QGIS as a platform

Vincent Picavet
Oslandia

Platform ?

OSLANDIA

Platform technology

is a term for technology that ***enables the creation of products*** *and processes that support present or future development. It establishes the long-term* ***capabilities of research & development*** *institutes. It can be defined as a structural or technological form from which various* ***products can emerge without*** *the expense of a new* ***process/technology introduction.***

OSLANDIA

Platform :
Collaboration
Interoperability
Connectivity
Adaptability

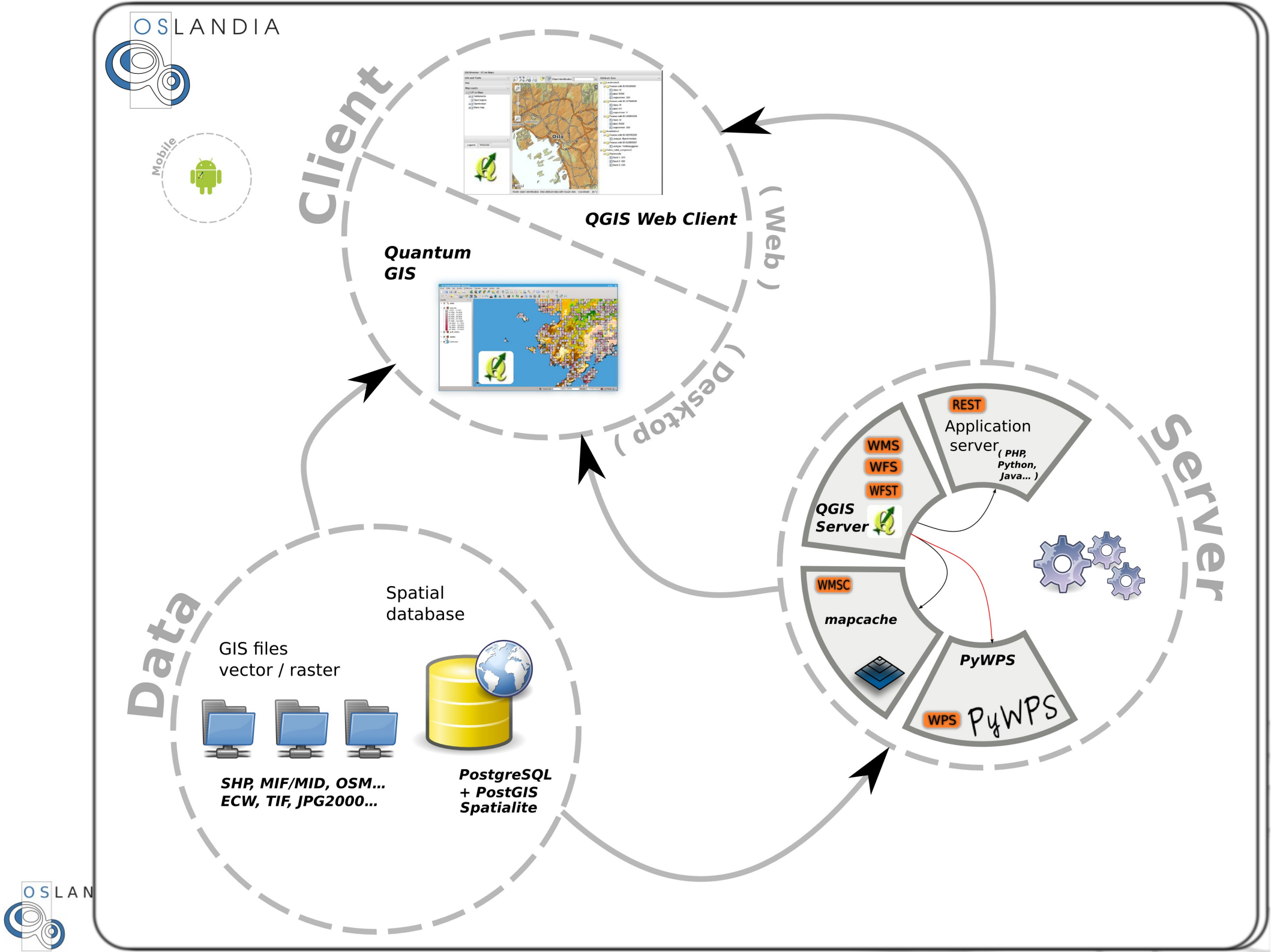
QGIS is Opensource

Legal
Organisational

Collaboration
Openness
Innovation
Reuse

Interoperability

OSLANDIA


OSLANDIA
Mobile
Client
QGIS Web Client
Quantum GIS
(Web)
(Desktop)
Server
REST
Application server
(PHP, Python, Java...)
WMS
WFS
WFST
QGIS Server
WMSC
mapcache
PyWPS
WPS
PyWPS
Data
Spatial database
GIS files vector / raster
SHP, MIF/MID, OSM...
ECW, TIF, JPG2000...
PostgreSQL + PostGIS
Spatialite

Connectivity

OSLANDIA

OSLANDIA

Cloud WebServices

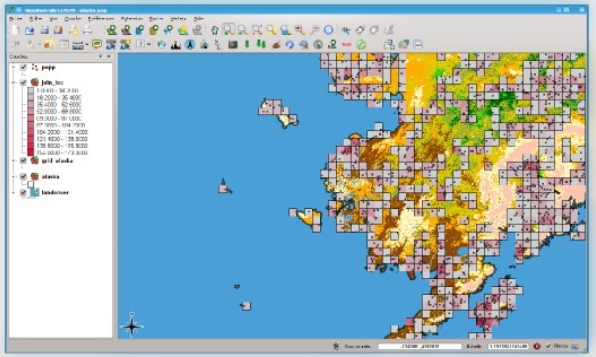
CrayFish

EPANET

TauDEM

Plugins

Quantum GIS



Spatial Database

PostGIS Spatial PostgreSQL

Oracle Spatial and Graph

Microsoft SQL Server

sextante

GDAL

FTOOLS

SAGA GIS

GRASS

PostGIS

OTB

LAS

OPENCV

R

OSLANDIA

Adaptability

OSLANDIA

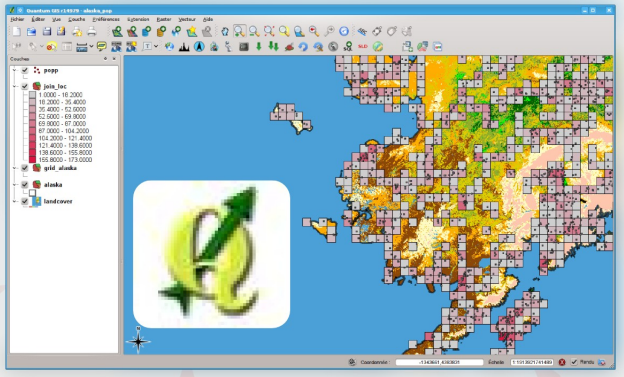
OSLANDIA

Custom interface

QGIS Server

Custom forms

Quantum GIS



Actions

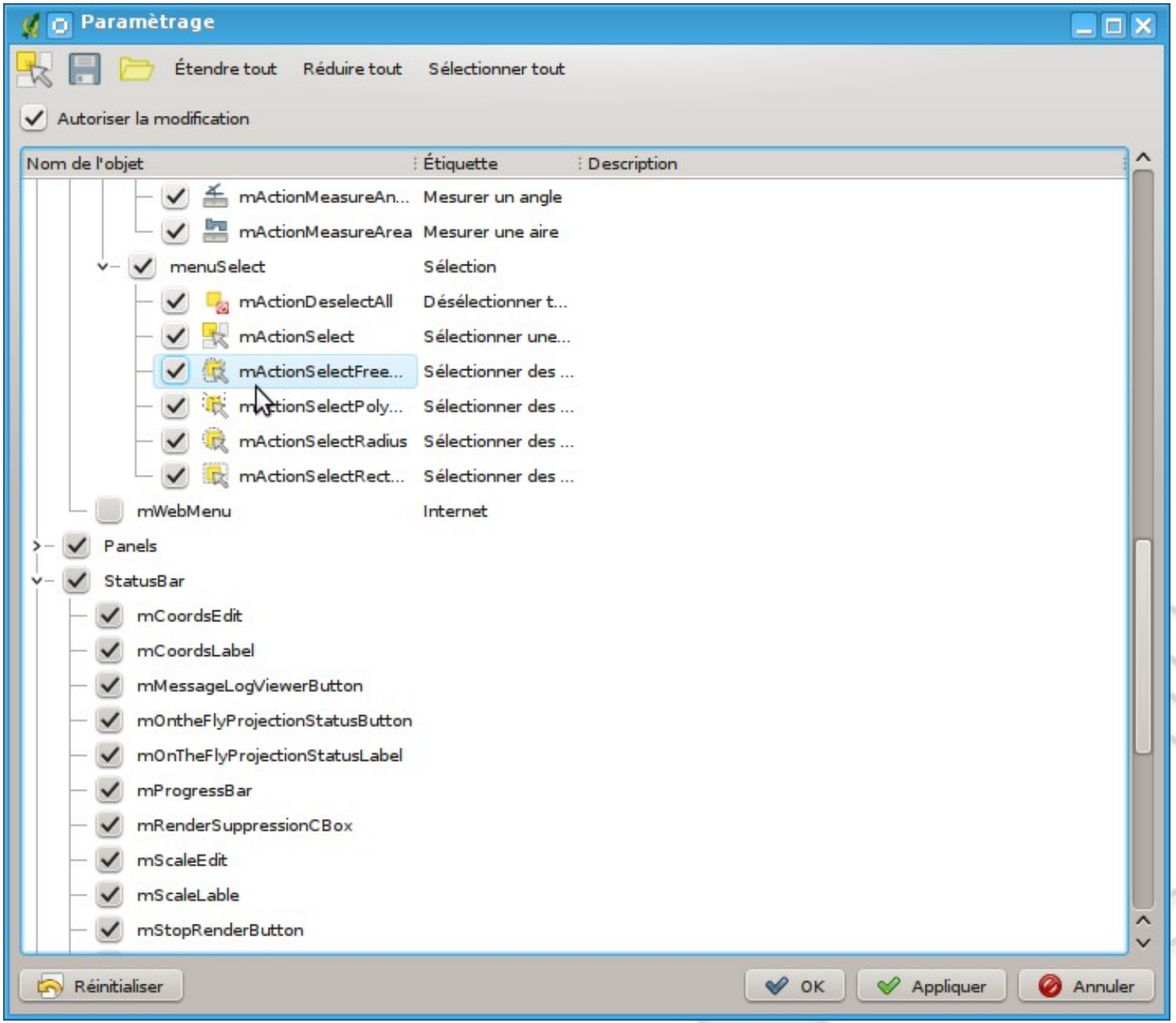
SEXTANTE

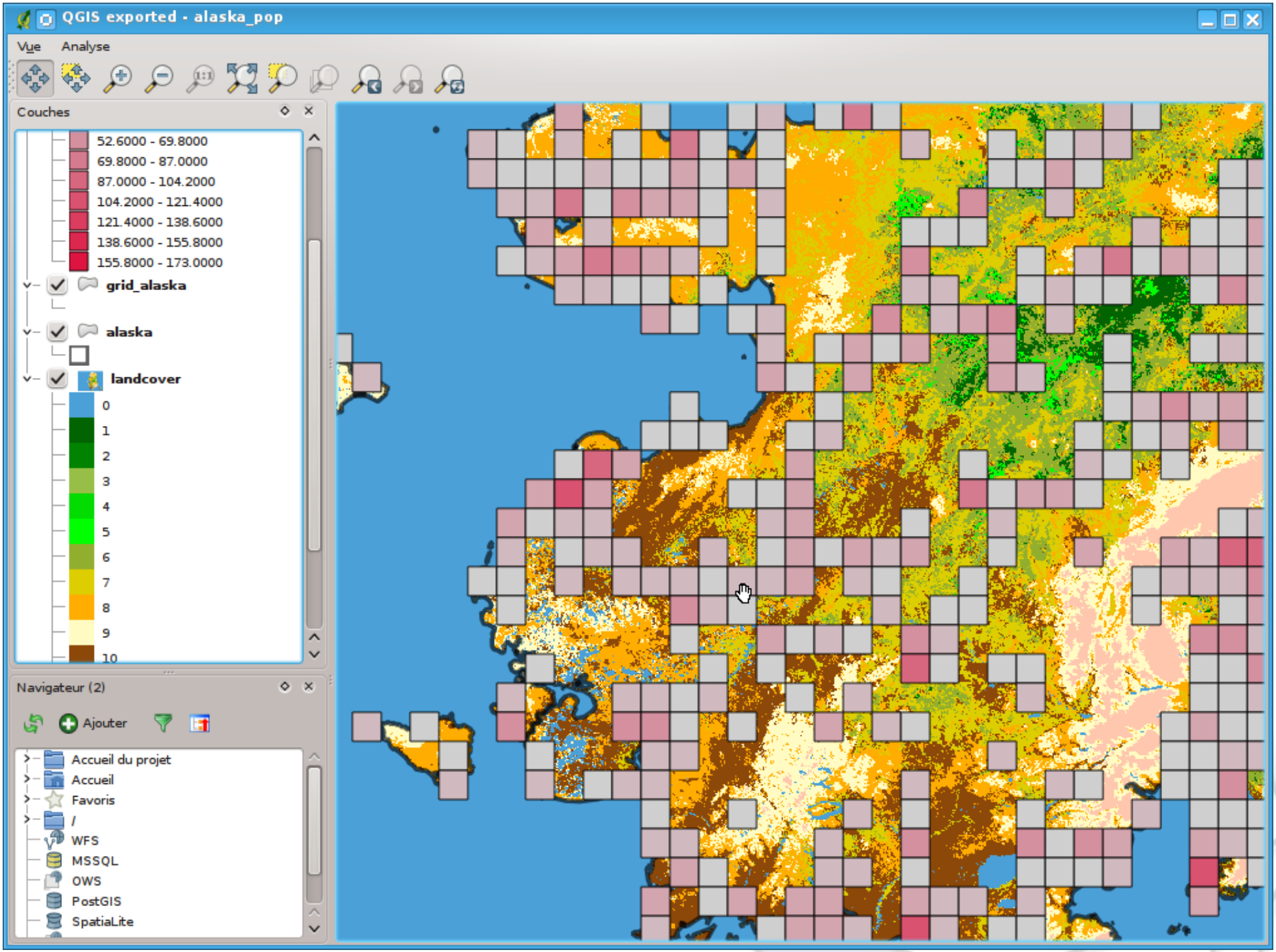
Specific application

Plugins

Custom interface

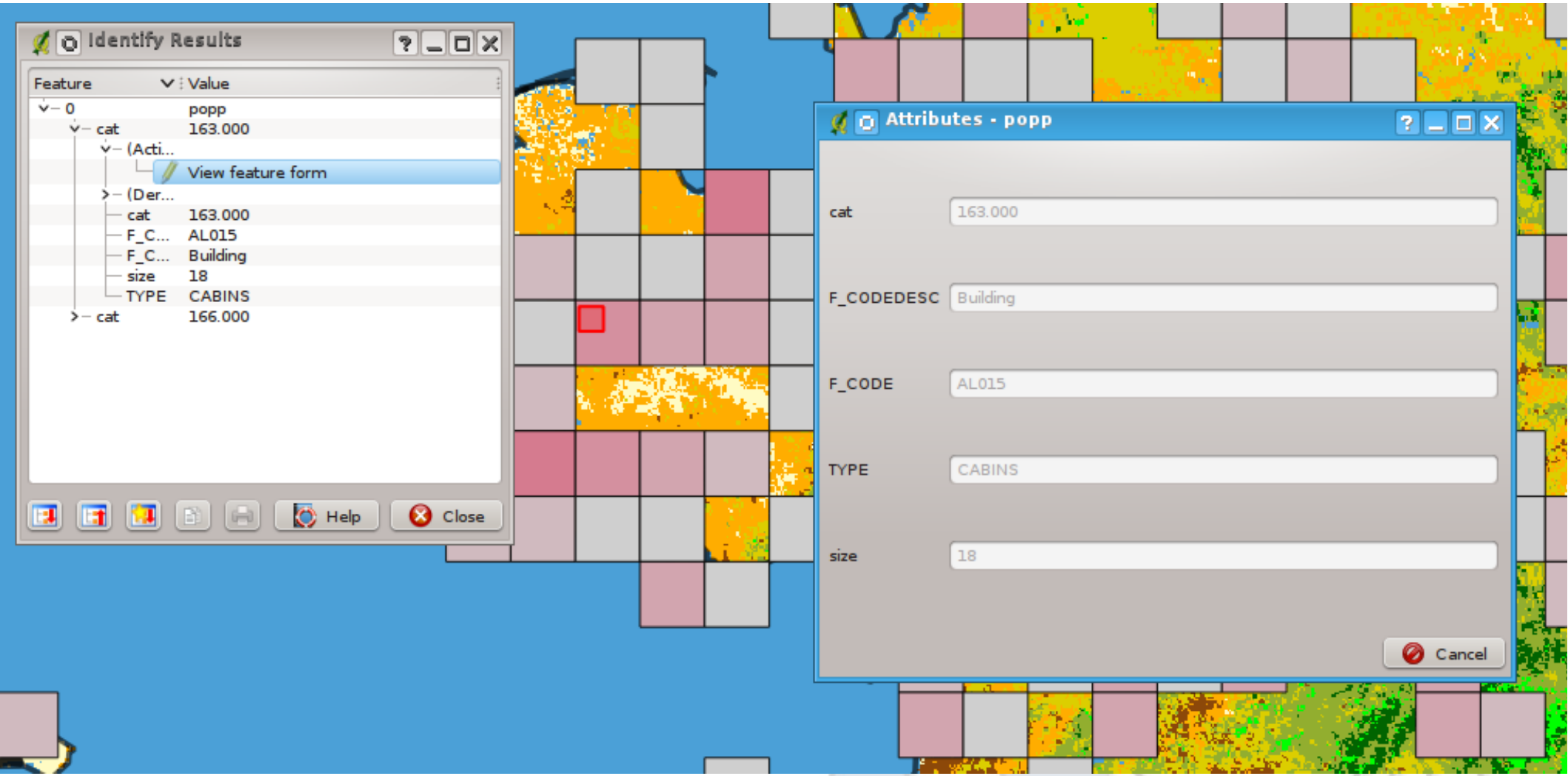
OSLANDIA

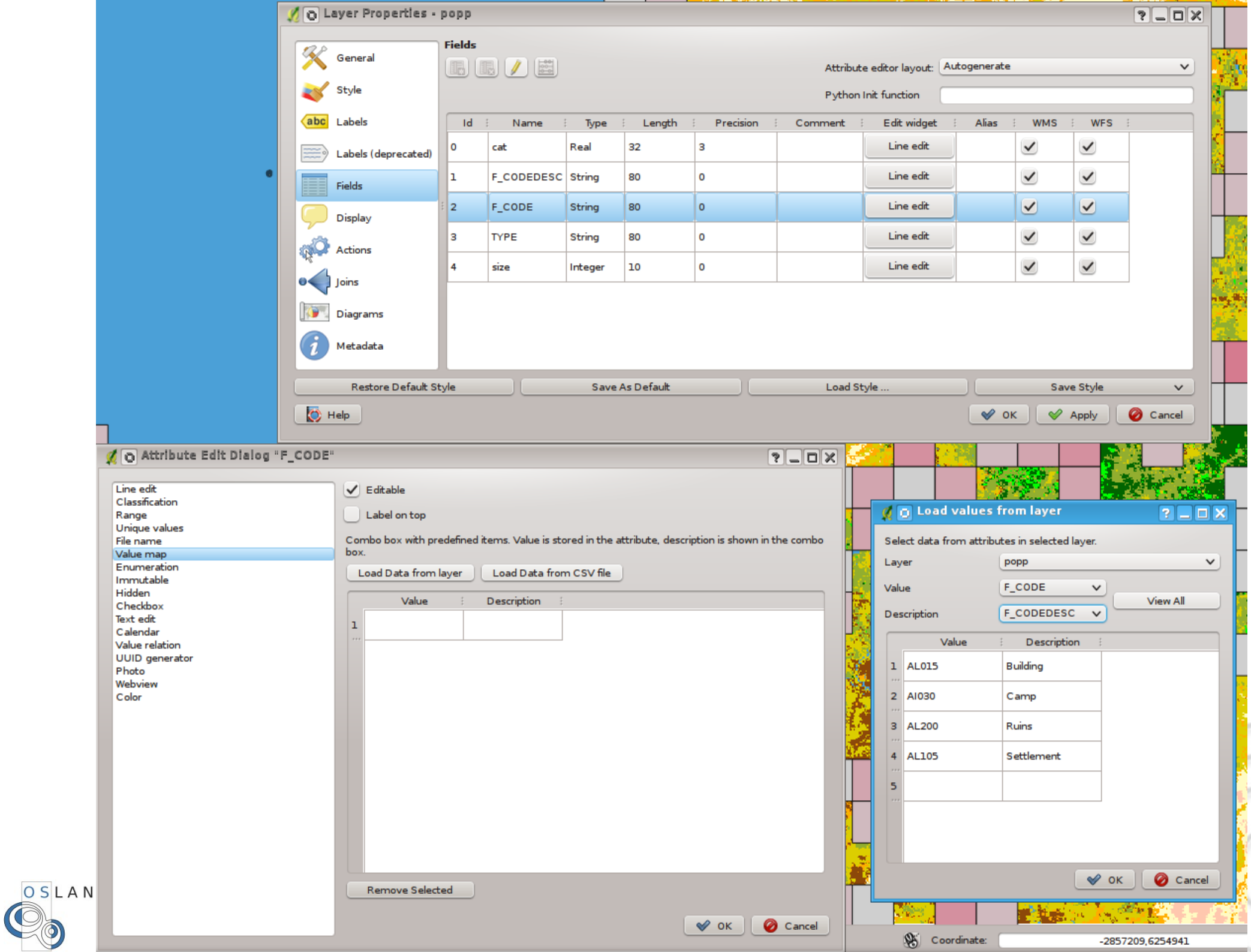

Paramètrage
Étendre tout
Réduire tout
Sélectionner tout
Autoriser la modification
Nom de l'objet
Étiquette
Description
mActionMeasureAn...
Mesurer un angle
mActionMeasureArea
Mesurer une aire
menuSelect
Sélection
mActionDeselectAll
Désélectionner t...
mActionSelect
Sélectionner une...
mActionSelectFree...
Sélectionner des ...
mActionSelectPoly...
Sélectionner des ...
mActionSelectRadius
Sélectionner des ...
mActionSelectRect...
Sélectionner des ...
mWebMenu
Internet
Panels
StatusBar
mCoordsEdit
mCoordsLabel
mMessageLogViewerButton
mOntheFlyProjectionStatusButton
mOnTheFlyProjectionStatusLabel
mProgressBar
mRenderSuppressionCBox
mScaleEdit
mScaleLable
mStopRenderButton
Réinitialiser
OK
Appliquer
Annuler

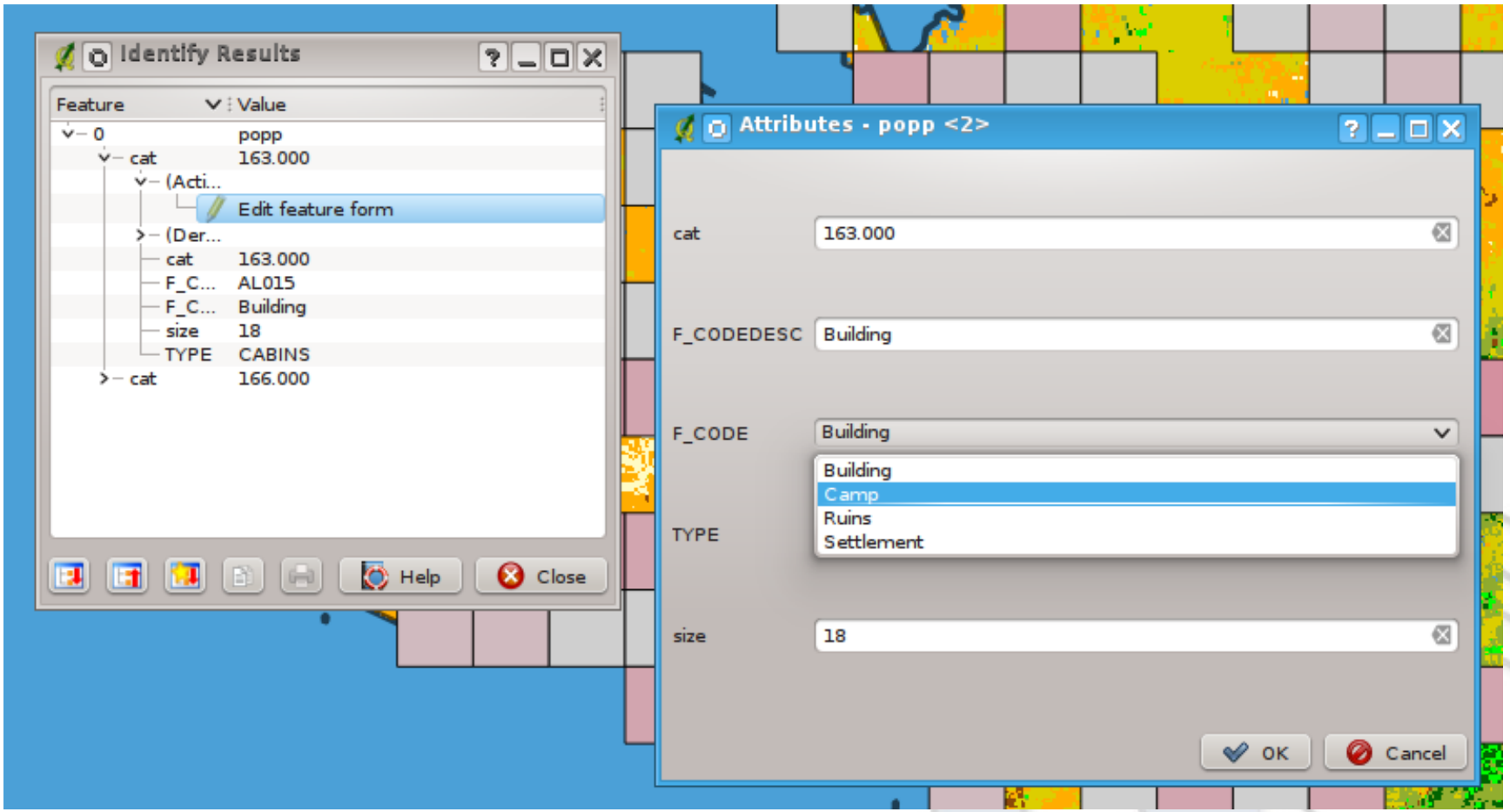

QGIS exported - alaska_pop
Vue
Analyse
Couches
52.6000 - 69.8000
69.8000 - 87.0000
87.0000 - 104.2000
104.2000 - 121.4000
121.4000 - 138.6000
138.6000 - 155.8000
155.8000 - 173.0000
grid_alaska
alaska
landcover
0
1
2
3
4
5
6
7
8
9
10
Navigateur (2)
Ajouter
Accueil du projet
Accueil
Favoris
/
WFS
MSSQL
OWS
PostGIS
SpatiaLite

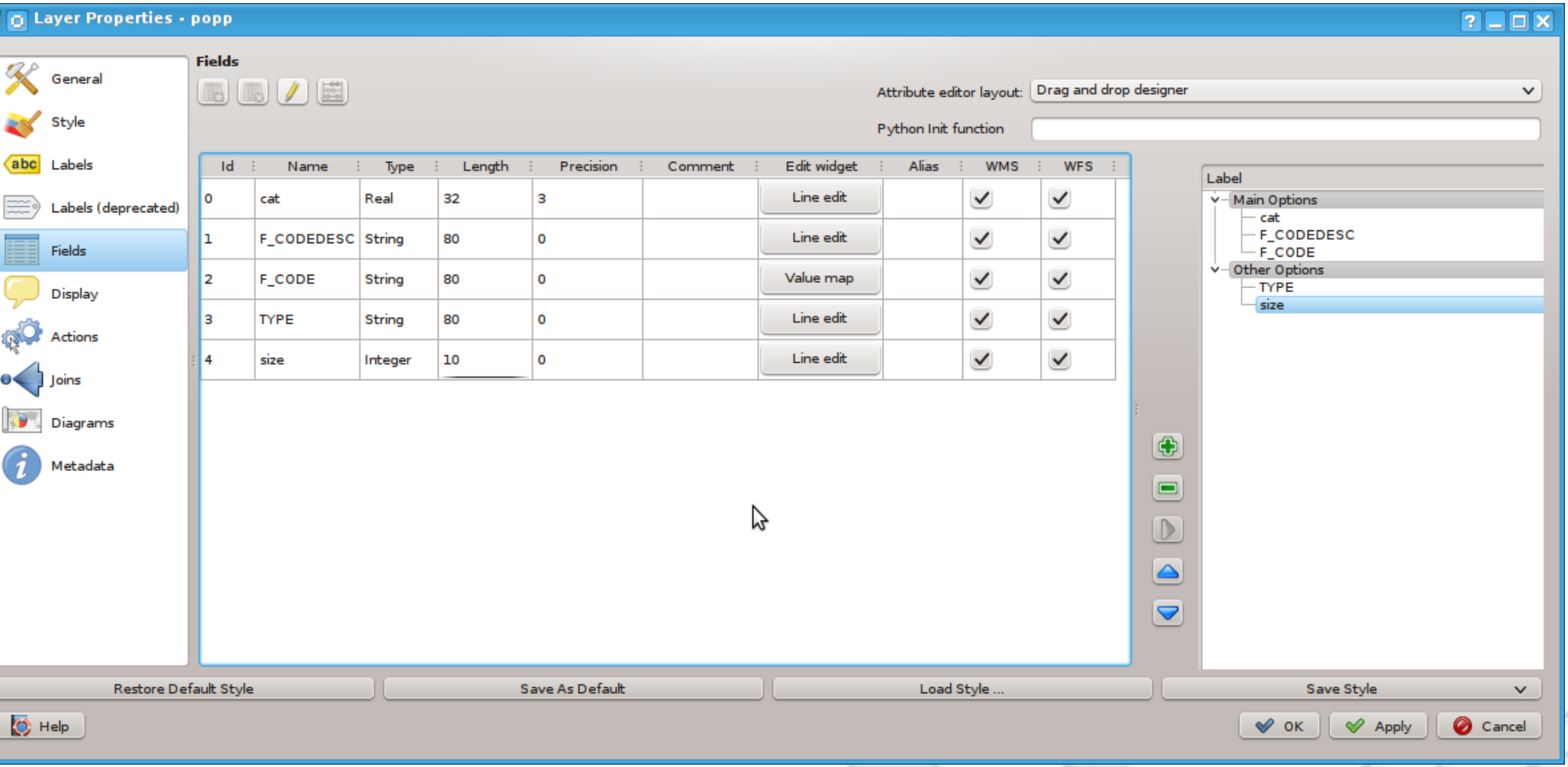
Custom forms

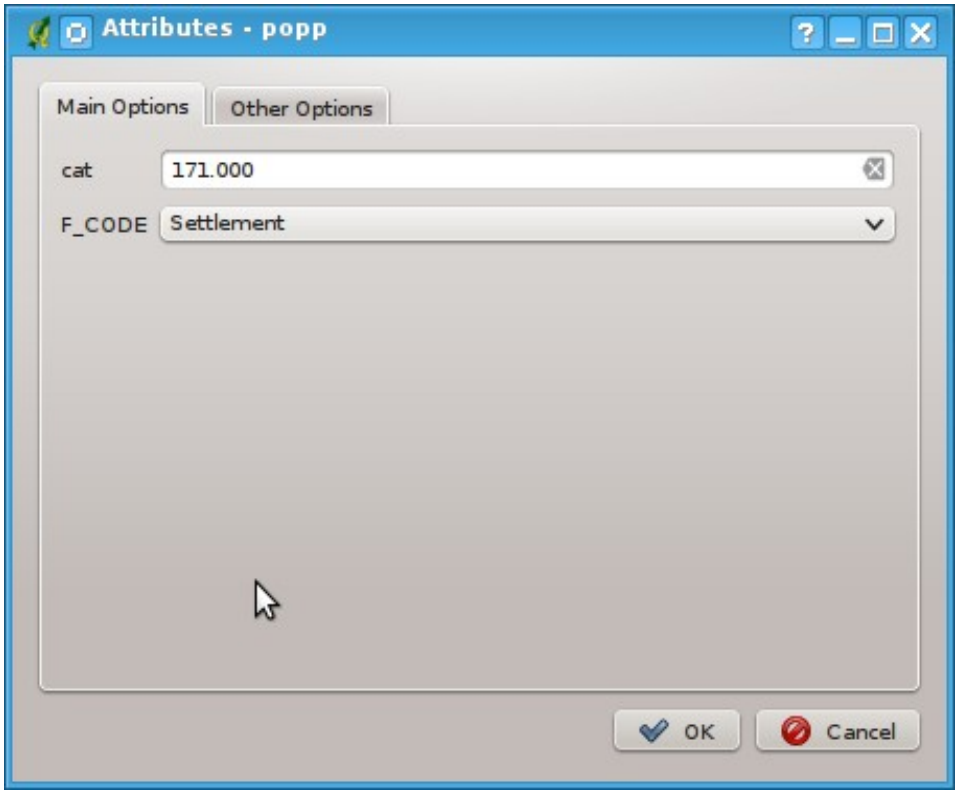
OSLANDIA

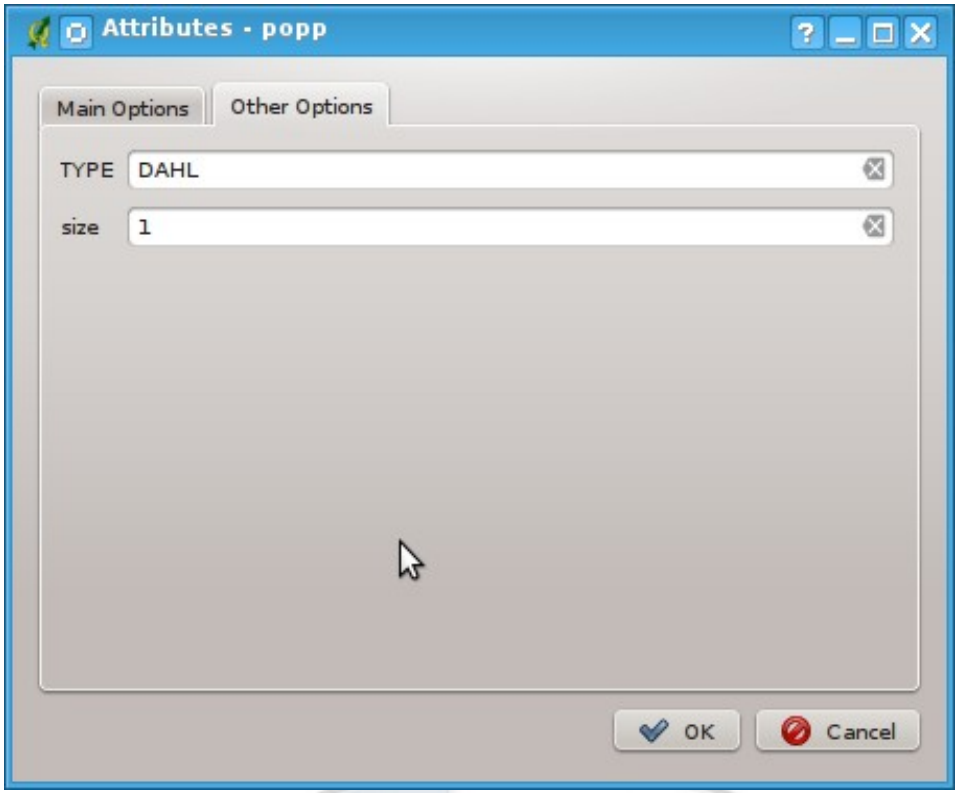

Identify Results
Feature
Value
0
popp
cat
163.000
(Acti...
View feature form
(Der...
cat
163.000
F_C...
AL015
F_C...
Building
size
18
TYPE
CABINS
cat
166.000
Help
Close
Attributes - popp
cat
163.000
F_CODEDESC
Building
F_CODE
AL015
TYPE
CABINS
size
18
Cancel

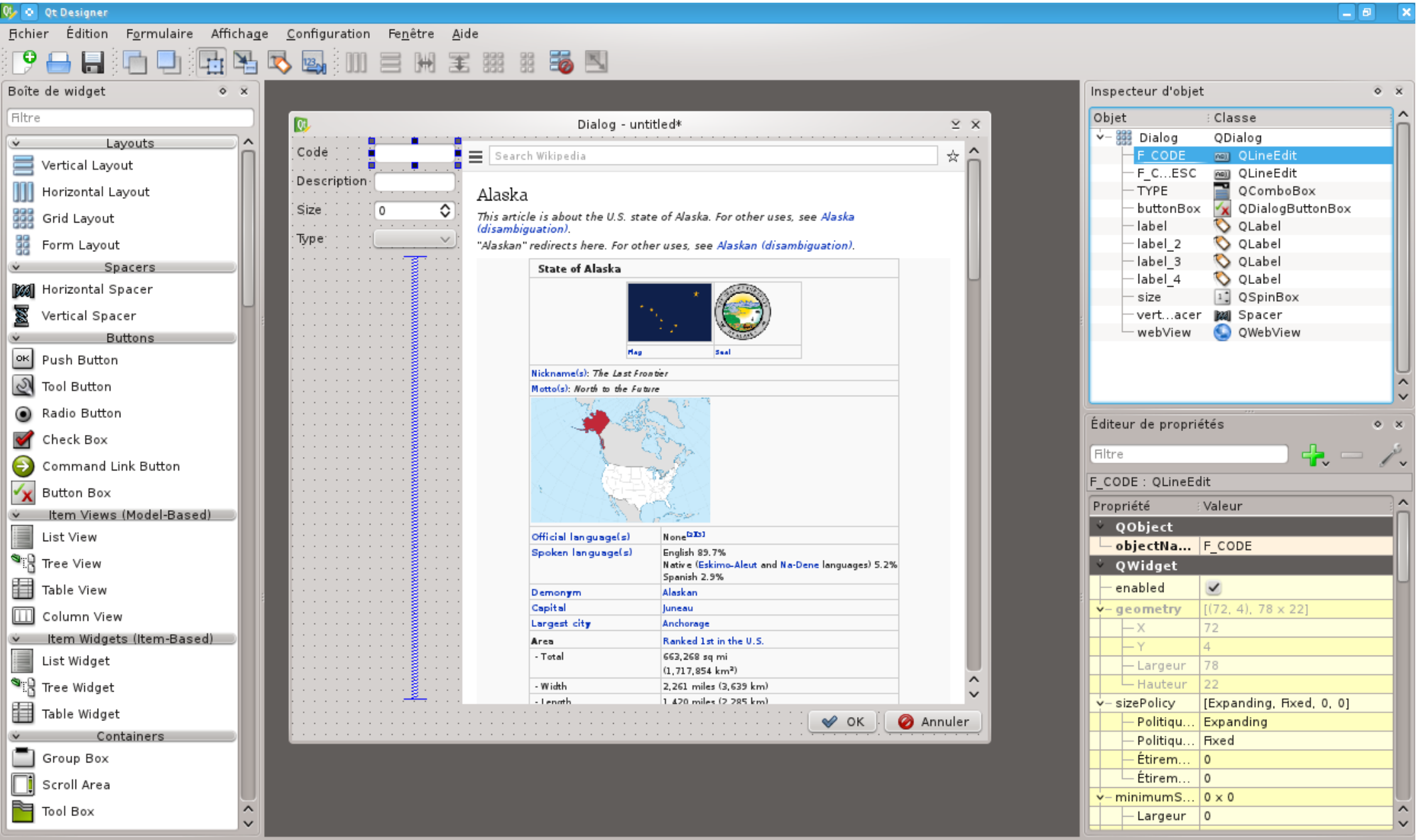

Layer Properties - popp
General
Style
Labels
Labels (deprecated)
Fields
Display
Actions
Joins
Diagrams
Metadata
Fields
Attribute editor layout: Autogenerate
Python Init function
Id | Name | Type | Length | Precision | Comment | Edit widget | Alias | WMS | WFS
0 | cat | Real | 32 | 3 | | Line edit
1 | F_CODEDESC | String | 80 | 0 | | Line edit
2 | F_CODE | String | 80 | 0 | | Line edit
3 | TYPE | String | 80 | 0 | | Line edit
4 | size | Integer | 10 | 0 | | Line edit
Restore Default Style
Save As Default
Load Style ...
Save Style
Help
OK
Apply
Cancel
Attribute Edit Dialog "F_CODE"
Line edit
Classification
Range
Unique values
File name
Value map
Enumeration
Immutable
Hidden
Checkbox
Text edit
Calendar
Value relation
UUID generator
Photo
Webview
Color
Editable
Label on top
Combo box with predefined items. Value is stored in the attribute, description is shown in the combo box.
Load Data from layer
Load Data from CSV file
Value | Description
Remove Selected
OK
Cancel
Load values from layer
Select data from attributes in selected layer.
Layer popp
Value F_CODE
Description F_CODEDESC
View All
Value | Description
1 AL015 Building
2 AI030 Camp
3 AL200 Ruins
4 AL105 Settlement
5
OK
Cancel
Coordinate: -2857209,6254941

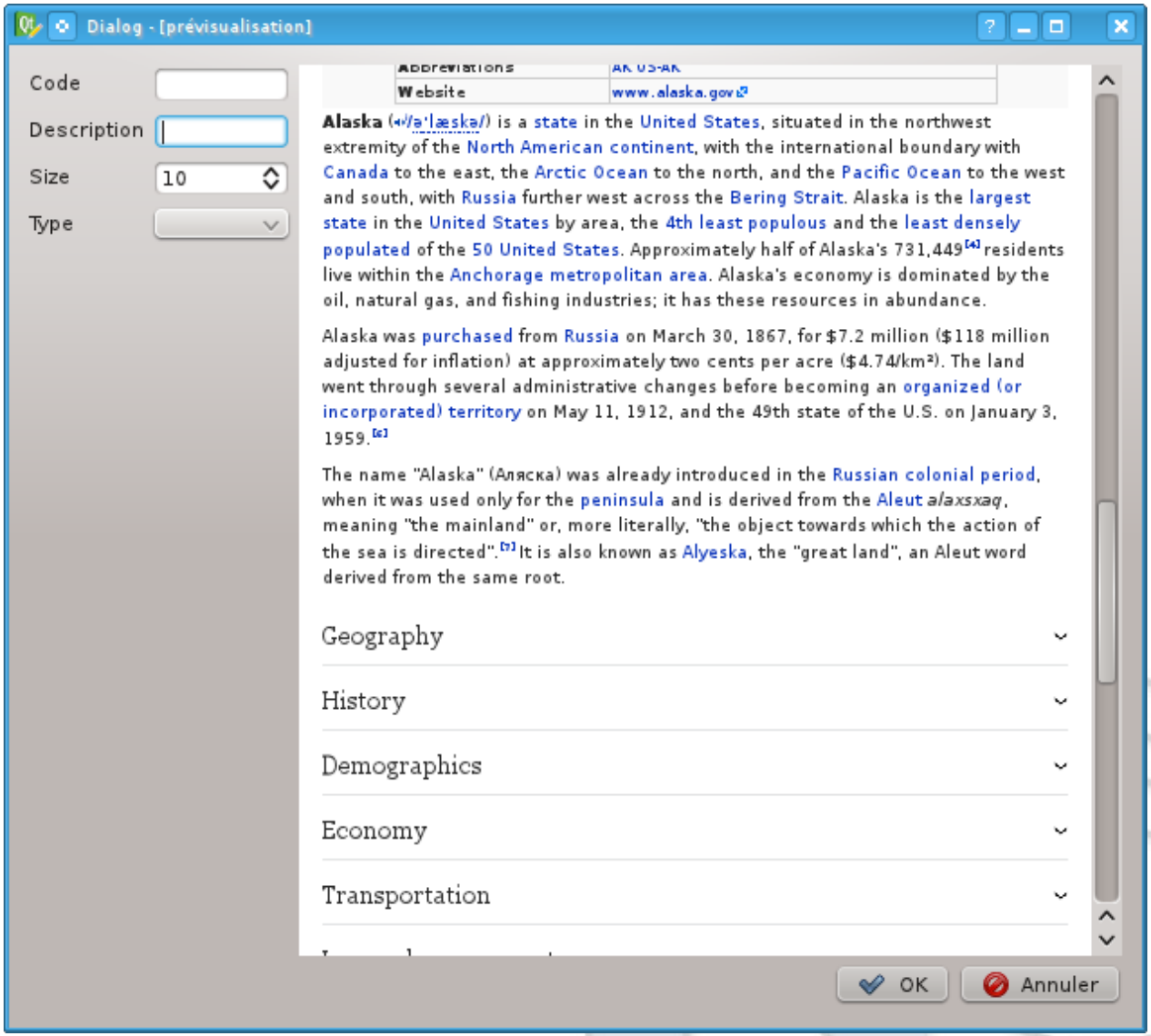

Identify Results
Feature
Value
0
popp
cat
163.000
(Acti...
Edit feature form
(Der...
cat
163.000
F_C...
AL015
F_C...
Building
size
18
TYPE
CABINS
cat
166.000
Help
Close
Attributes - popp <2>
cat
163.000
F_CODEDESC
Building
F_CODE
Building
Building
Camp
Ruins
Settlement
TYPE
size
18
OK
Cancel


Layer Properties - popp
General
Style
Labels
Labels (deprecated)
Fields
Display
Actions
Joins
Diagrams
Metadata
Fields
Attribute editor layout:
Drag and drop designer
Python Init function
Id
Name
Type
Length
Precision
Comment
Edit widget
Alias
WMS
WFS
0 cat Real 32 3 Line edit
1 F_CODEDESC String 80 0 Line edit
2 F_CODE String 80 0 Value map
3 TYPE String 80 0 Line edit
4 size Integer 10 0 Line edit
Label
Main Options
cat
F_CODEDESC
F_CODE
Other Options
TYPE
size
Restore Default Style
Save As Default
Load Style ...
Save Style
Help
OK
Apply
Cancel


Attributes - popp
Main Options
Other Options
cat
171.000
F_CODE
Settlement
OK
Cancel


Attributes - popp
Main Options
Other Options
TYPE
DAHL
size
1
OK
Cancel


Qt Designer
Fichier Édition Formulaire Affichage Configuration Fenêtre Aide
Boîte de widget
Filtre
Layouts
Vertical Layout
Horizontal Layout
Grid Layout
Form Layout
Spacers
Horizontal Spacer
Vertical Spacer
Buttons
Push Button
Tool Button
Radio Button
Check Box
Command Link Button
Button Box
Item Views (Model-Based)
List View
Tree View
Table View
Column View
Item Widgets (Item-Based)
List Widget
Tree Widget
Table Widget
Containers
Group Box
Scroll Area
Tool Box
Dialog - untitled*
Code
Description
Size
Type
Search Wikipedia
Alaska
This article is about the U.S. state of Alaska. For other uses, see Alaska (disambiguation).
"Alaskan" redirects here. For other uses, see Alaskan (disambiguation).
State of Alaska
Nickname(s): The Last Frontier
Motto(s): North to the Future
Official language(s)
Spoken language(s)
Demonym
Capital
Largest city
Area
- Total
- Width
OK
Annuler
Inspecteur d'objet
Objet
Classe
Dialog
QDialog
F_CODE
QLineEdit
F_C...ESC
QLineEdit
TYPE
QComboBox
buttonBox
QDialogButtonBox
label
QLabel
label_2
QLabel
label_3
QLabel
label_4
QLabel
size
QSpinBox
vert...acer
Spacer
webView
QWebView
Éditeur de propriétés
Filtre
F_CODE : QLineEdit
Propriété
Valeur
QObject
objectNa...
F_CODE
QWidget
enabled
geometry
[(72, 4), 78 x 22]
X
72
Y
4
Largeur
78
Hauteur
22
sizePolicy
[Expanding, Fixed, 0, 0]
Politiqu...
Expanding
Politiqu...
Fixed
Étirem...
0
Étirem...
0
minimumS...
0 x 0
Largeur
0


Dialog - [prévisualisation]
Code
Description
Size
10
Type
Website
www.alaska.gov
Alaska (/əˈlæskə/) is a state in the United States, situated in the northwest extremity of the North American continent, with the international boundary with Canada to the east, the Arctic Ocean to the north, and the Pacific Ocean to the west and south, with Russia further west across the Bering Strait. Alaska is the largest state in the United States by area, the 4th least populous and the least densely populated of the 50 United States. Approximately half of Alaska's 731,449[4] residents live within the Anchorage metropolitan area. Alaska's economy is dominated by the oil, natural gas, and fishing industries; it has these resources in abundance.
Alaska was purchased from Russia on March 30, 1867, for $7.2 million ($118 million adjusted for inflation) at approximately two cents per acre ($4.74/km²). The land went through several administrative changes before becoming an organized (or incorporated) territory on May 11, 1912, and the 49th state of the U.S. on January 3, 1959.[6]
The name "Alaska" (Аляска) was already introduced in the Russian colonial period, when it was used only for the peninsula and is derived from the Aleut alaxsxaq, meaning "the mainland" or, more literally, "the object towards which the action of the sea is directed".[7] It is also known as Alyeska, the "great land", an Aleut word derived from the same root.
Geography
History
Demographics
Economy
Transportation
OK
Annuler

PROCESSING (SEXTANTE)

SEXTANTE Toolbox

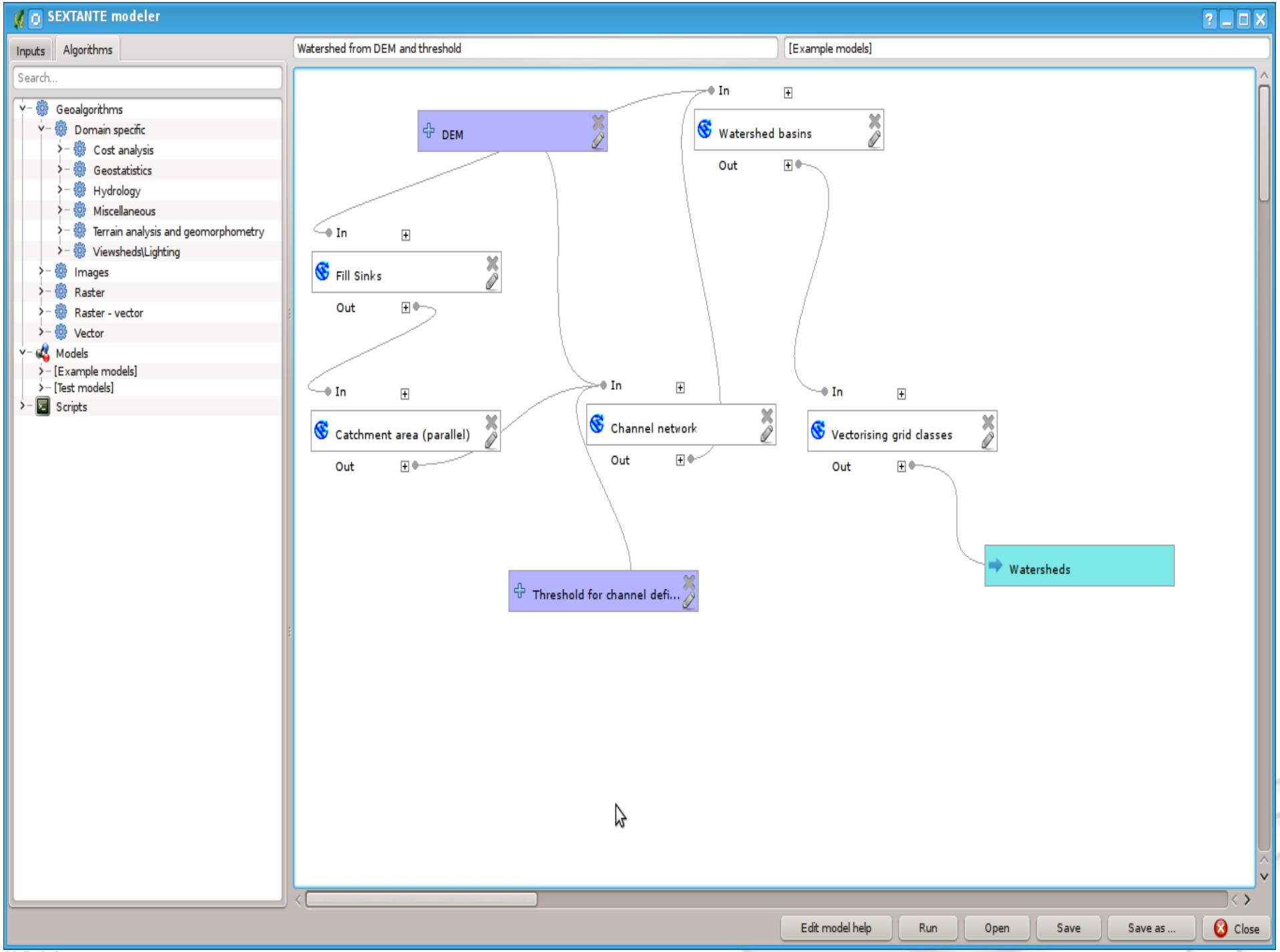
Click here to learn more about SEXTANTE

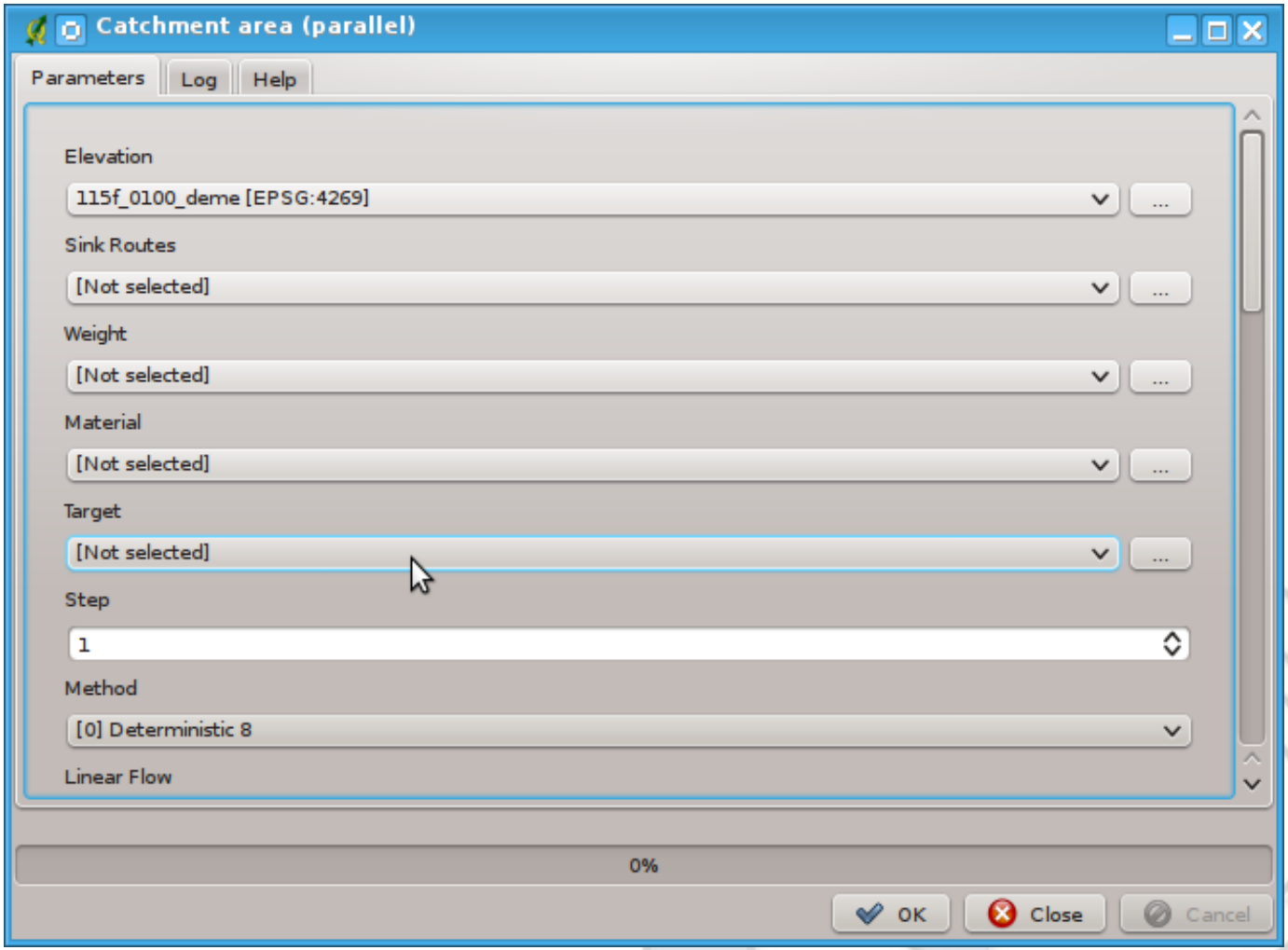
Search...

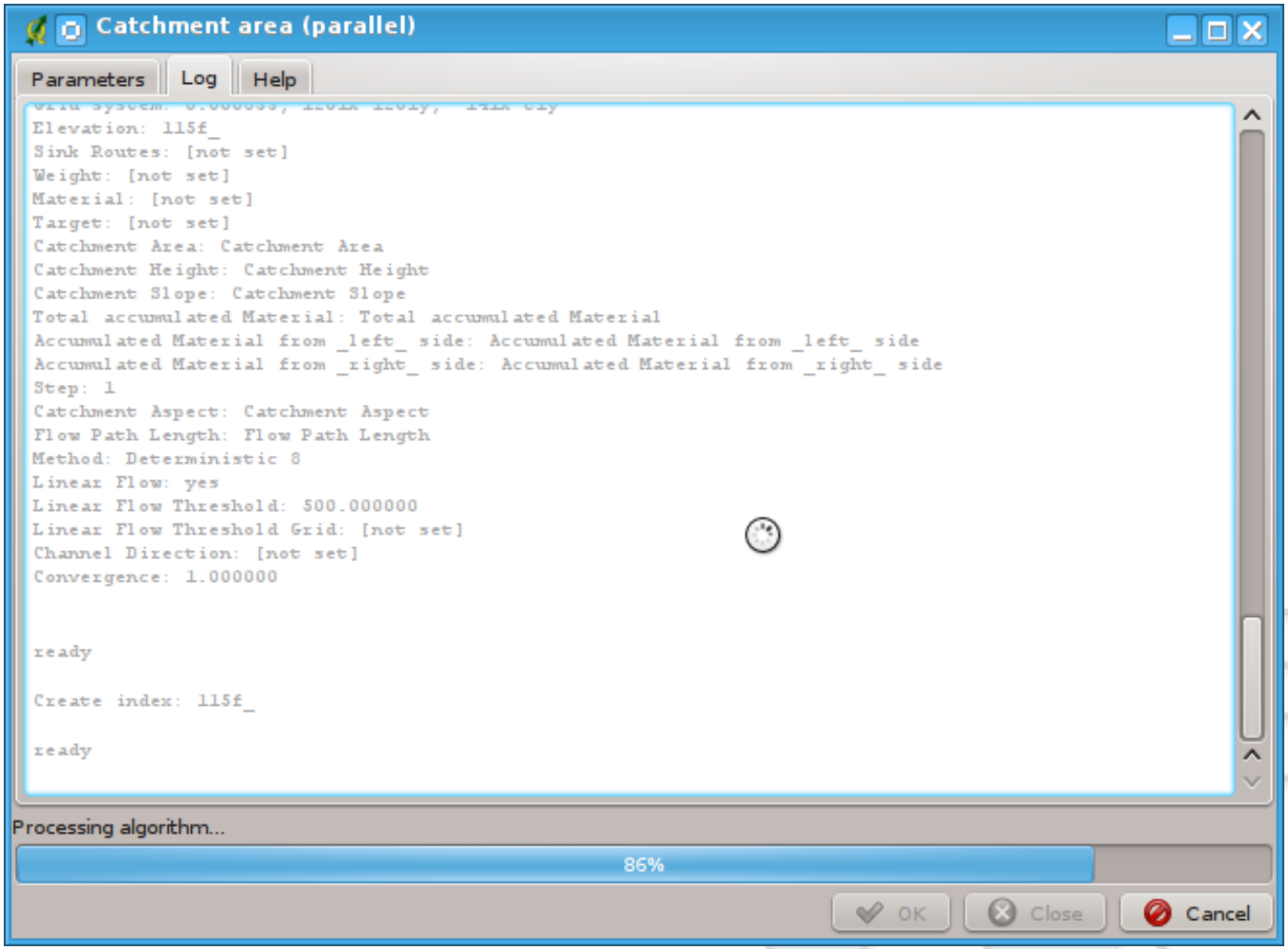
- Geoalgorithms
  - Domain specific
    - Cost analysis
    - Geostatistics
    - Hydrology
      - Burn stream network into dem
      - Catchment area (flow tracing)
      - Catchment area (mass-flux method)
      - Catchment area (parallel)
      - Catchment area (recursive)
      - Cell balance
      - Channel network
      - Channel network and drainage basins
      - Flow path length
      - Flow width and specific catchment area
      - Overland flow - kinematic wave d8
      - Overland flow distance to channel netw...
      - Saga wetness index
      - Sink drainage route detection
      - Sink removal
      - Strahler order
      - Stream power index
      - Topographic wetness index (twi)
      - Vertical distance to channel network
      - Water retention capacity
      - Watershed basins
    - Miscellaneous
    - Terrain analysis and geomorphometry
    - Viewsheds\Lighting
  - Images
  - Raster
  - Raster - vector
  - Vector
- Models
  - [Example models]
  - [Test models]
    - A basic model
    - A model with a script
    - A model with an empty string
    - A model with an optional field
    - A model with no parameters
    - A SAGA and GRASS model
    - Model using field input and autoextent
    - Model using field input and extent input
    - Model using numerical output
    - Model with algorithms not in running order
- Scripts

Simplified interface

OSLANDIA

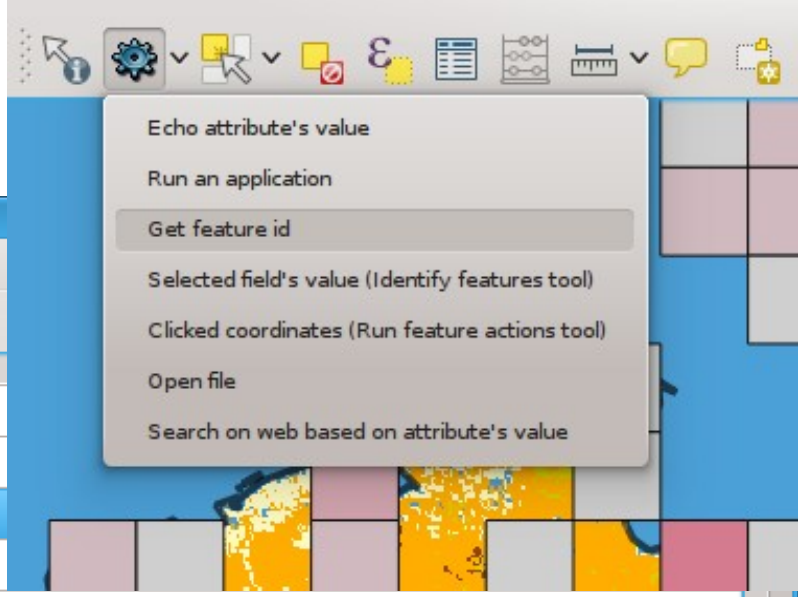

SEXTANTE modeler
Inputs
Algorithms
Search...
Geoalgorithms
Domain specific
Cost analysis
Geostatistics
Hydrology
Miscellaneous
Terrain analysis and geomorphometry
Viewsheds\Lighting
Images
Raster
Raster - vector
Vector
Models
[Example models]
[Test models]
Scripts
Watershed from DEM and threshold
[Example models]
DEM
In
Watershed basins
Out
In
Fill Sinks
Out
In
Catchment area (parallel)
Out
In
Channel network
Out
In
Vectorising grid classes
Out
Threshold for channel defi...
Watersheds
Edit model help
Run
Open
Save
Save as ...
Close


Catchment area (parallel)
Parameters
Log
Help
Elevation
115f_0100_deme [EPSG:4269]
Sink Routes
[Not selected]
Weight
[Not selected]
Material
[Not selected]
Target
[Not selected]
Step
1
Method
[0] Deterministic 8
Linear Flow
0%
OK
Close
Cancel


Catchment area (parallel)
Parameters
Log
Help
Elevation: 115f_
Sink Routes: [not set]
Weight: [not set]
Material: [not set]
Target: [not set]
Catchment Area: Catchment Area
Catchment Height: Catchment Height
Catchment Slope: Catchment Slope
Total accumulated Material: Total accumulated Material
Accumulated Material from _left_ side: Accumulated Material from _left_ side
Accumulated Material from _right_ side: Accumulated Material from _right_ side
Step: 1
Catchment Aspect: Catchment Aspect
Flow Path Length: Flow Path Length
Method: Deterministic 8
Linear Flow: yes
Linear Flow Threshold: 500.000000
Linear Flow Threshold Grid: [not set]
Channel Direction: [not set]
Convergence: 1.000000
ready
Create index: 115f_
ready
Processing algorithm...
86%
OK
Close
Cancel

Actions

OSLANDIA



Layer Properties - popp

- General
- Style
- Labels
- Labels (deprecated)
- Fields
- Display
- Actions
- Joins
- Diagrams
- Metadata

Actions

Action list

	Type	Name	Action	
1	Generic	Echo attribute's value	echo "[% "MY_FIELD" %]"	☑
2	Generic	Run an application	ogr2ogr -f "ESRI Shapefile" "[% "...	☑
3	Python	Get feature id	QtGui.QMessage...	☐
4	Python	Selected field's value (Identify features tool)	QtGui.QMessage...	☐
5	Python	Clicked coordinates (Run feature actions tool)	QtGui.QMessage...	☐
6	Open	Open file	[% "PATH" %]	☐
7	Open	Search on web based on attribute's value	http://www.googl...	☐

Add default actions

Action properties

Type: Python — Capture output

Name: Get feature id

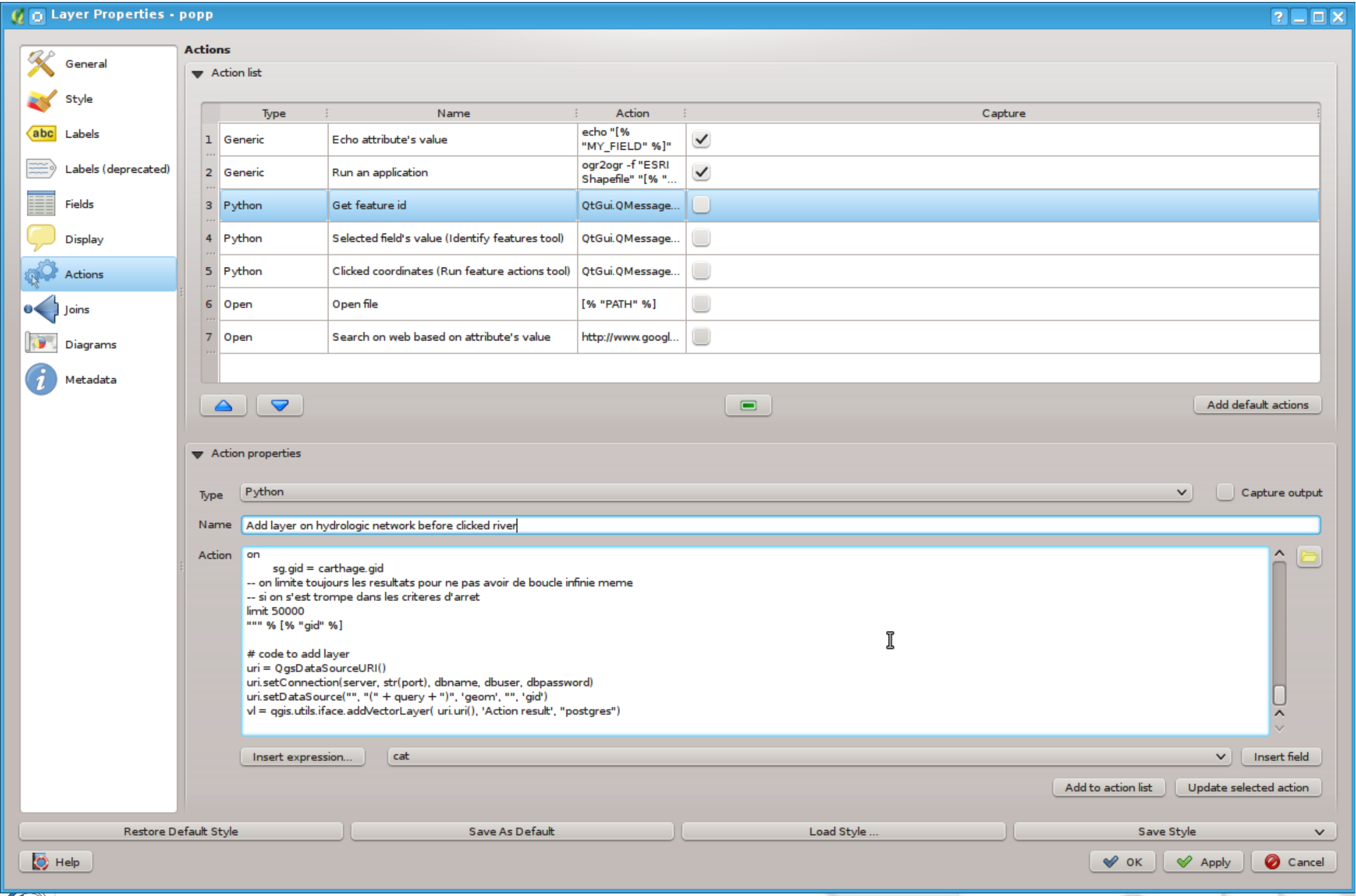
Action:
```
QtGui.QMessageBox.information(None, "Feature id", "feature id is [% $id %]")
```

Insert expression... | cat | Insert field

Add to action list | Update selected action

Restore Default Style | Save As Default | Load Style ... | Save Style

Help | OK | Apply | Cancel


Layer Properties - popp
General
Style
Labels
Labels (deprecated)
Fields
Display
Actions
Joins
Diagrams
Metadata
Actions
Action list
Type
Name
Action
Capture
1 Generic Echo attribute's value echo "[% "MY_FIELD" %]"
2 Generic Run an application ogr2ogr -f "ESRI Shapefile" "[% "...
3 Python Get feature id QtGui.QMessage...
4 Python Selected field's value (Identify features tool) QtGui.QMessage...
5 Python Clicked coordinates (Run feature actions tool) QtGui.QMessage...
6 Open Open file [% "PATH" %]
7 Open Search on web based on attribute's value http://www.googl...
Add default actions
Action properties
Type
Python
Capture output
Name
Add layer on hydrologic network before clicked river
Action
on
sg.gid = carthage.gid
-- on limite toujours les resultats pour ne pas avoir de boucle infinie meme
-- si on s'est trompe dans les criteres d'arret
limit 50000
""" % [% "gid" %]
# code to add layer
uri = QgsDataSourceURI()
uri.setConnection(server, str(port), dbname, dbuser, dbpassword)
uri.setDataSource("", "(" + query + ")", 'geom', "", 'gid')
vl = qgis.utils.iface.addVectorLayer(uri.uri(), 'Action result', "postgres")
Insert expression...
cat
Insert field
Add to action list
Update selected action
Restore Default Style
Save As Default
Load Style ...
Save Style
Help
OK
Apply
Cancel

QGIS Server & web client

QGIS WebServices

WMS, WFS(-T), ++

Build you own app

OL3, LeafLet, GeoExt…
GeoDjango, PHP, Java…

Use existing

QGIS Web client
QGIS Browser
LizMap

OSLANDIA

Plugins

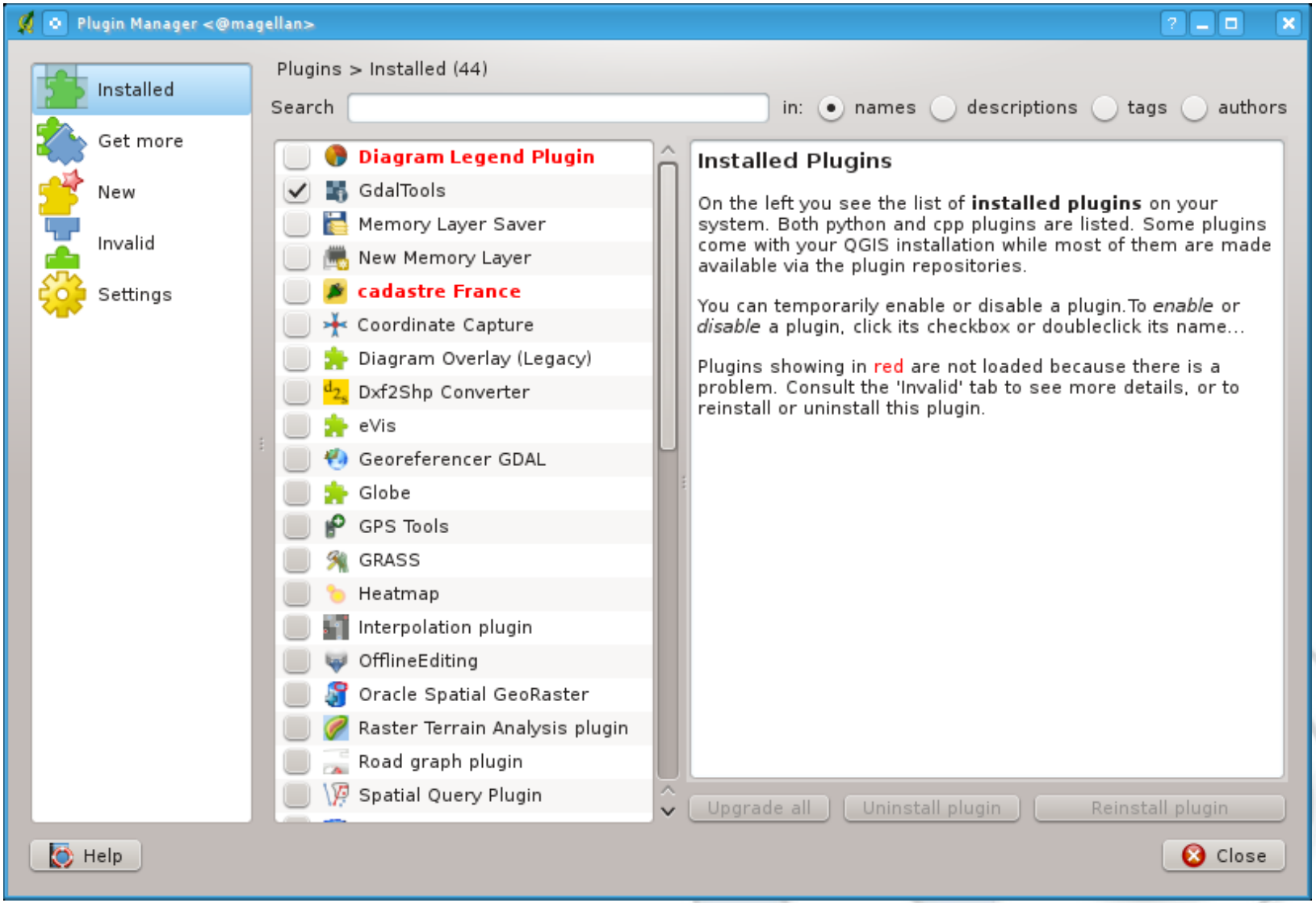
OSLANDIA

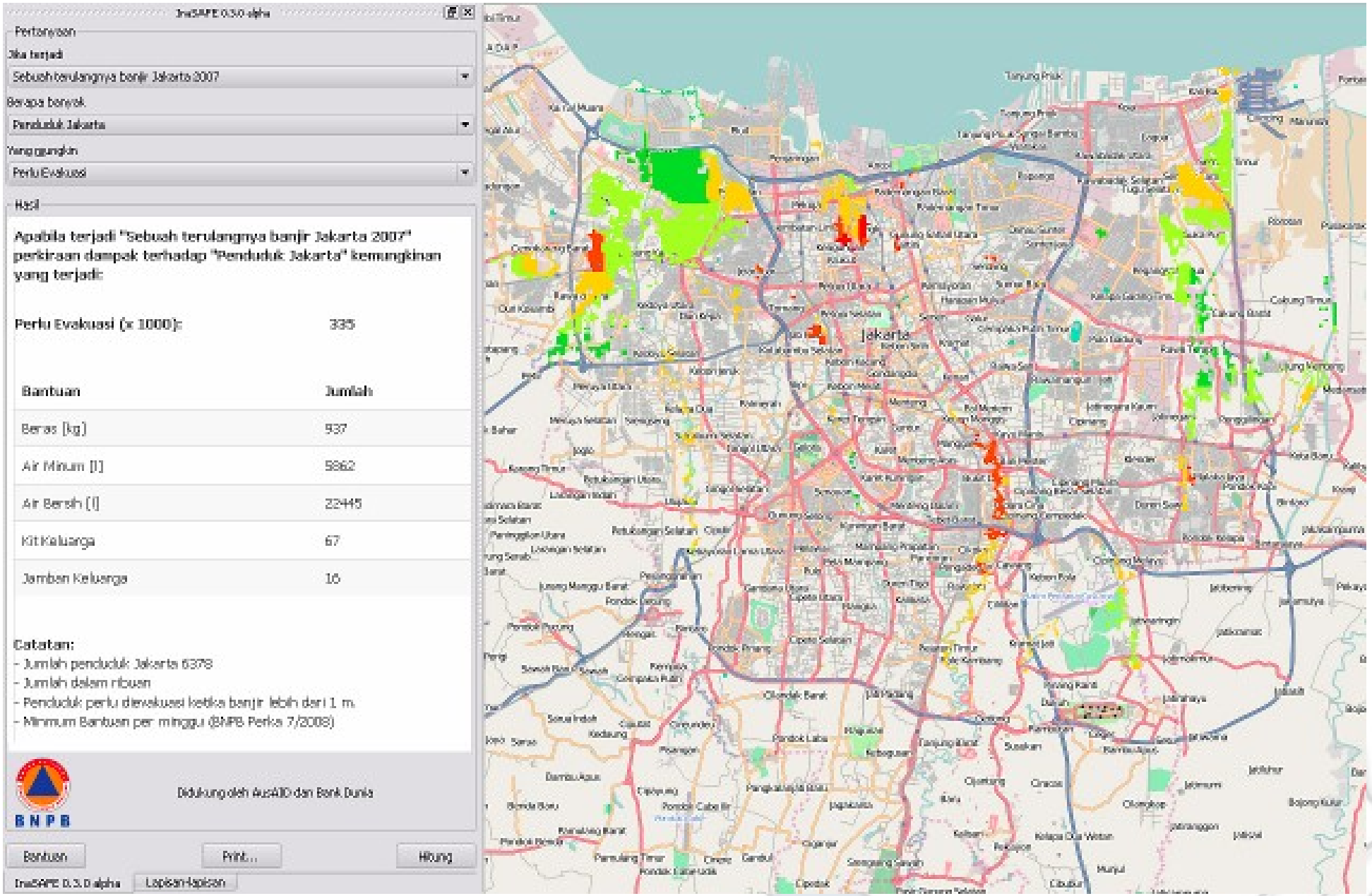
Open world !

Python + lib (or C++)

PyQGIS API
PyQT, QT Designer
Custom DB access
Ext. Python modules

> 250 plugins (/!\ QGIS 2.0)


Plugin Manager <@magellan>
Installed
Get more
New
Invalid
Settings
Plugins > Installed (44)
Search
in:
names
descriptions
tags
authors
Diagram Legend Plugin
GdalTools
Memory Layer Saver
New Memory Layer
cadastre France
Coordinate Capture
Diagram Overlay (Legacy)
Dxf2Shp Converter
eVis
Georeferencer GDAL
Globe
GPS Tools
GRASS
Heatmap
Interpolation plugin
OfflineEditing
Oracle Spatial GeoRaster
Raster Terrain Analysis plugin
Road graph plugin
Spatial Query Plugin
Installed Plugins
On the left you see the list of installed plugins on your system. Both python and cpp plugins are listed. Some plugins come with your QGIS installation while most of them are made available via the plugin repositories.
You can temporarily enable or disable a plugin.To enable or disable a plugin, click its checkbox or doubleclick its name...
Plugins showing in red are not loaded because there is a problem. Consult the 'Invalid' tab to see more details, or to reinstall or uninstall this plugin.
Upgrade all
Uninstall plugin
Reinstall plugin
Help
Close

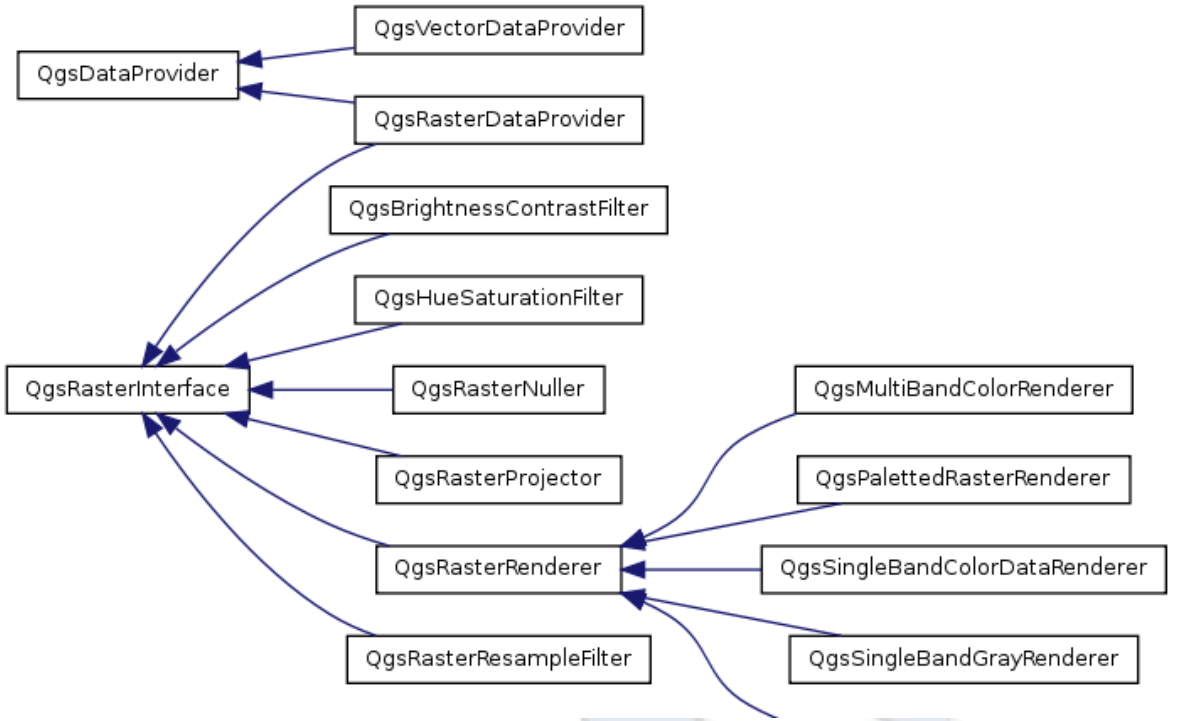

InaSAFE 0.3.0 alpha
Pertanyaan
Jika terjadi
Sebuah terulangnya banjir Jakarta 2007
Berapa banyak
Penduduk Jakarta
Yang mungkin
Perlu Evakuasi
Hasil
Apabila terjadi "Sebuah terulangnya banjir Jakarta 2007" perkiraan dampak terhadap "Penduduk Jakarta" kemungkinan yang terjadi:
Perlu Evakuasi (x 1000): 335
Bantuan
Jumlah
Beras [kg] 937
Air Minum [l] 5862
Air Bersih [l] 22445
Kit Keluarga 67
Jamban Keluarga 16
Catatan:
- Jumlah penduduk Jakarta 6378
- Jumlah dalam ribuan
- Penduduk perlu dievakuasi ketika banjir lebih dari 1 m
- Minimum Bantuan per minggu (BNPB Perka 7/2008)
BNPB
Didukung oleh AusAID dan Bank Dunia
Bantuan
Print...
Hitung
InaSAFE 0.3.0 alpha
Lapisan-lapisan
Jakarta

QGIS API Documentation master-192e130

Main Page | Related Pages | Modules | Namespaces | Classes | Files | Search

Class List | Class Index | Class Hierarchy | Class Members

- QGIS API Documentation
  - QGIS
  - Related Pages
  - Modules
  - Namespaces
  - Classes
    - Class List
    - Class Index
    - Class Hierarchy
      - _nmeaGPGGA
      - _nmeaGPGSA
      - _nmeaGPGSV
      - _nmeaGPRMC
      - _nmeaGPVTG
      - _nmeaINFO
      - _nmeaPARSER
      - _nmeaPOS
      - _nmeaPROPERTY
      - _nmeaSATELLITE
      - _nmeaSATINFO



Specific application

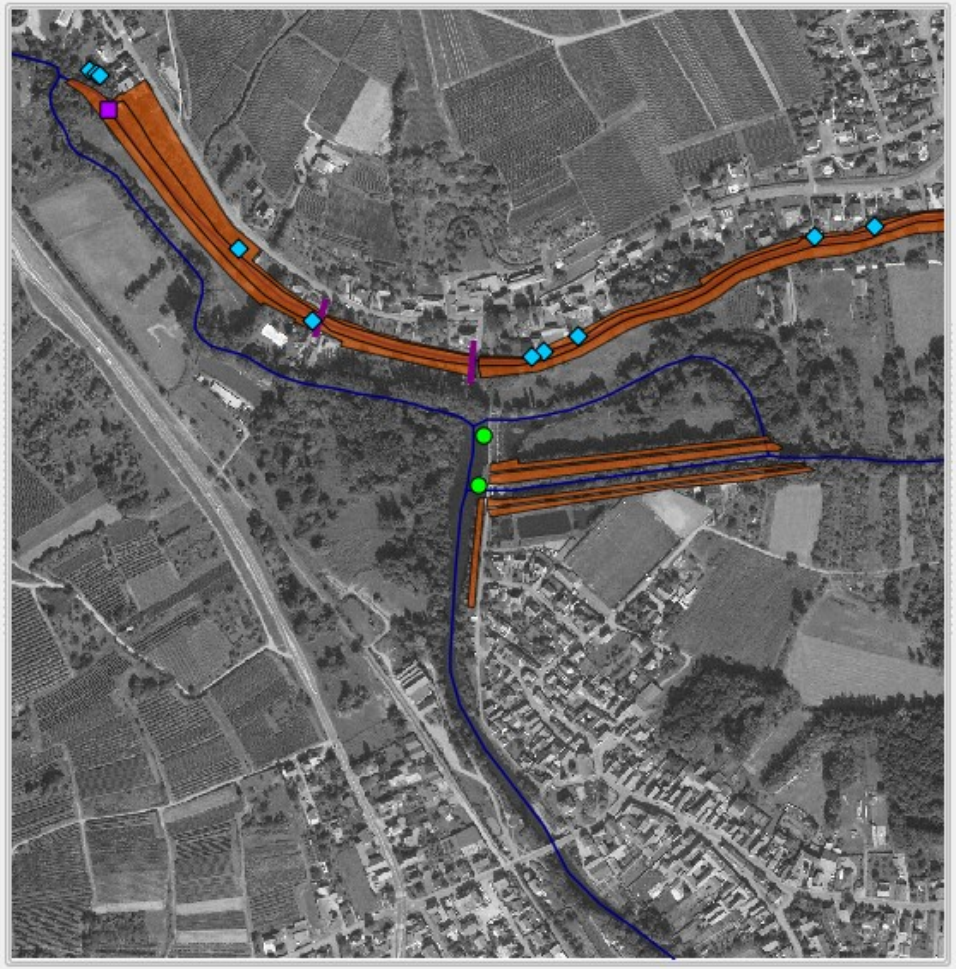
OSLANDIA

Custom app

No QGIS interface
Use PyQT + PyQGIS
Target very specific needs

GeOCaB - Gestion Opérationnelle du Canal de la Bruche

MENU | Entrée Géographique | Anomalies | Interventions | Suivi hebdomadaire | AOT | Campagnes de relevés



Ouvrages

Déversoir | AD

Propriété et Gestion : Conseil Général du Bas-Rhin

Ouvrage constitutif du barrage d'Avolsheim

Nom de l'ouvrage	Déversoir AD
Commune	Avolsheim
Troncon	Bief 1
Rive	En travers du lit
Localisation	) Le Canal, à l'entrée de l'édifice
Altitude	168.914

Historique des anomalies constatées sur l'ouvrage

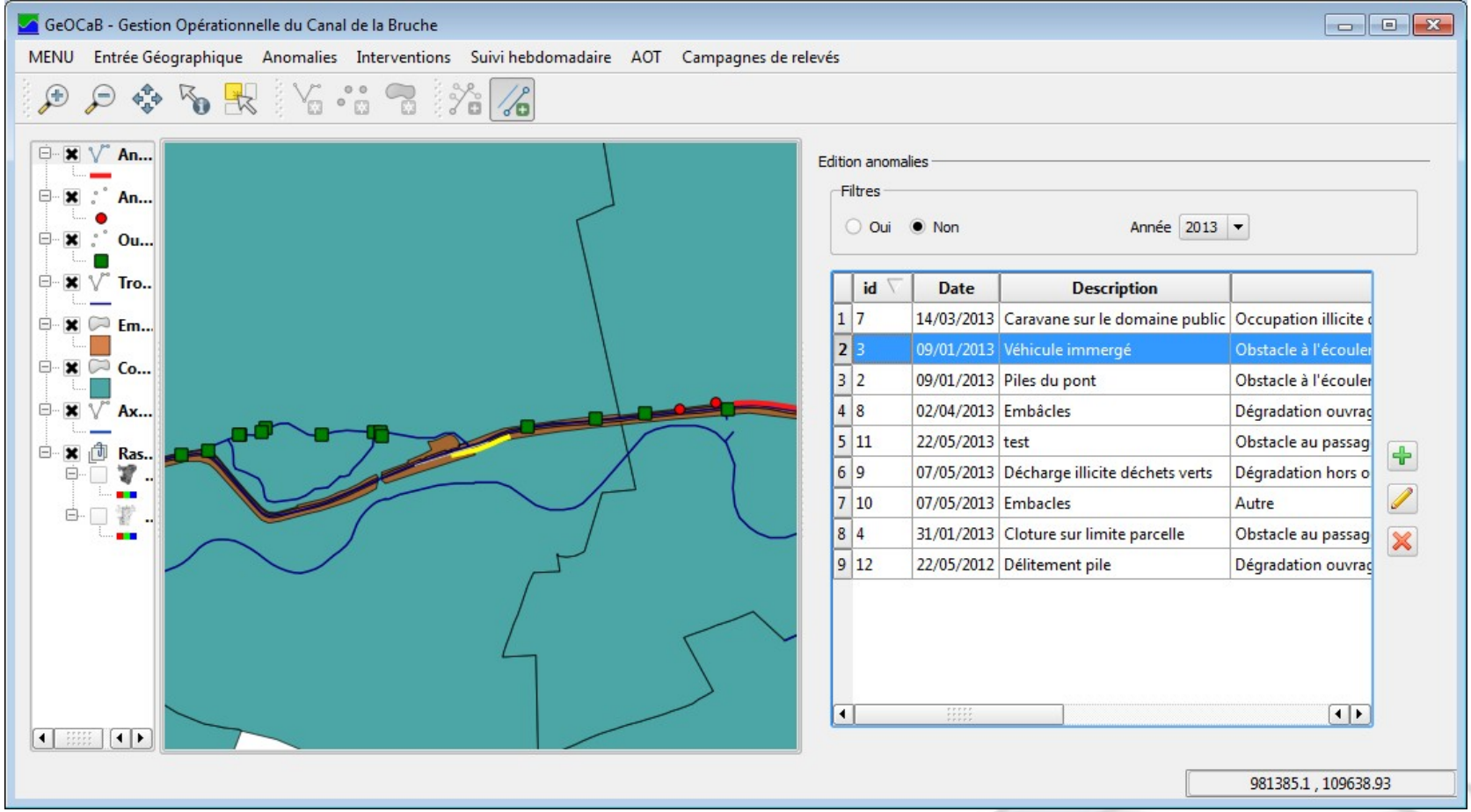
2013-04-02: Embâcles -> travaux : pas de travaux prévus

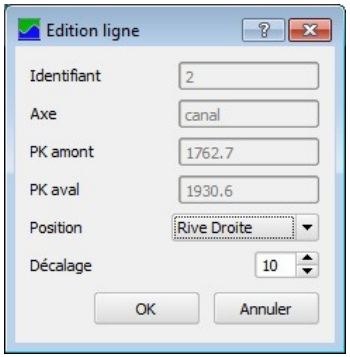
2013-05-22: test -> travaux : pas de travaux prévus

Historique des travaux prévus ou réalisés

	travaux	suivi
1	Enlèvement d'embâcles	travaux réalisés le 2011-12-15, montant : 550 euros
2	Réfection de l'ouvrage	travaux prévus : Bon de commande à éditer
3	Travaux de maçonnerie	travaux réalisés le 2011-12-15, montant : 1000 euros

981261.06 , 109223.45


GeOCaB - Gestion Opérationnelle du Canal de la Bruche
MENU
Entrée Géographique
Anomalies
Interventions
Suivi hebdomadaire
AOT
Campagnes de relevés
An...
An...
Ou...
Tro..
Em...
Co...
Ax...
Ras..
Edition anomalies
Filtres
Oui
Non
Année
2013
id
Date
Description
1 7 14/03/2013 Caravane sur le domaine public Occupation illicite
2 3 09/01/2013 Véhicule immergé Obstacle à l'écoule
3 2 09/01/2013 Piles du pont Obstacle à l'écoule
4 8 02/04/2013 Embâcles Dégradation ouvrag
5 11 22/05/2013 test Obstacle au passag
6 9 07/05/2013 Décharge illicite déchets verts Dégradation hors o
7 10 07/05/2013 Embacles Autre
8 4 31/01/2013 Cloture sur limite parcelle Obstacle au passag
9 12 22/05/2012 Délitement pile Dégradation ouvrag
981385.1 , 109638.93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1930.6
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Rive Droite
Décalage
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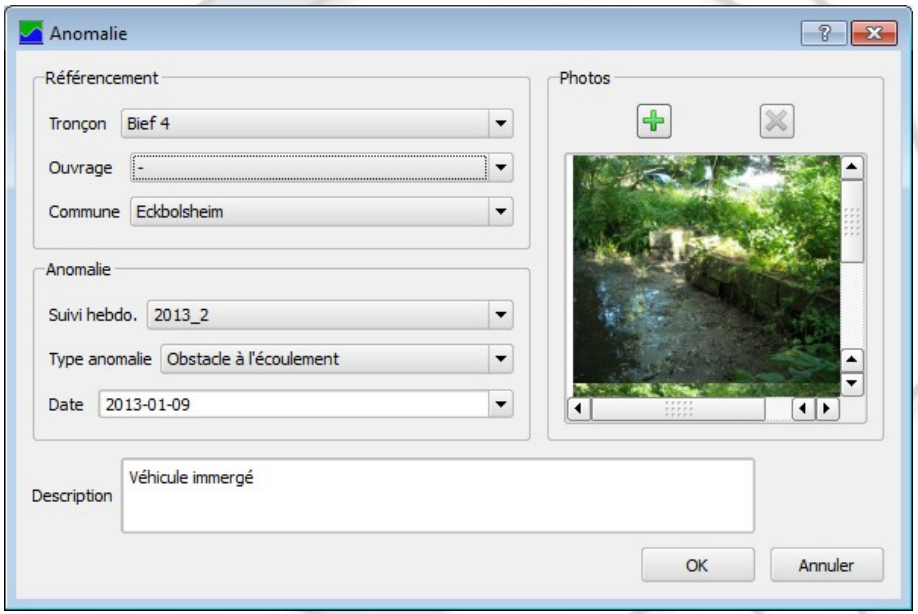
Annuler


Anomalie
Référencement
Tronçon
Bief 4
Ouvrage
-
Commune
Eckbolsheim
Photos
Anomalie
Suivi hebdo.
2013_2
Type anomalie
Obstacle à l'écoulement
Date
2013-01-09
Description
Véhicule immergé
OK
Annuler

OSLANDIA

QGIS : Desktop GIS

QGIS :
GIS platform

Questions ?

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http://www.oslandia.com