



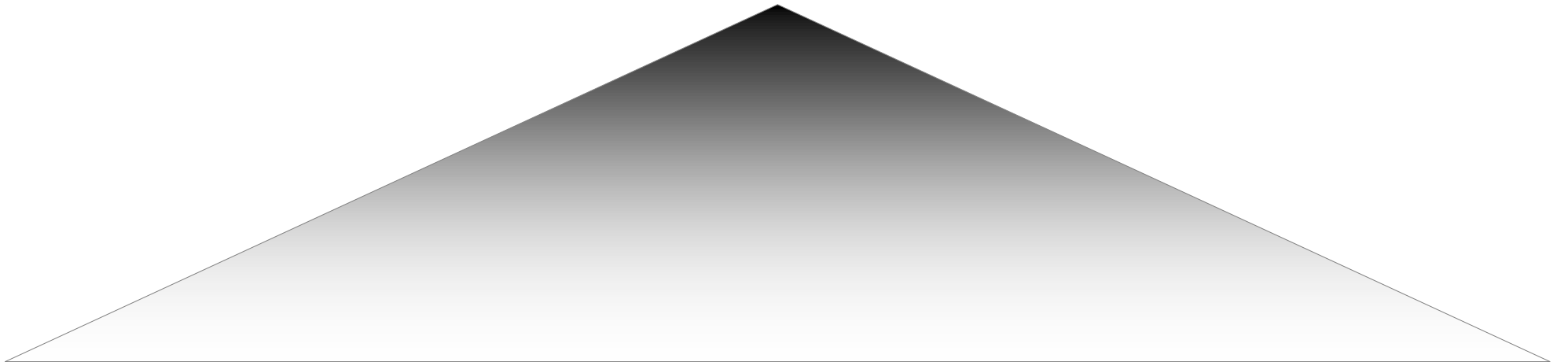
QUANTUM GIS (QGIS)

**past, present & future
development**

at JPBD



PROLOGUE



2009

THE FIRST STEP

- **Introduce the software:**

QGIS introduced at the **MyGOSSCON 2009** to the Malaysian IT community sponsored by MAMPU, JPM.

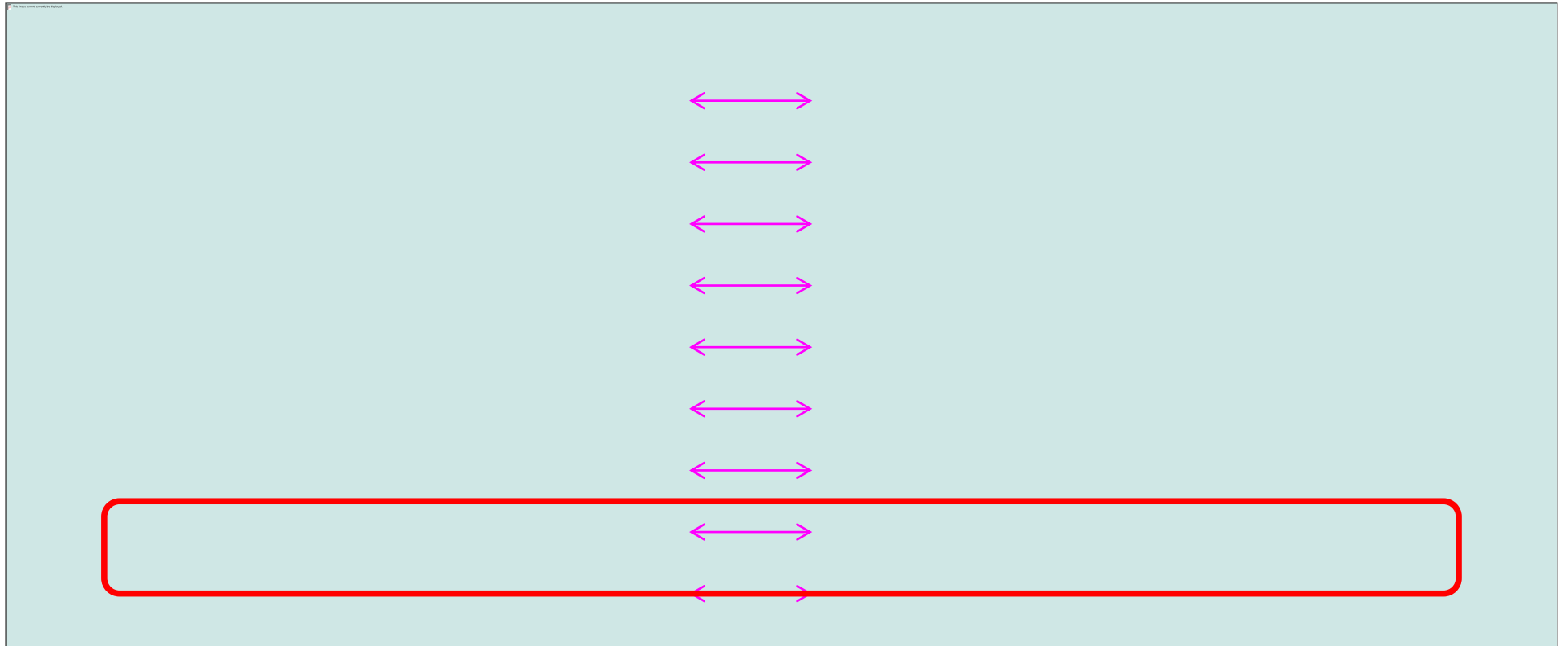


QGIS IN BRIEF

- 2009 first stable version released;**
- Currently version 1.7 Wroław;**
- Multi-platform & multi-language versions;**
- More than 120 QGIS modules;**
- Compatible with 400+ GRASS GIS modules;**
- Unlike proprietary GIS, it can simultaneously view .tab & .shp files;**
- Editing is in .shp file, default saving format;**
- Forum and active User Mailing lists;**
- Integrates with PostgreSQL-PostGIS.**

QUANTUM GIS

among other software



COST BENEFITS

A proprietary GIS cost about RM10,000/pax

1 agency uses 100 QGIS saves
RM1million (RM10,000x100)

1 state government uses 100 QGIS saves
RM1million

This does not include 10% annual fee

2010

THE NEXT CHALLENGE

- Introduce the software:

QGIS introduced at the 4th Nat. GIS Conference & Exhibition 2010 to the Malaysian GIS community sponsored by NRE



JPBD PLANNING COLOUR TEMPLATE

The screenshot displays the Quantum GIS interface. On the left, the 'Layers' panel shows a legend for the 'plgcolour' layer with various land use categories and their corresponding colors. The main map area shows a vertical strip of colored polygons. An 'Attribute table' window is open in the foreground, showing a table with 13 rows and one column labeled 'colour'. The first row is highlighted, showing '0' in the first column and 'Kediaman' in the second column.

Layers

- plgcolour
- Badan Air
- Hutan
- Industri
- Infrastruktur dan Utiliti
- Institusi dan Kemudahan Masyarakat
- Kediaman
- Pantai
- Pengangkutan
- Perniagaan dan Perkhidmatan
- Pertanian
- Perternakan dan Akuakultur
- Tanah Kosong
- Tanah Lapang dan Rekreasi

Attribute table - plgcolour :: 0 / 13 feature(s) selected

	colour
0	Kediaman
1	Industri
2	Perniagaan...
3	Institusi da...
4	Tanah Lapa...
5	Tanah Kosong
6	Pengangku...
7	Infrastrukt...
8	Pertanian
9	Perternaka...
10	Hutan
11	Badan Air
12	Pantai

Look for in colour Search

Show selected only Search selected only Case sensitive Advanced search ?

Scale 1.953358 Render EPSG:4326



JPBD

QUANTUM GIS

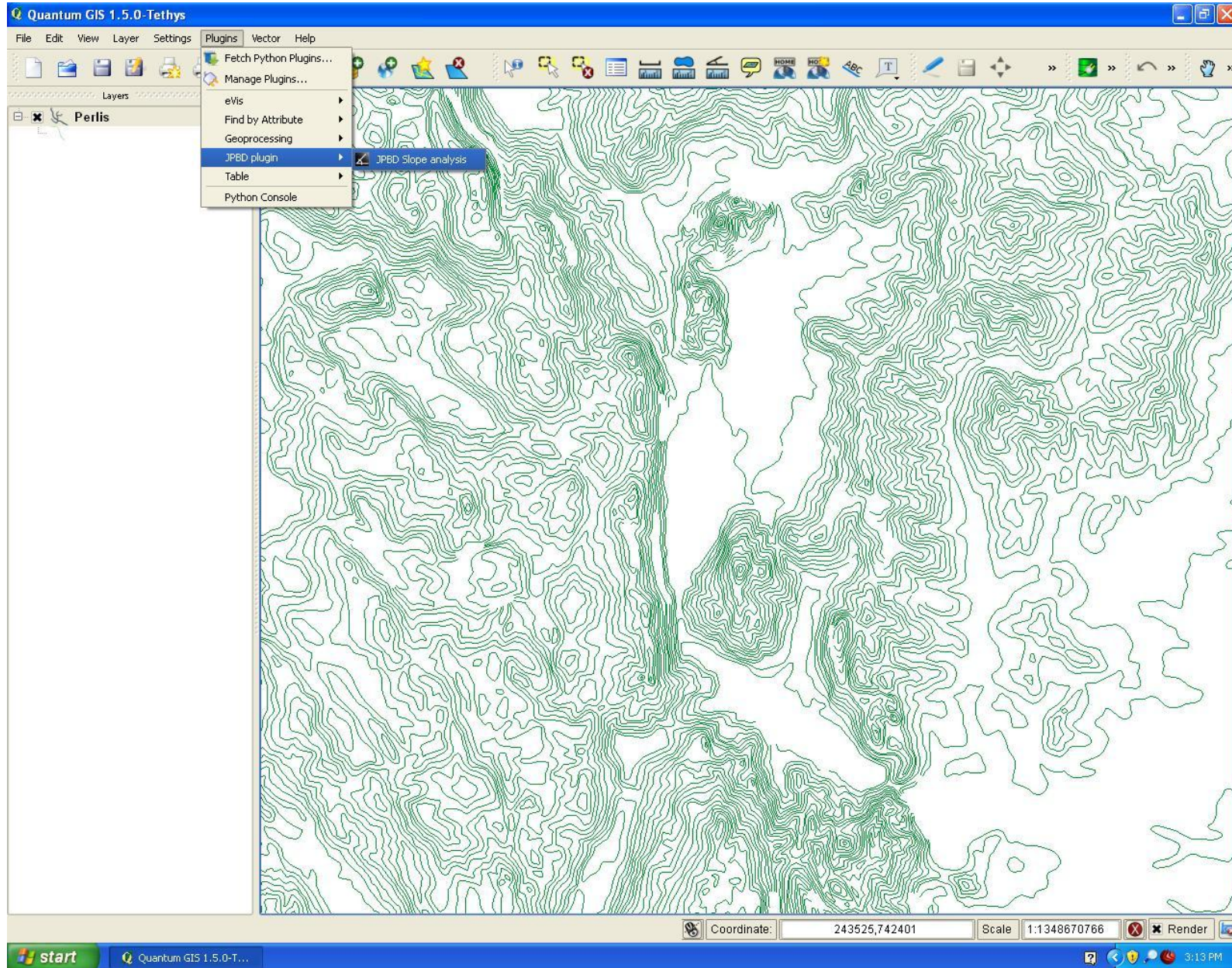
SLOPE ANALYSIS

PLUGIN

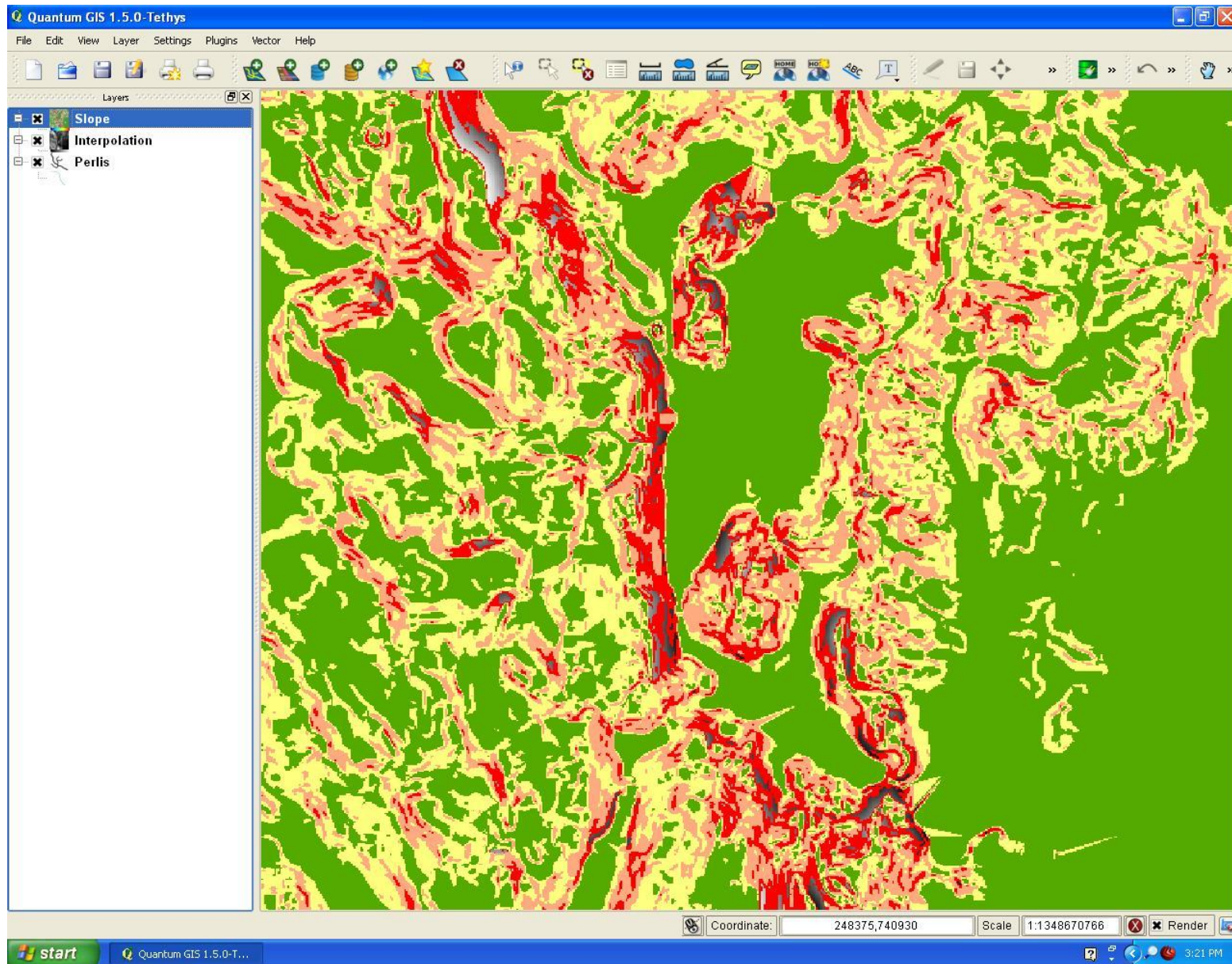
STUDY OBJECTIVE

- **Develop a GIS slope analysis module based on JPBD Hills & Highland Guideline;**
- **Help PBTs overcome financial burden to procure GIS and supporting plugins in contra for up-to-date landuse data;**
- **To value-add OSS QGIS Windows & Linux Ubuntu capability;**

ACTIVATE SLOPE PLUGIN



SLOPE ANALYSIS OUTPUT

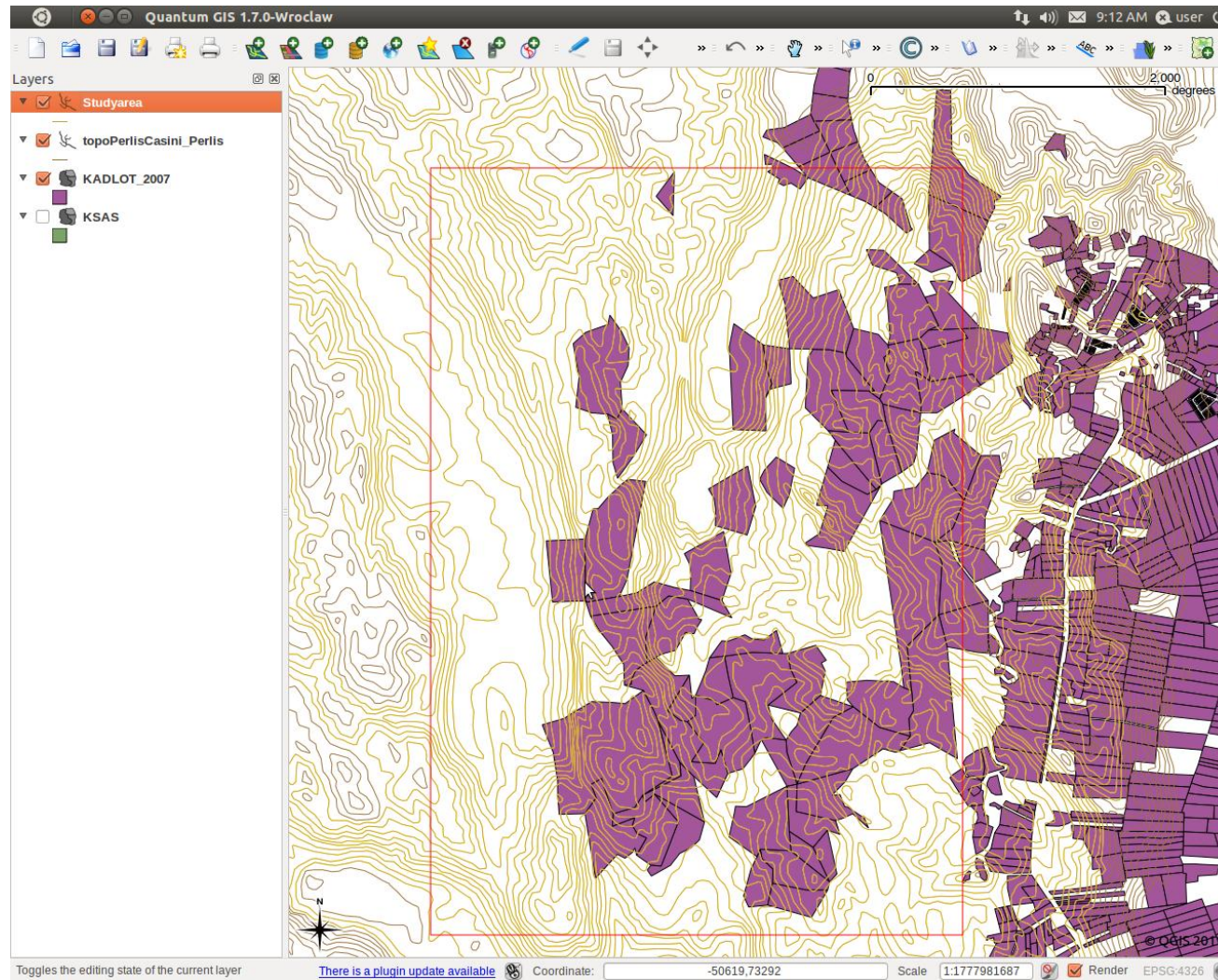


ISSUES

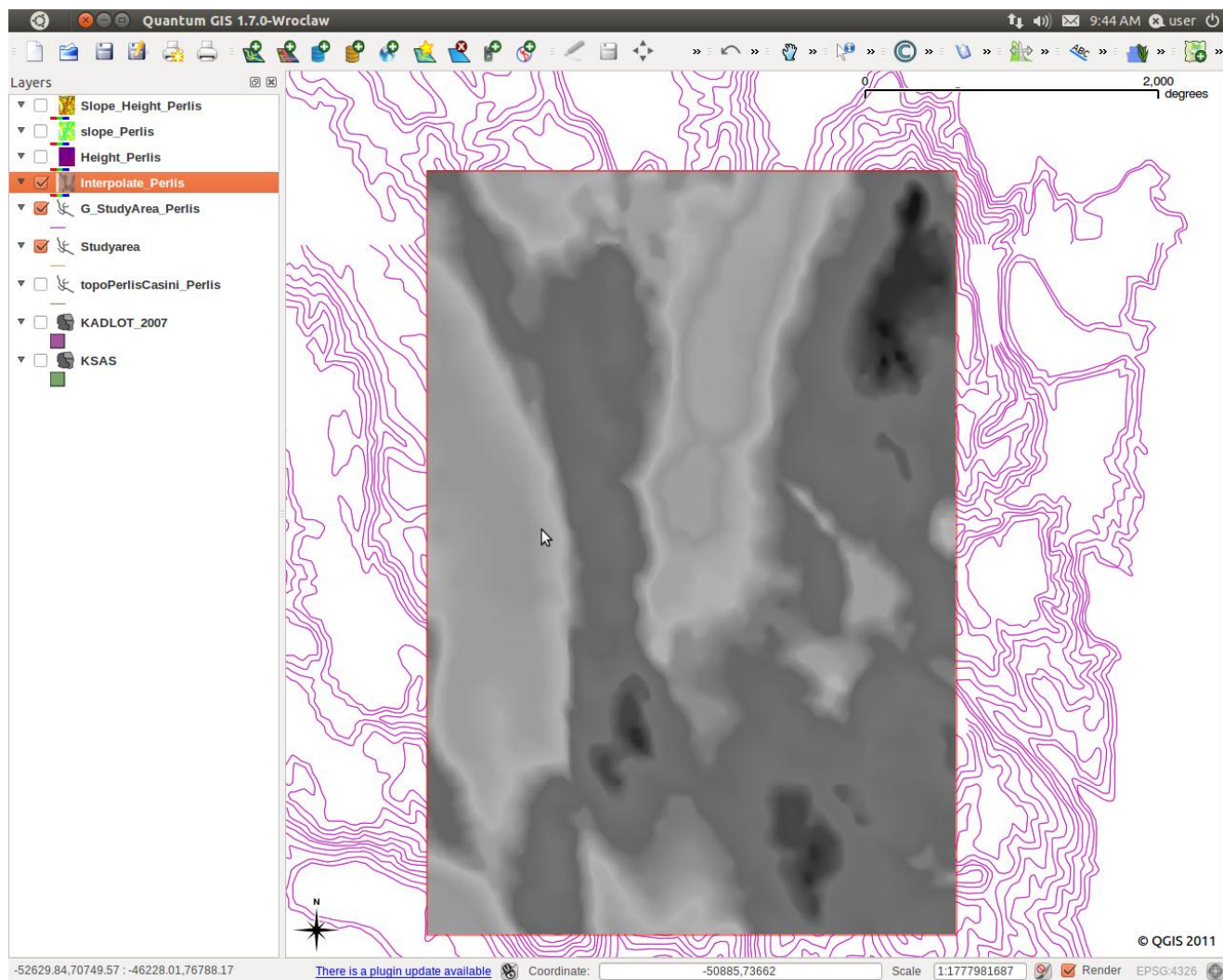
- **QGIS version upgrades rapidly:**
 - **During TOR -1.4**
 - **During project -1.5**
 - **After study -1.6**
- **Plugin out-dated, incompatible with current version.**
- **Compulsory to upgrade for useability**
- **Road-show affected by incompatibility**
- **Will annual budget consistently be**

GRASS COMMAND

v.in.ogr.qgis

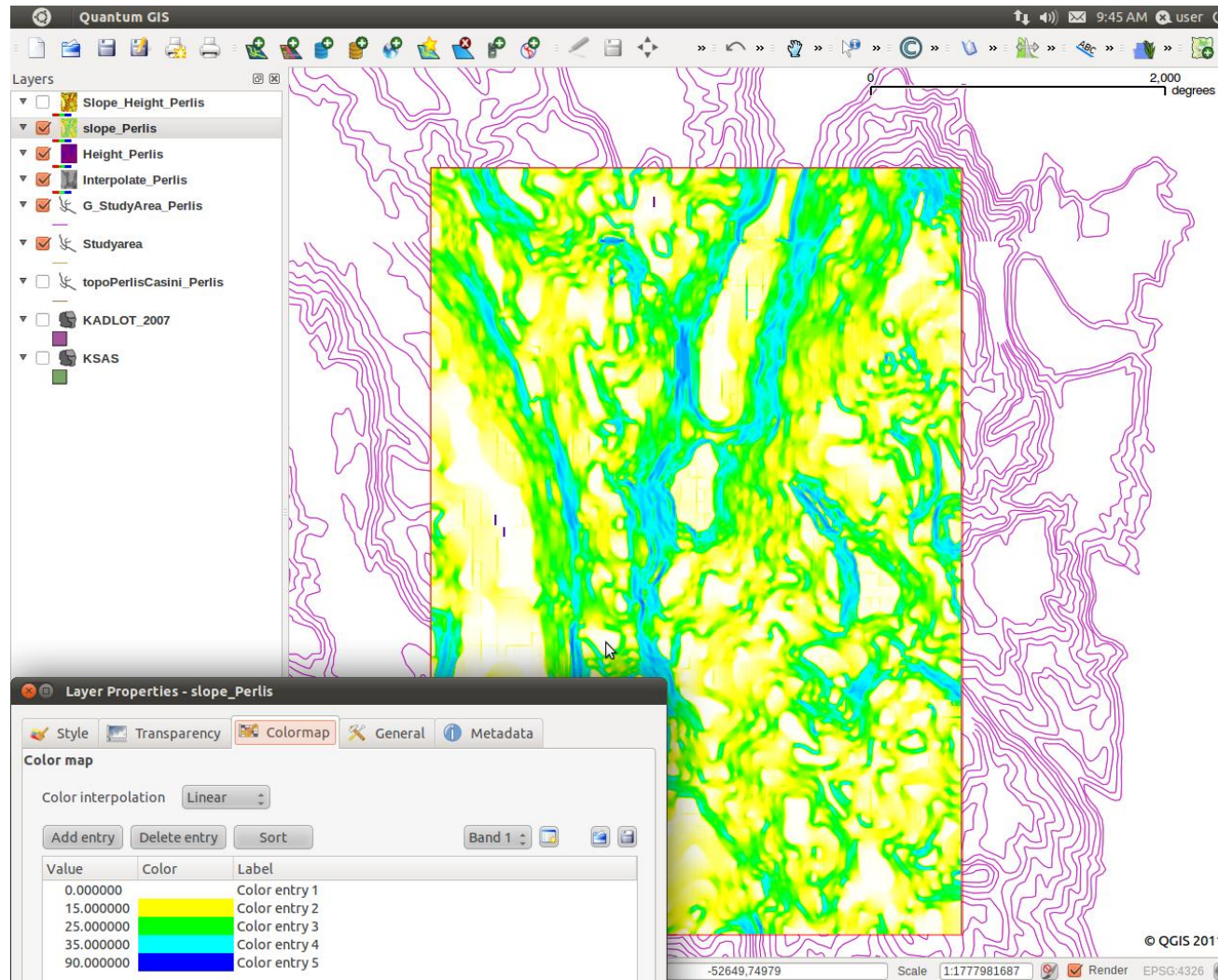


GRASS command v.surf.rst

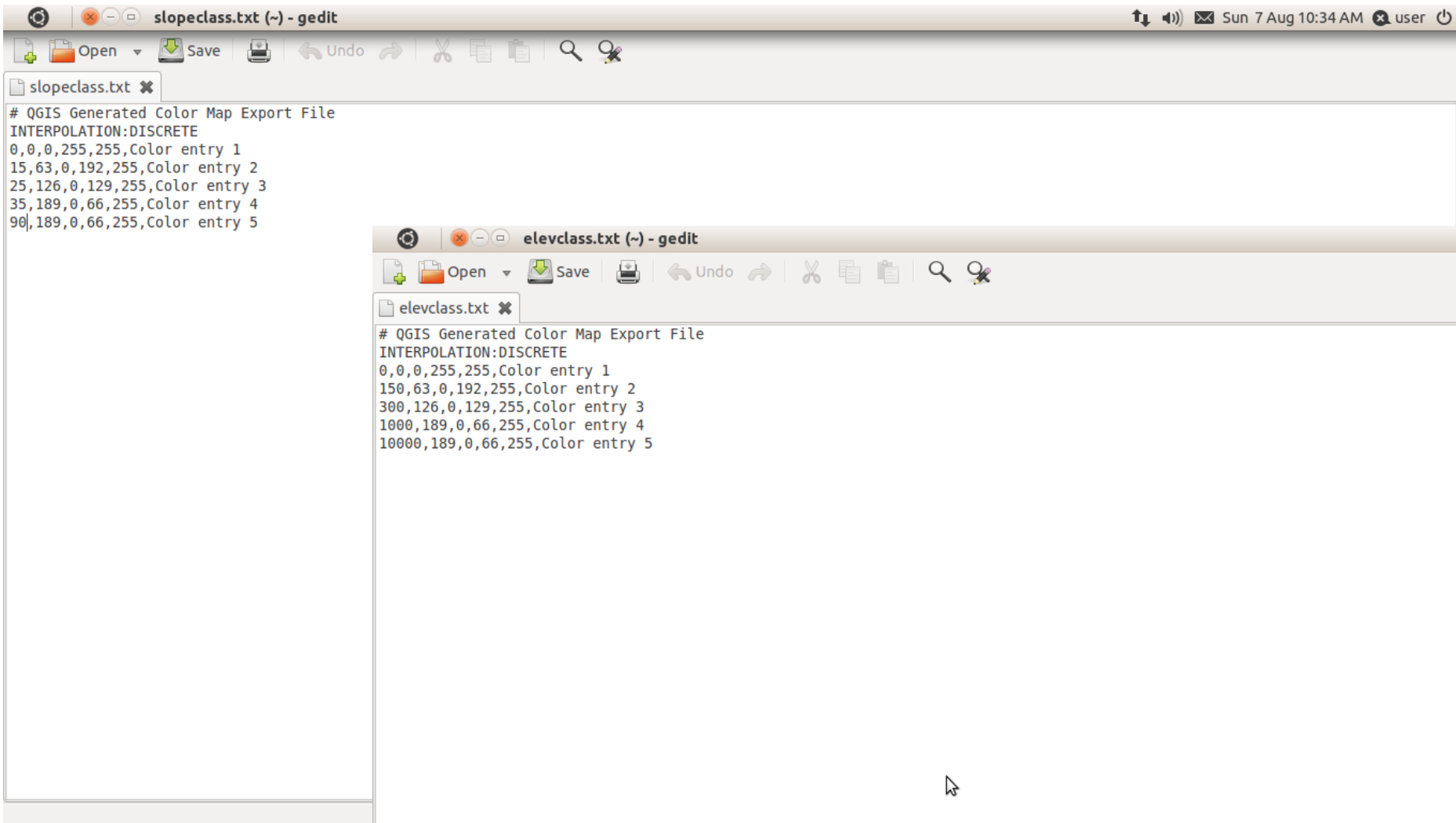


GRASS COMMAND

r.param.scale



MODIFY STANDARD INPUTS FOR SLOPE & ELEV OUTPUTS



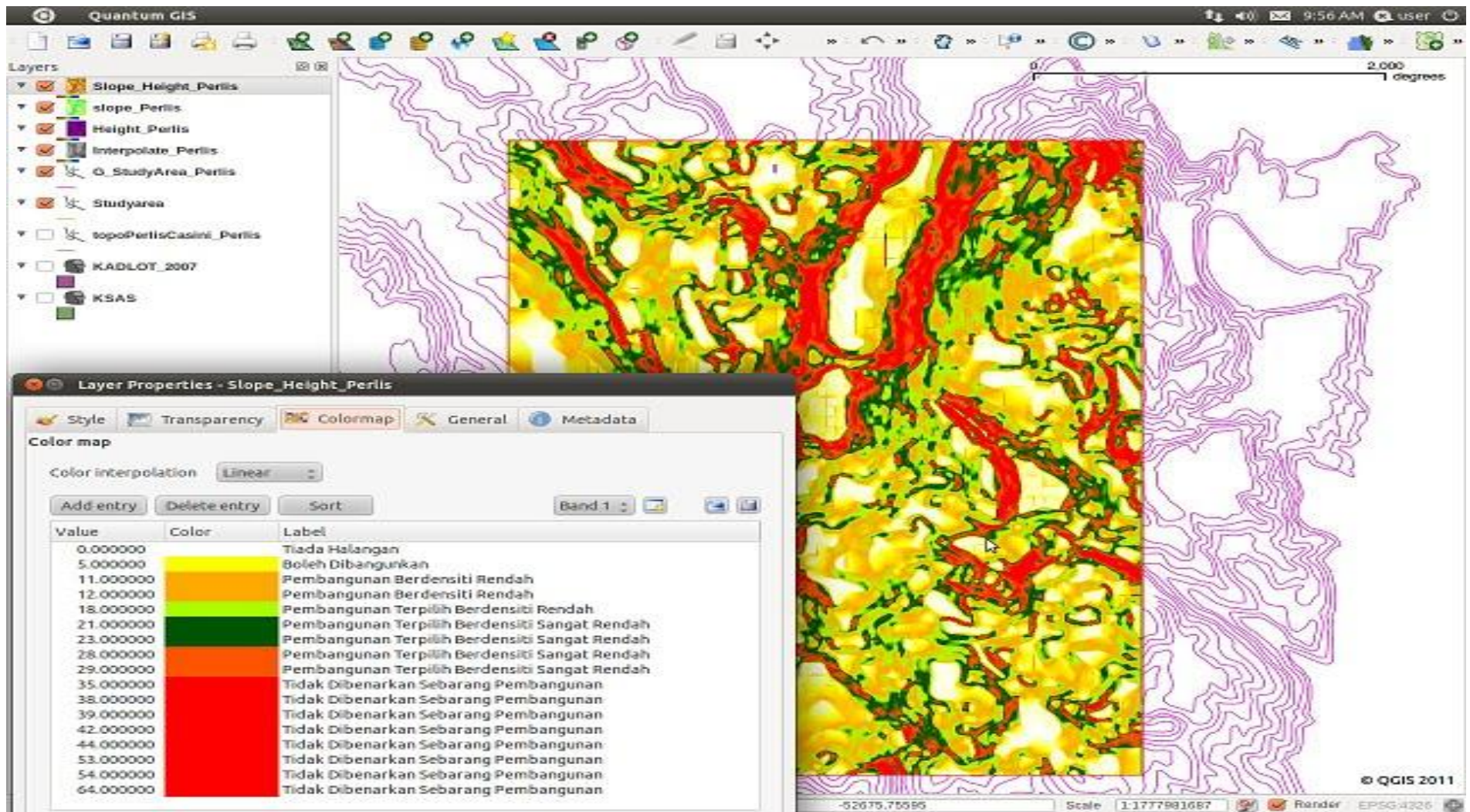
The image shows two overlapping gedit windows. The top window, titled 'slopeclass.txt (~) - gedit', displays the following text:

```
# QGIS Generated Color Map Export File
INTERPOLATION:DISCRETE
0,0,0,255,255,Color entry 1
15,63,0,192,255,Color entry 2
25,126,0,129,255,Color entry 3
35,189,0,66,255,Color entry 4
90,189,0,66,255,Color entry 5
```

The bottom window, titled 'elevclass.txt (~) - gedit', displays the following text:

```
# QGIS Generated Color Map Export File
INTERPOLATION:DISCRETE
0,0,0,255,255,Color entry 1
150,63,0,192,255,Color entry 2
300,126,0,129,255,Color entry 3
1000,189,0,66,255,Color entry 4
10000,189,0,66,255,Color entry 5
```

SLOPE ANALYSIS



PUBLICATIONS

- MAMPU's *OSCC eNEWSLETTER*
- JUPEM's *BULLETIN GIS*
- JPBD's *TOWNPLAN Journal*
- NRE's Public Sector *GEOSPATIAL Bulletin*

The screenshot shows the homepage of the Malaysian Public Sector OSS Portal. The browser address bar displays 'www.oscc.org.my'. The page features a navigation menu with links for Home, About Us, Products, Policy, Services, Master Plan, News & Events, Quick Links, and Contact Us. A prominent banner for 'The Malaysia CIO Conference & MyGOSSCON 2011' is visible, dated Monday, 9 January 2012. A 'Newsflash' section contains an announcement about an OSCC showcase room. Below the banner, there are links to 'Upcoming Events', 'Latest Newsletter', 'OSS Adoption Charts & Tables', 'Documents', 'Knowledge Bank', 'BRR 2009', 'Excellence Journal', and 'Self Reliance Booklet'. The main content area is divided into four columns: News, Resources, Products and Services, and Policies and Guidelines, each containing a list of recent updates and publications.

News	Resources	Products and Services	Policies and Guidelines
<ul style="list-style-type: none">• Jemputan ke Ruang Showcase OSCC Untuk Demo dan Klinik Produk OSS MAMPU - 21 Dec 2011• Michael Tiemann comments and posts Malaysian Government success story in Open Source.com - 15 Dec 2010• Headmaster and teachers of ...	<ul style="list-style-type: none">• Laman web komuniti OGIS Malaysia untuk perkongsian maklumat dan ilmu berkaitan Quantum GIS (Geographical Information System) - 10 Nov 2011• Pelaporan Inovasi Aplikasi MyMeeting untuk sistem Bank Inovasi Sektor Awam (BISA) - 3 May 2011	<ul style="list-style-type: none">• OSCC Products• OSCC Knowledge Bank• OSS e-Marketplace• OSCC Mirror Site• OSCC Training Calendar• Open Source Software (OSS) Implementation Guidelines• OSS Development Toolkit	<ul style="list-style-type: none">• OSS Master Plan• Malaysian Government Interoperability Framework for Open Source Software (MyGIFOSS)• Open Source Software (OSS) Implementation Guidelines• Open Source Software Reference

TECHNICAL UPDATES

Jabatan Perparitan & Saliran



Kementerian Kerjaya Malaysia



2011

AUTO-CLEANING GAPS (GRASS)

The screenshot displays the Quantum GIS interface. The main map area shows a city plan with cyan-colored polygons representing land parcels. A dialog box titled "GRASS Tools: grass/petaling" is open, showing the results of the "v.clean.rmarea" module. The dialog box includes a progress bar at 100% and buttons for "Run", "View output", "Close", and "Close".

Quantum GIS

Fri 15 Jul 10:49 PM user

Layers

g_clean_rmarea

GRASS Tools: grass/petaling

es List Browser

Module: v.clean.rmarea

Options Output Manual

Number of nodes: 706664

Number of primitives: 923748

Number of points: 0

Number of lines: 0

Number of boundaries: 675810

Number of centroids: 247938

Number of areas: 250405

Number of isles: 33321

Number of areas without centroid: 2467

Successfully finished

100%

Run View output Close

Close

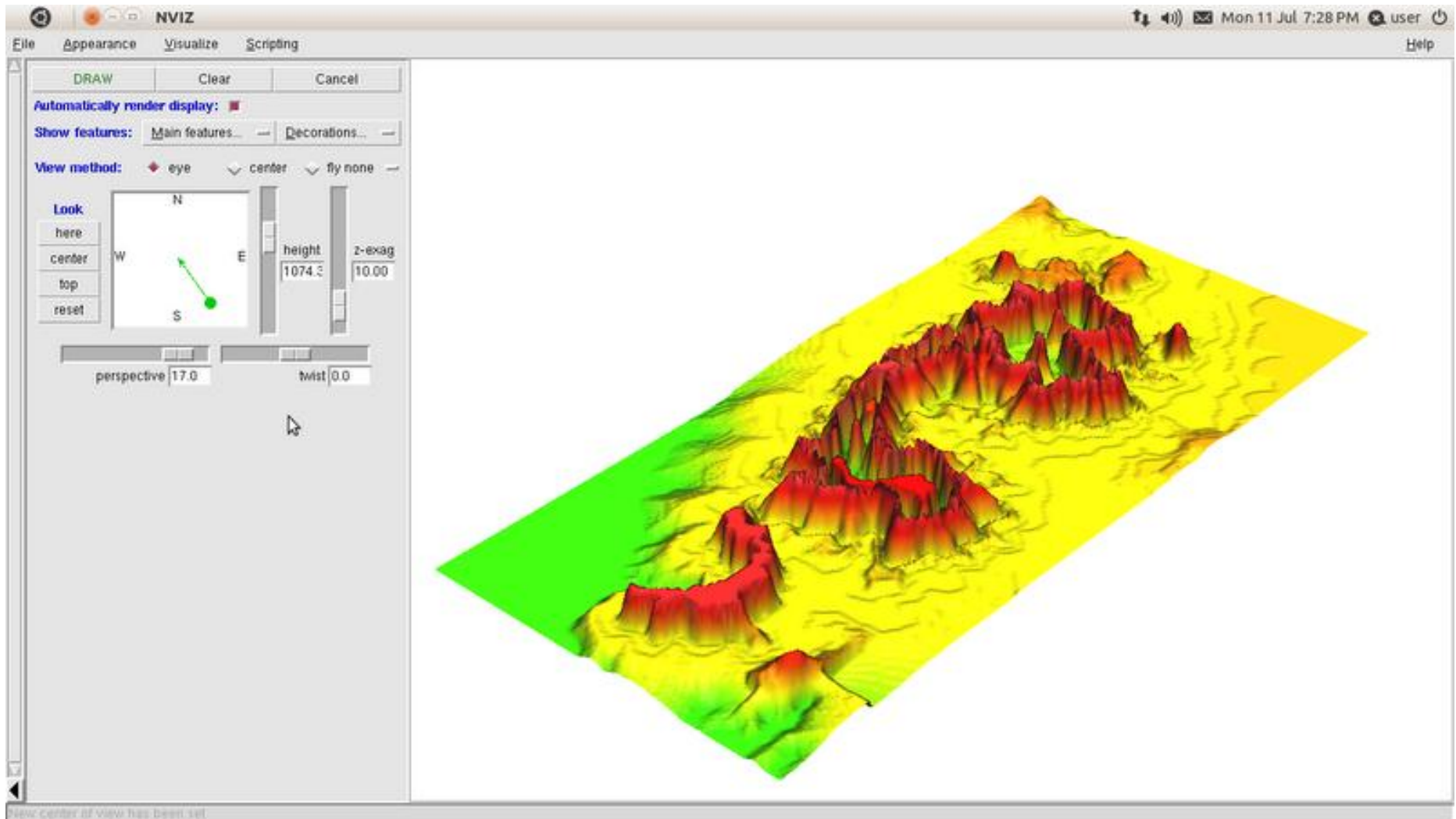
-39140.15,-24062.16 : 11582.03,8237.34

Coordinate: -28134,-10616

Scale 1:18316210966

Render EPSG:4326

EXTEND TO 3D (GRASS)



ROAD GRAPH PLUGIN

The screenshot displays the Quantum GIS interface with the Road Graph Plugin active. The main map shows a network of roads in the Kuala Lumpur and Petaling Jaya area. A blue line highlights a specific path across the network. The interface includes the following components:

- Layers Panel:** Lists layers including 'stesen', 'road', 'catchment', and 'Google Streets'. The 'road' layer is currently selected.
- Shortest path Panel:** Contains input fields for 'Start' (1.13127e+07,348138) and 'Stop' (1.13061e+07,344931). The 'Criterion' is set to 'Length', resulting in a path length of 10.2468km and a time of 0.128085h. Buttons for 'Calculate', 'Export', 'Clear', and 'Help' are present.
- Map:** Shows a detailed road network with various landmarks and labels such as 'Kuala Lumpur', 'Petaling Jaya', 'Taman Sea', and 'Seksyen 17'. A blue path is overlaid on the road network.
- Status Bar:** Displays the current coordinate as 11307311,343518 and a scale of 1:72152.

LINK OR TRANSFORM SPREADSHEET DATA INTO SPATIAL DATA

The screenshot illustrates the workflow of linking spreadsheet data to spatial data in a GIS environment. It features several overlapping windows:

- landadmin.ods - LibreOffice Calc:** A spreadsheet with the following data:

	A	B	C	D	E	F
1	ID,N,4,2	LOT,N,6,2	OWNER,C,4	IC,N,6,2	STATUS,C,9	
2	1.00	551.00	all	111.00	leasehold	
3	2.00	552.00	all	222.00	freehold	
4	3.00	553.00	chan	333.00	leasehold	
5	4.00	554.00	mutu	444.00	leasehold	
6						
7						
- alandadmin.dbf - LibreOffice Calc:** A second spreadsheet with the same data structure as the first.
- Attribute table - final: 0 / 4 feature(s) selected:** A dialog box showing a table of attribute values:

ID	LOT	ID_2	LOT_2	OWNER	IC	STATUS
0	1	551	1	551	all	111 leasehold
1	2	552	2	552	all	222 freehold
2	3	553	3	553	chan	333 leasehold
3	4	554	4	554	mutu	444 leasehold
- Identify Results:** A dialog box showing the results of an identify operation:

Feature	Value
0	final
Actions	
Derived	
IC	222
ID	2
ID_2	2
LOT	552
LOT_2	552
OWNER	all
STATUS	freehold
- Main Map Window:** Displays a green polygonal spatial data layer on a map.

CAPITALIZE SECONDARY DATA FROM INTERNET

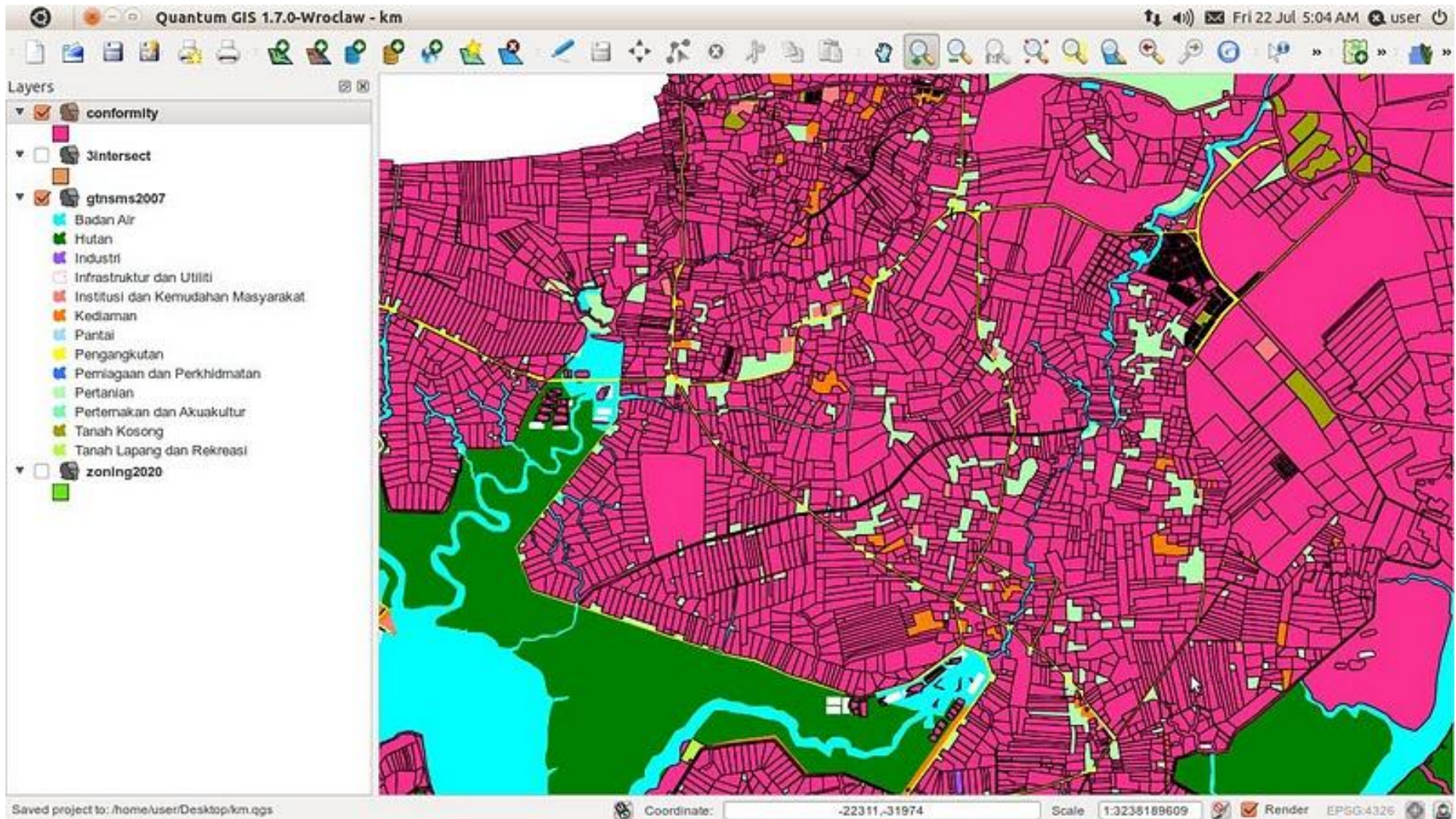
Quantum GIS interface showing a map of Terengganu, Malaysia, with an attribute table overlay. The attribute table lists land parcels with columns for SEMASA, AKTIVITI, AKTIVITI_2, NO_LOT, MUKIM, DAERAH, and LUASHEK.

	SEMASA	AKTIVITI	AKTIVITI_2	NO_LOT	MUKIM	DAERAH	LUASHEK
0	Tanah Lapa...	Tanah Lapang	Padang Per...	2372	Kertih	Kemaman	0.065
1	Tanah Lapa...	Tanah Lapang	Padang Per...	2372	Kertih	Kemaman	0.065
2	Tanah Lapa...	Tanah Lapang	Padang Per...	5216	Kertih	Kemaman	0.299
3	Tanah Lapa...	Tanah Lapang	Padang Per...	3102	Kertih	Kemaman	1.781
4	Tanah Lapa...	Kemudaha...	Gelanggan...	1860	Kertih	Kemaman	0.541
5	Tanah Lapa...	Tanah Lapang	Padang Per...	8055	Kertih	Kemaman	0.098
6	Tanah Lapa...	Tanah Lapang	Padang Per...	8045	Kertih	Kemaman	0.275
7	Tanah Lapa...	Tanah Lapang	Padang Per...	...	Kertih	Kemaman	0.753

Map data ©2011 MapIT Imagery ©2011 Cnes/Spot Image, DigitalGlobe, GeoEye - Terms of Use

Coordinate: 11509514.470779 Scale: 1:17037 Render: EPSG:900913

MONITOR INCONFORMITY USING ADVANCE SQL QUERY



OTHERS

- **HOW TO CORRECT SPELLING ERRORS?**
- **HOW TO CALCULATE AREA?**
- **HOW TO QUERY OVER A QUERY?**
- **HOW TO IMPORT GOOGLE HYBRID, ETC, OPEN STREET MAPS INTO QGIS?**
- **HOW TO MERGE THEMATIC MAPS?**
- **HOW TO CONVERT GPS DATA FOR GIS?**
- **HOW TO OPTIMIZE SQL QUERY?**

QGIS MALAYSIA BLOG

<http://qgismalaysia.blogspot.com>

QGIS MALAYSIA: Acquisition of secondary data from OpenStreetMap - Chromium

QGIS MALAYSIA: Acquisitio

qgismalaysia.blogspot.com/2011/08/pembekalan-data-sekunder-oleh.html

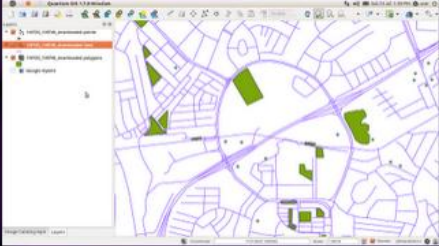
New Slide 1 apa Mama Others Gmail Other Bookmarks

QGIS MALAYSIA

Quantum GIS is a multi-platform, open source Geographical Information System. Here, a Malaysian effort promotes it. Sharing is giving so feedbacks are welcomed. New information is added from time to time, hopefully will generate a QGIS community in Malaysia. The English translation comes after the Malay version (bit-by-bit). As usual, click any image to enlarge.

23/08/2011

Acquisition of secondary data from OpenStreetMap



Polygon dan line diperolehi dari OpenStreetMap
(Polygon and line extracted from OpenStreetMap)

Perolehan data sekunder oleh OpenStreetMap

Sering pengguna GIS dihipit pelbagai masalah bila hendak mendapatkan data dari pihak custodian. Walaupun pihak custodian boleh meluluskan permohonan data, isu tambahan pula adalah proses mendapatkan data mungkin mengambil masa panjang dan yang boleh


About Me

Abbas
A need to be different but then again, don't we all?
[View my complete profile](#)

Followers


[Join this site](#)
with Google Friend Connect

Members (21)





Visitor Hits

1,989 Visitors
20 Aug 2011 - 6 Jan 2012



Click to see

Top 10 Popular Posts

-  [The monitoring of landuse development by Quantum GIS](#)
Pemantauan pembangunan gunatanah melalui Quantum GIS Akhirnya, kertas saya siap! Analisis GIS adalah usaha bersama Fadzman dan saya yang ka...
-  [GIS FAQ](#)
GIS FAQ A very difficult thing to do is to explain

MyGOSSCON 2011

- **Building and ensuring public sector confidence:**

“Sustaining Open Source Software in the public sector” paper presented illustrated by QGIS examples



The banner features a red background with white and blue text. On the left is the Malaysian coat of arms. On the right is the MAMPU logo. The central text reads 'MALAYSIA CIO CONFERENCE & MYGOSSCON 2011' with a circular logo for MyGOSSCON 2011. Below this is the tagline 'New Economy of ICT and Open Technologies Empower Digital Transformation Through Sustained Creativity and Innovation'. At the bottom, the dates '29-30 November 2011' and location 'PICC, Putrajaya, Malaysia' are listed. A photograph of a modern building at night is visible on the right side of the banner.

**MALAYSIA CIO CONFERENCE
& MYGOSSCON 2011**

New Economy of ICT and Open Technologies Empower Digital Transformation
Through Sustained Creativity and Innovation

29-30 November 2011 PICC, Putrajaya, Malaysia

TECHNICAL UPDATES

Kementerian Perumahan & Kerajaan Tempatan

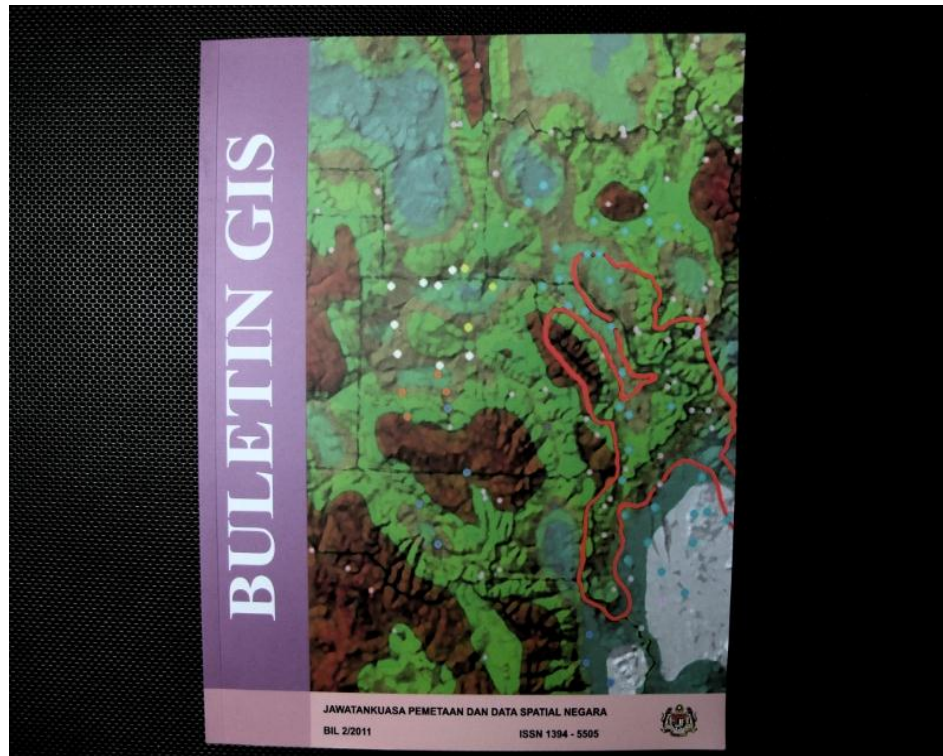


UTM



PUBLICATIONS

- **JUPEM's Bulletin GIS**>
The many uses of QGIS-GRASS in town & country planning
- **NRE's GEOSPATIAL Bulletin**>
The monitoring of landuse development by QGIS



QGIS TRAINING

- **BOMBA**
- **Kementerian Pelajaran Malaysia**
- **Bhg. Penyelidikan & Pembangunan, JPBD**

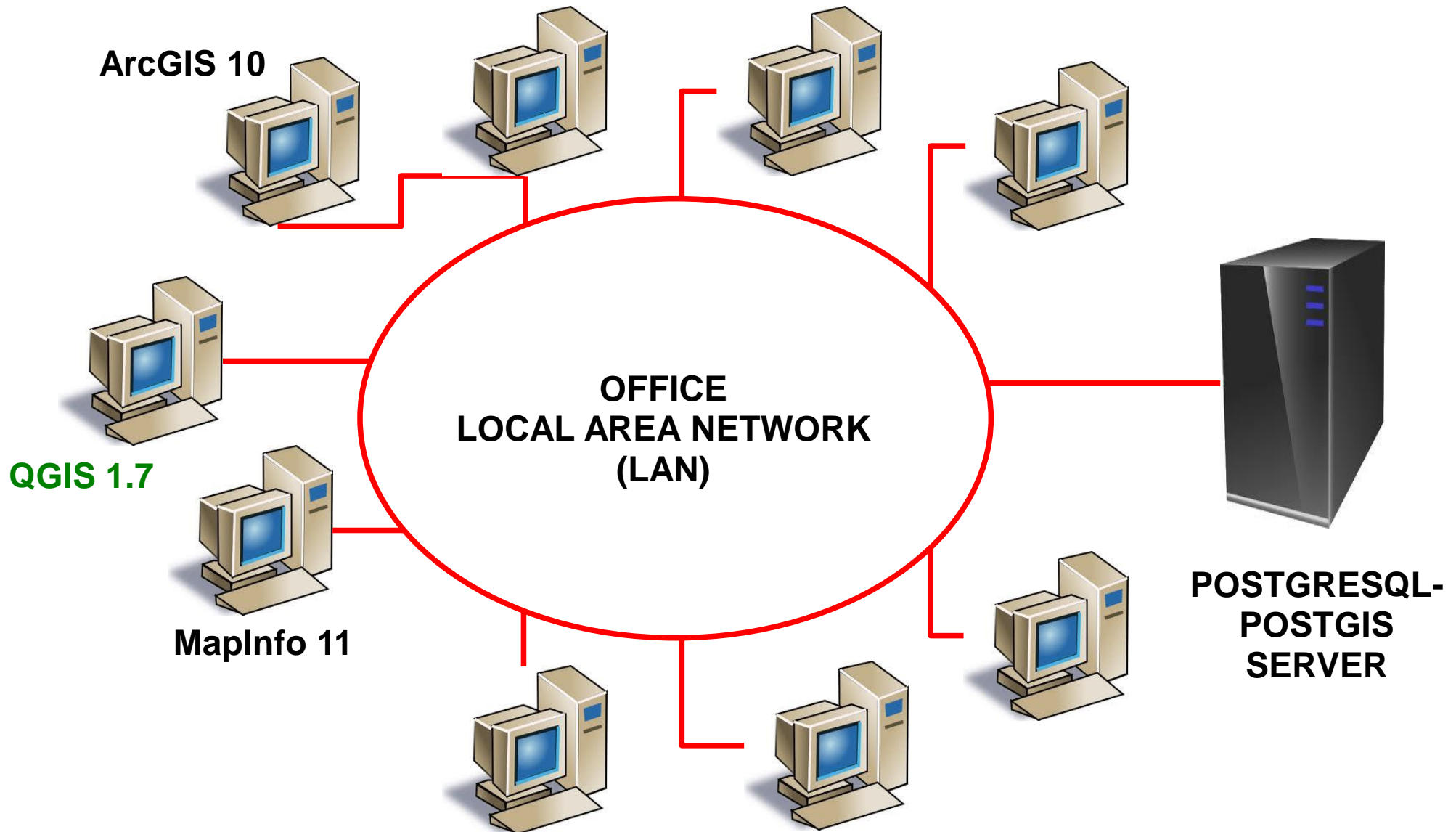


2012

QGIS TRAINING

- **Pej. Projek Zon Utara, A.Setar > January**
- **Pej. Projek Zon Selatan, Melaka > February**
- **Pej. Projek Zon Tengah, K.Lumpur > March**
- **Universiti Teknologi Petronas > March**
- **JPBD Perlis & JPBD Perak > April**
- **Pej. Projek Zon Timur, K.Trengganu > April**
- **Bhg. Perancang Wilayah, K.Lumpur > May**
- **Inst. Latihan KPKT > May-July**
- **Bhg. Ran. Fizikal Negara, K.Lumpur > June**
- **Bhg. Korporat, K.Lumpur > July**
- **Unit Penyelarasan & Pemantauan > August**
- **Other state JPBDs? > Sept. - December**

GEODATABASE LINKAGE



GEODATABASE + POINTS

- Concurrent use of the same layer;
- Layers do not get locked if someone runs off;
- Database gets auto-index or catalogued:
 - Panning and zooming in or out is faster;
 - Query and analysis is faster;
 - Processing does not hang;
 - Security is better as data is centralized;
 - Data-sharing better from central

EXPLOIT & INTEGRATE OPEN SOURCE GEOSPATIAL SOFTWARE AT SERVER LEVEL

PostgreSQL

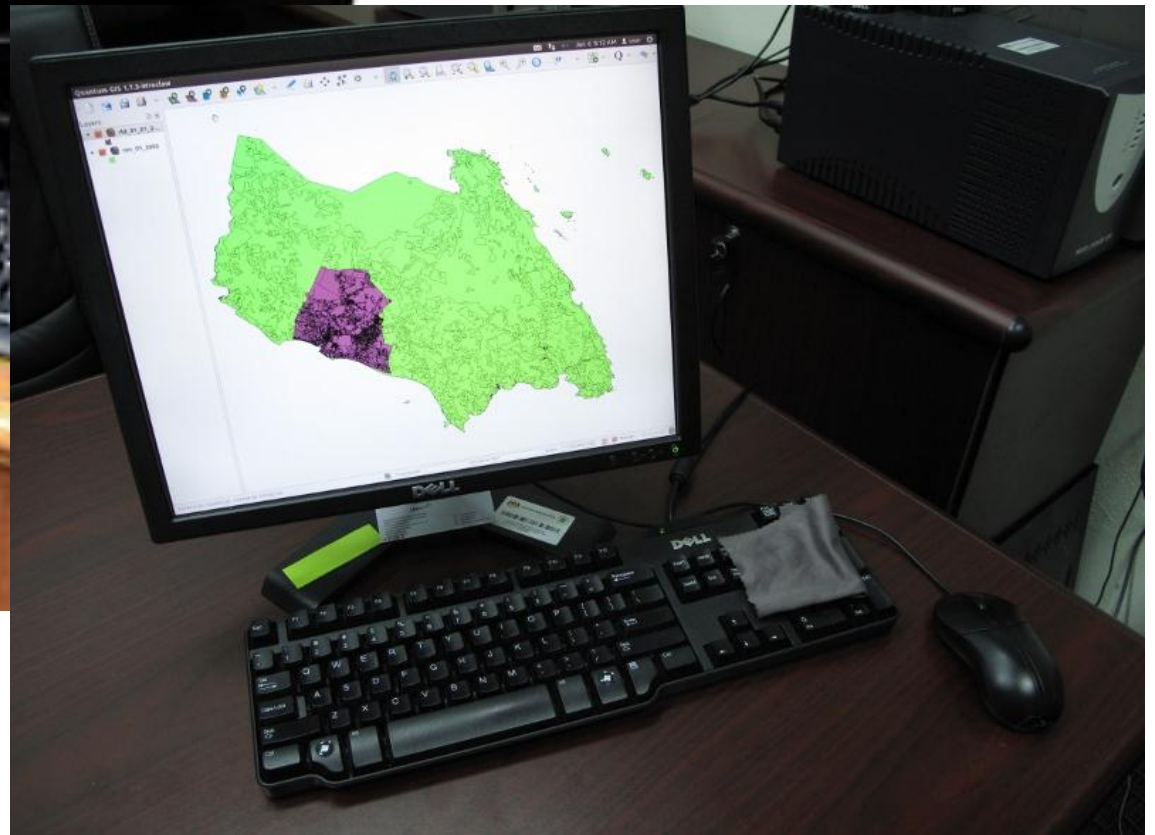


INDIAN INST. TECHNOLOGY

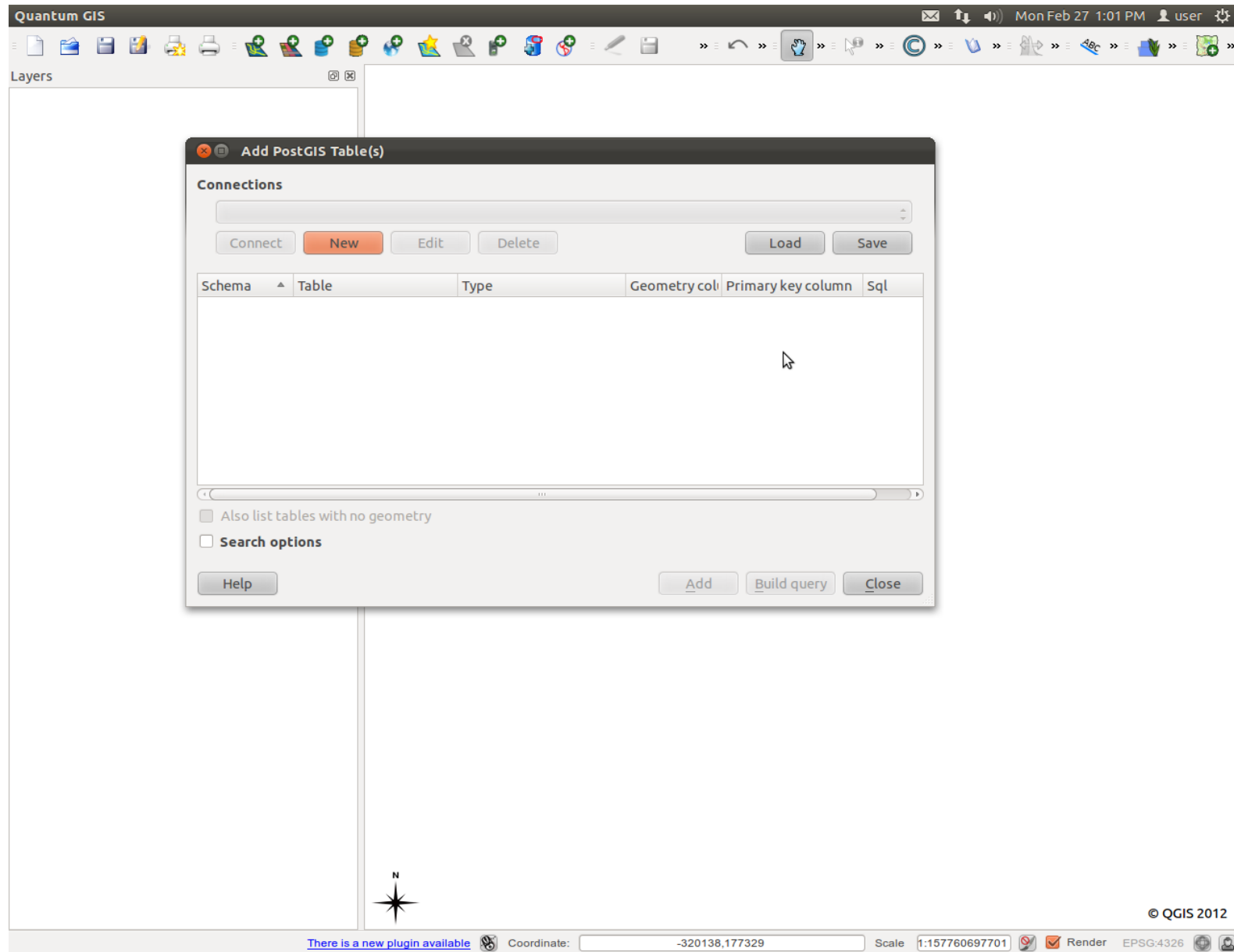
POSTGIS-ORACLE SPATIAL TEST

“...we can conclude that **Postgres performs better than Oracle 11g** both in the Cold Phase and Warm Phase. Though in few queries Oracle 11g performed better but **on the whole Postgres overpowered Oracle 11g**. In the warm phase in 3 out of 4 queries Postgres performed significantly well, from this we can conclude that Postgres has better automatic memory management capabilities and page replacement policies... **On the whole it is the open-source that wins**

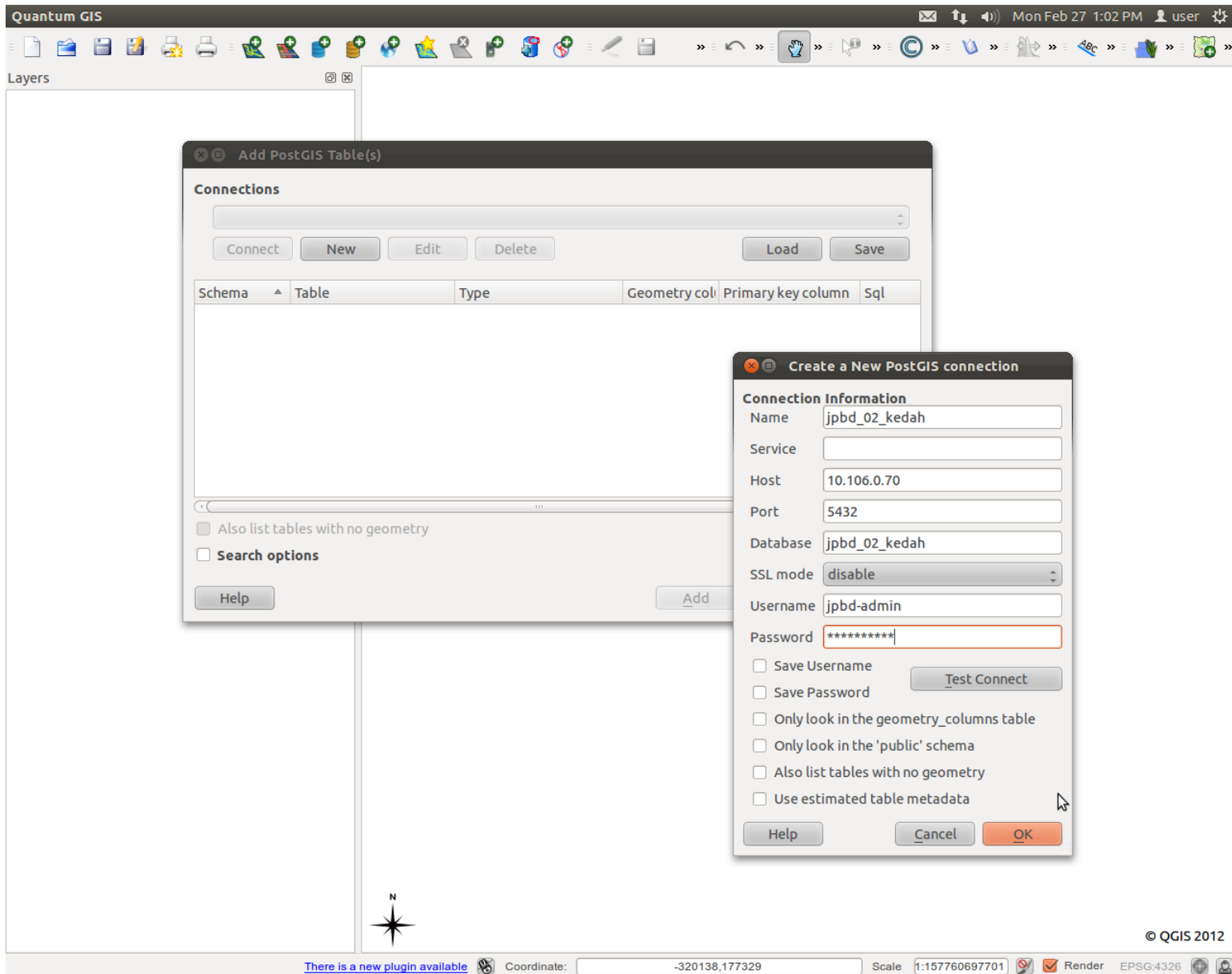
QGIS-POSTGRESQL-POSTGIS SYNERGY



CREATE NEW DATABASE



CONFIGURE CONNECTION



SELECT TABLE

Quantum GIS

Layers

Mon Feb 27 1:03 PM user

Add PostGIS Table(s)

Connections

jpbd_02_kedah

Connect New Edit Delete Load Save

Schema	Table	Type	Geometry col	Primary key column	Sql
public	kpb_02_01	MULTIPOLYGON	geom		
public	rsn_02_2002	MULTIPOLYGON	geom		
public	rtd_02_01_2002	MULTIPOLYGON	geom		
public	rtd_02_02_2002	MULTIPOLYGON	geom		
public	rtd_02_03_2002	MULTIPOLYGON	geom		
public	rtd_02_04_2001	MULTIPOLYGON	geom		
public	rtd_02_08_2002	MULTIPOLYGON	geom		
public	rtd_02_09_2005	MULTIPOLYGON	geom		
public	rtd_02_11_2005	MULTIPOLYGON	geom		

Also list tables with no geometry

Search options

Help Add Build query Close

© QGIS 2012

There is a new plugin available Coordinate: -320138,177329 Scale: 1:157760697701 Render EPSG:4326

SELECT CRS

Quantum GIS

Mon Feb 27 1:04 PM user

Layers

Coordinate Reference System Selector

Specify CRS for layer rtd_02_01_2002

Coordinate Reference System	Authority ID	ID
Geographic Coordinate Systems		
Projected Coordinate Systems		
Albers Equal Area		
Cassini		
DHDN / Soldner Berlin	EPSG:3068	1031
GDM2000 / Johor Grid	EPSG:3377	1335
GDM2000 / Kedah and Perlis Grid	EPSG:3383	1341
GDM2000 / Kelantan Grid	EPSG:3385	1343
GDM2000 / PahangGrid	EPSG:3379	1337
GDM2000 / Perak Grid	EPSG:3384	1342
GDM2000 / Pinang Grid	EPSG:3382	1340
GDM2000 / Selangor Grid	EPSG:3380	1338
GDM2000 / Sembilan and Melaka Grid	EPSG:3378	1336

+proj=cass +lat_0=5.964672713888889 +lon_0=100.63637111111111 +x_0=0 +y_0=0
+ellps=GRS80 +units=m +no_defs

Search

Authority All Search for ID Hide deprecated CRSs

Find

Recently used coordinate references systems

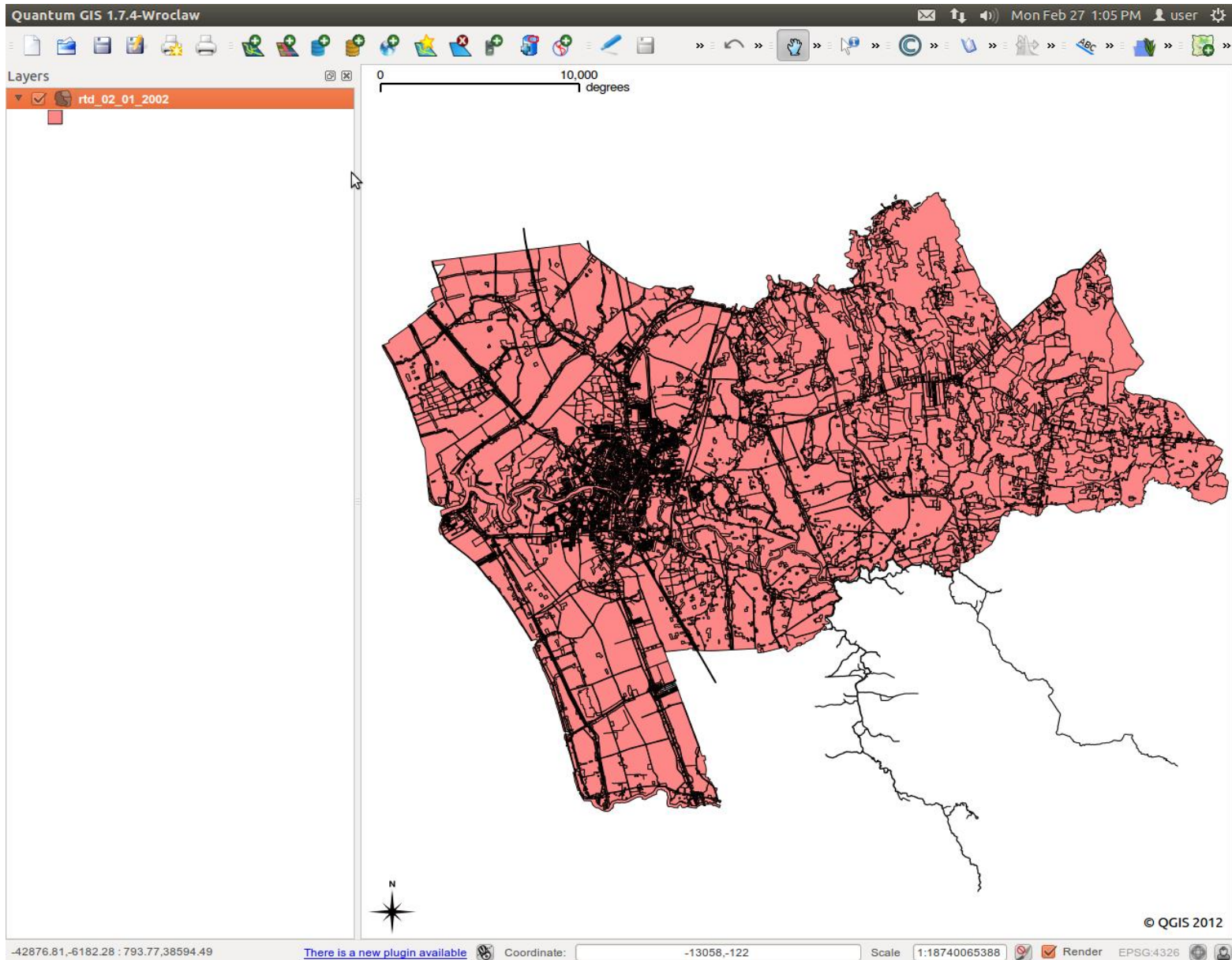
Coordinate Reference System	Authority ID	ID
WGS 84	EPSG:4326	3452

Help Cancel OK

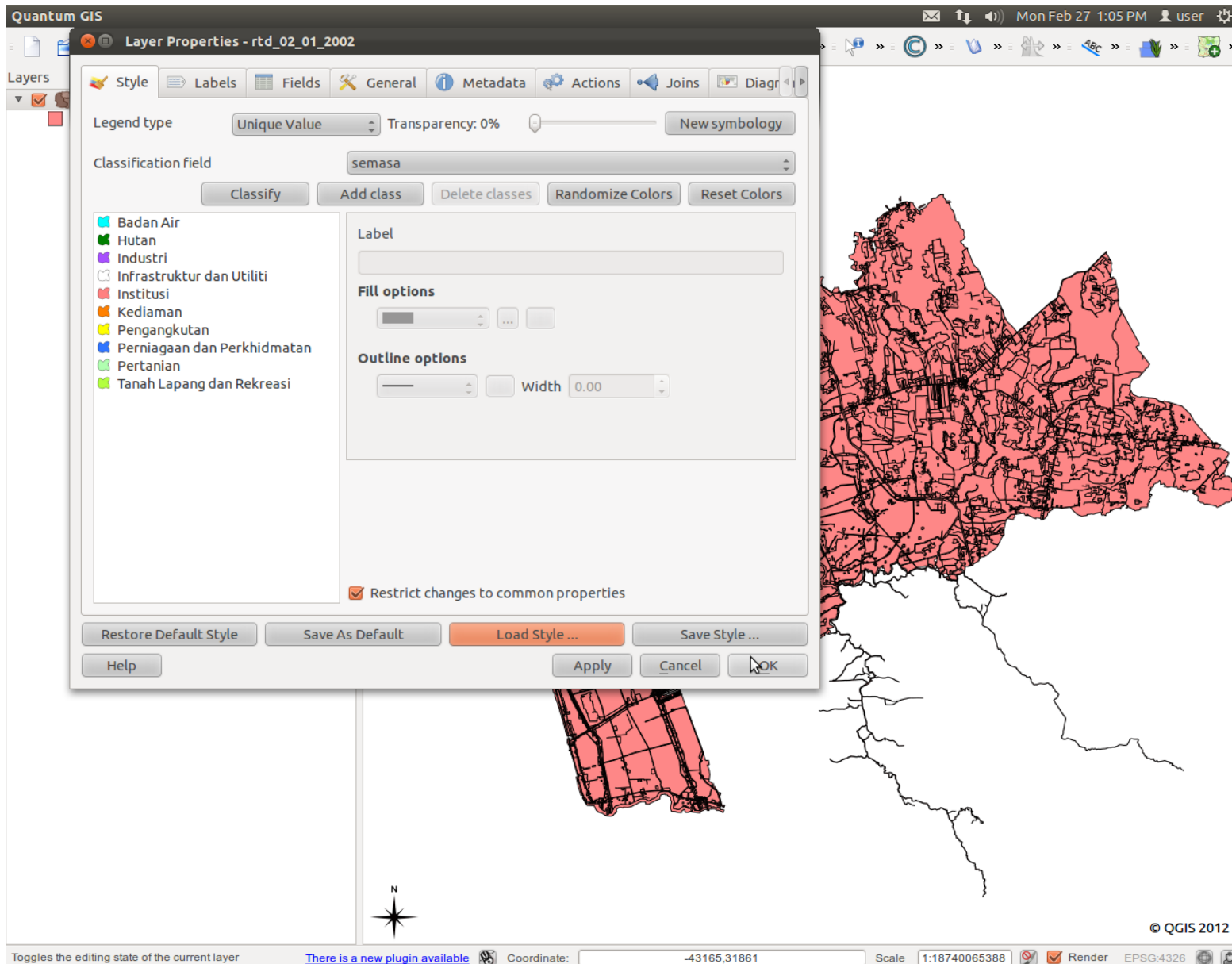
© QGIS 2012

There is a new plugin available Coordinate: -320138,177329 Scale 1:157760697701 Render EPSG:4326

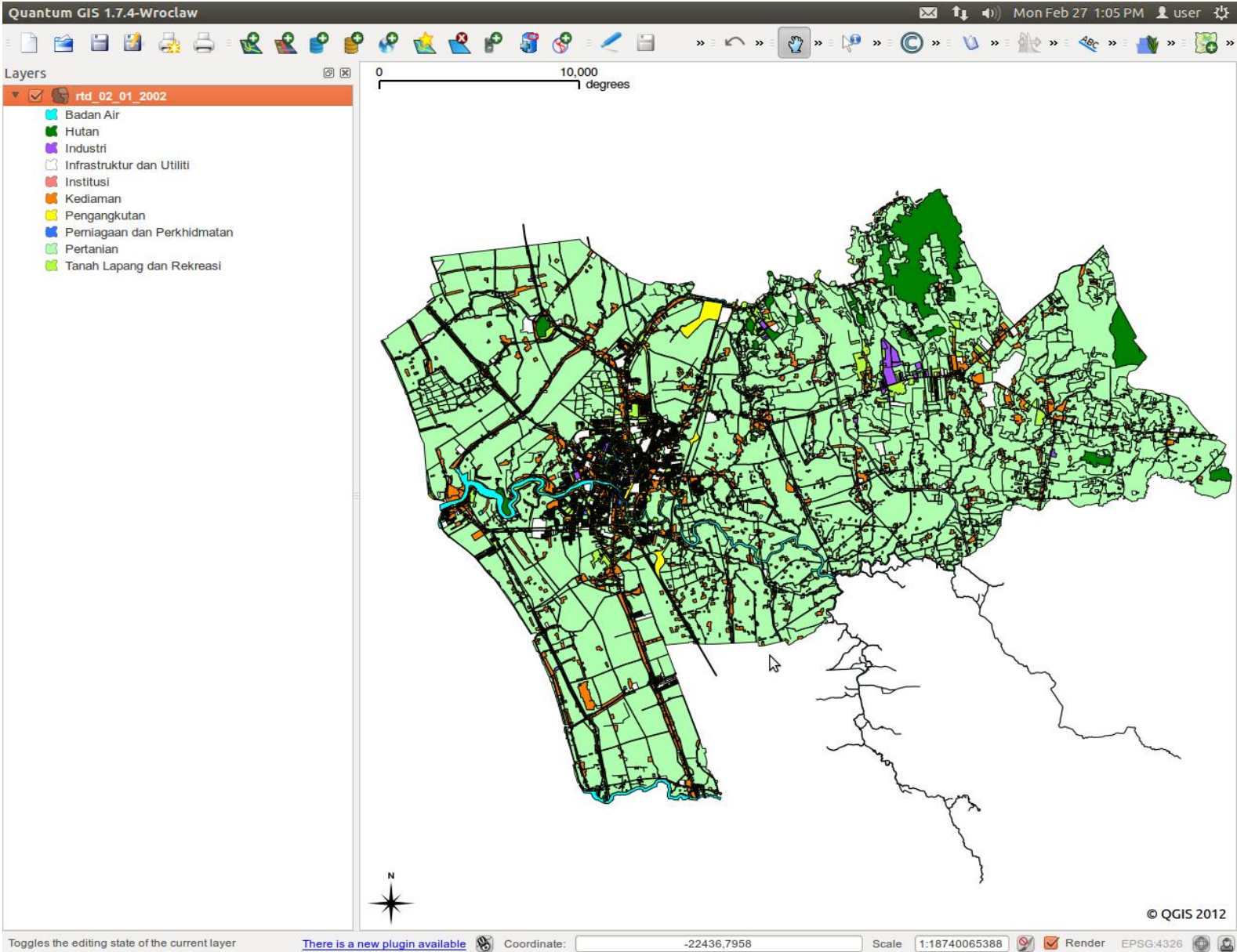
OUTPUT



ADD PLG COLOUR TEMPLATE



EXISTING LANDUSE



SELECT ATTRIBUTE TABLE

The screenshot displays the Quantum GIS interface. The main map area shows a complex land use map with various colored polygons and lines. A scale bar at the top indicates 0 to 10,000 degrees. The Layers panel on the left lists several categories: Badan Air, Hutan, Industri, Infrastruktur dan Utiliti, Institusi, Kediaman, Pengangkutan, Perniagaan dan Perkhidmatan, Pertanian, and Tanah Lapang dan Rekreasi. An attribute table window is open in the foreground, showing a table with 11 rows and 8 columns. The table contains data for various features, with the first row (gid 9064) highlighted. The table columns are: gid, semasa, aktiviti, aktiviti2, nama, kod_gtn, and tempoh_kaj. Below the table, there is a search bar with the text 'Look for' and a dropdown menu set to 'gid'. There are also checkboxes for 'Show selected only', 'Search selected only', and 'Case sensitive', along with an 'Advanced search' button.

	gid	semasa	aktiviti	aktiviti2	nama	kod_gtn	tempoh_kaj
0	9064	Perniagaan...	Perniagaan...	Pelbagai	Line Three ...	TPD104	2002-2015
1	9065	Perniagaan...	Perniagaan...	Pelbagai	C.S Furnitu...	TPD104	2002-2015
2	9066	Perniagaan...	Perniagaan...	Pelbagai	Chin Hin (Ji...	TPD104	2002-2015
3	9067	Perniagaan...	Perniagaan...	Pelbagai	Hepsen Fur...	TPD104	2002-2015
4	9068	Perniagaan...	Perniagaan...	Pelbagai	Pasaraya S...	TPD104	2002-2015
5	9069	Perniagaan...	Perniagaan...	Pelbagai	Pasar	TPD104	2002-2015
6	9070	Perniagaan...	Perniagaan...	Pelbagai	Bangunan ...	TPD104	2002-2015
7	9071	Perniagaan...	Perniagaan...	Pelbagai	Penjualan K...	TPD104	2002-2015
8	9072	Perniagaan...	Perniagaan...	Pelbagai	Menara Alo...	TPD104	2002-2015
9	9073	Perniagaan...	Perniagaan...	Pelbagai	Perniagaan...	TPD104	2002-2015
10	9074	Perniagaan...	Perniagaan...	Pelbagai	Pasar Kota ...	TPD104	2002-2015

© QGIS 2012

Toggles the editing state of the current layer [There is a new plugin available](#) Coordinate: -38837,24743 Scale 1:18740065388 Render EPSG:4326

SQL QUERY FOR INDUSTRY

The screenshot displays the QGIS 2.18.22 interface. The main window shows a map of a region with various land use categories. A search query builder dialog box is open, allowing the user to filter data based on a specific attribute and value.

Search query builder dialog:

- Layer:** rtd_02_01_2002
- Fields:** gid, semasa, aktiviti, aktiviti2, nama, kod_gtn, tempoh_kaj, tahun_data, negeri, luas_h, daerah
- Values:** 'Badan Air', 'Hutan', 'Industri', 'Infrastruktur dan Utiliti', 'Institusi dan Kemudahan Masyara...', 'Kediaman', 'Pengangkutan', 'Perniagaan dan Perkhidmatan', 'Pertanian', 'Tanah Lapang dan Rekreasi'
- Operators:** =, <, >, LIKE, %, IN, NOT IN, <=, >=, !=, ILIKE, AND, OR, NOT
- SQL where clause:** semasa = 'Industri'

The map in the background shows a detailed view of the region, with various land use categories represented by different colors and symbols. The 'Industri' category is highlighted in orange. The map also shows a scale bar from 0 to 10,000 degrees.

© QGIS 2012

There is a new plugin available

Coordinate: -22917,4206 Scale: 1:18740065388

SHOW SELECTION

Quantum GIS

Layers

- ☑ rtd_02_01_2002
 - ☑ Badan Air
 - ☑ Hutan
 - ☑ Industri
 - ☐ Infrastruktur dan Utiliti
 - ☑ Institusi
 - ☑ Kediaman
 - ☑ Pengangkutan
 - ☑ Perniagaan dan Perkhidmatan
 - ☑ Pertanian
 - ☑ Tanah Lapang dan Rekreasi

Attribute table - rtd_02_01_2002 :: 307 / 13020 feature(s) selected

	gid	▲	semasa	aktiviti	aktiviti2	nama	kod_gtn	tempoh_kaj
5041	144		Industri	NULL	NULL	-	TIN000	2002-2015
5066	140		Industri	NULL	NULL	Teras Plasti...	TIN000	2002-2015
5078	141		Industri	NULL	NULL	Foodmake...	TIN000	2002-2015
5079	142		Industri	NULL	NULL	Central Alu...	TIN000	2002-2015
5080	143		Industri	NULL	NULL	Nautical Li...	TIN000	2002-2015
5090	137		Industri	NULL	NULL	Talikom	TIN000	2002-2015
5091	138		Industri	NULL	NULL	Maju Kilang...	TIN000	2002-2015
5092	139		Industri	NULL	NULL	Ooi Chuan ...	TIN000	2002-2015
5093	145		Industri	NULL	NULL	Bengkel M...	TIN000	2002-2015
5094	146		Industri	NULL	NULL	Marmar Da...	TIN000	2002-2015
5095	147		Industri	NULL	NULL	Benkel Si...	TIN000	2002-2015

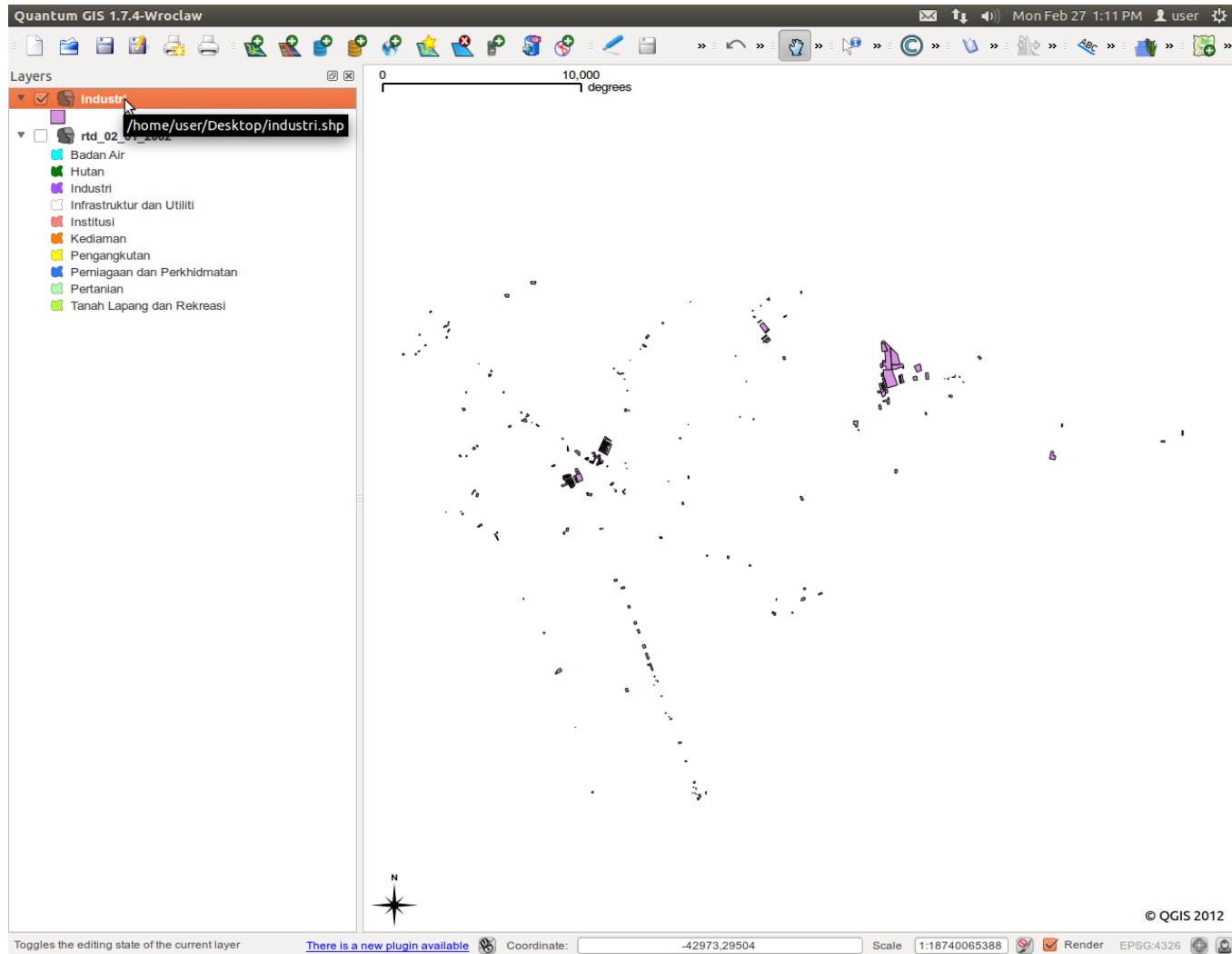
Look for in gid

Show selected only Search selected only Case sensitive

307 feature(s) selected on layer rtd_02_01_2002. [There is a new plugin available](#) Coordinate: -22917.4206 Scale: 1:18740065388 Render EPSG:4326

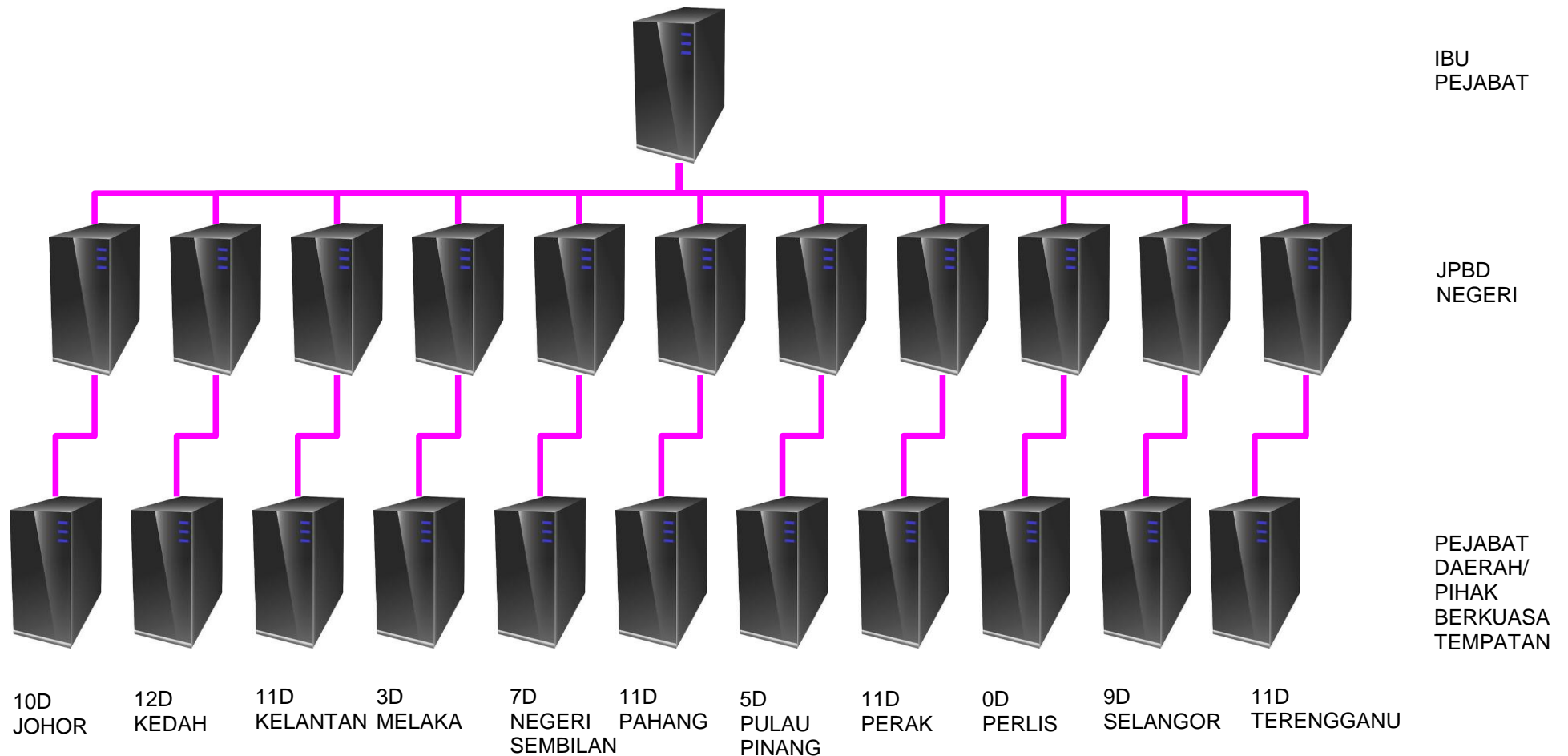
© QGIS 2012

RESULT

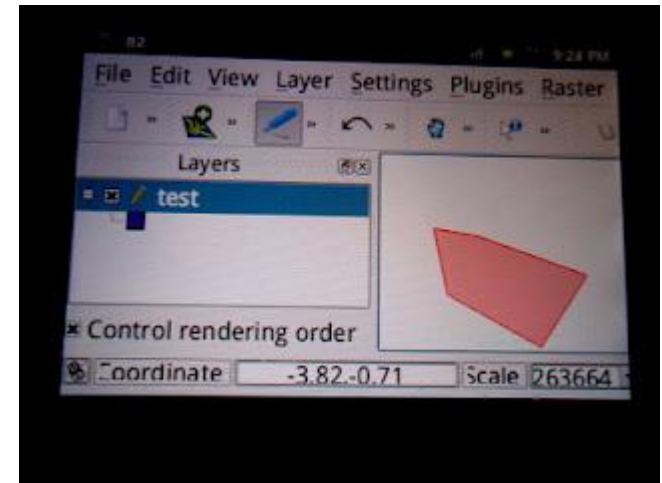
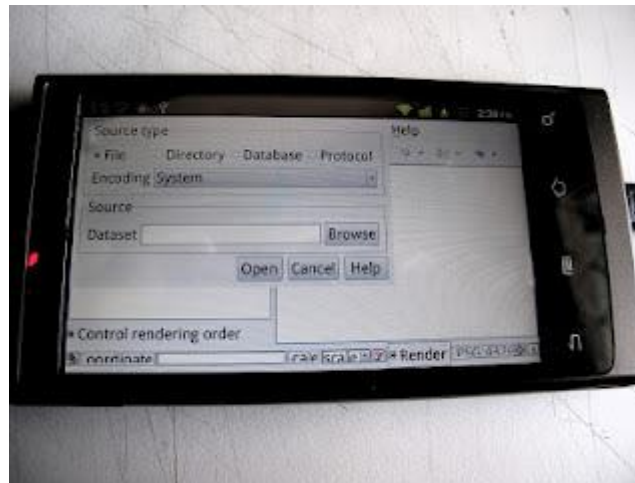


Post 2012

JPBD INTEGRATED LANDUSE PLANNING SYSTEM (iPLAN)



QGIS MOBILE



EPILOGUE

QGIS HELPS:

- ◆ **SAVE GOVT RM MILLIONS;**
- ◆ **AVOID PIRATE GIS;**
- ◆ **UPDATES ARE FREE & FREQUENT;**
- ◆ **EASILY AVAILABLE & VARIETY OF MODULES;**
- ◆ **CLIENT GIS - GEODATABASE**



THANK YOU

