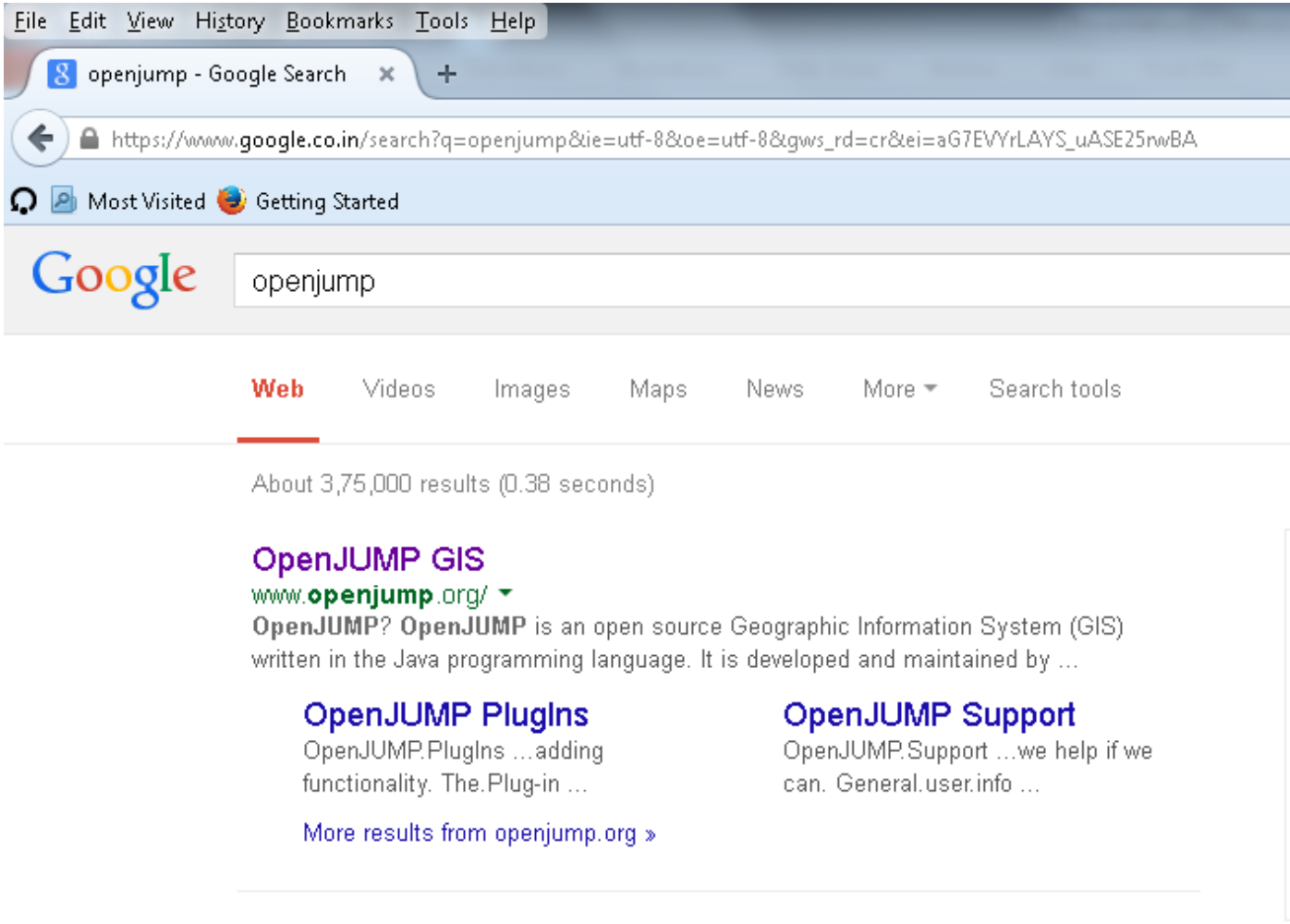
FOSS 4G workshop, 21 to 24 August 2015

Open Jump

- Free and open source software
- Written in the Java programming language.
- Developed and maintained by a group of volunteers around the globe.
- OpenJUMP started as JUMP GIS
- Basic GIS works can be handled with the tool (Vector).

Downloading OPENJUMP

- www.openjump.org



File Edit View History Bookmarks Tools Help

OpenJUMP GIS

www.openjump.org

Search

Most Visited Getting Started

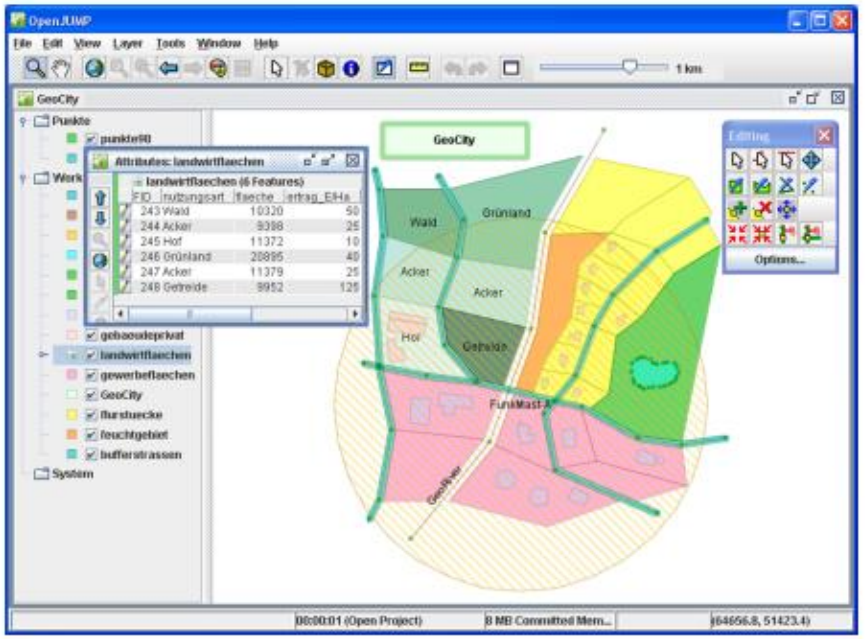
OPEN JUMP

- openjump
- openjump plugins
- openjump support
- openjump wiki
- the jpp
- become involved
- links
- contact us

download. links

OpenJUMP 1.8.0 is the latest release from the 1st December of 2014. Download OpenJUMP here. Feel free to search past releases and plugins in our sourceforge files section.

There are Development Snapshots available too for those who don't



what. is. openjump?

OpenJUMP is an open source Geographic Information System (GIS) written in the Java programming language. It is developed and maintained by a group of volunteers from around the globe. OpenJUMP started as JUMP GIS

sourceforge.net/projects/jump-pilot/files/OpenJUMP/1.8.0/

Looking for the latest version? **Download OpenJUMP-Installer-1.8.0-r4164-PLUS.exe (44.3 MB)**

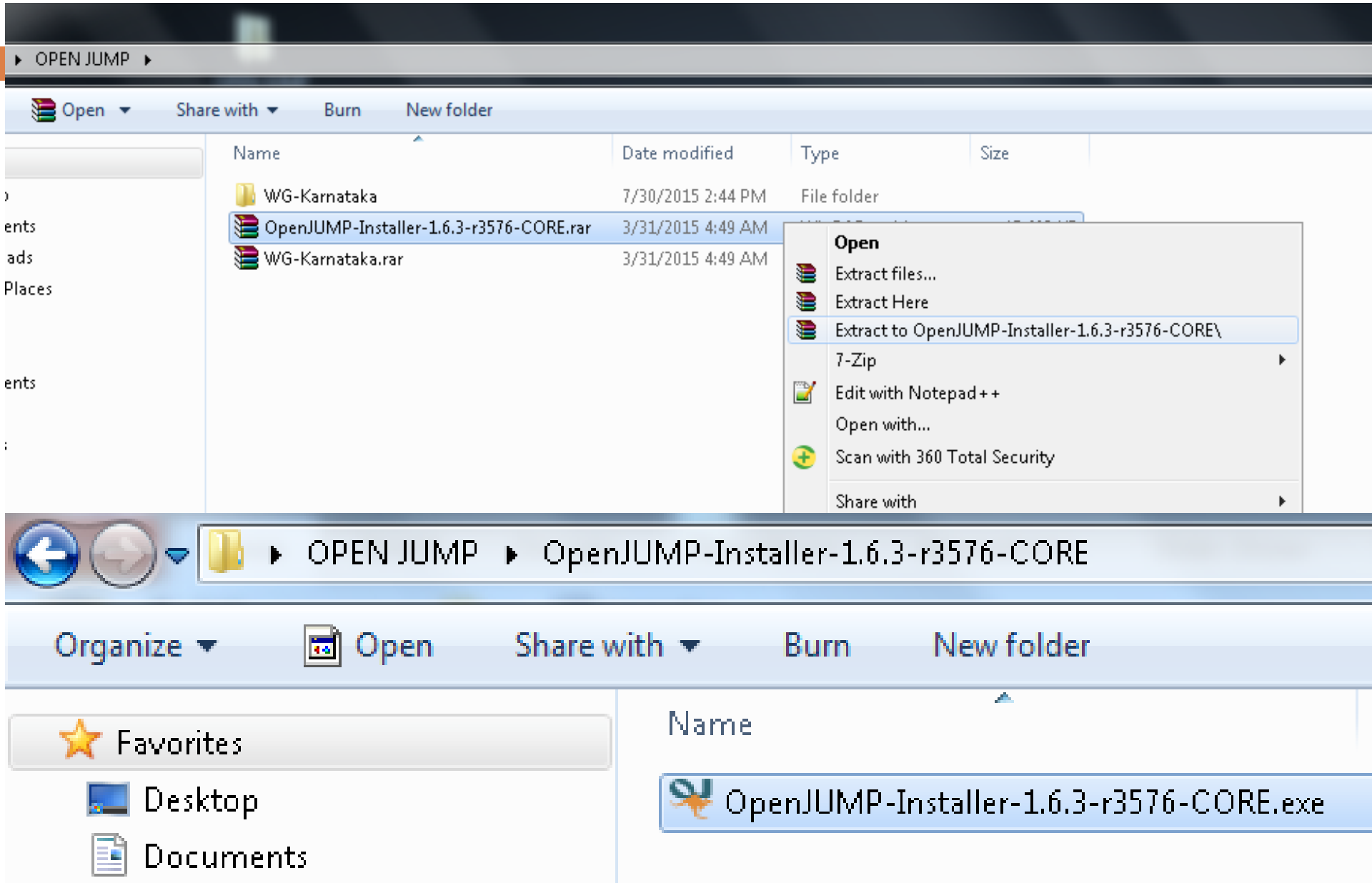
Home / OpenJUMP / 1.8.0

Name	Modified	Size	Downloads / Week
Parent folder			
readme.txt	2014-12-01	7.7 kB	17
OpenJUMP-1.8.0-r4164-src.zip	2014-12-01	8.3 MB	30
OpenJUMP-1.8.0-r4164-apidocs.zip	2014-12-01	10.6 MB	2
OpenJUMP-Installer-1.8.0-r4164-PL...	2014-12-01	44.3 MB	188
OpenJUMP-Installer-1.8.0-r4164-CO...	2014-12-01	20.2 M	
OpenJUMP-Installer-1.8.0-r4164-PL...	2014-12-01	44.3 MB	60
OpenJUMP-Installer-1.8.0-r4164-CO...	2014-12-01	20.2 MB	4
OpenJUMP-Portable-1.8.0-r4164-PL...	2014-12-01	43.6 MB	58
OpenJUMP-Portable-1.8.0-r4164-CO...	2014-12-01	19.1 MB	4
Totals: 9 Items		**210.5 MB**	**376**

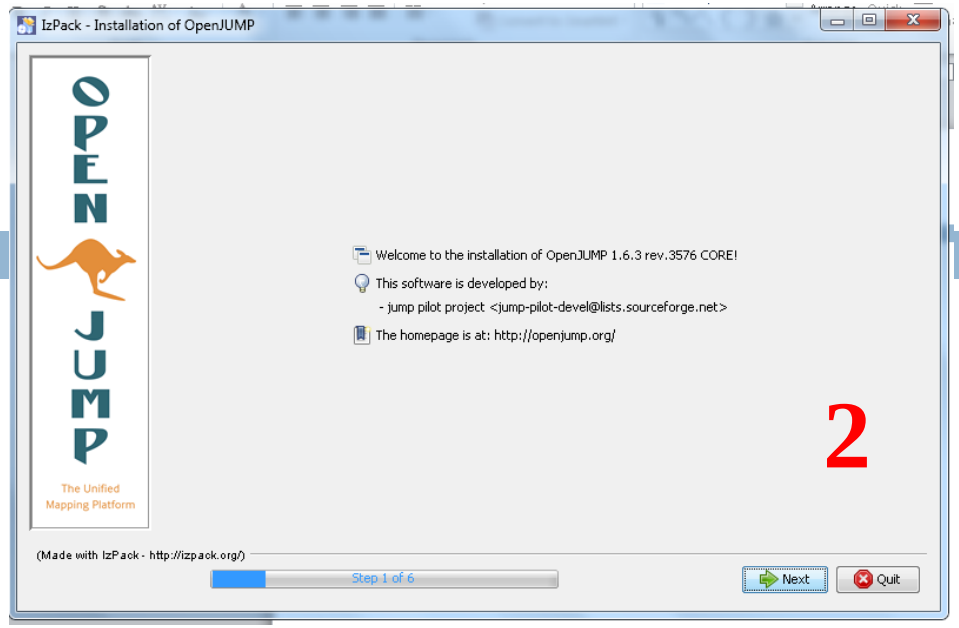
OpenJUMP-Installer-1.8.0-r4164-PLUS.exe

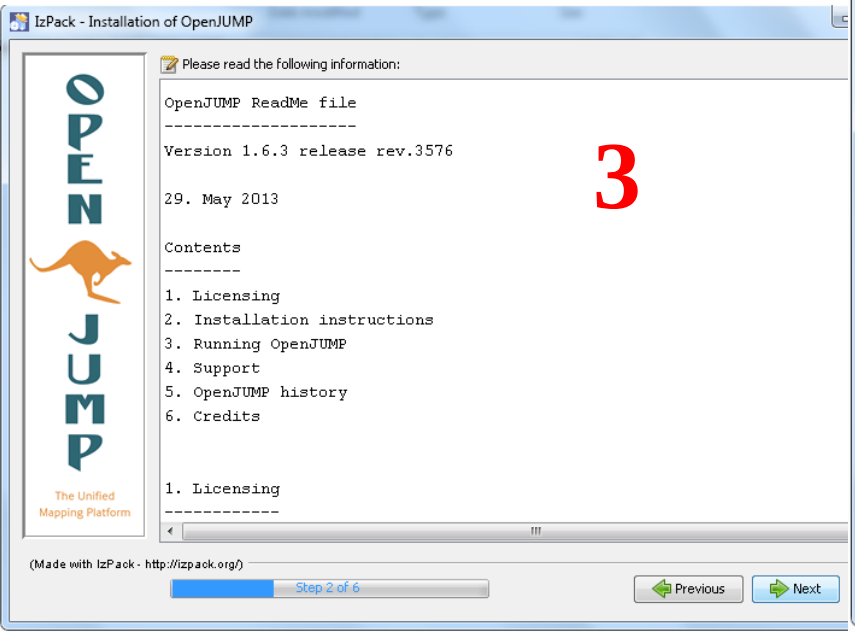
****

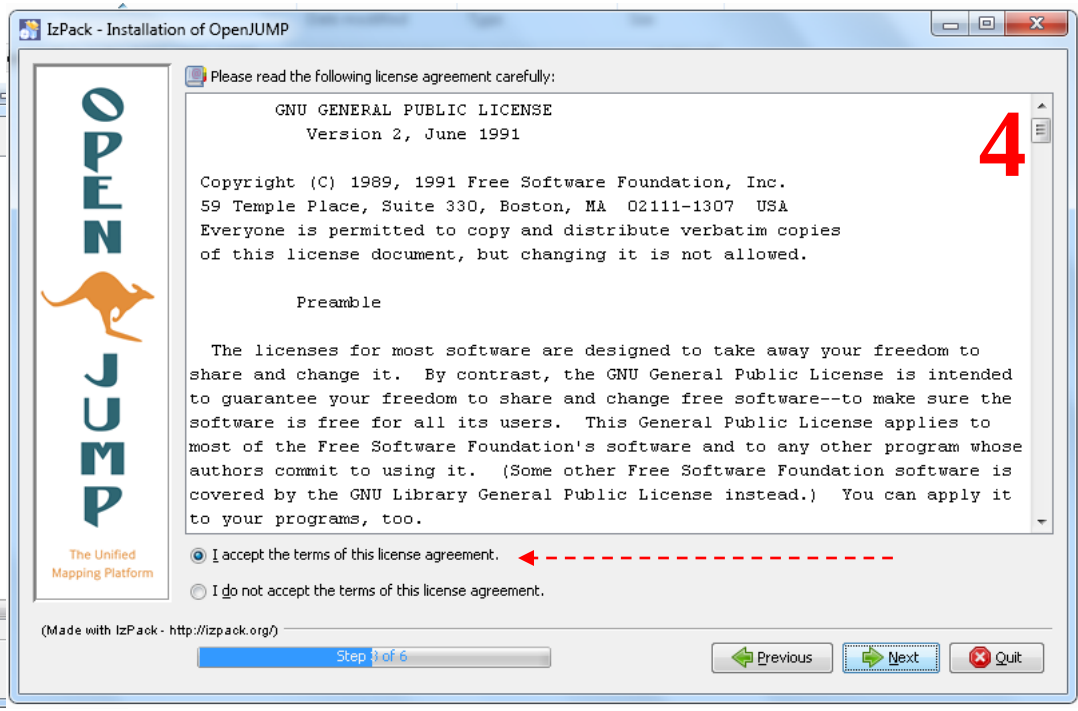
Installation




Language Selection
OPEN JUMP
Jump Unified Mapping Platform
Please select your language
English
English
français
Deutsch
italiano
日本語
español
Dansk
Ελληνικά
1


IzPack - Installation of OpenJUMP
OPEN JUMP
The Unified Mapping Platform
Welcome to the installation of OpenJUMP 1.6.3 rev.3576 CORE!
This software is developed by:
- jump pilot project <jump-pilot-devel@lists.sourceforge.net>
The homepage is at: http://openjump.org/
2
(Made with IzPack - http://izpack.org/)
Step 1 of 6
Next
Quit


IzPack - Installation of OpenJUMP
OPEN JUMP
The Unified Mapping Platform
Please read the following information:
OpenJUMP ReadMe file
Version 1.6.3 release rev.3576
29. May 2013
Contents
1. Licensing
2. Installation instructions
3. Running OpenJUMP
4. Support
5. OpenJUMP history
6. Credits
1. Licensing
3
(Made with IzPack - http://izpack.org/)
Step 2 of 6
Previous
Next


IzPack - Installation of OpenJUMP
OPEN JUMP
The Unified Mapping Platform
Please read the following license agreement carefully:
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991
Copyright (C) 1989, 1991 Free Software Foundation, Inc.
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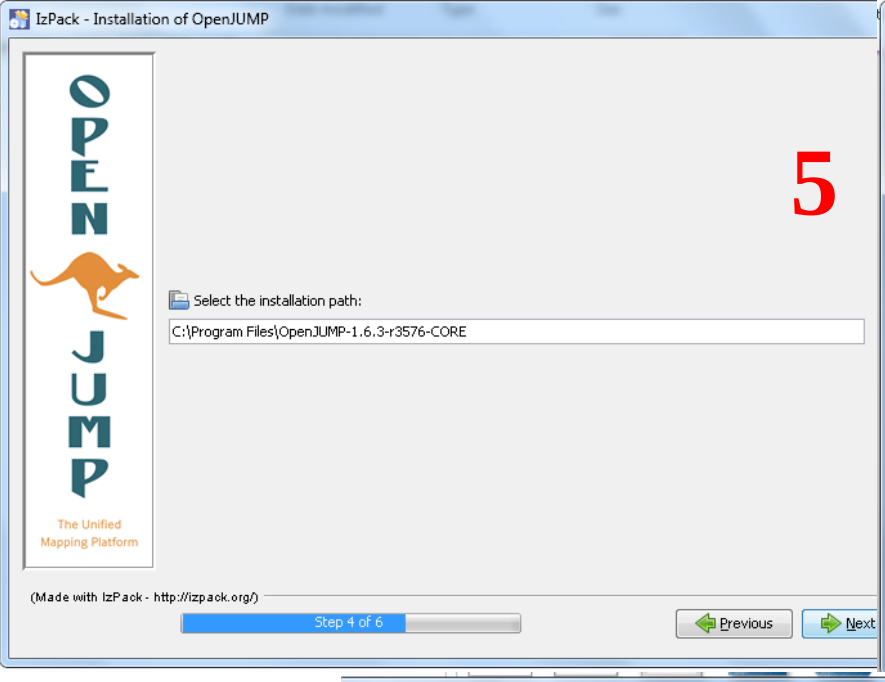
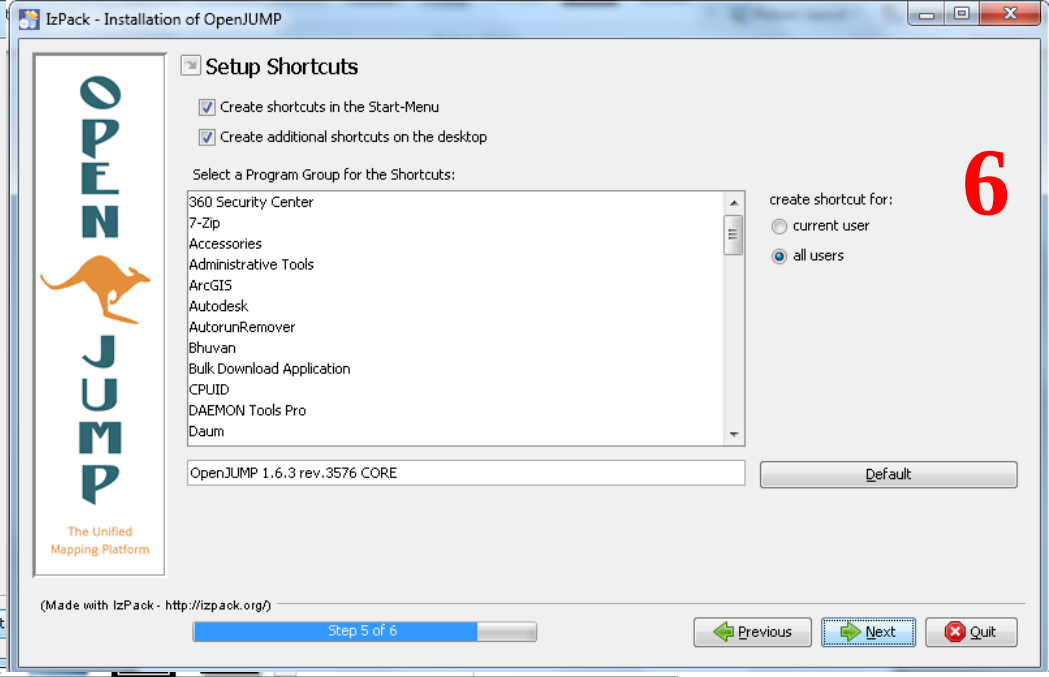
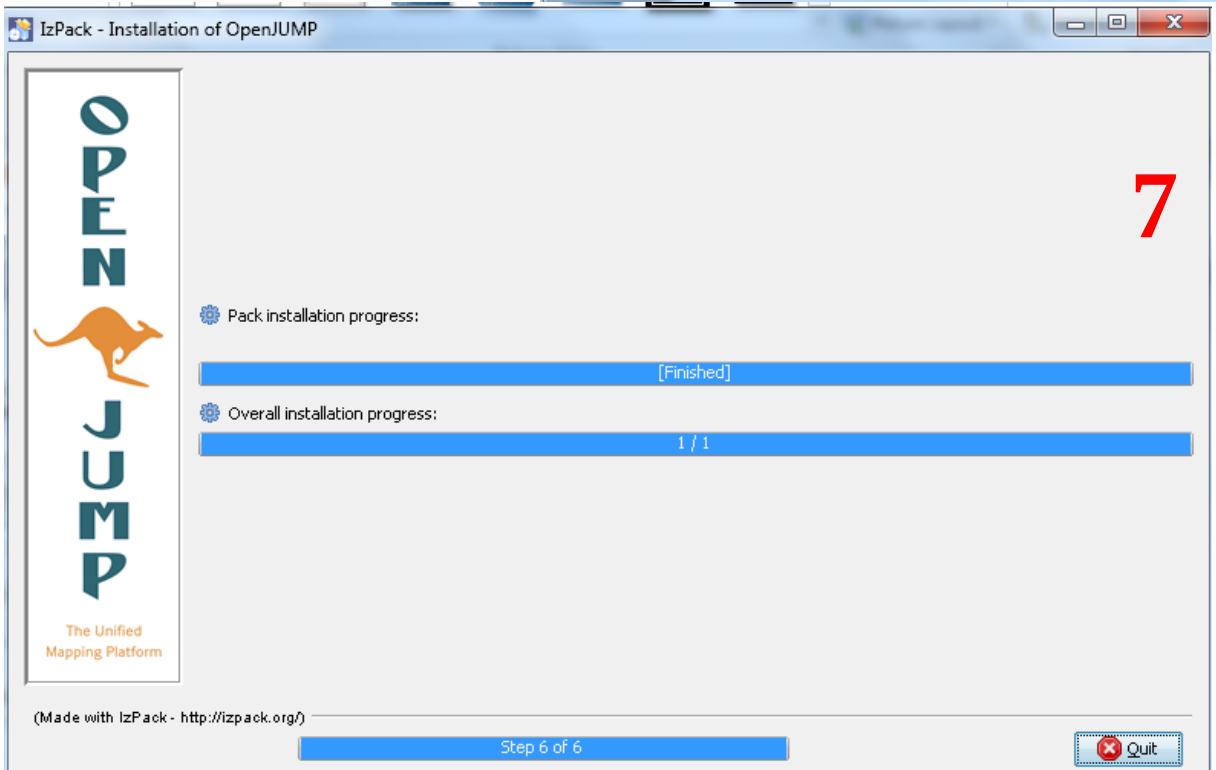
Preamble
The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.
4
I accept the terms of this license agreement.
I do not accept the terms of this license agreement.
(Made with IzPack - http://izpack.org/)
Previous
Next
Quit

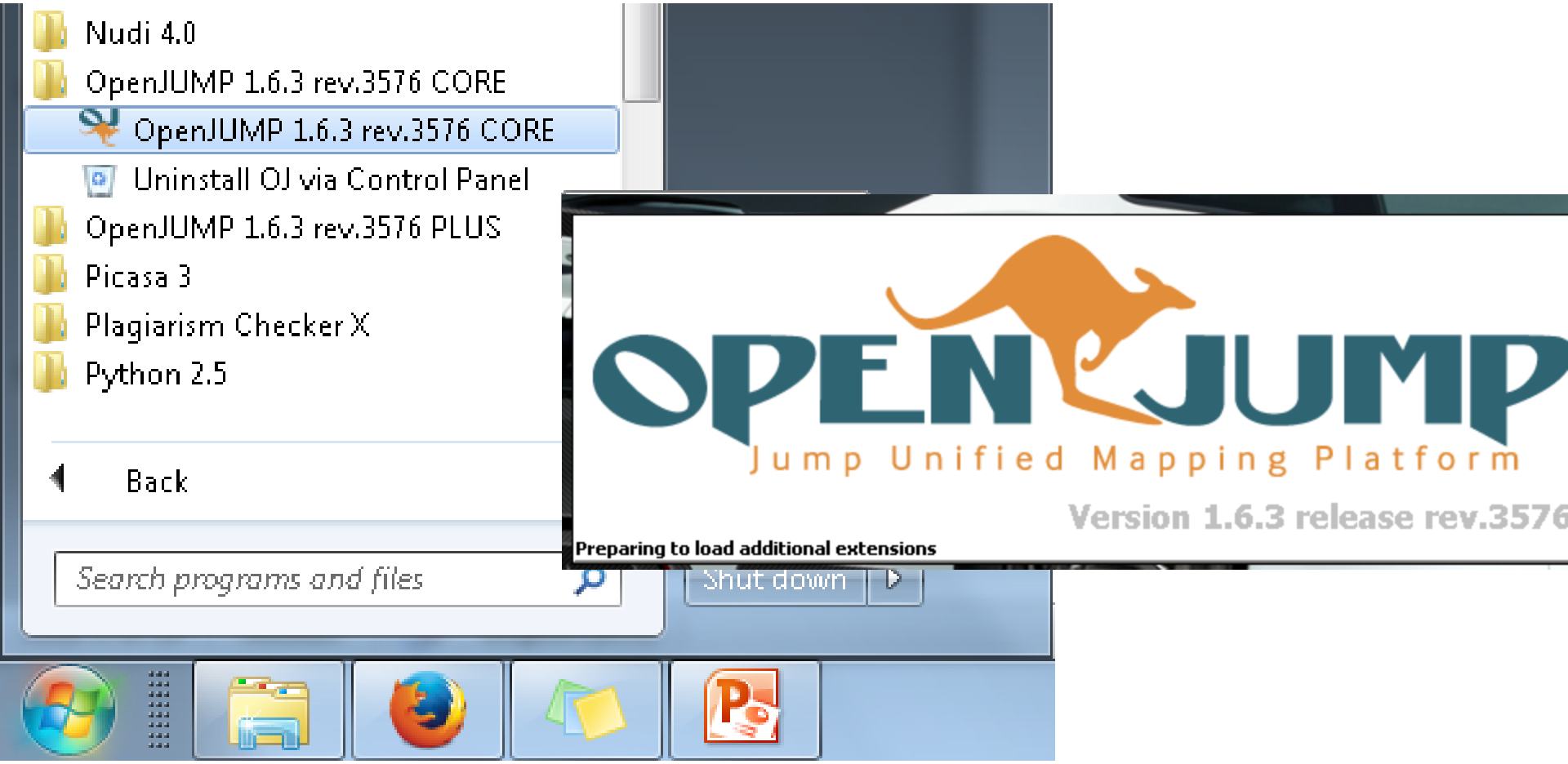

IzPack - Installation of OpenJUMP
OPEN JUMP
The Unified Mapping Platform
5
Select the installation path:
C:\Program Files\OpenJUMP-1.6.3-r3576-CORE
(Made with IzPack - http://izpack.org/)
Step 4 of 6
Previous
Next

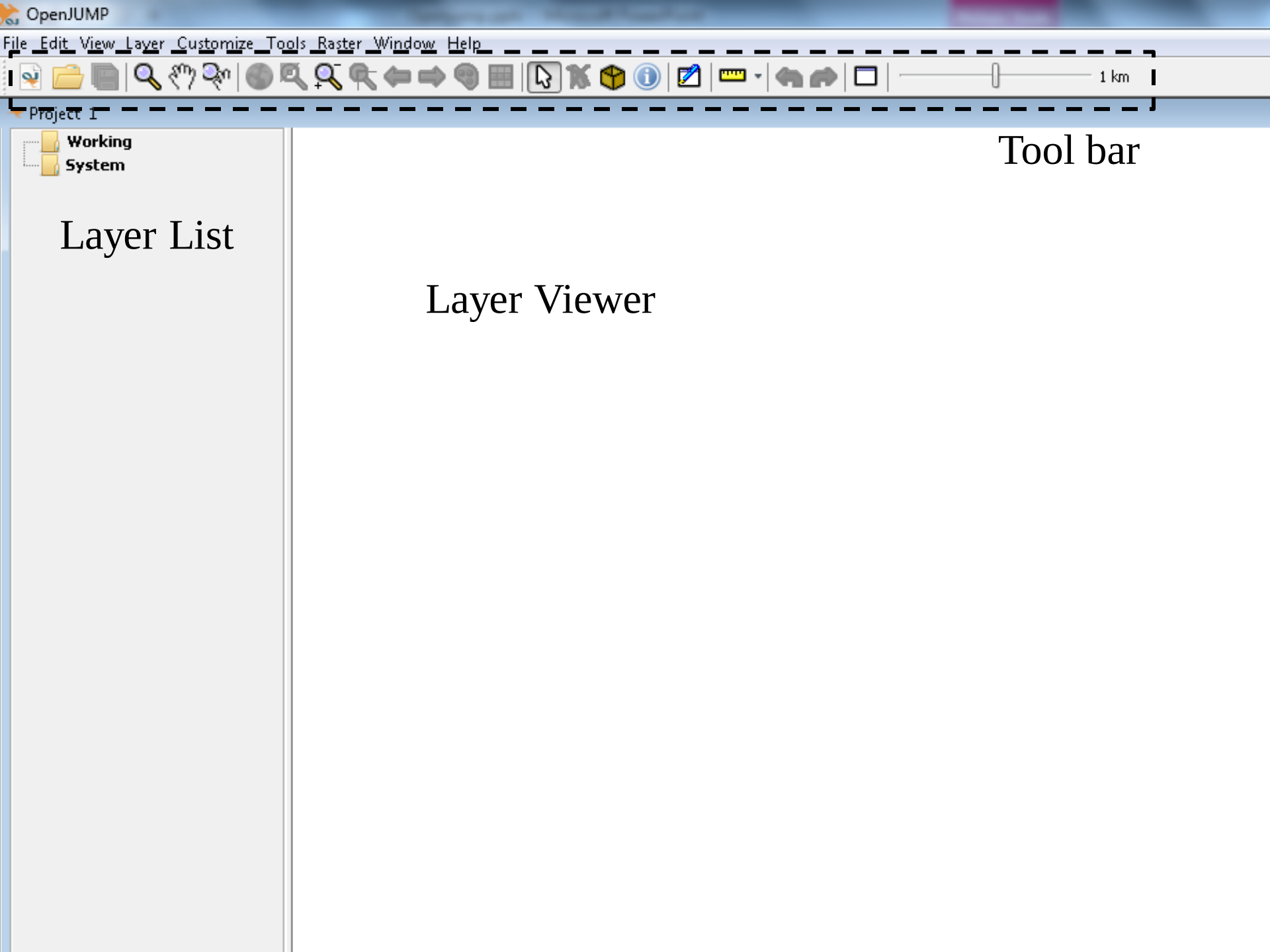

IzPack - Installation of OpenJUMP
OPEN JUMP
The Unified Mapping Platform
Setup Shortcuts
Create shortcuts in the Start-Menu
Create additional shortcuts on the desktop
Select a Program Group for the Shortcuts:
360 Security Center
7-Zip
Accessories
Administrative Tools
ArcGIS
Autodesk
AutorunRemover
Bhuvan
Bulk Download Application
CPUID
DAEMON Tools Pro
Daum
create shortcut for:
current user
all users
6
OpenJUMP 1.6.3 rev.3576 CORE
Default
(Made with IzPack - http://izpack.org/)
Step 5 of 6
Previous
Next
Quit


IzPack - Installation of OpenJUMP
OPEN JUMP
The Unified Mapping Platform
7
Pack installation progress:
[Finished]
Overall installation progress:
1 / 1
(Made with IzPack - http://izpack.org/)
Step 6 of 6
Quit

OPENJUMP

Starting with Openjump




OpenJUMP
File Edit View Layer Customize Tools Raster Window Help
1 km
Project 1
Working
System
Tool bar
Layer List
Layer Viewer

Toolboxes

Tool Bar

Zooming

Panning

Show all data

Zoom to selected item

Zoom to fence

Previews view

Next view

Change layer visualisation

Display attributes (also for modification)

Select items

Clear selection

Draw a fence

Show feature information

Editing toolbox

Measure

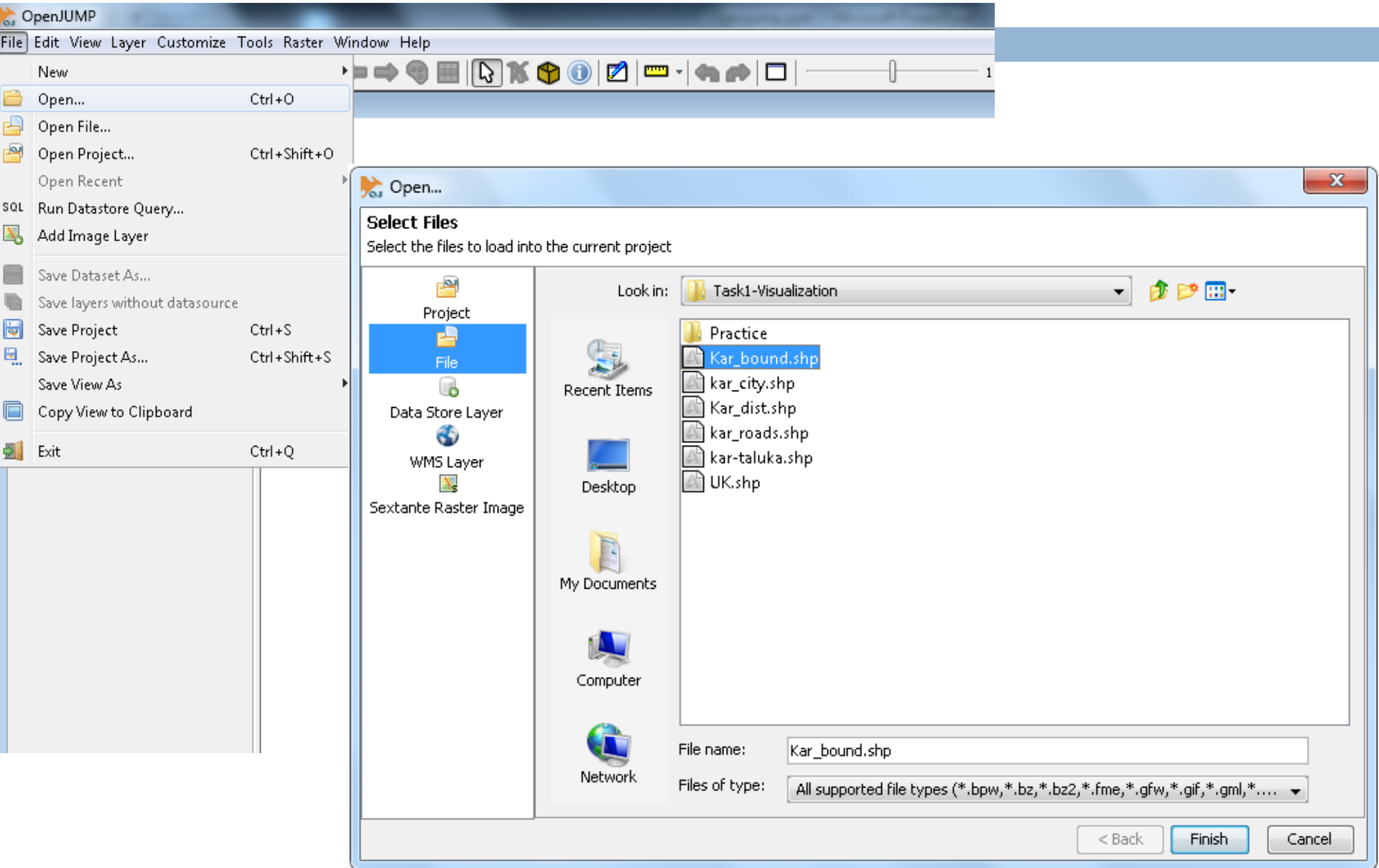
Undo

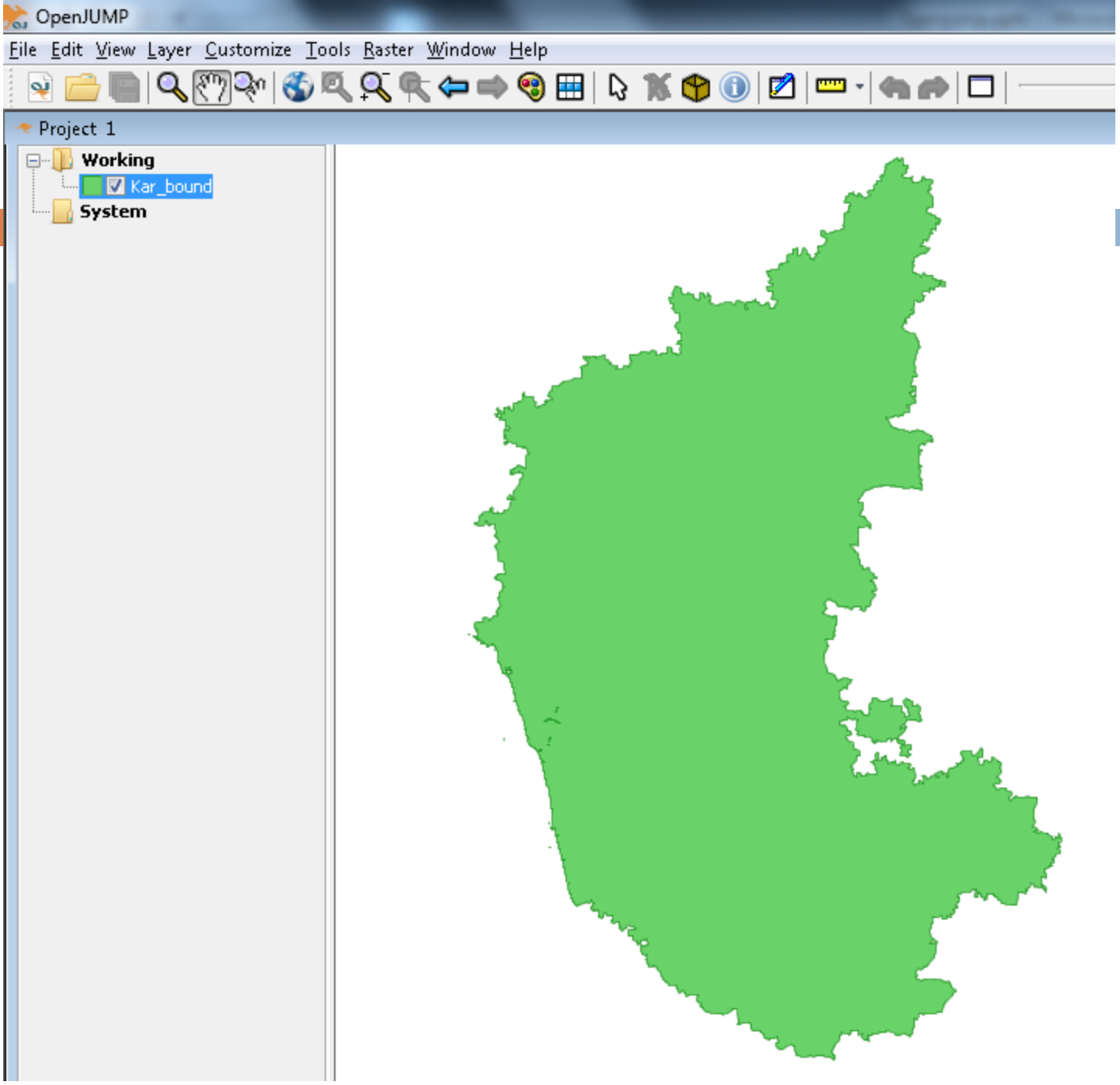
Redo

Output Window

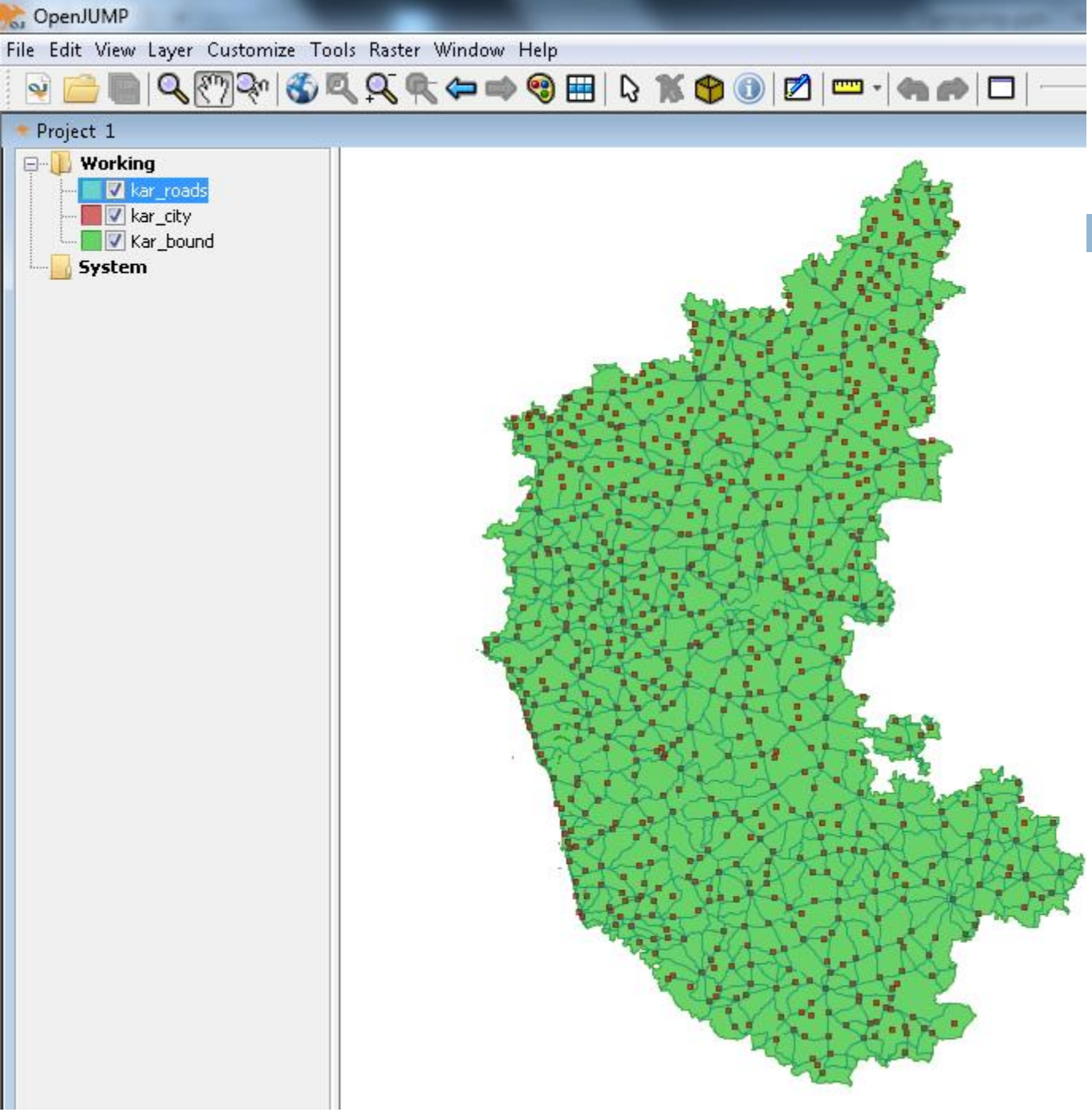
200 m Fast Zooming

Adding and displaying Data





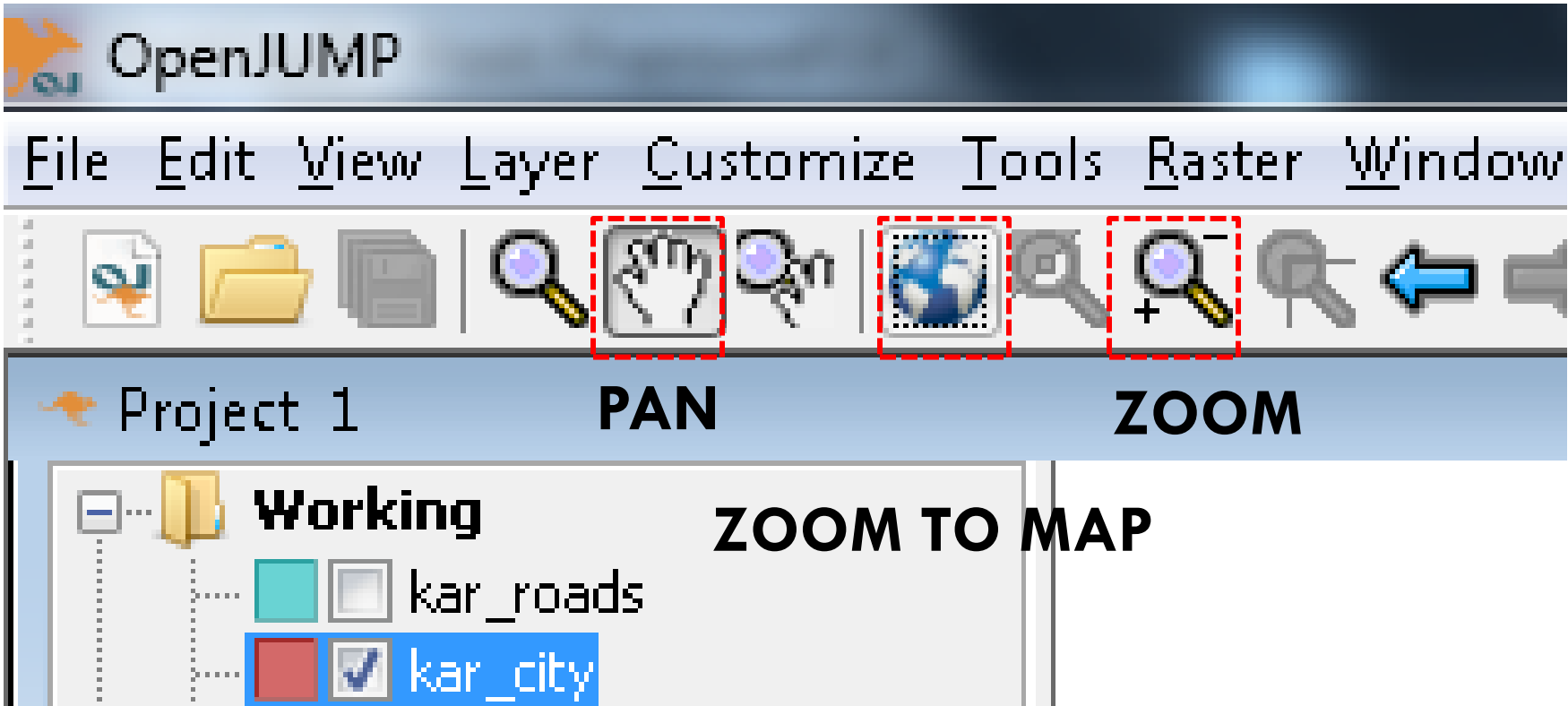
- Open Karnataka boundary



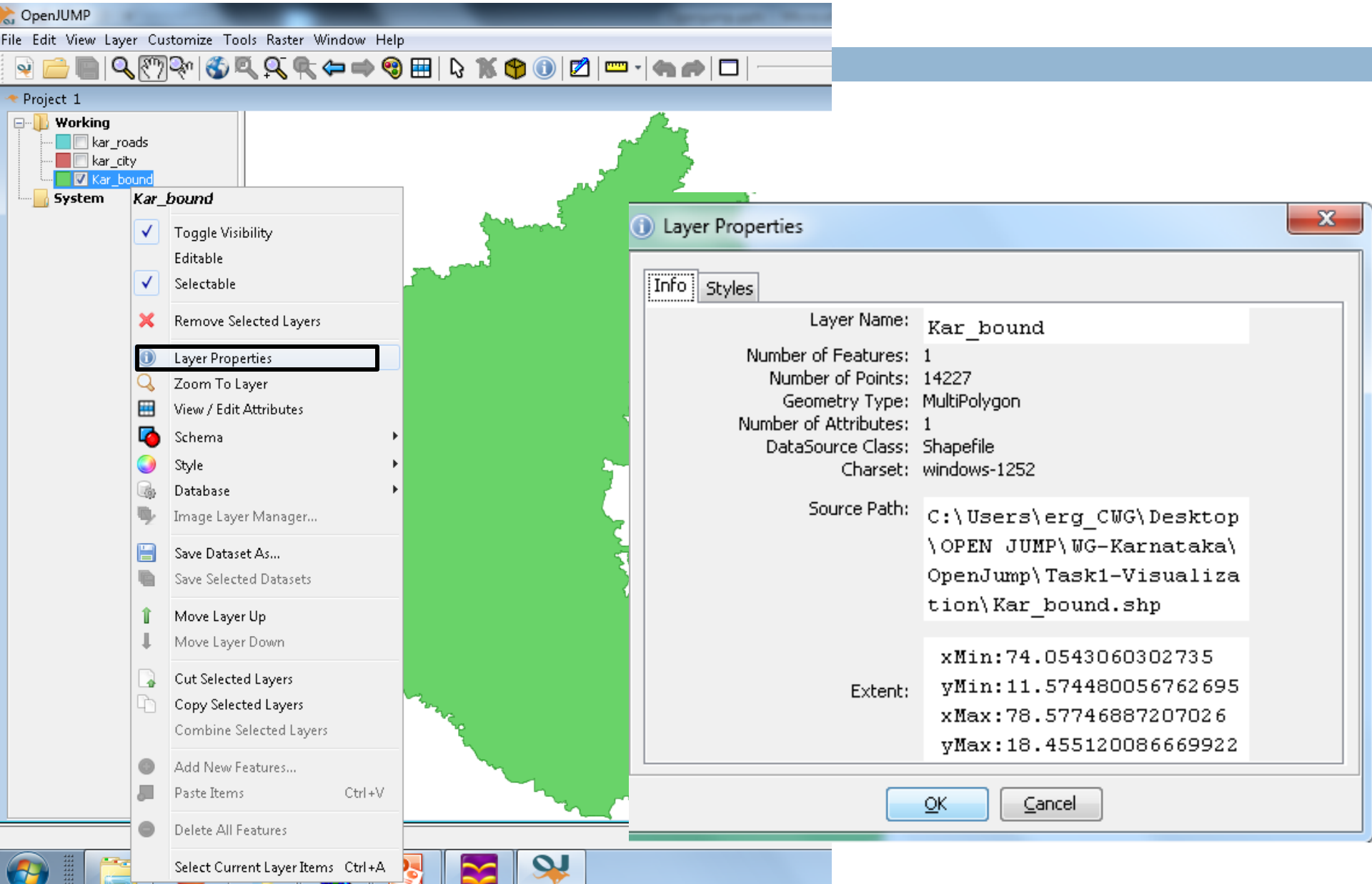
- Similarly open Roads and Cities.

Using tool boxes

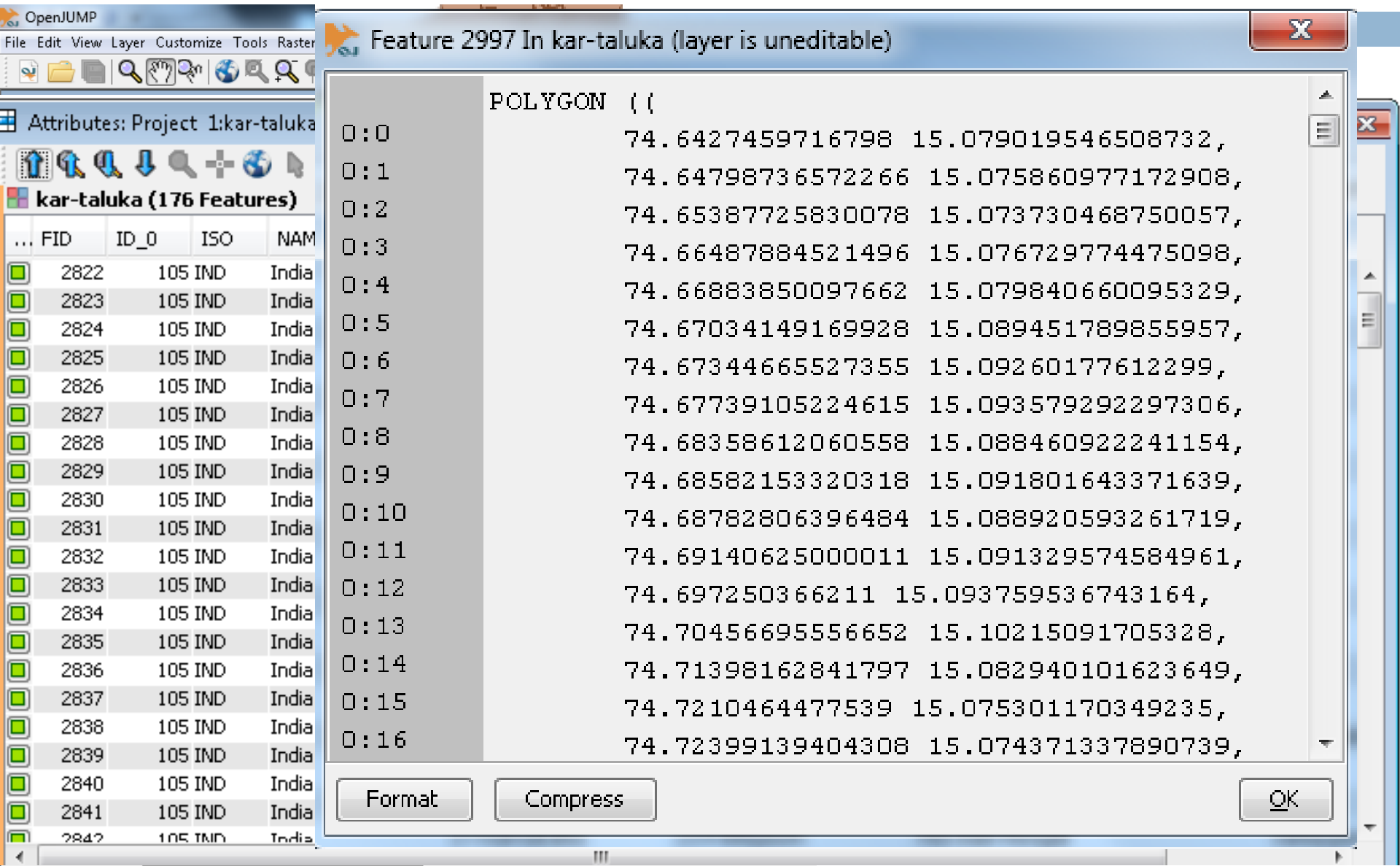
- Use pan to move map
- Use zoom tool or mouse wheel to zoom in and zoom out
- Use Fit to window tool to fit the map to the window (centered)



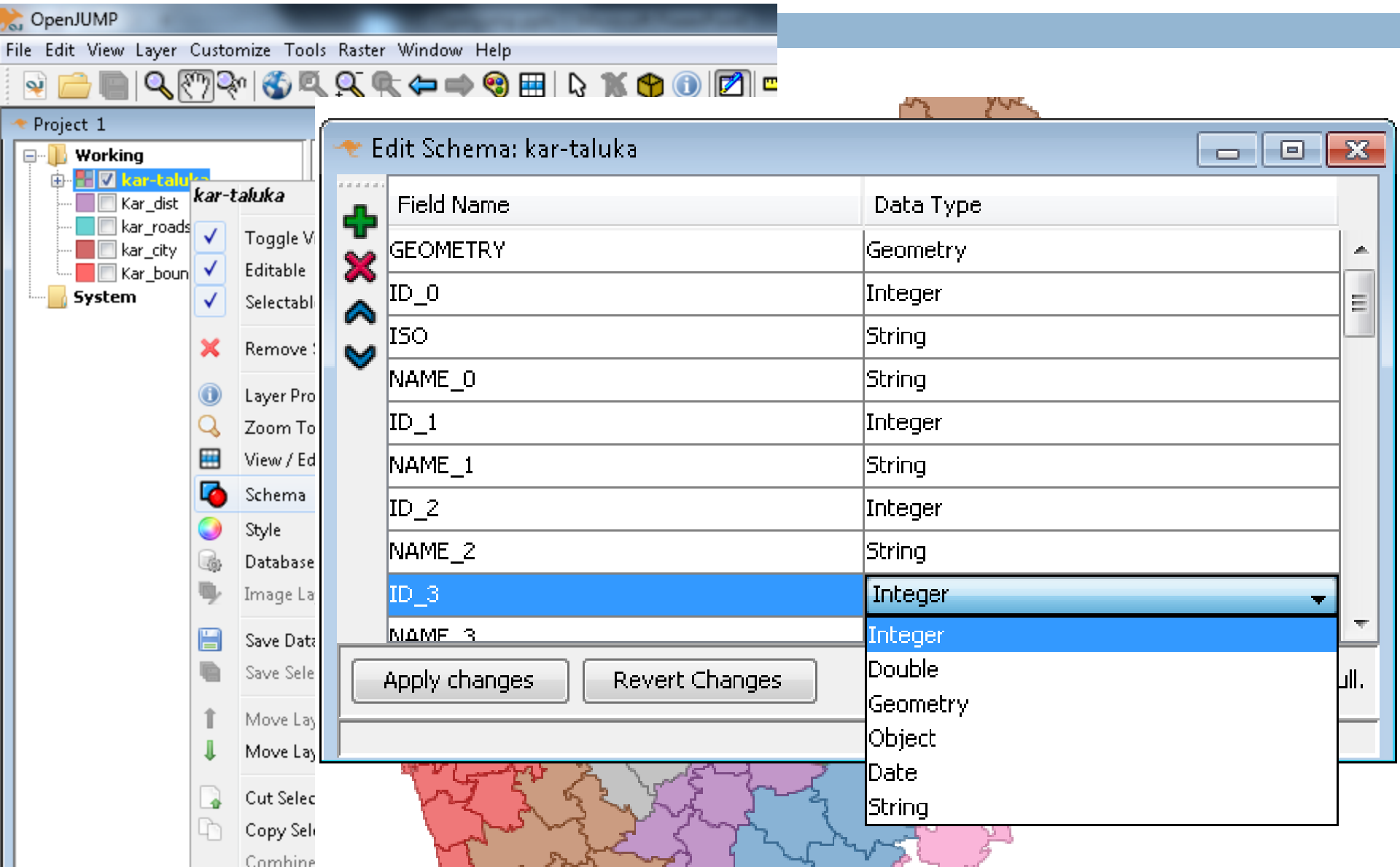
About the map



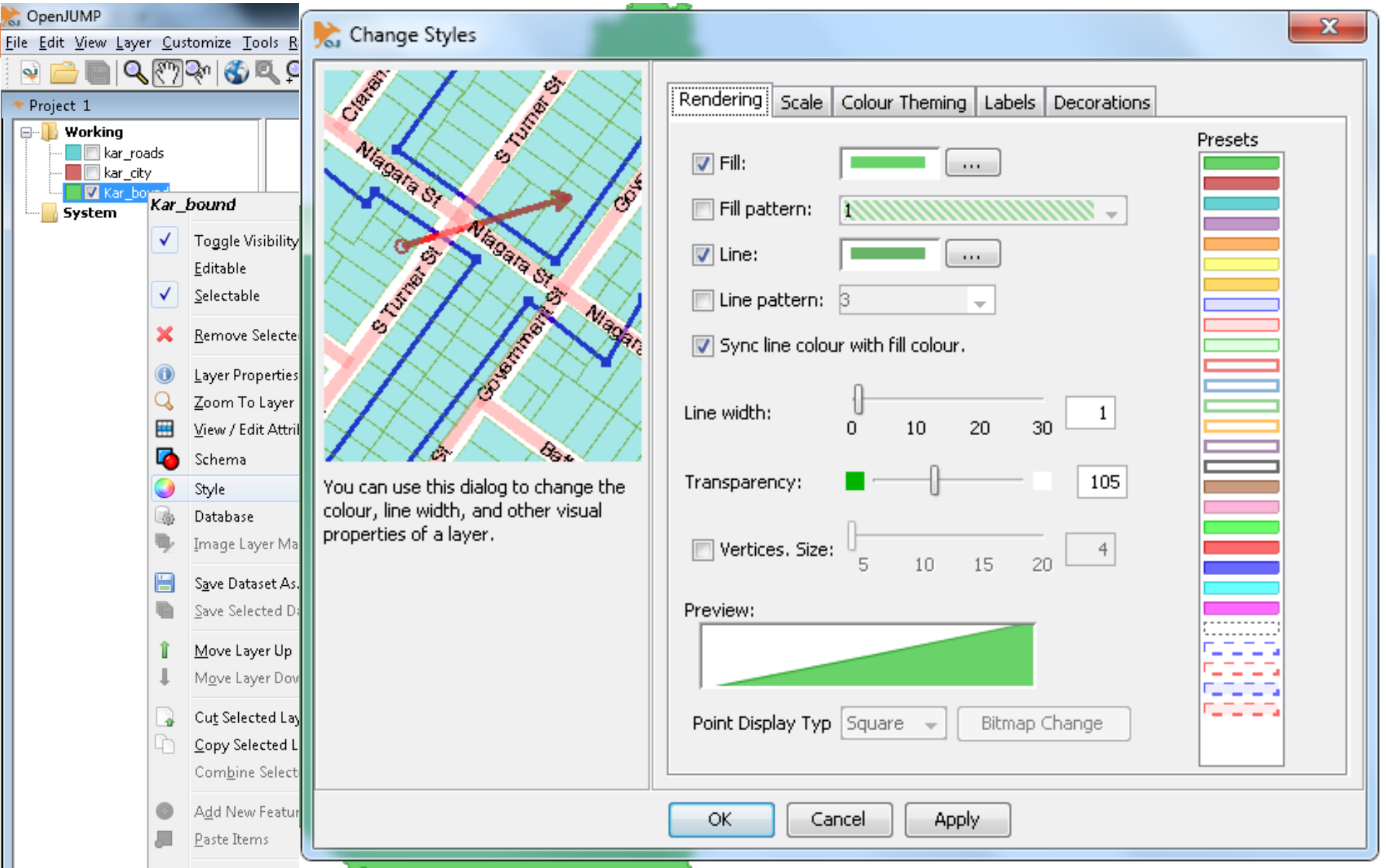
Attribute information

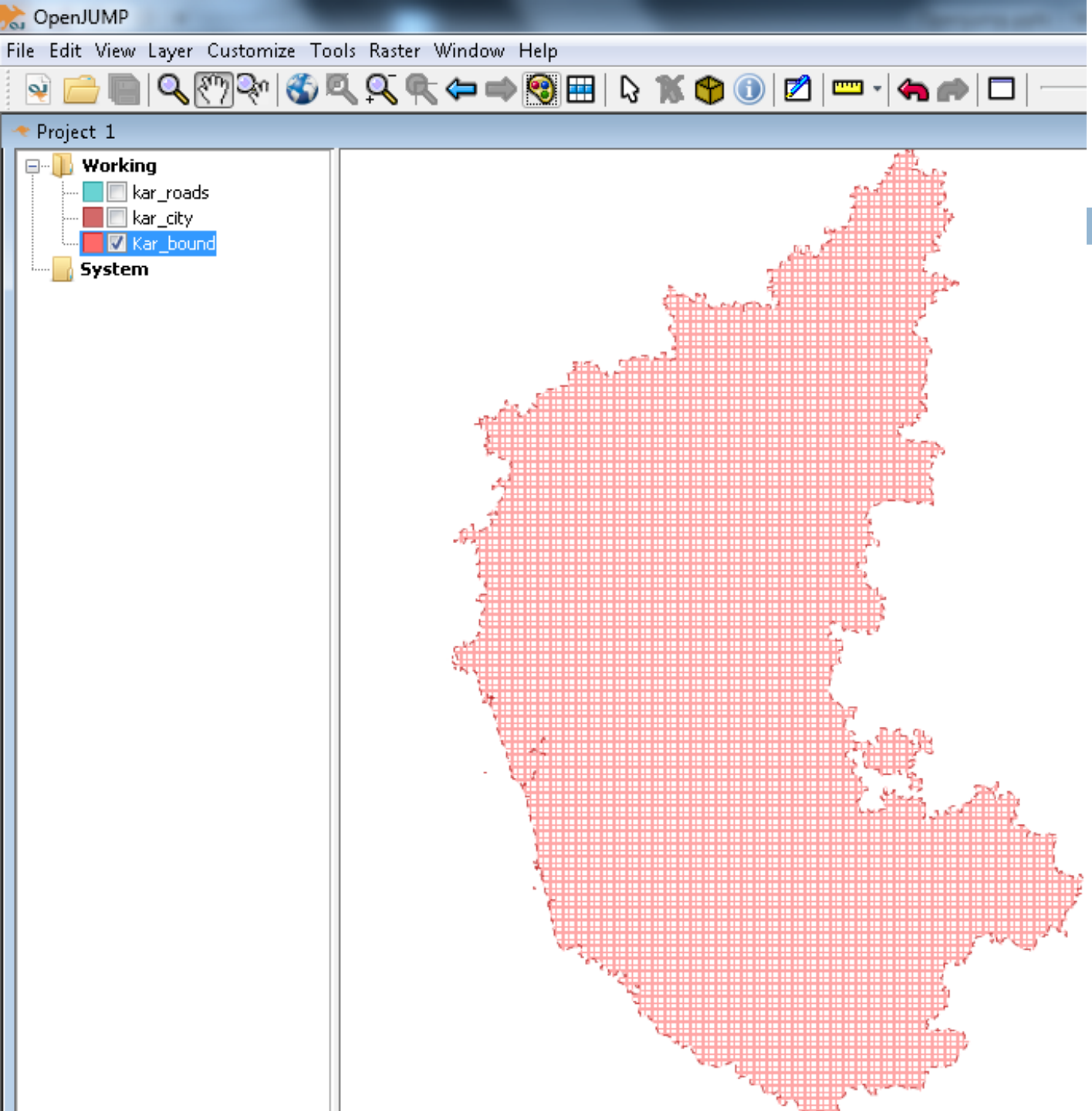


Schema

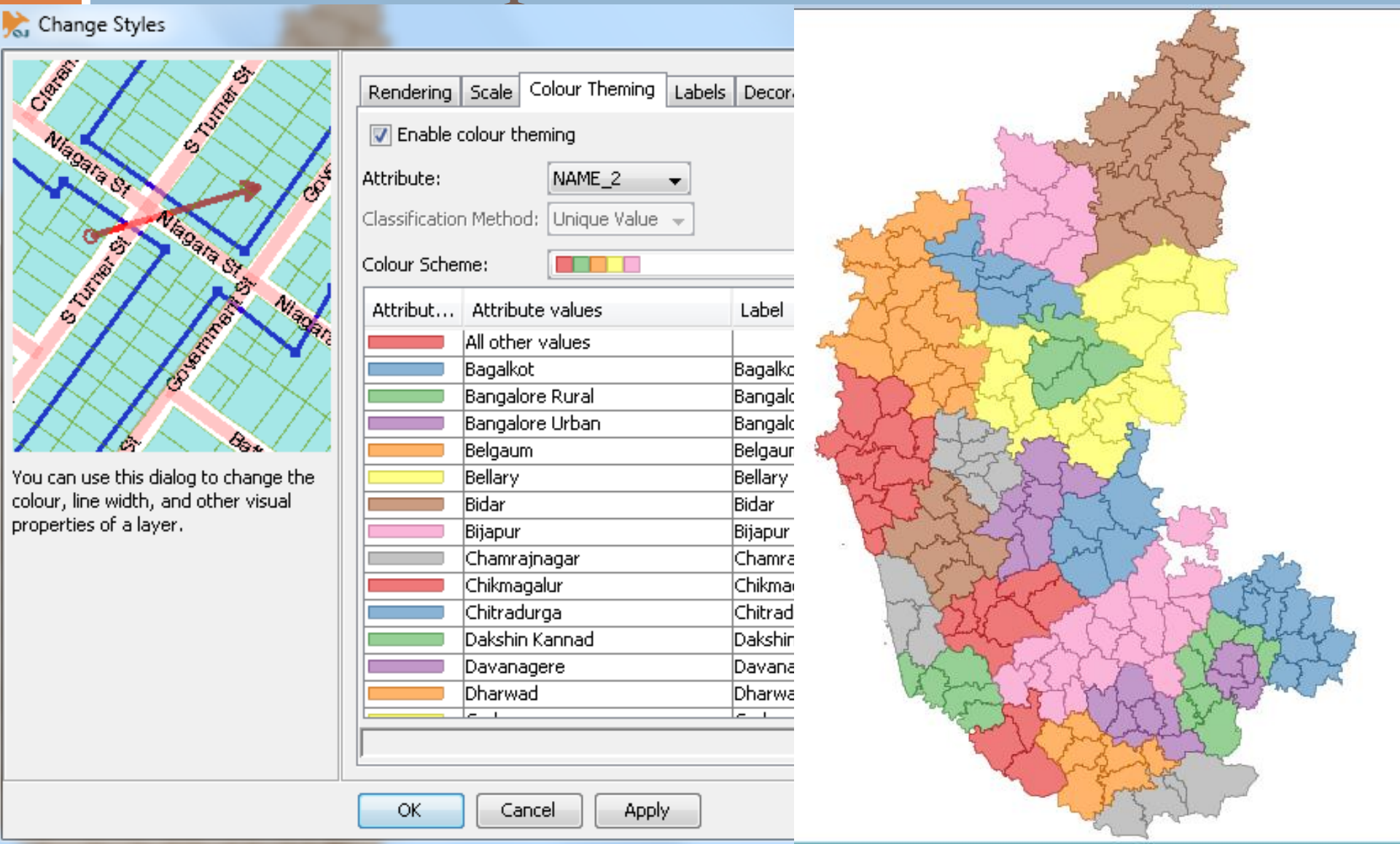

OpenJUMP
File Edit View Layer Customize Tools Raster Window Help
Project 1
Working
kar-taluka
Kar_dist
kar_roads
kar_city
Kar_boun
System
kar-taluka
Toggle V
Editable
Selectabl
Remove
Layer Pro
Zoom To
View / Ed
Schema
Style
Database
Image La
Save Data
Save Sele
Move Lay
Move Lay
Cut Selec
Copy Sel
Edit Schema: kar-taluka
Field Name
Data Type
GEOMETRY
Geometry
ID_0
Integer
ISO
String
NAME_0
String
ID_1
Integer
NAME_1
String
ID_2
Integer
NAME_2
String
ID_3
Integer
Integer
Double
Geometry
Object
Date
String
Apply changes
Revert Changes

Changing colours (themes)

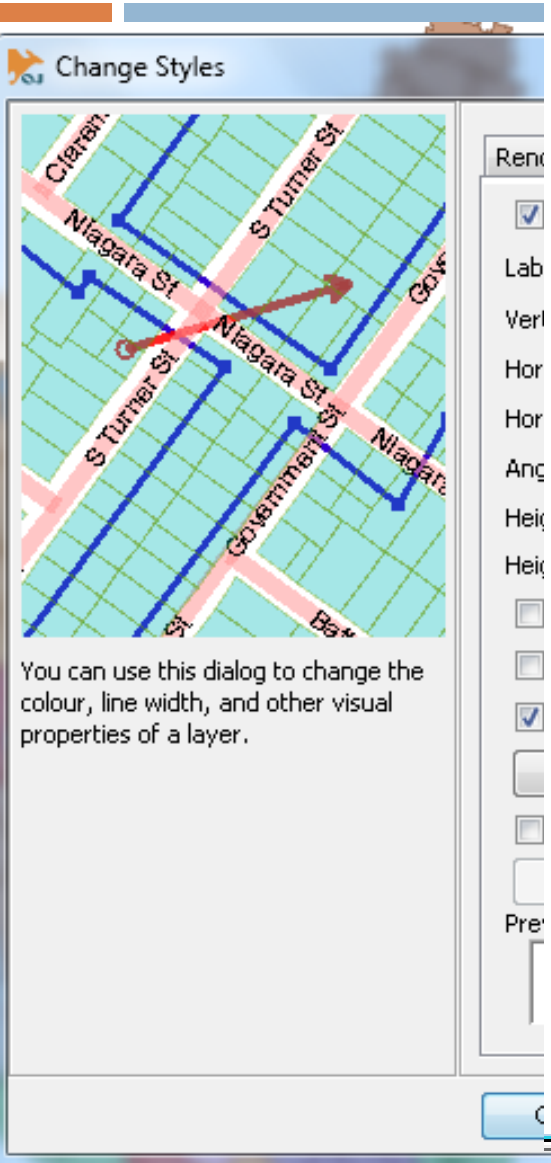



OpenJUMP
File Edit View Layer Customize Tools Raster Window Help
Project 1
Working
kar_roads
kar_city
Kar_bound
System

Load taluk data, change colours with respect to each district

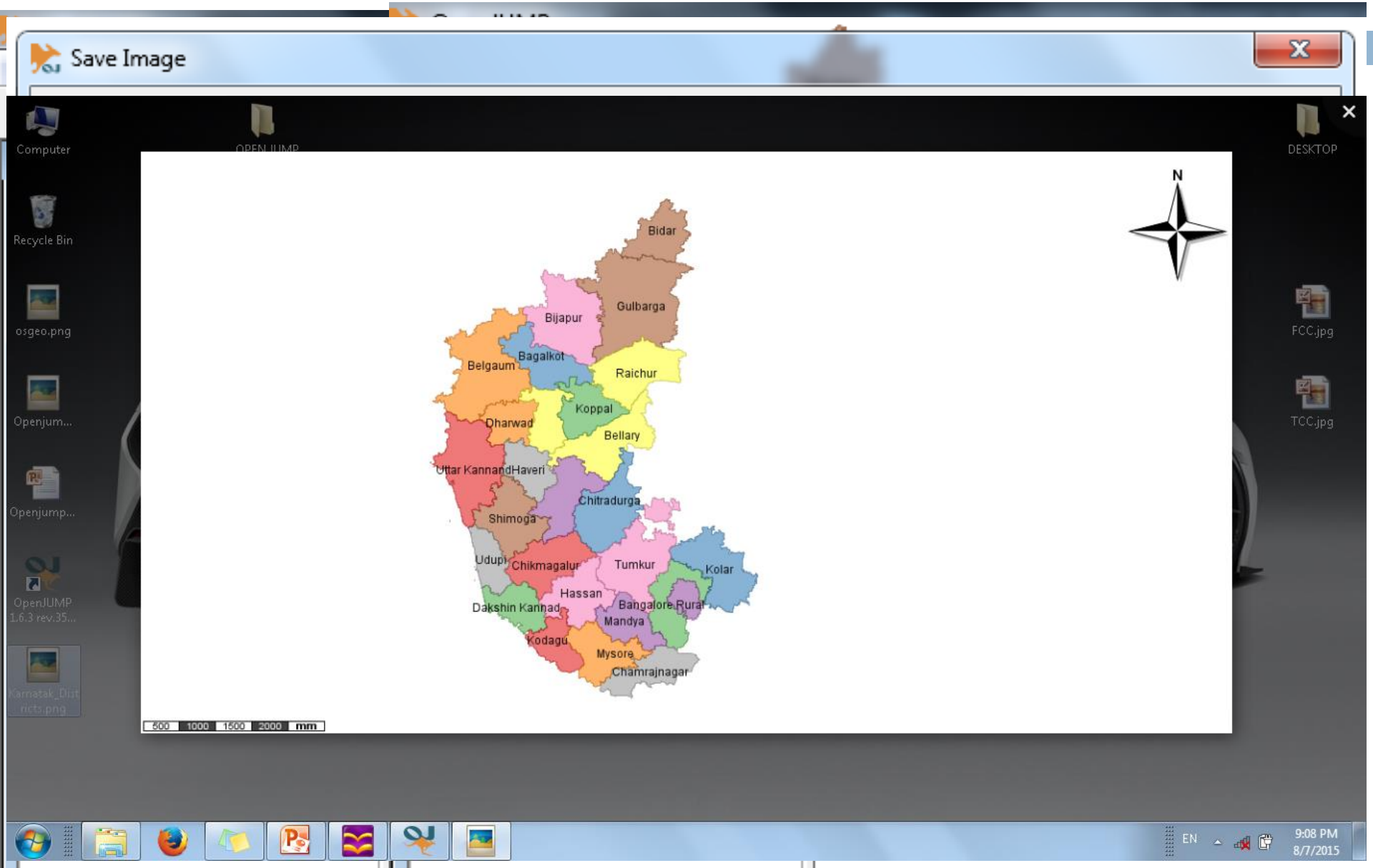


Labeling


Change Styles
Niagara St
S Turner St
You can use this dialog to change the colour, line width, and other visual properties of a layer.

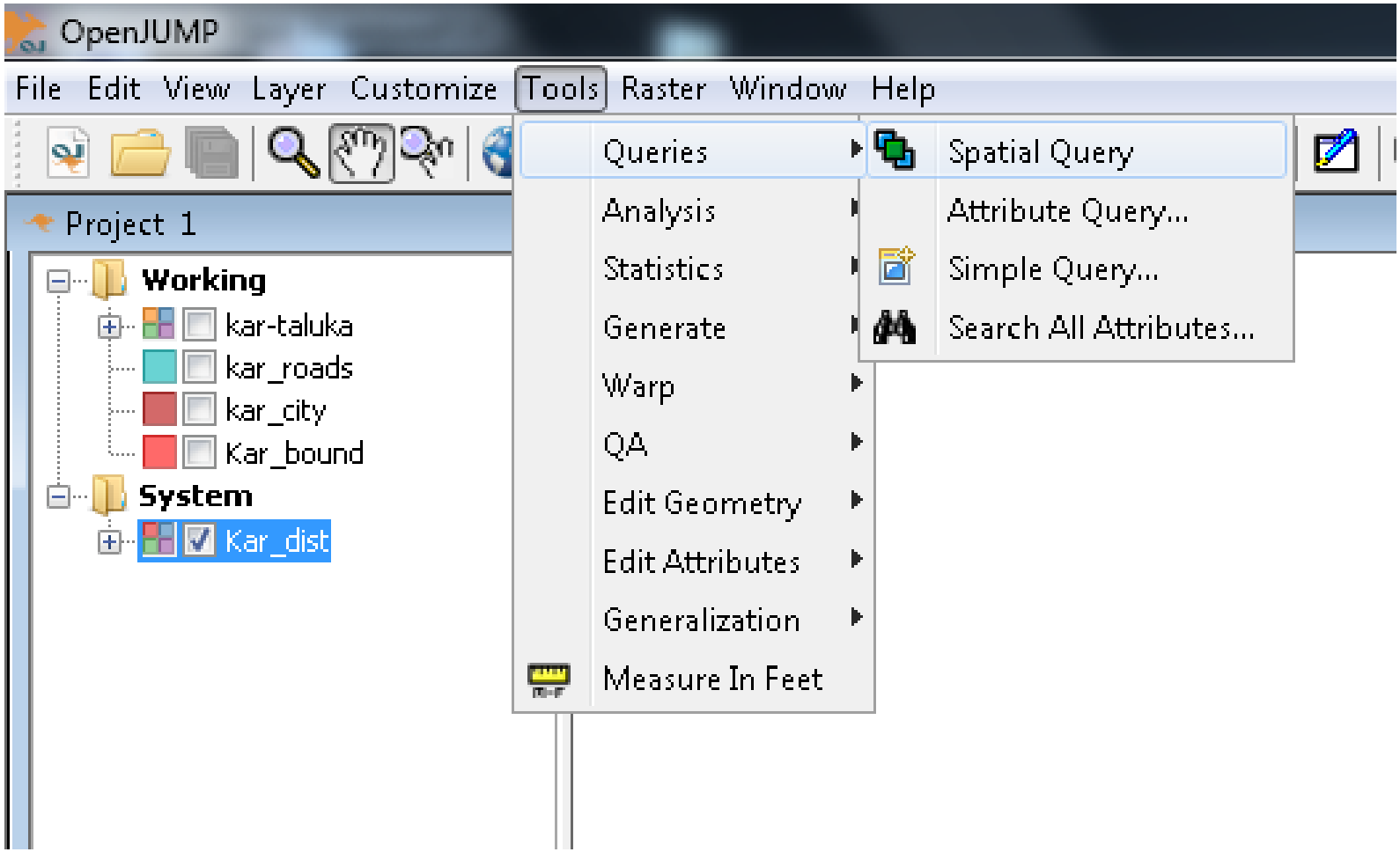

Belgaum
Gadag
Koppal
Raichur
Bellary
Dharwad
Haveri
Uttar Kannand
Davanagere
Shimoga
Chitradurga
Tumkur
Chikmagalur
Udupi
Kolar
Bangalore Rural
Bangalore Urban
Dakshin Kannad
Hassan
Mandya
Mysore
Kodagu
Chamrajnagar

Output – Thematic Maps

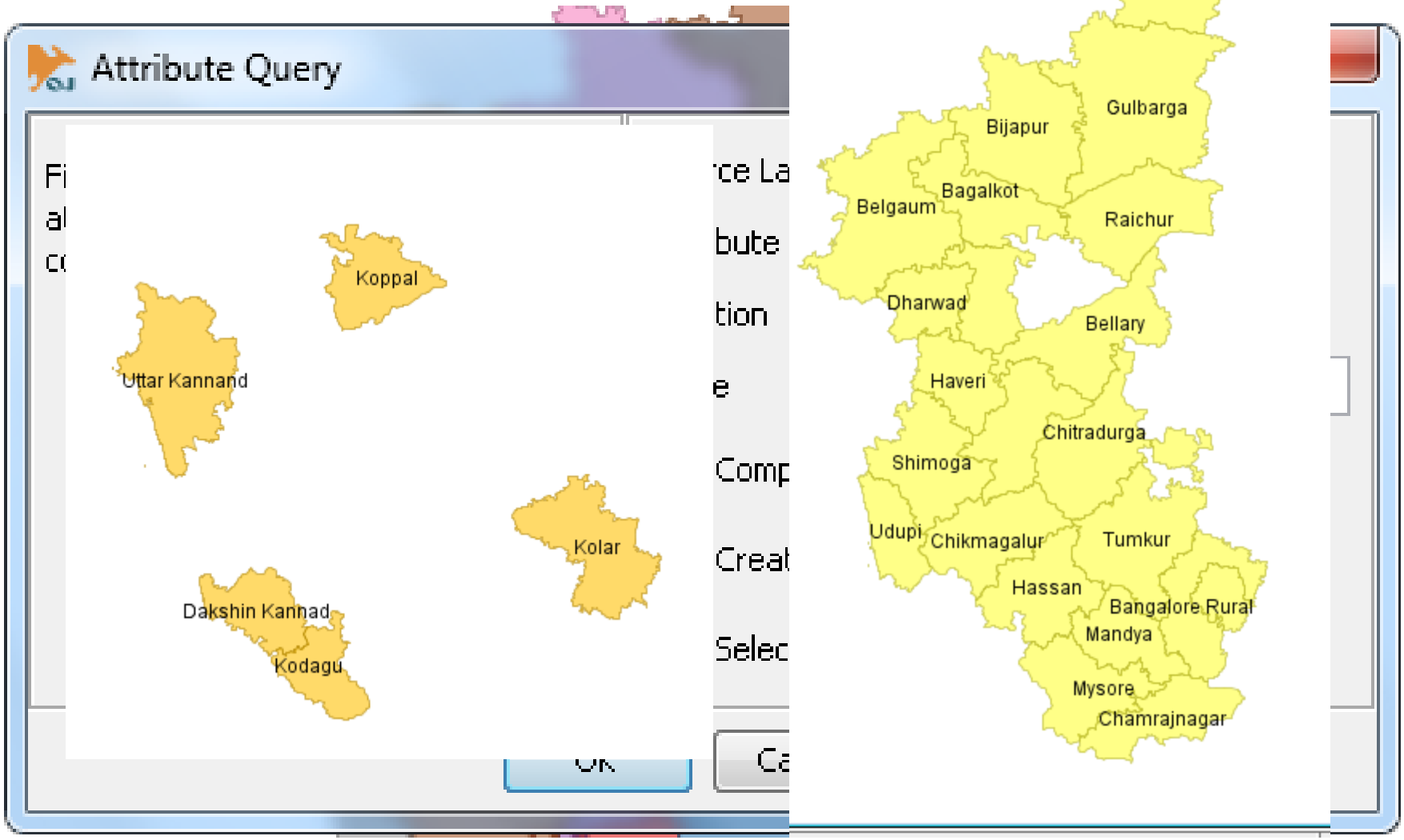


Querying

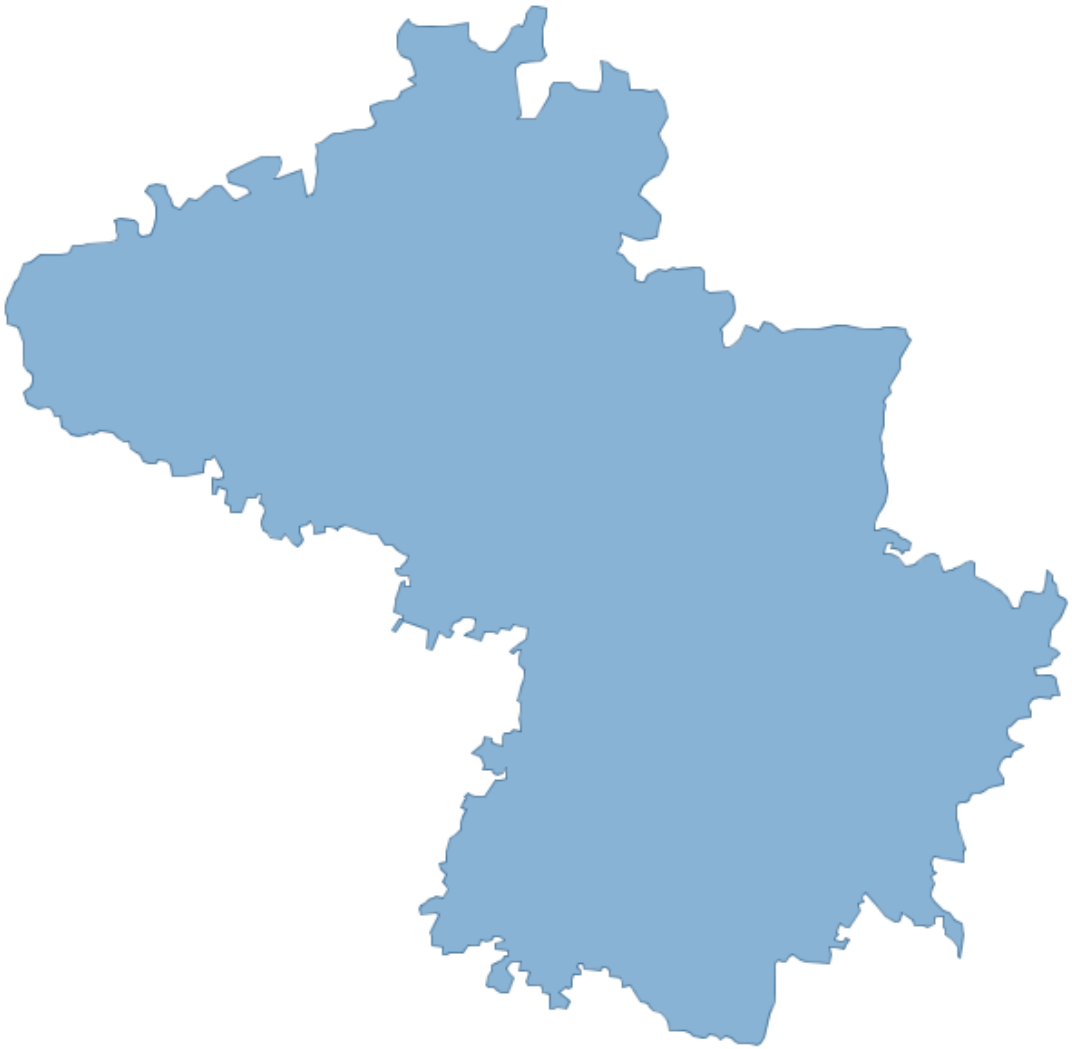
- Attribute Query or Spatial Query or Simple Query



Attribute Query



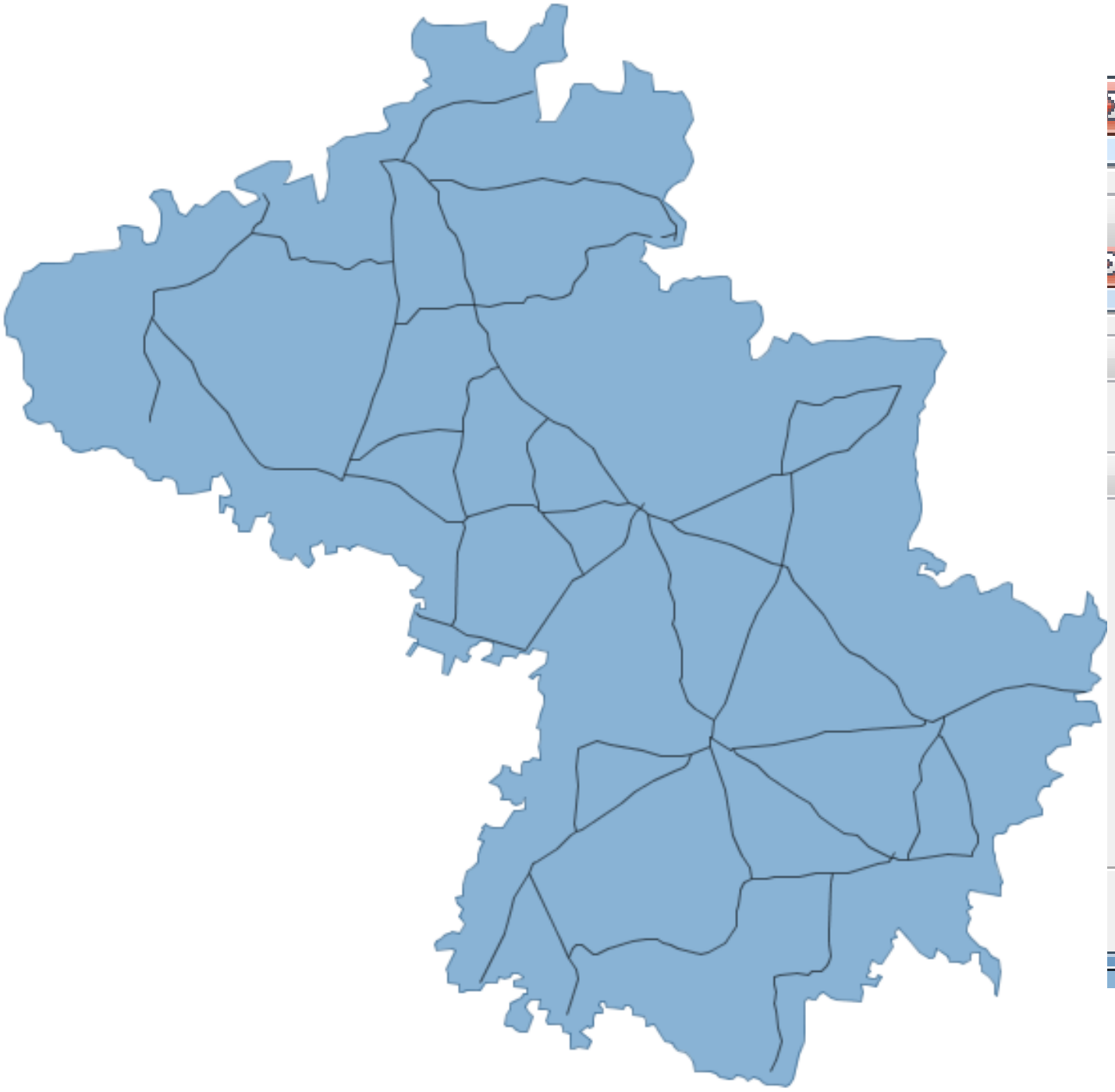
Extract Kolar using Attribute Query



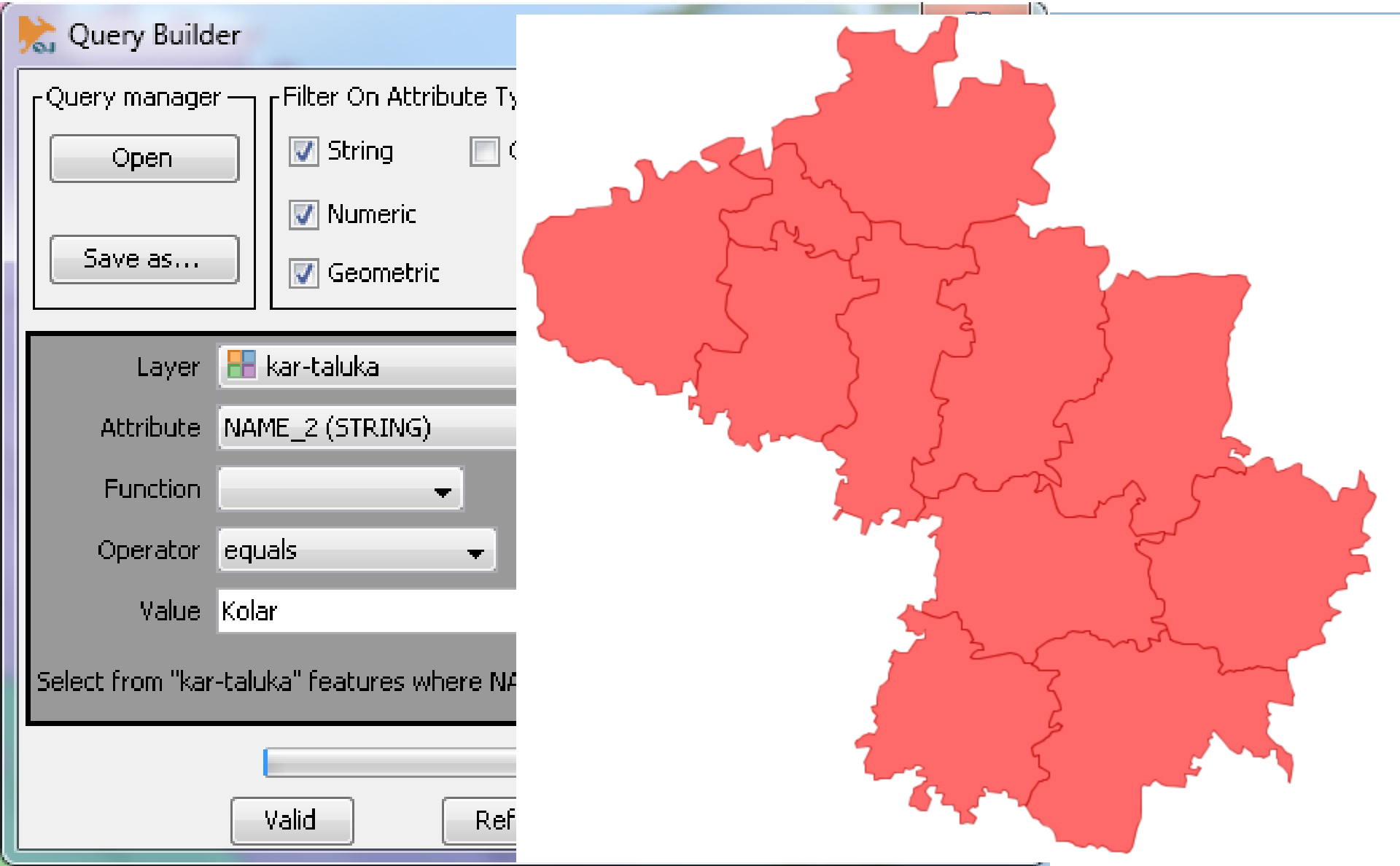
Spatial Query

- Mathematical operation with respect to various vector data sources

- Extraction of roads in Kolar District


Spatial Que
Finds the source
Spatial Query
Finds the source fe
a given spatial relat
feature in the mask
Source.* FROM Sou
Source <Relation>

Simple Query



Doubts if any ??

Summarize

TASK

- Extract Taluks, roads and cities in kolar district
- Generate thematic map out put showing Taluks, roads, cities and city names


CHAKAVELU
BAGEPALLI
CHELUR
MITTEMARI
GUDIBANDA
GAURIBIDANUR
DODDA HASALA
IRAGAMPALLI
RAYALPAD
TONLEBHAVI
GANJIGUNTE
CHIKBALLAPUR
CHINTAMANI
SIDLAGHATTA
SRINIVASPUR
JANGAMAKOTE
VEMAGAL
MULBAGAL
VARASAPURA KOLAR
DODDA HASALA
MALUR
BANGARAPET
KOLAR GOLD FIELDS
BUDIKOTE
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400
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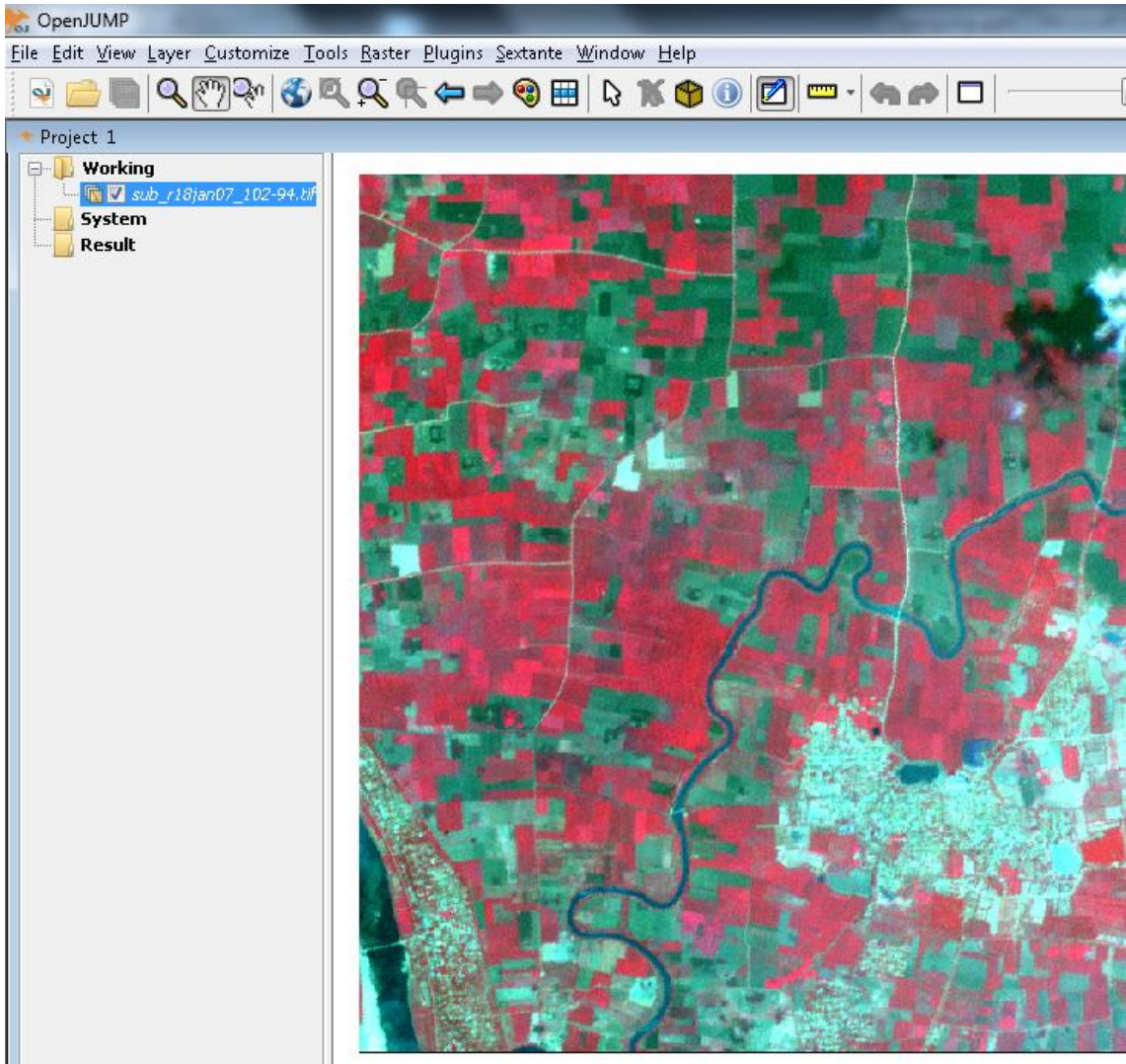
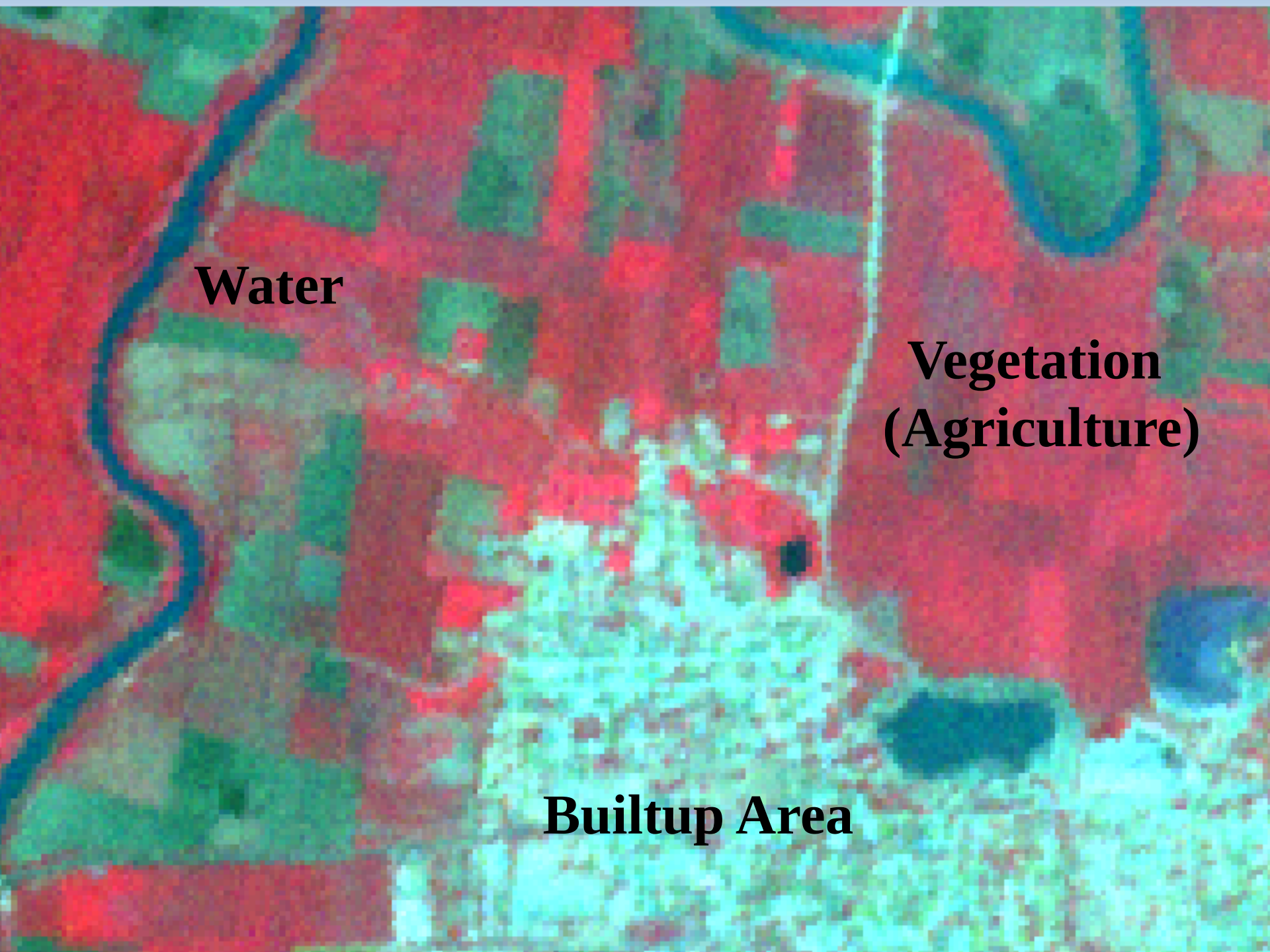
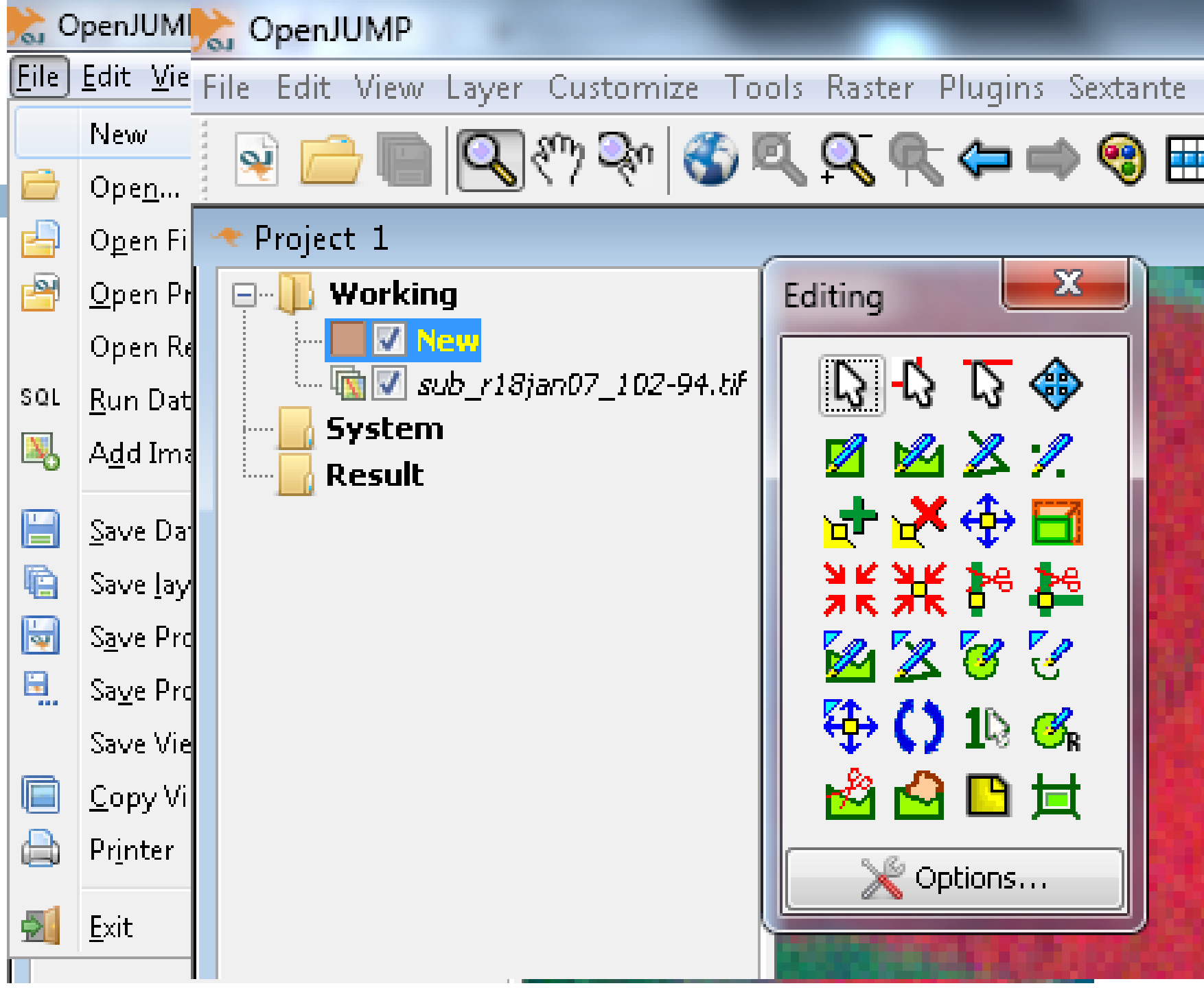
CREATING SHAPEFILE

Open a Raster dataset




Water
Vegetation
(Agriculture)
Builtup Area


OpenJUMP
File Edit View Layer Customize Tools Raster Plugins Sextante
Project 1
Working
New
sub_r18jan07_102-94.tif
System
Result
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Options...
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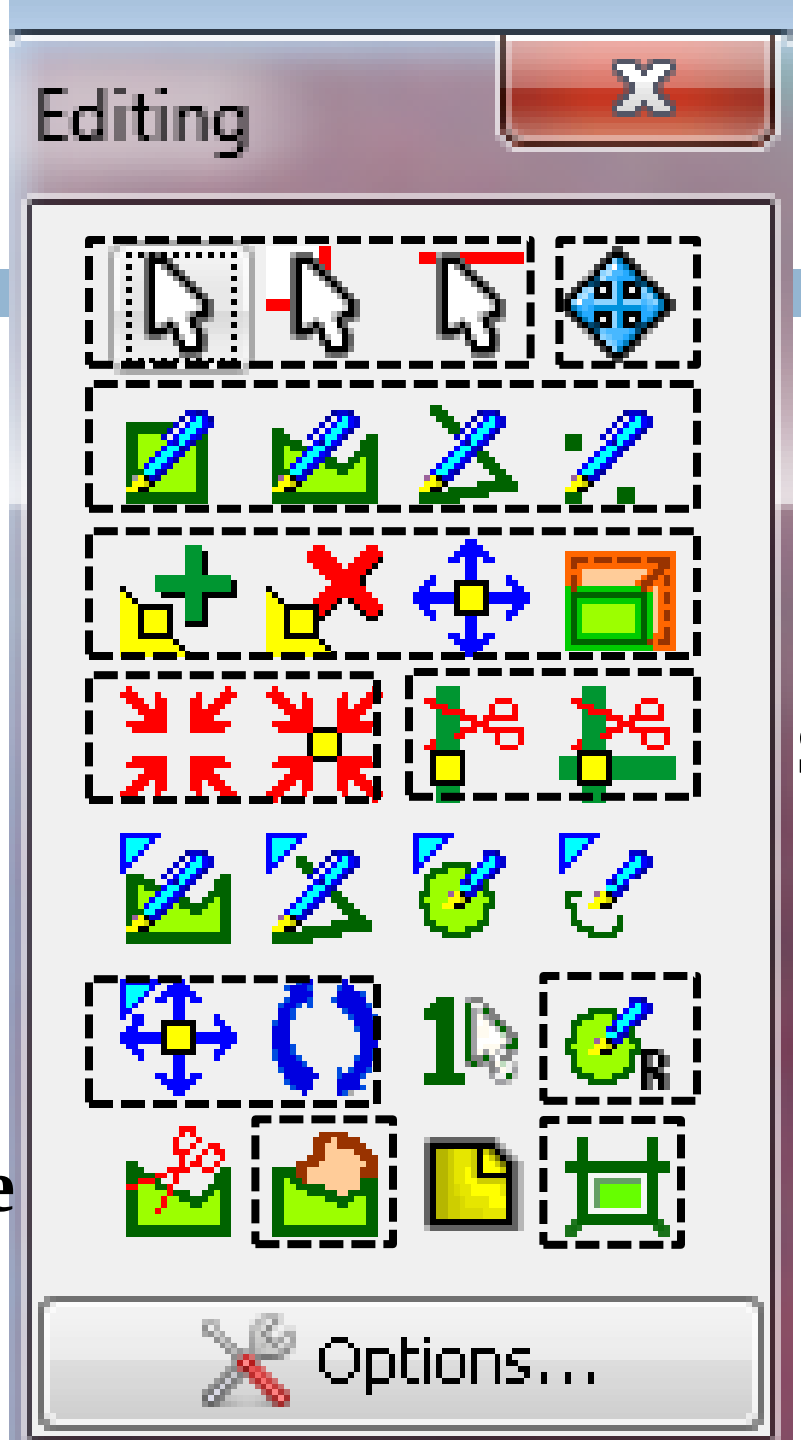
Exit



Selection tool

Move

Draw

Edit vertex

Snap Vertex

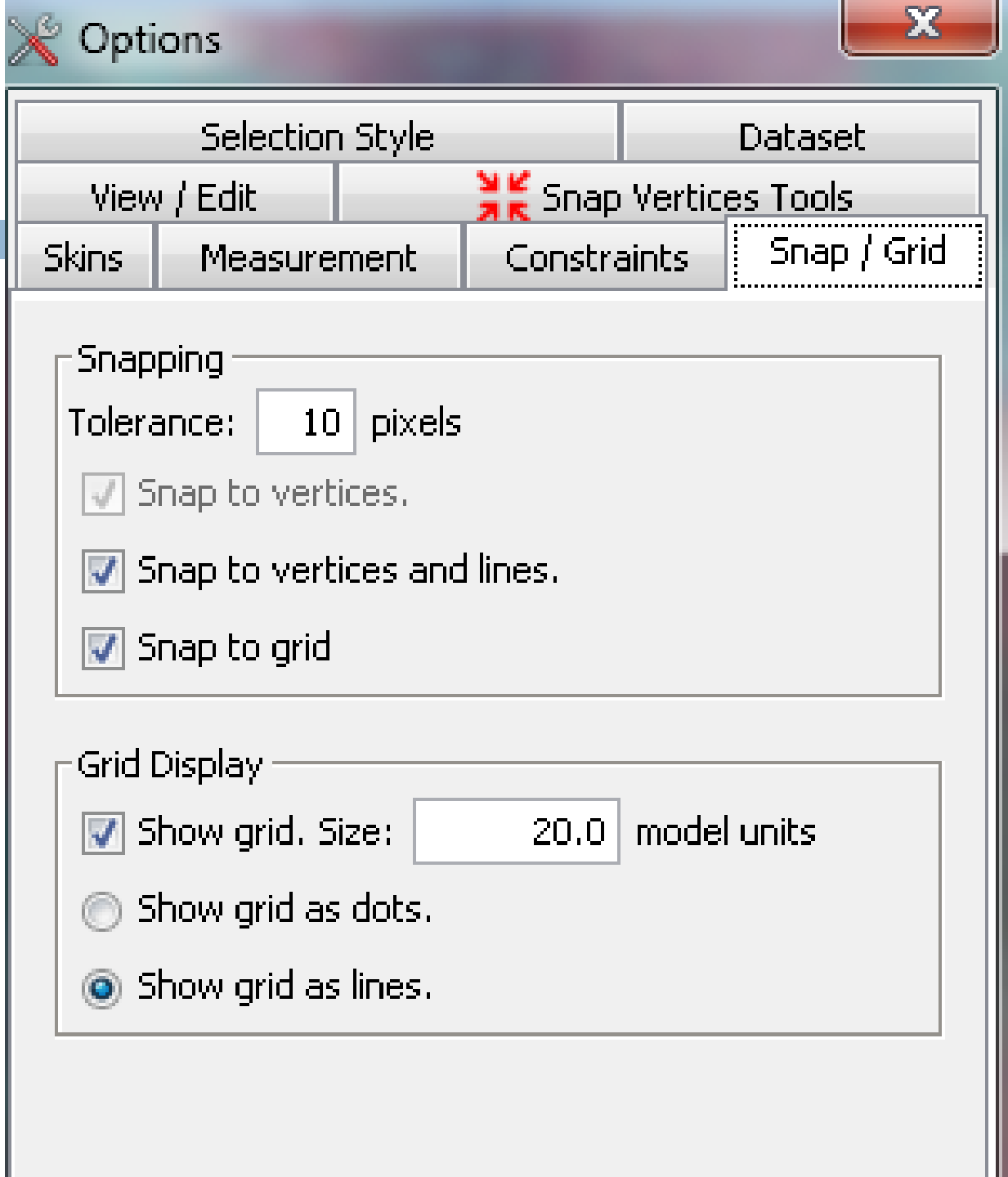
Split line, Node line

Move, Rotate

Create Circle

Auto Complete Polygon

Create Polygon from closed area

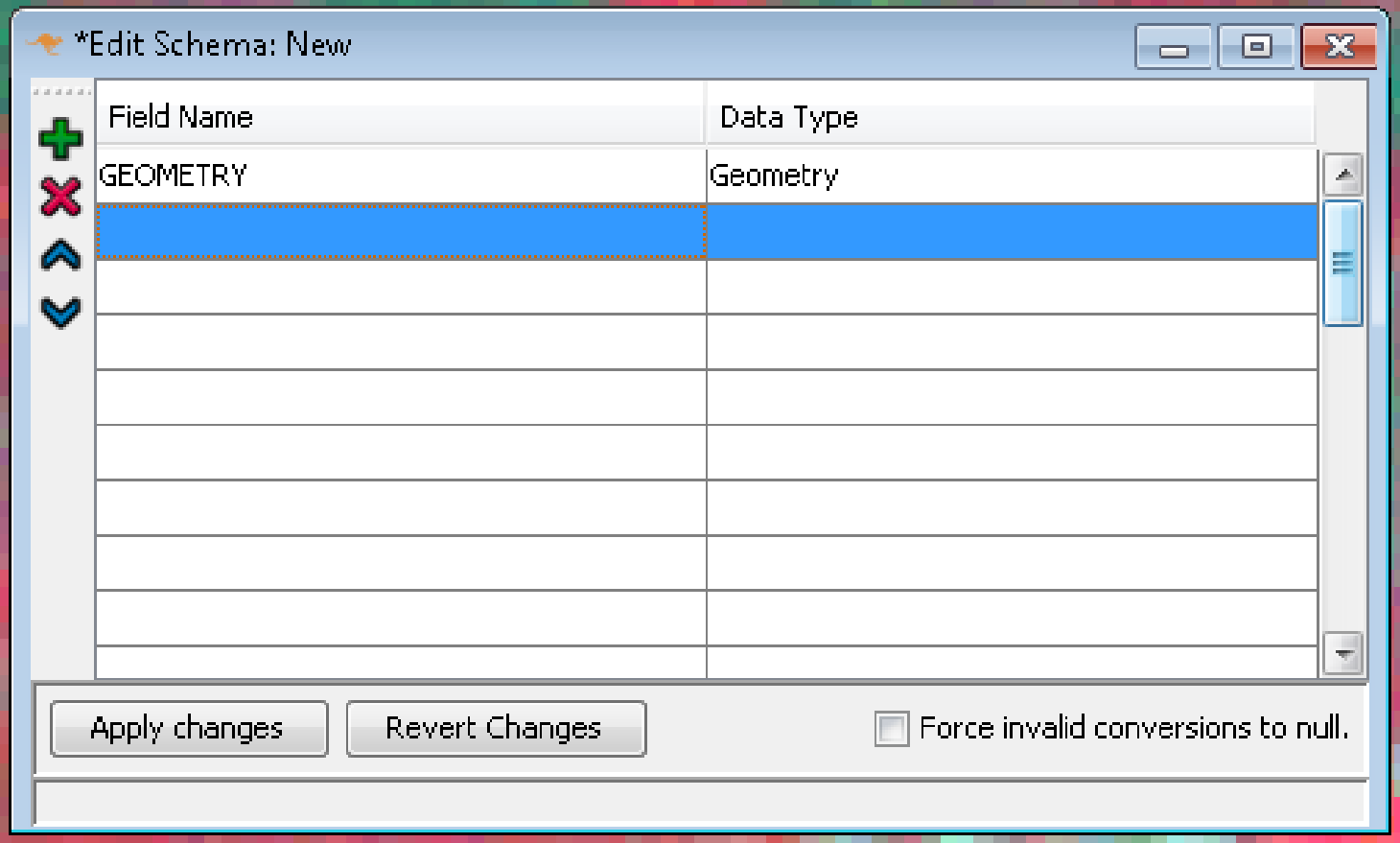

Options
Selection Style
Dataset
View / Edit
Snap Vertices Tools
Skins
Measurement
Constraints
Snap / Grid
Snapping
Tolerance: 10 pixels
Snap to vertices.
Snap to vertices and lines.
Snap to grid
Grid Display
Show grid. Size: 20.0 model units
Show grid as dots.
Show grid as lines.

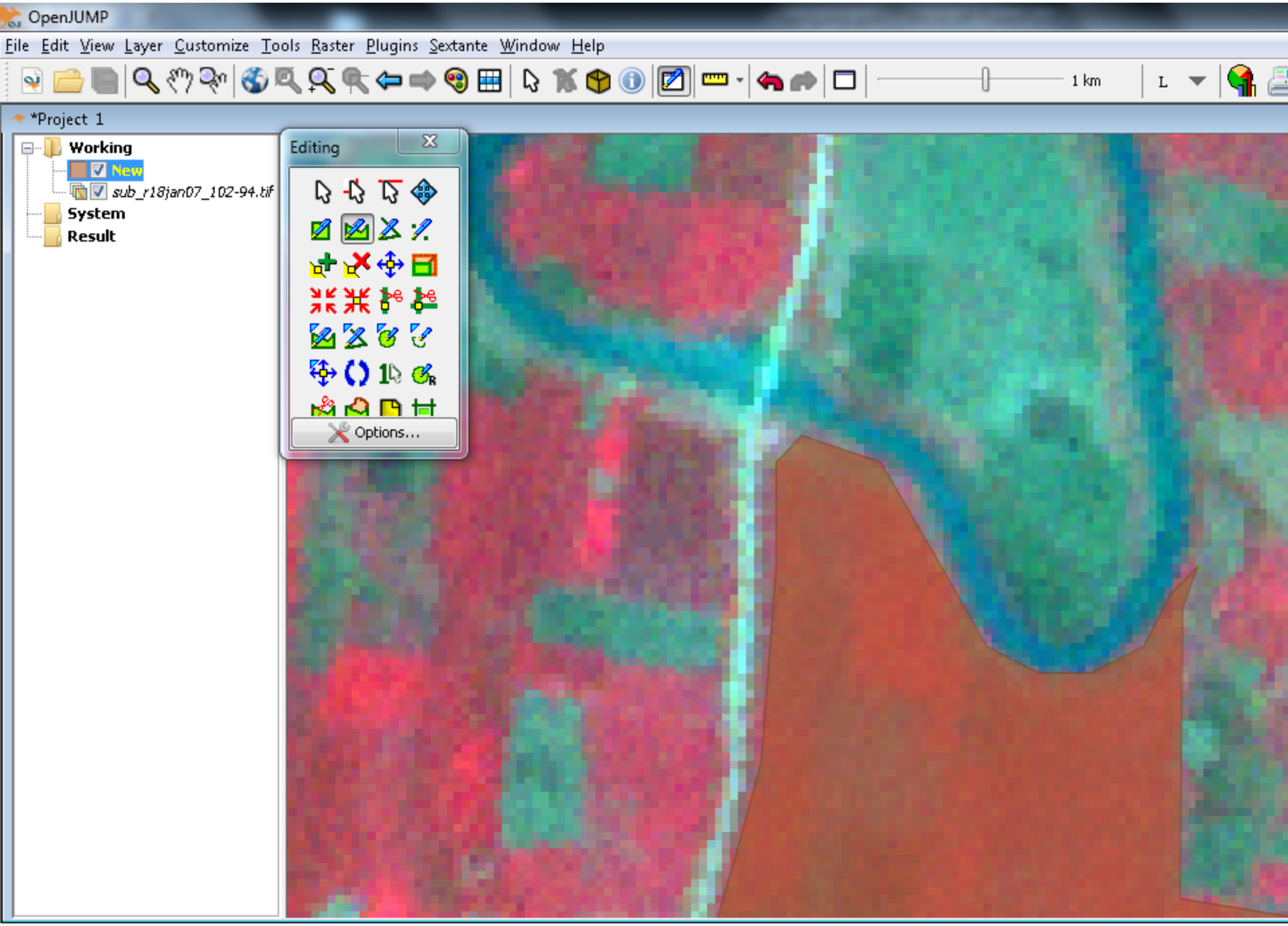
While digitising

- **Shift + Alt** to pan
- **Alt + Left click** mouse to Zoom in
- **Alt + Right click** mouse to Zoom out
- **Alt + Scroll mouse wheel** to zoom in or zoom out
- **Double click (Left Mouse Button)** to end digitization of a feature
- Set snap distance in order to avoid topological errors

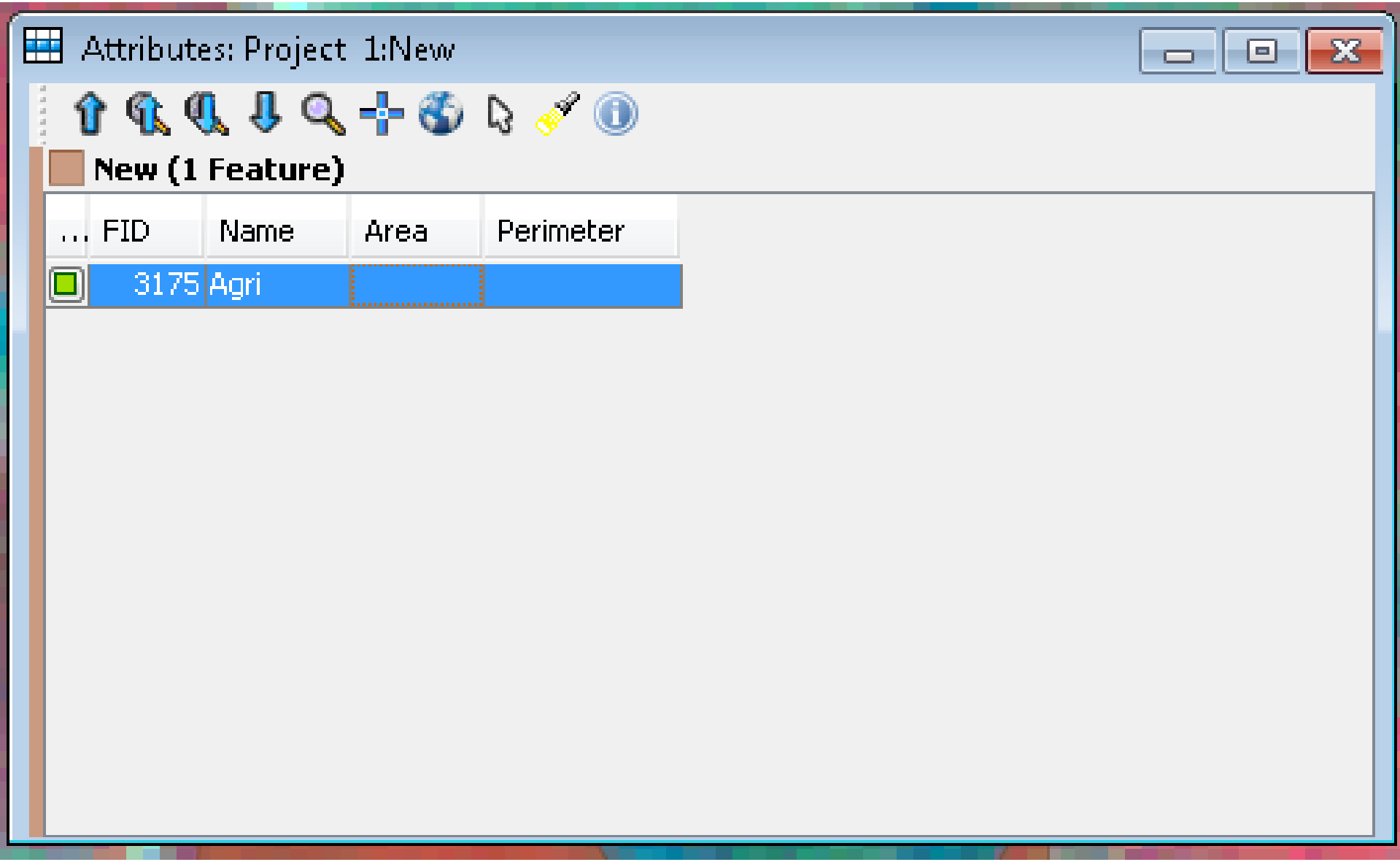
ADD

Delete

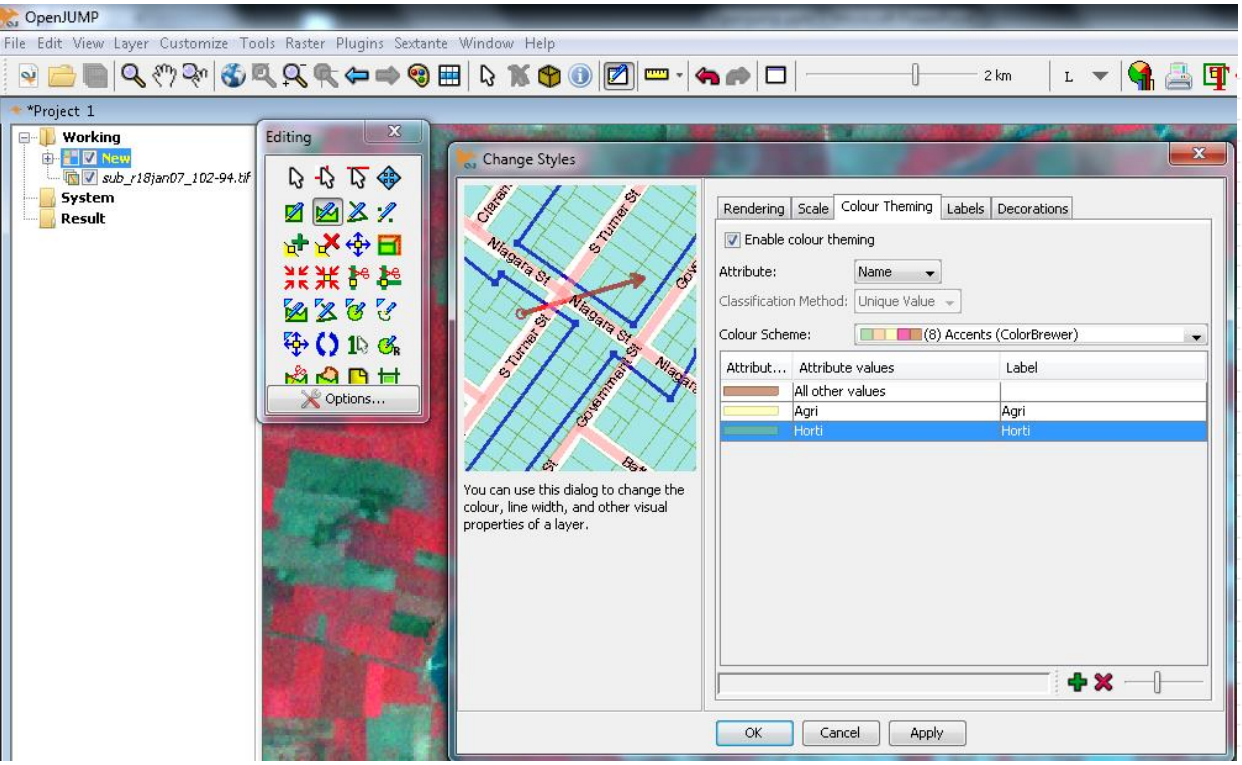

*Edit Schema: New
Field Name
Data Type
GEOMETRY
Geometry
Apply changes
Revert Changes
Force invalid conversions to null.

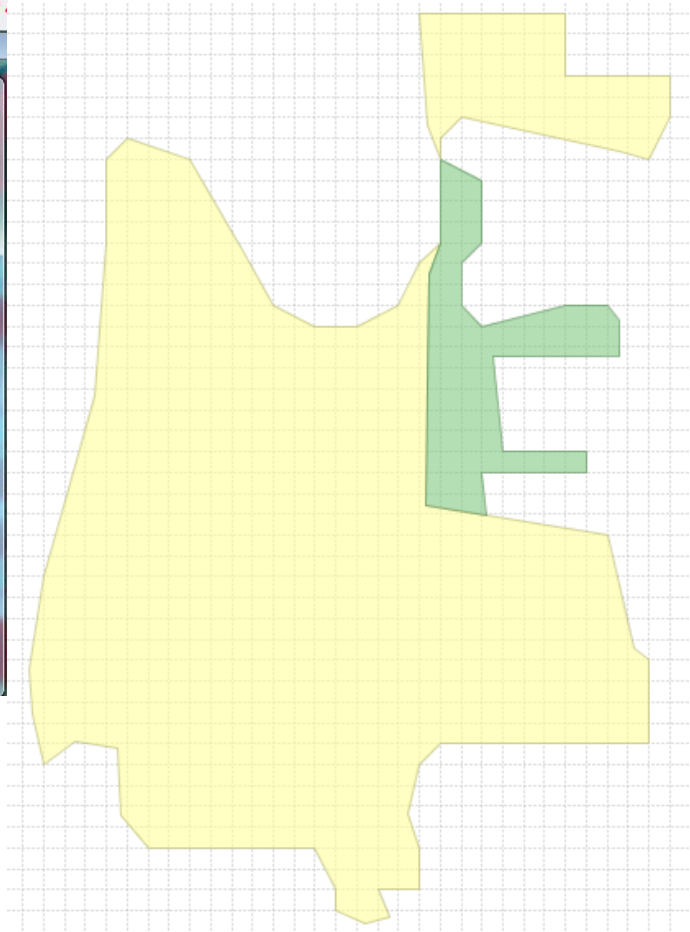

OpenJUMP
File Edit View Layer Customize Tools Raster Plugins Sextante Window Help
1 km
L
*Project 1
Working
New
sub_r18jan07_102-94.tif
System
Result
Editing
Options...

Adding attribute information



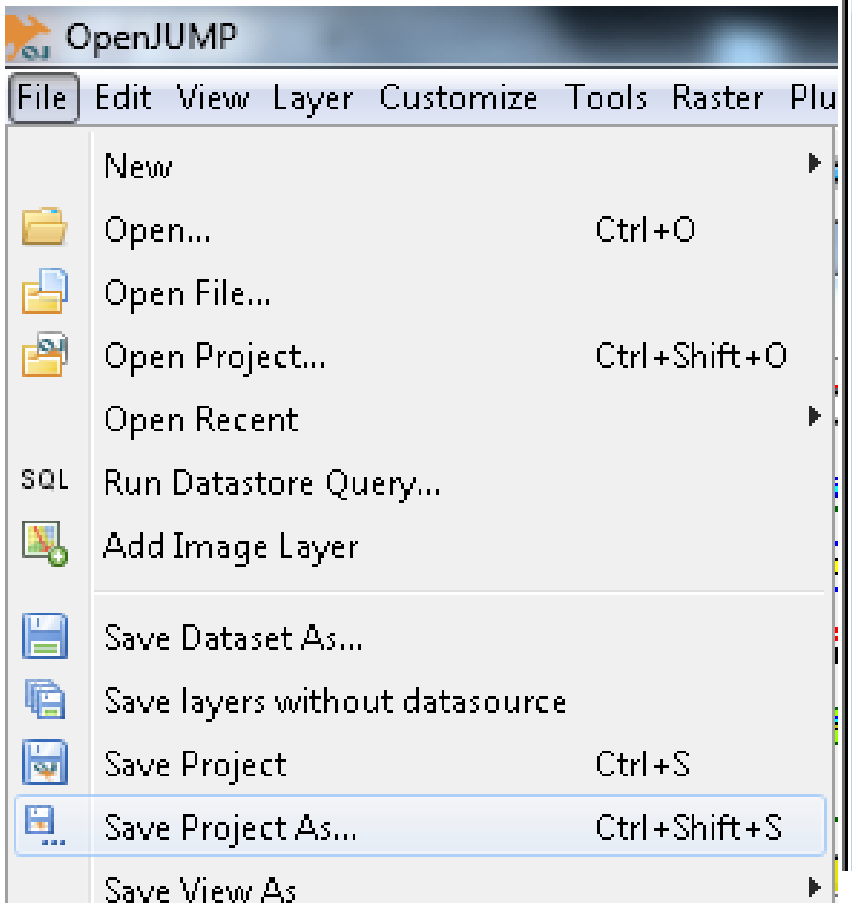
Assign Themes/Colours

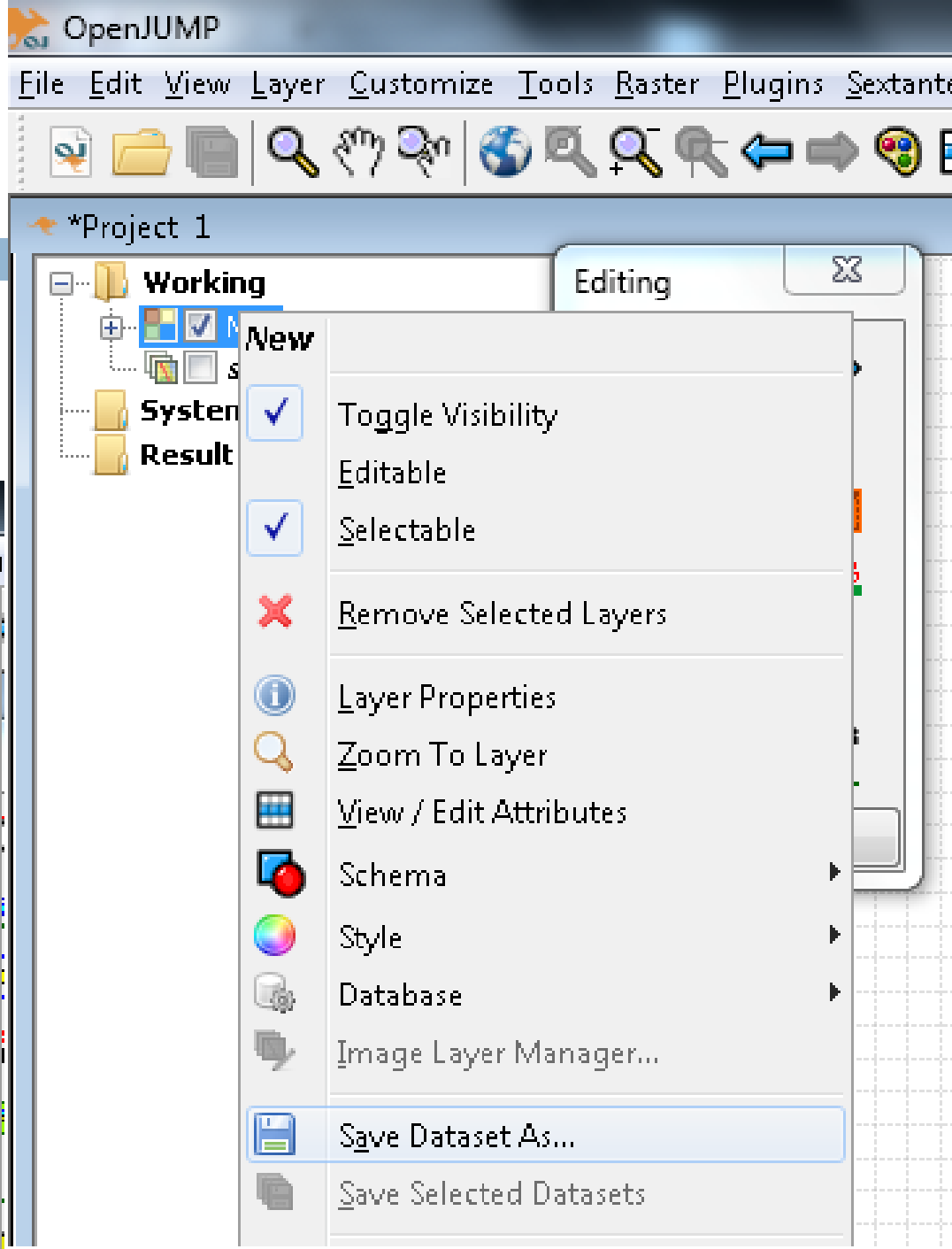


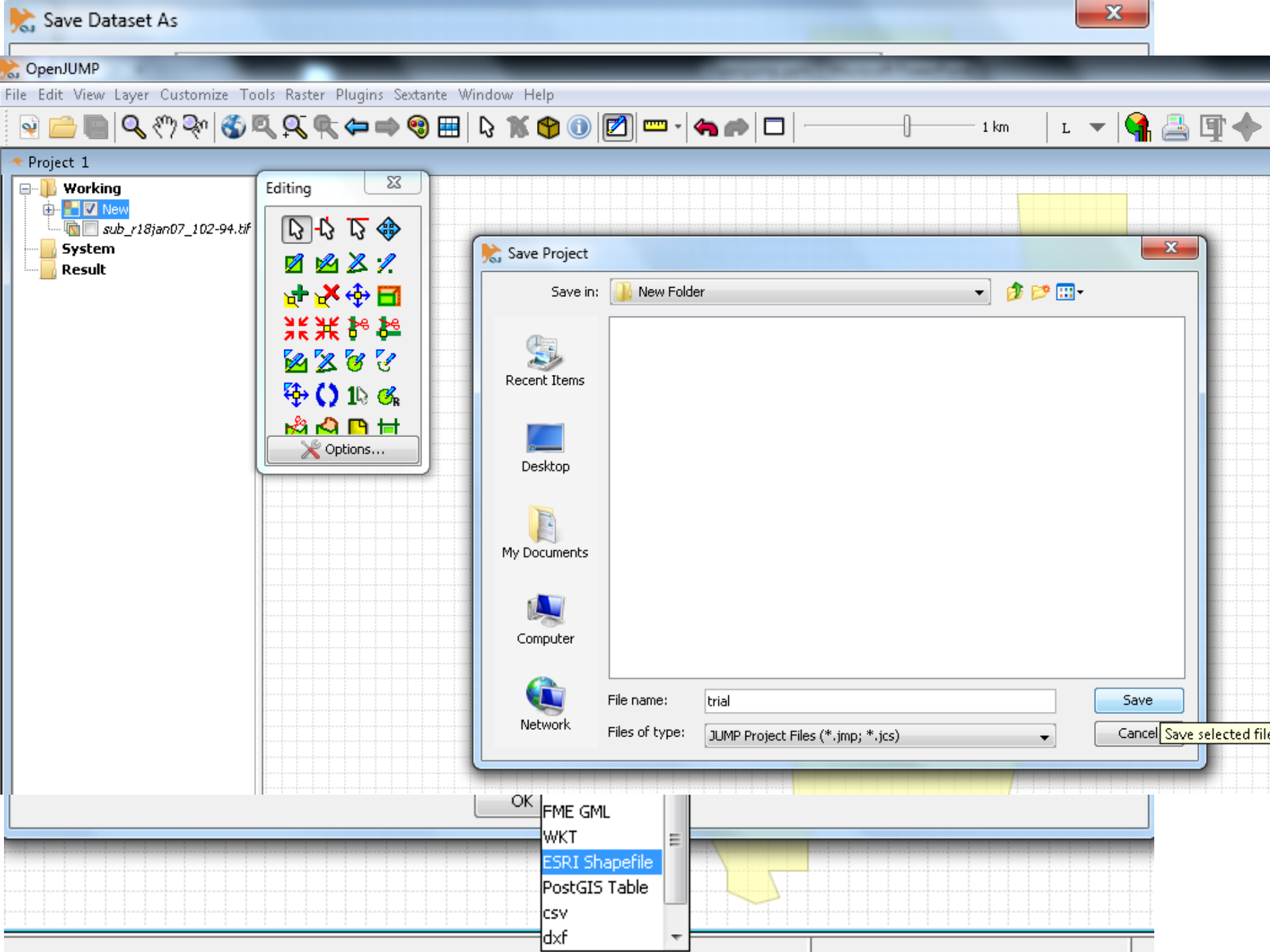


Save

- Save workspace
- Save Results






Save Dataset As
OpenJUMP
File Edit View Layer Customize Tools Raster Plugins Sextante Window Help
1 km
Project 1
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New
sub_r18jan07_102-94.tif
System
Result
Editing
Options...
Save Project
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New Folder
Recent Items
Desktop
My Documents
Computer
Network
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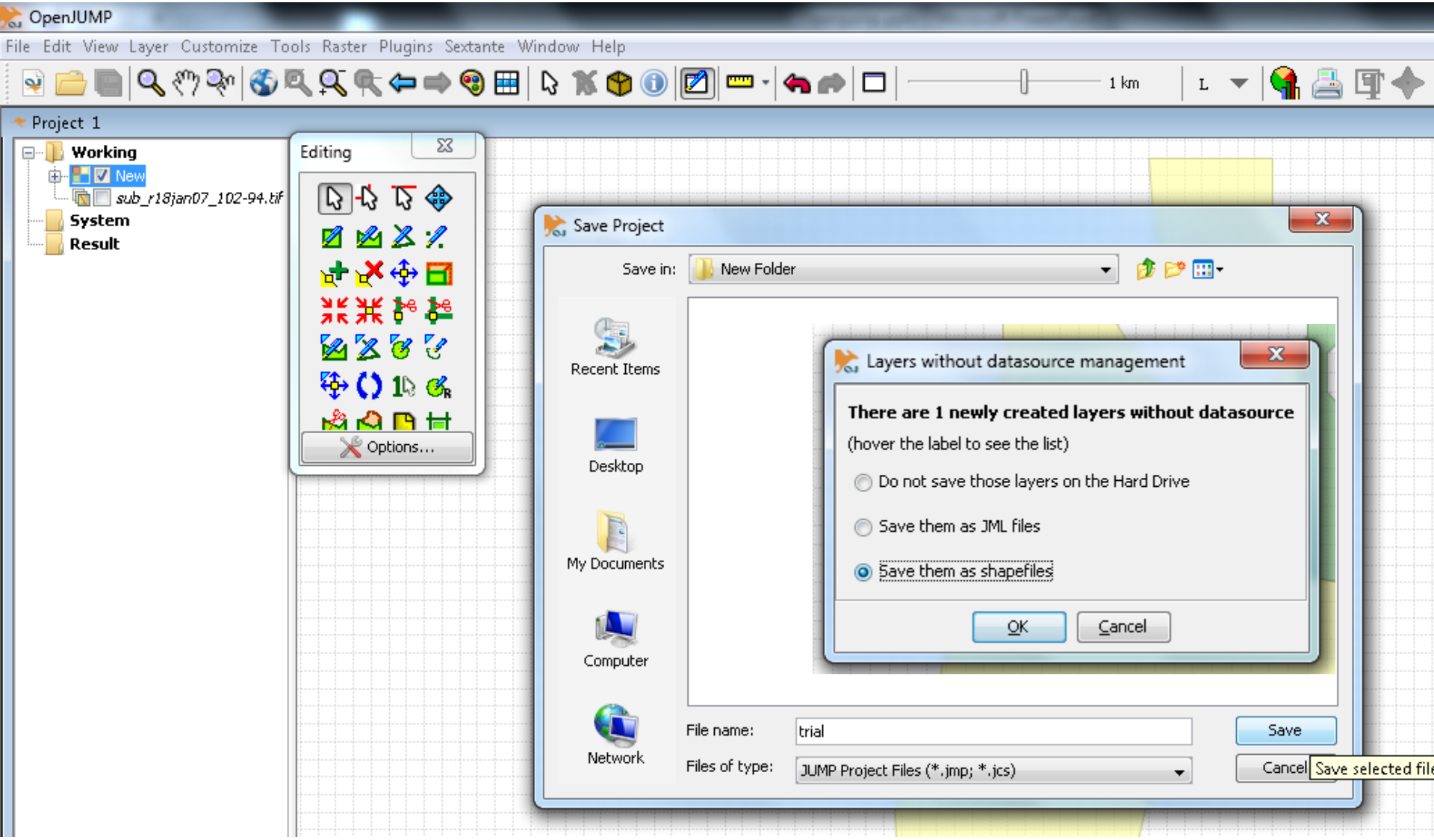
trial
Save
Files of type:
JUMP Project Files (*.jmp; *.jcs)
Cancel
Save selected file
OK
FME GML
WKT
ESRI Shapefile
PostGIS Table
csv
dxf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File Edit View Layer Customize Tools Raster Plugins Sextante Window Help
1 km
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Working
New
sub_r18jan07_102-94.tif
System
Result
Editing
Options...
Save Project
Save in:
New Folder
Recent Items
Desktop
My Documents
Computer
Network
Layers without datasource management
There are 1 newly created layers without datasource
(hover the label to see the list)
Do not save those layers on the Hard Drive
Save them as JML files
Save them as shapefiles
OK
Cancel
File name:
trial
Files of type:
JUMP Project Files (*.jmp; *.jcs)
Save
Cancel
Save selected file

Doubts if any ??

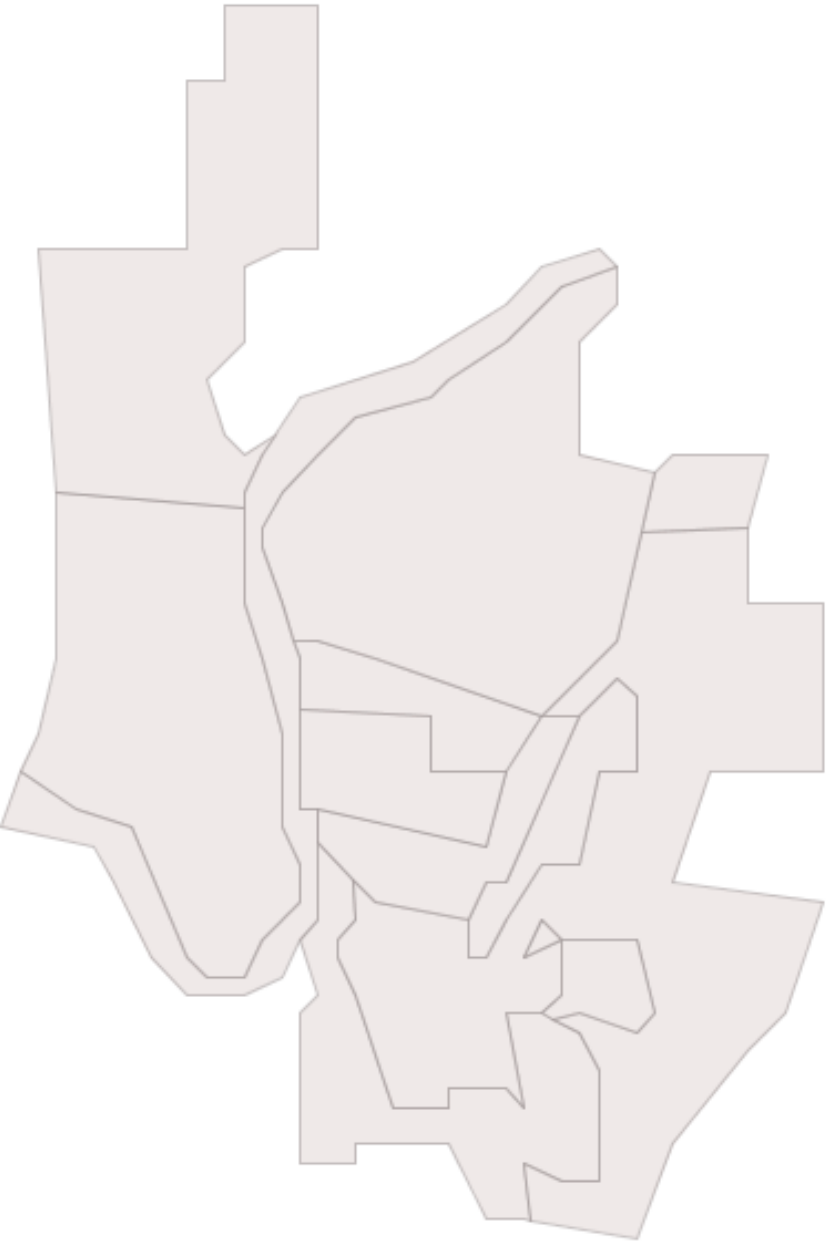
Summarize

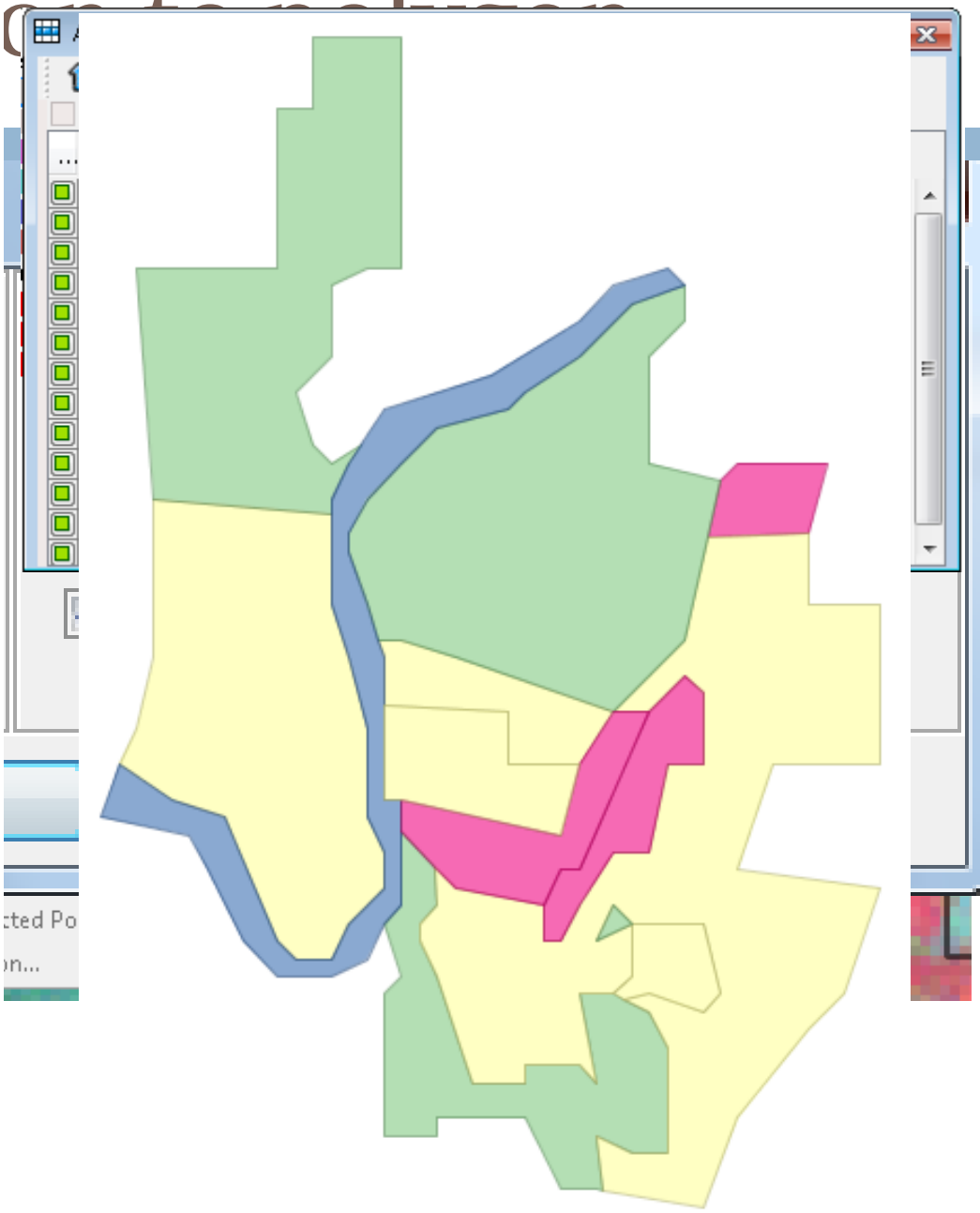
TASK

- Digitise Road using Line feature
- Digitise a set of features using line feature

SPATIAL ANALYSIS

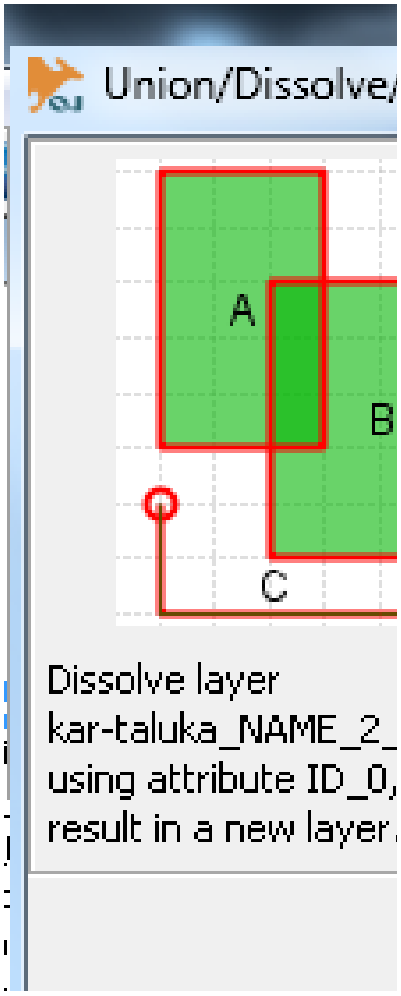
Conversion to polygon

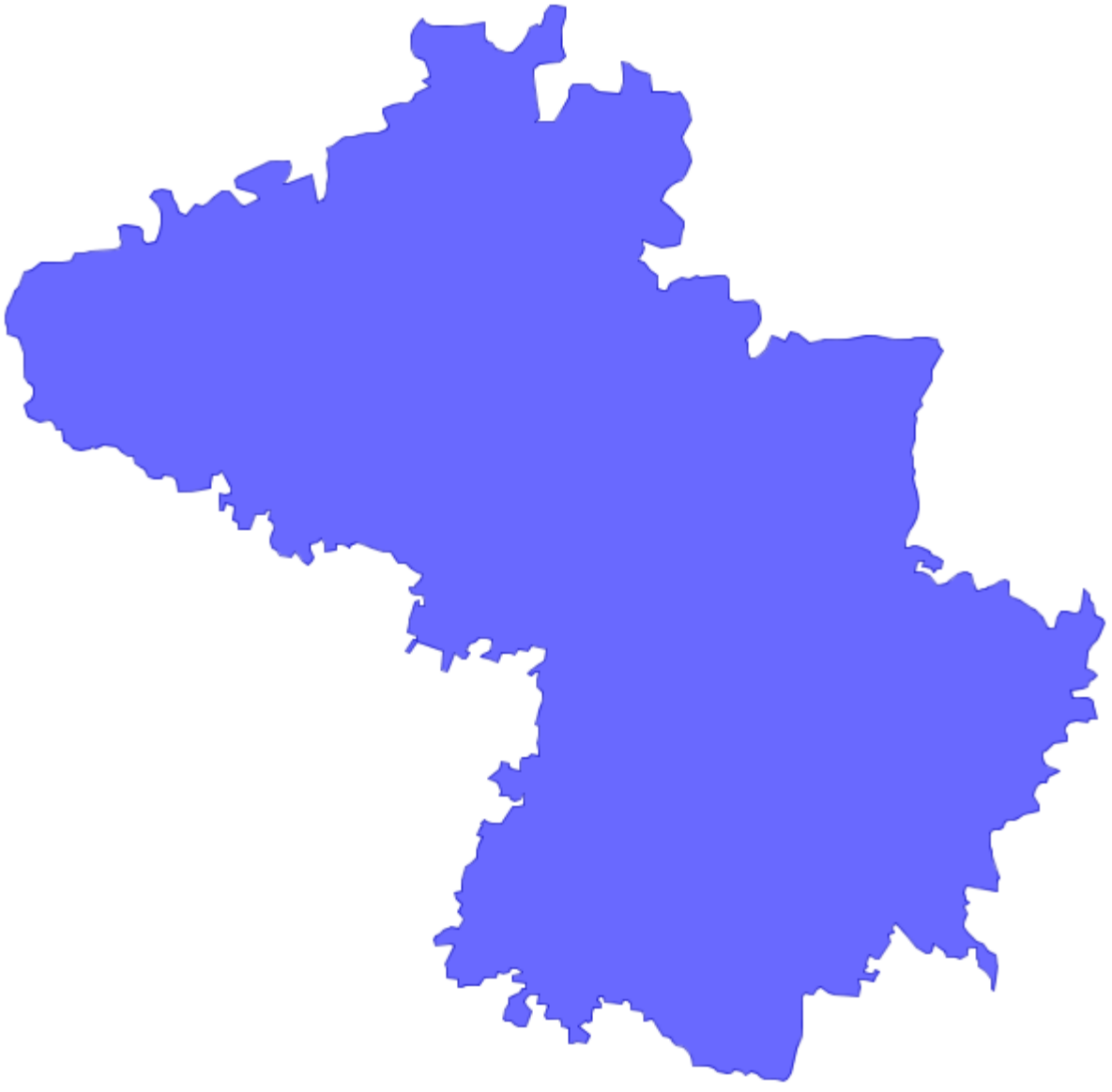




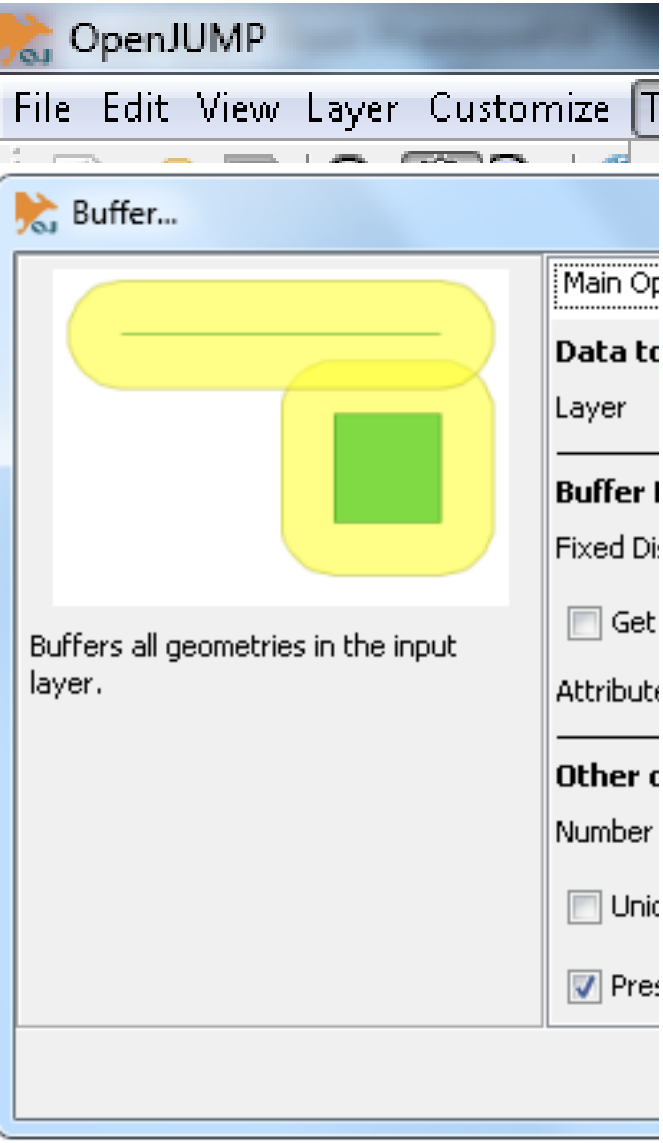
Spatial Analysis

- Union/





Buffer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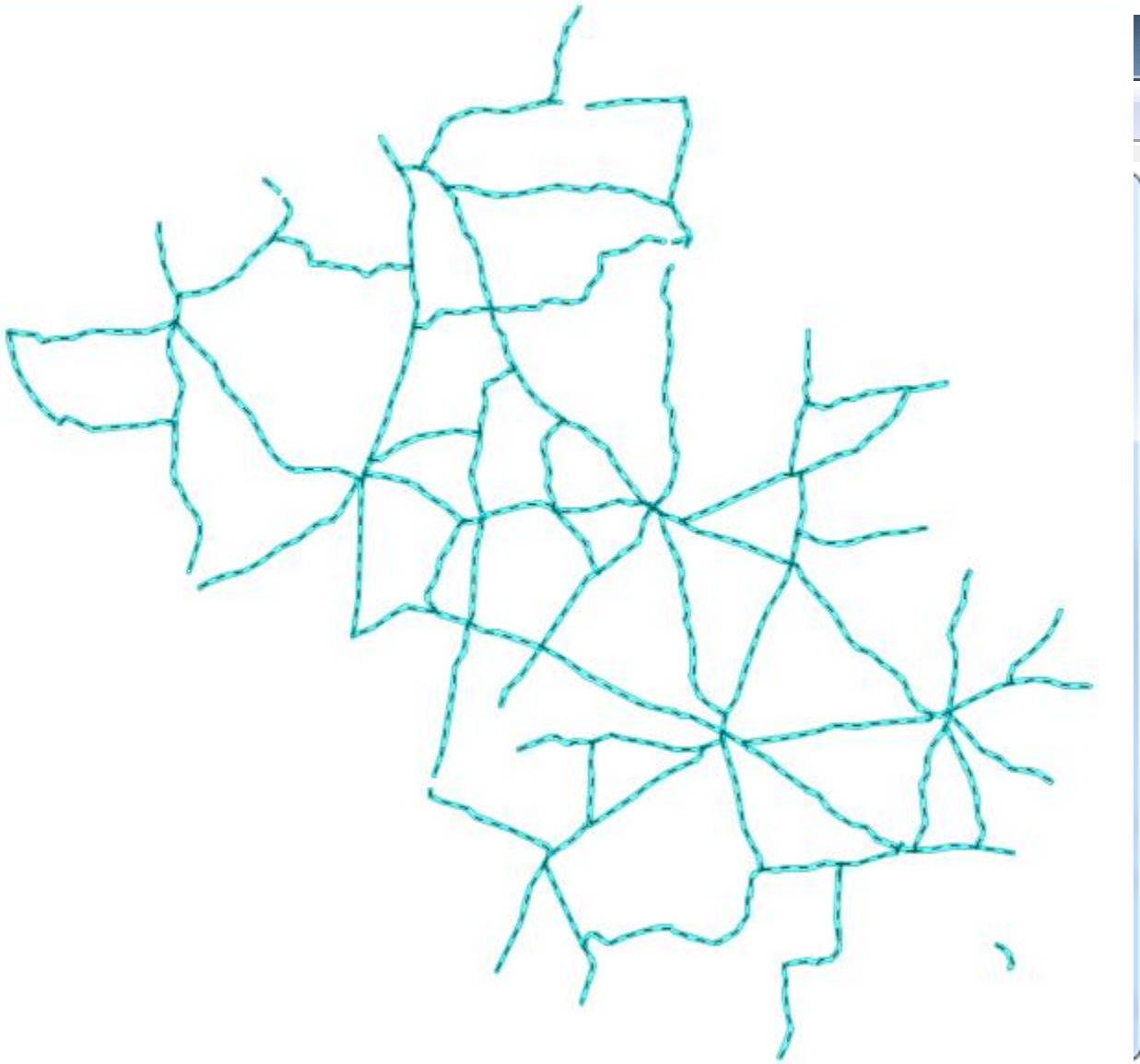
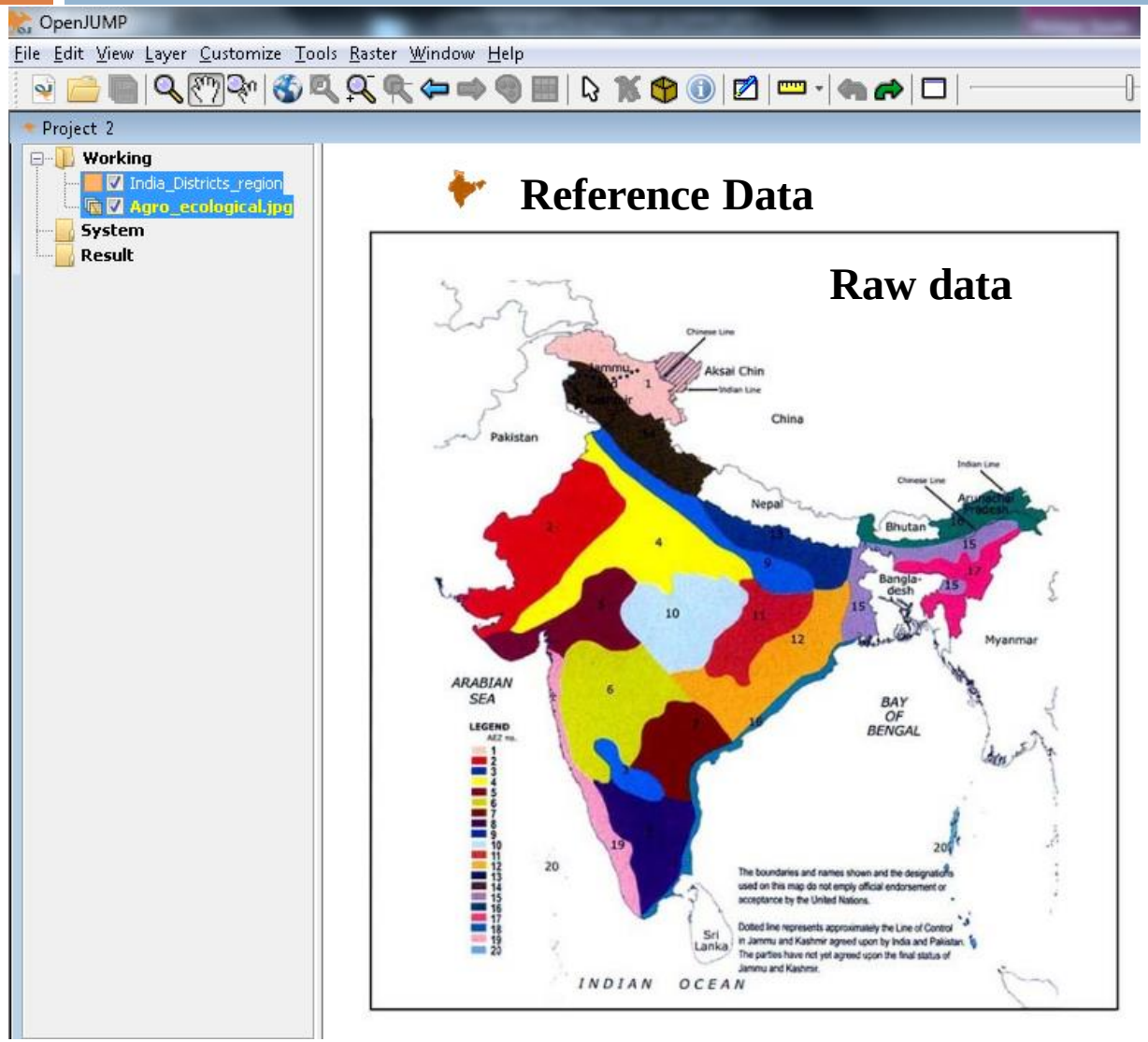


TASK

- Open rf boundary (Reserve Forest) of Karnataka
- Extract RF boundary under Uttarakannada, Dakshina Kannada
- Calculate the total area under Reserve forest

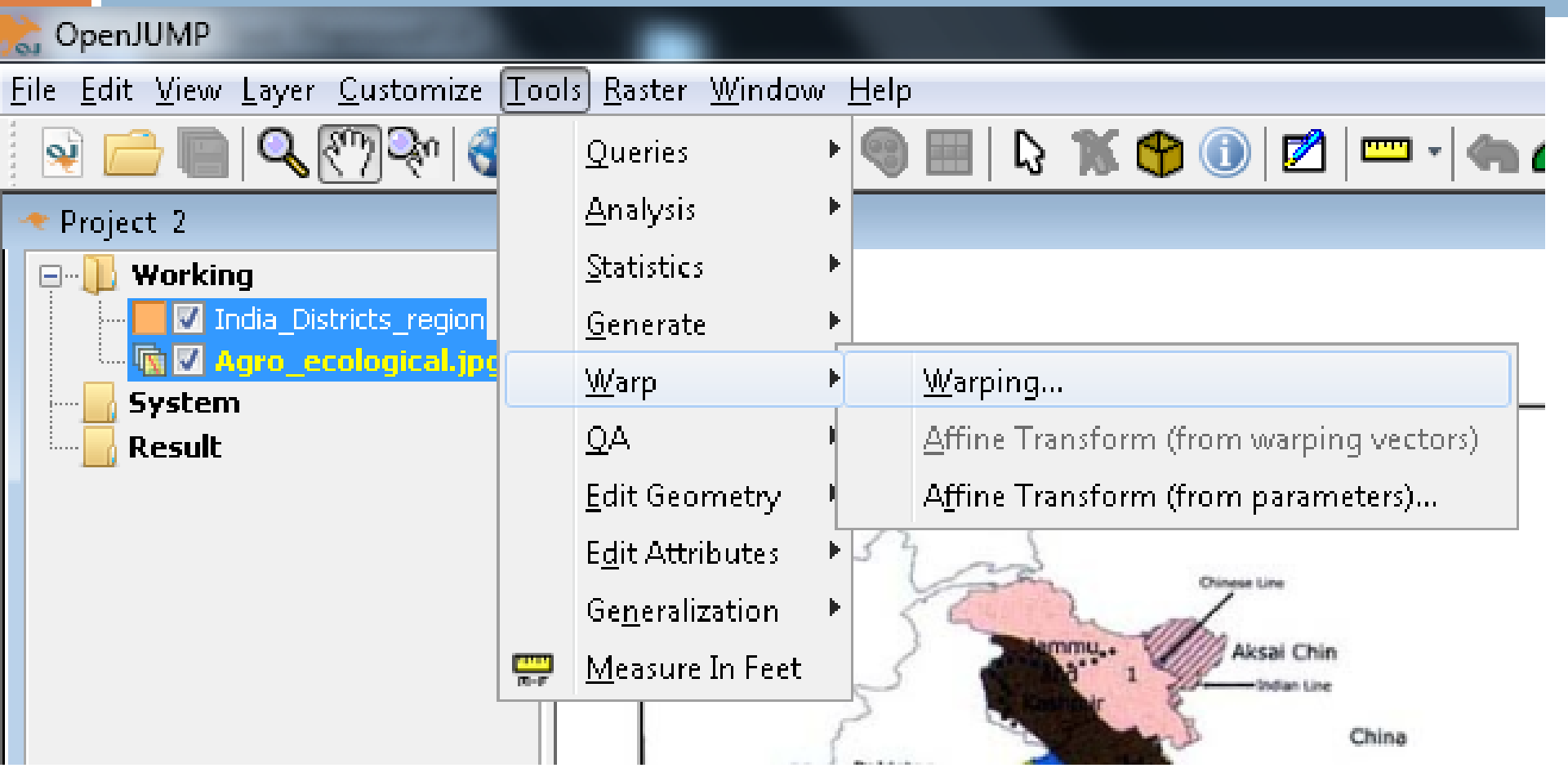
Warping/Georeferencing



Requires reference data and raw data

Open Raster, digitise, create vector layer.

Use the digitised vector layer as the raw data


OpenJUMP
File Edit View Layer Customize Tools Raster Window Help
Project 2
Working
India_Districts_region
Agro_ecological.jpg
System
Result
Queries
Analysis
Statistics
Generate
Warp
QA
Edit Geometry
Edit Attributes
Generalization
Measure In Feet
Warping...
Affine Transform (from warping vectors)
Affine Transform (from parameters)...
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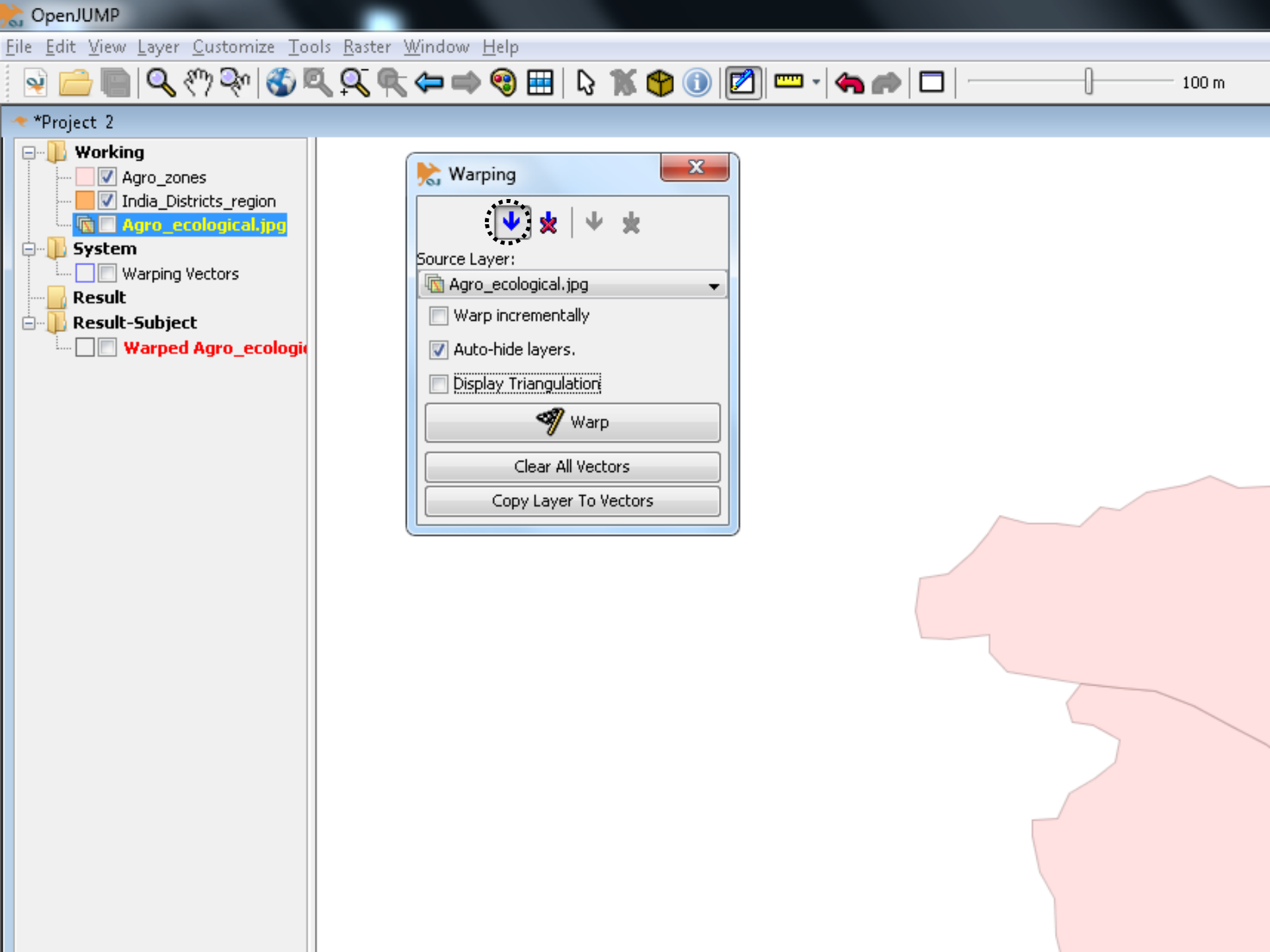
Aksai Chin
Indian Line
China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*Project 2
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Agro_ecological.jpg
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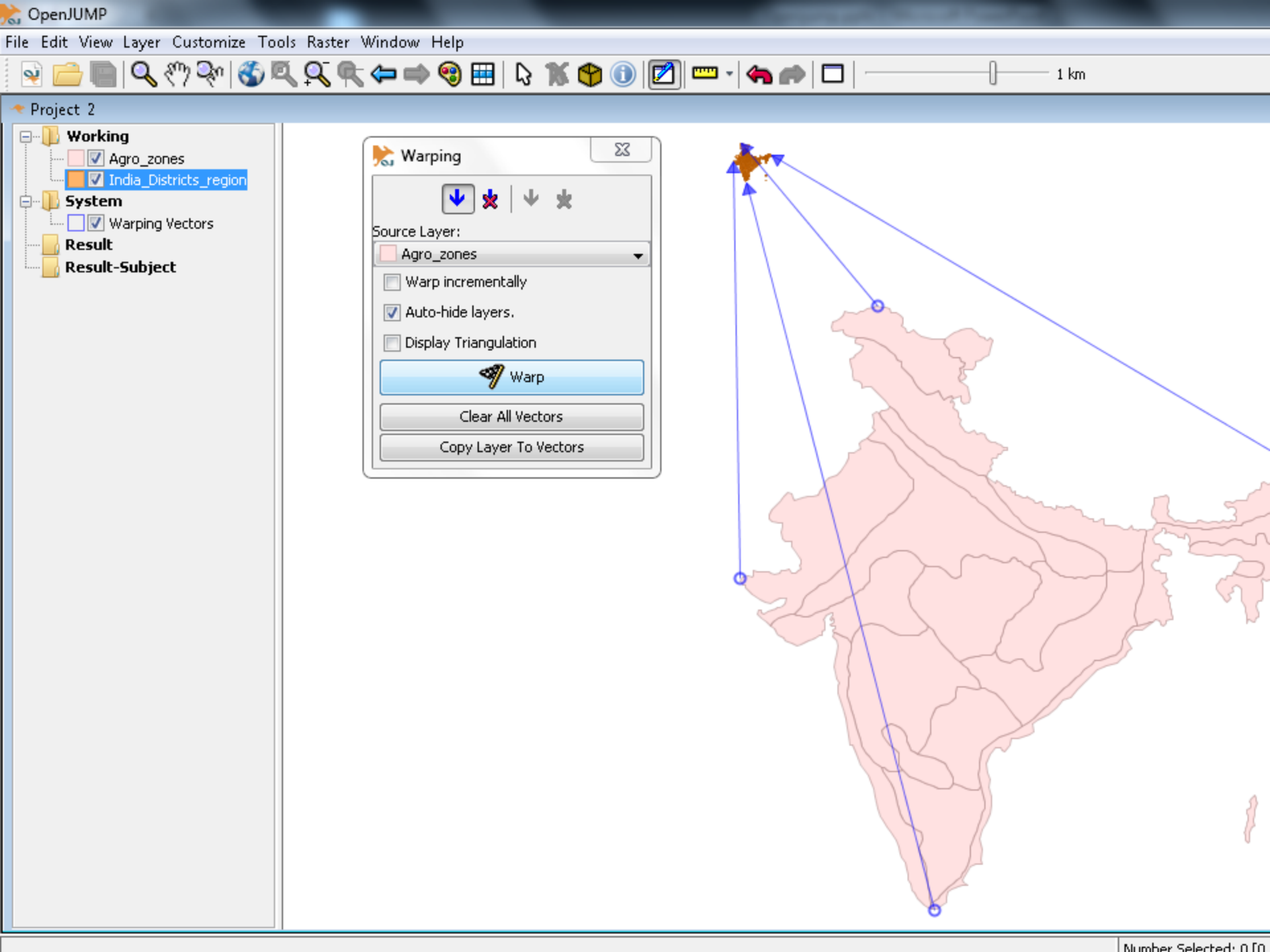
Warping
Source Layer:
Agro_ecological.jpg
Warp incrementally
Auto-hide layers.
Display Triangulation
Warp
Clear All Vectors
Copy Layer To Vectors


OpenJUMP
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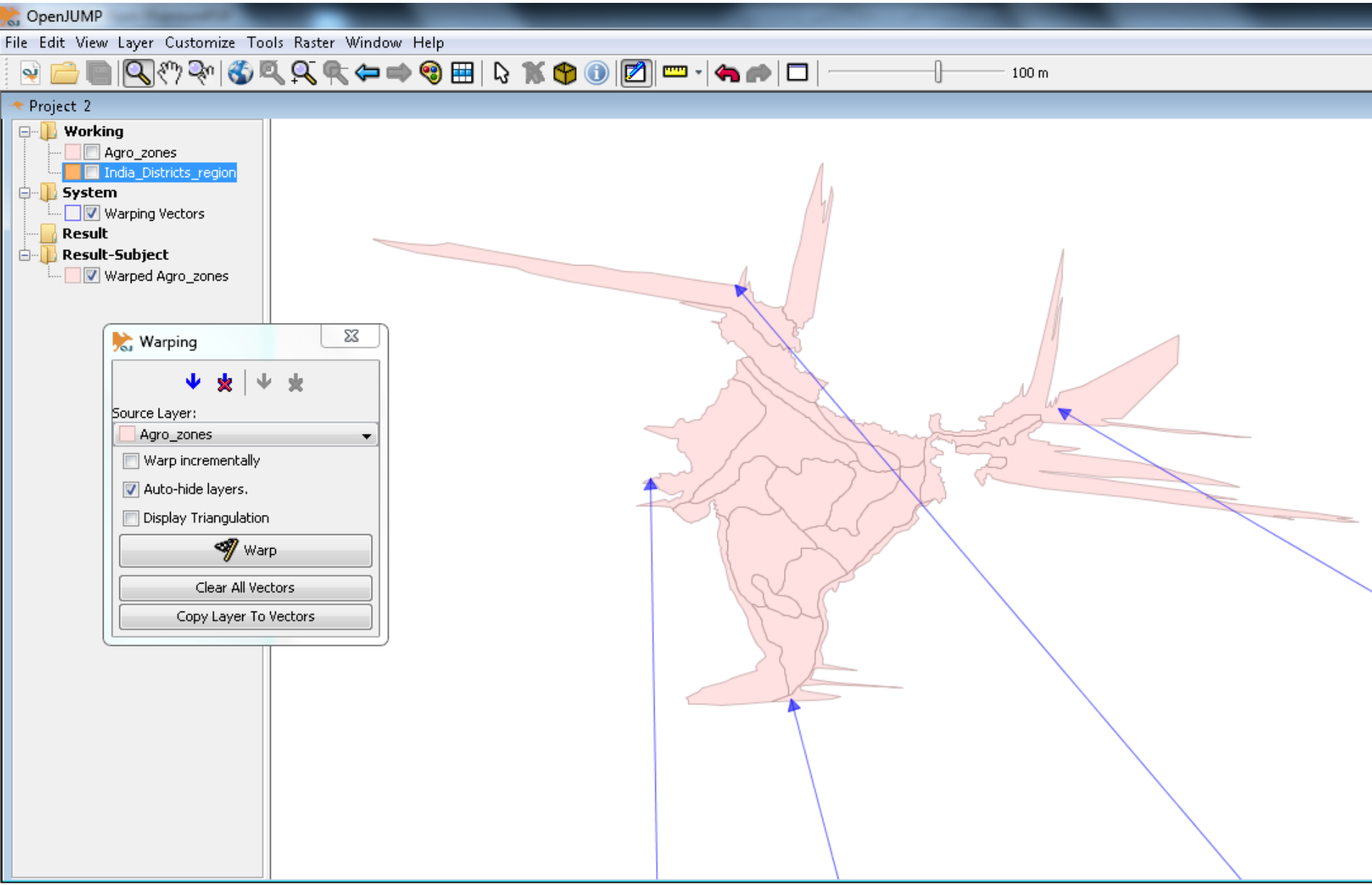
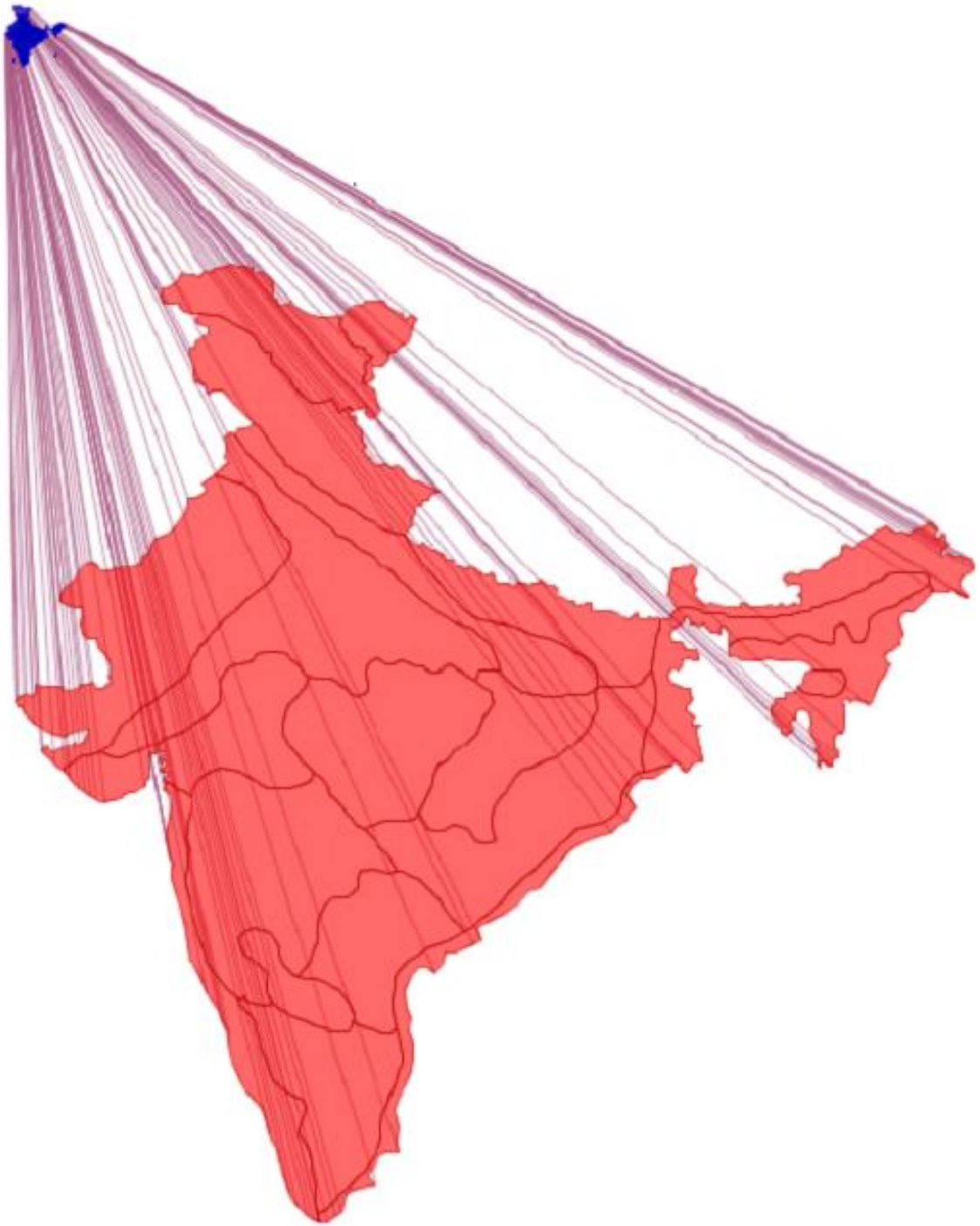
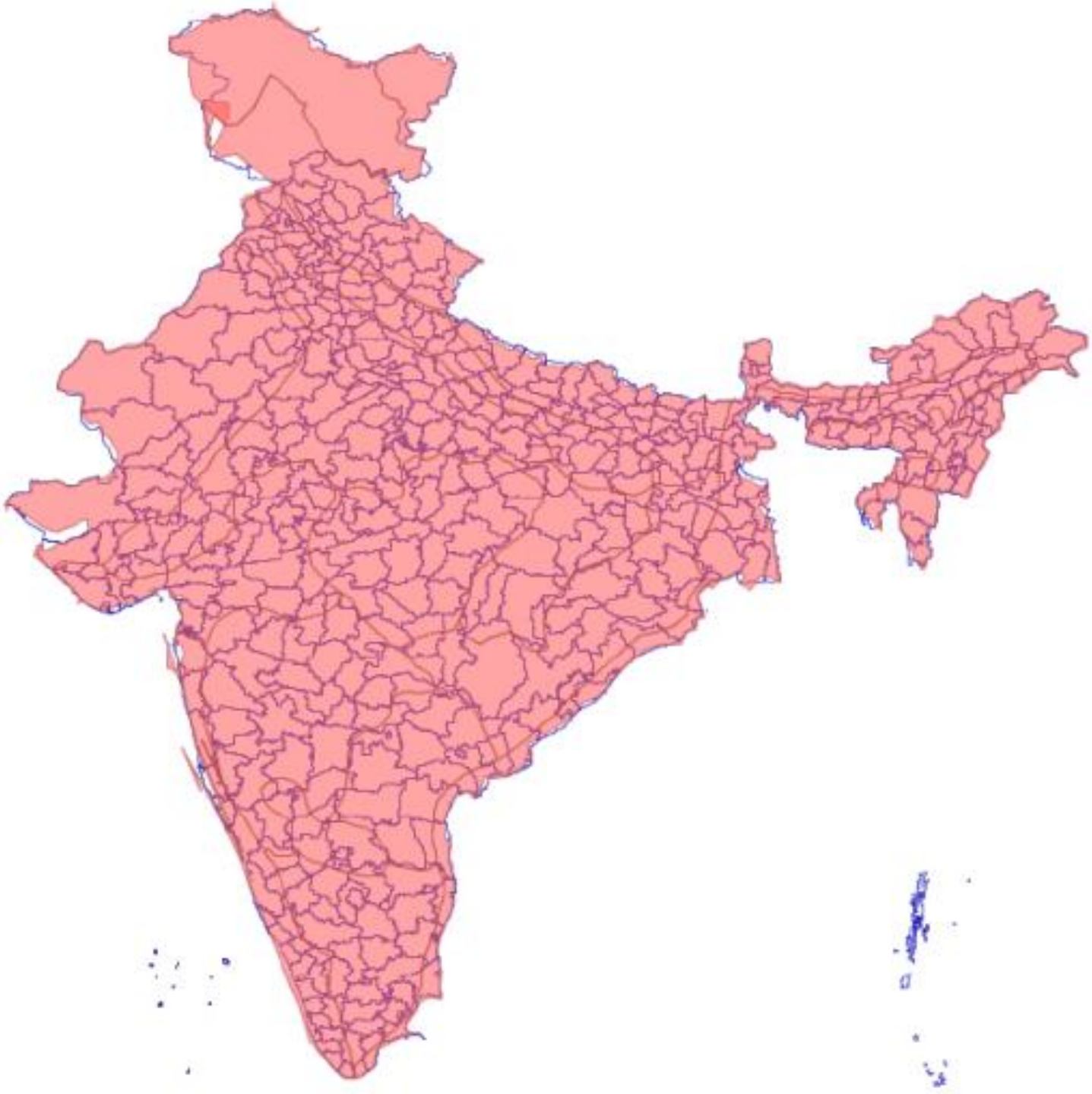
Project 2
Working
Agro_zones
India_Districts_region
System
Warping Vectors
Result
Result-Subject
Warping
Source Layer:
Agro_zones
Warp incrementally
Auto-hide layers.
Display Triangulation
Warp
Clear All Vectors
Copy Layer To Vectors

Large number of points needs to be considered during warping and to avoid distortions







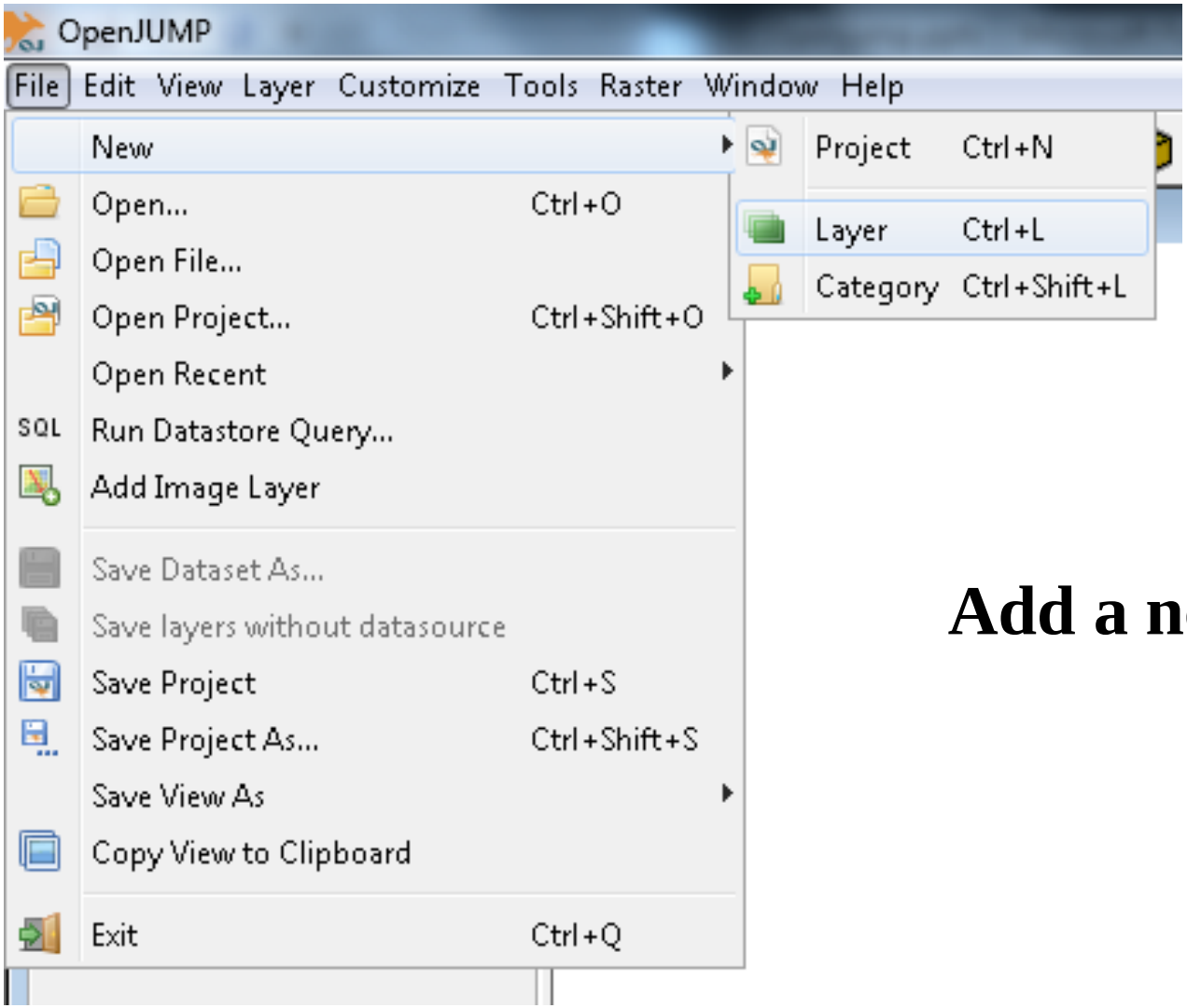
Task

- Georeference Kolar district image.

Digitise the boundary

Warp

Importing data from spreadsheets, GPS to GIS

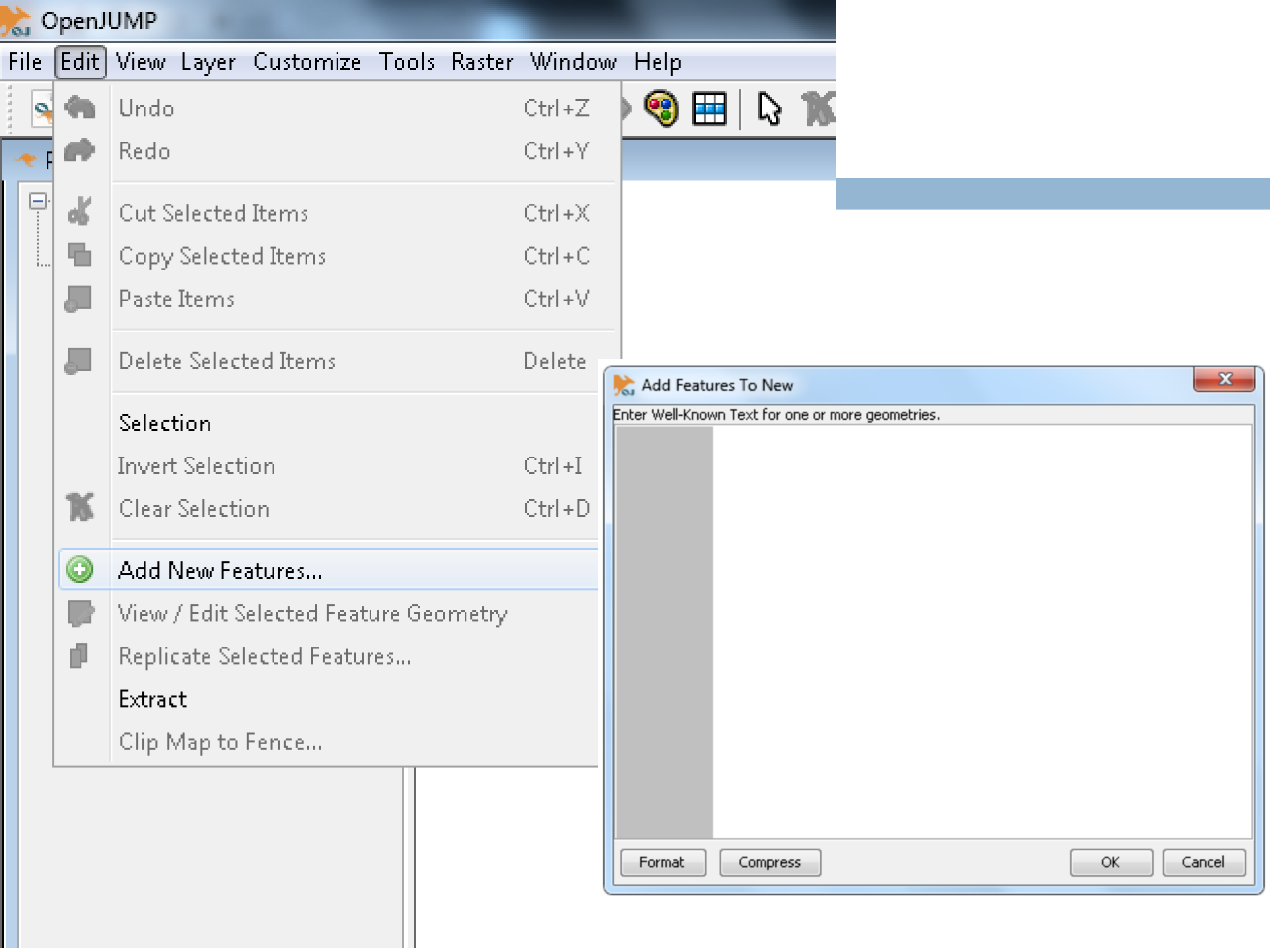


Add a new layer

Create or use existing excel spread sheet using the GPS data (field information)

Feature		X	Y	
Point	(	Longitude	Latitude	)
Point	(	Degree	Degree	)
Point	(	Meters	Meters	)

Point	(	74.159	14.842	)
Point	(	74.2	14.53	)
Point	(	74.36	14.26	)
Point	(	74.38	14.97	)
Point	(	74.49	14.78	)


OpenJUMP
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Layer
Customize
Tools
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Window
Help
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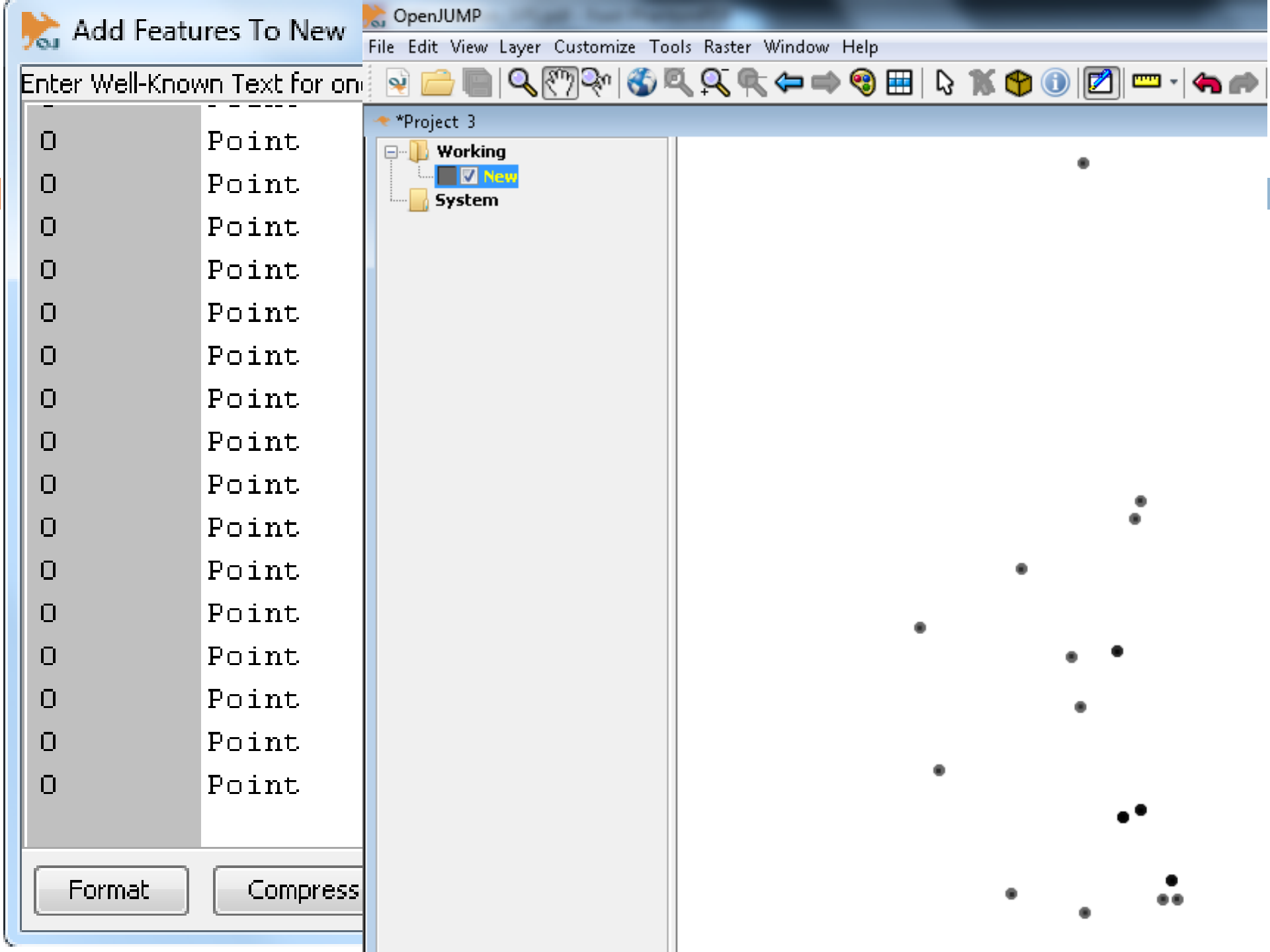
Redo Ctrl+Y
Cut Selected Items Ctrl+X
Copy Selected Items Ctrl+C
Paste Items Ctrl+V
Delete Selected Items Delete
Selection
Invert Selection Ctrl+I
Clear Selection Ctrl+D
Add New Features...
View / Edit Selected Feature Geometry
Replicate Selected Features...
Extract
Clip Map to Fence...
Add Features To New
Enter Well-Known Text for one or more geometries.
Format
Compress
OK
Cancel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Format
Compress
OpenJUMP
File Edit View Layer Customize Tools Raster Window Help
*Project 3
Working
New
System

THANK YOU


INDIAN INSTITUTE OF SCIENCE


Energy and Wetlands Research Group
CES
Indian Institute of Science
Bangalore - 560012


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