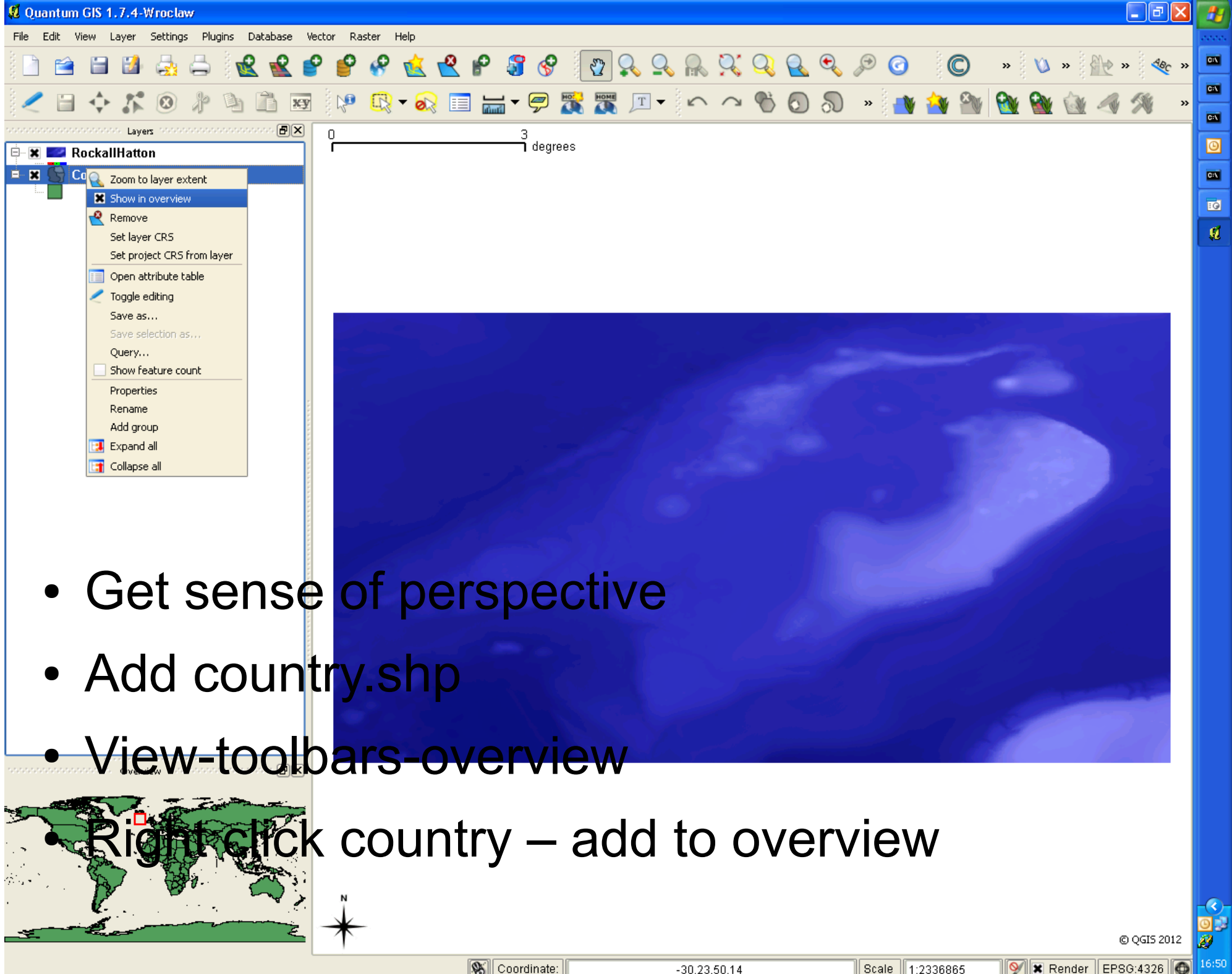
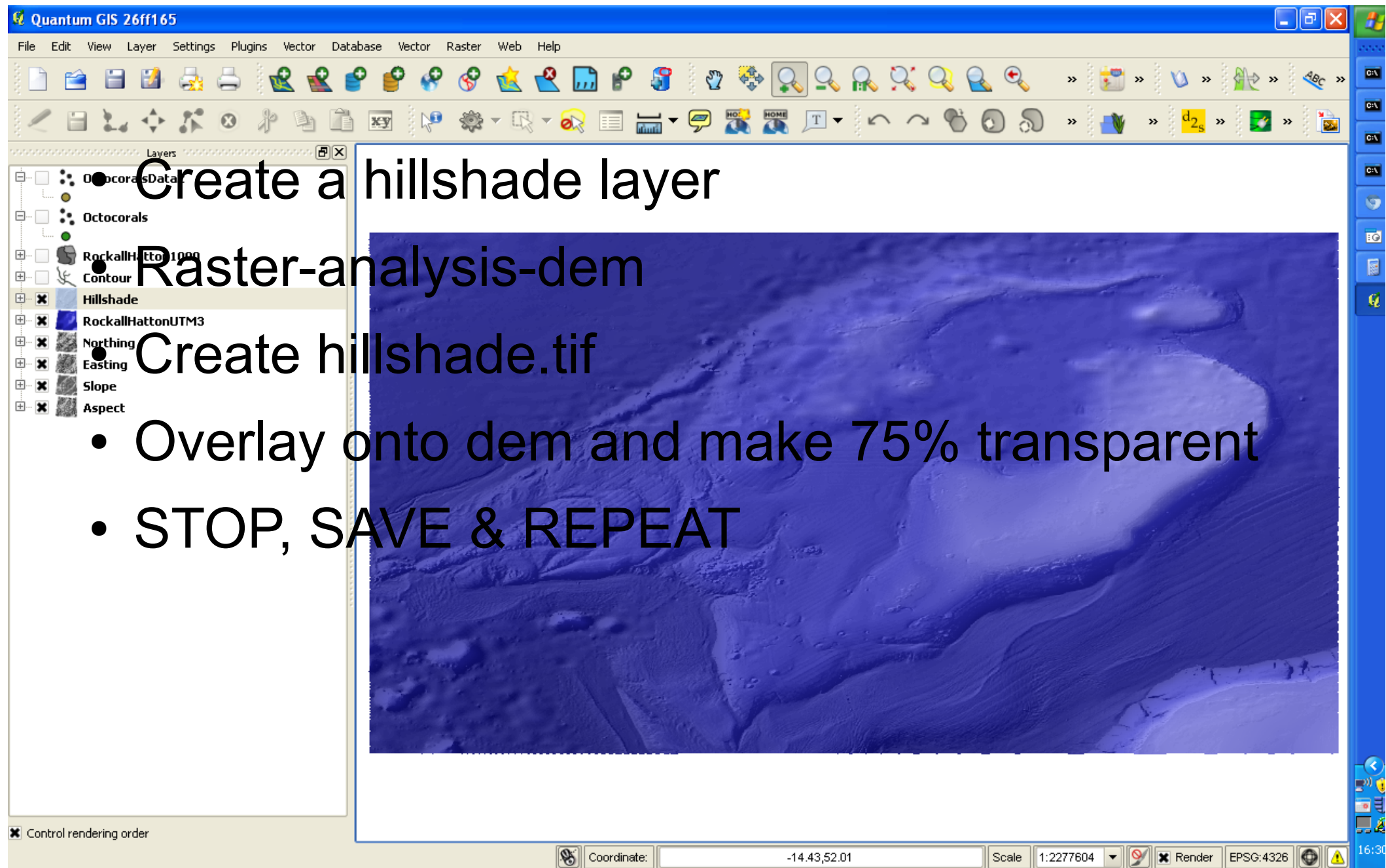


Open data/DEM/RockallHatton.tif
Use colour ramp etopocolours.qml



- Get sense of perspective
- Add country.shp
- View-toolbars-overview
- Right click country – add to overview



• Create a hillshade layer

• Raster-analysis-dem

• Create hillshade.tif

- Overlay onto dem and make 75% transparent
- STOP, SAVE & REPEAT

Quantum GIS 1.7.4-Wroclaw

File Edit View Layer Settings Plugins Database Vector Raster Help

Layers

- RockallHatton
- Country

0 3 degrees

- Create depth contours
- Raster-extraction-contours
- Create 1000m depth contours
- file=contours.shp
- Attribute=depth
- Add layer to canvas

Contour

Input file (raster): RockallHatton

Output file for contour lines (vector): a:/DEM/Contour.shp

Interval between contour lines: 500.0

Attribute name: Depth

If not provided, no elevation attribute is attached.

Load into canvas when finished: ☒

gdal_contour -a Depth -i 500.0
C:/Chris/Teaching/GIS/ZSL201203/Data/DEM/RockallHatton.tif
C:/Chris/Teaching/GIS/ZSL201203/Data/DEM/Contour.shp

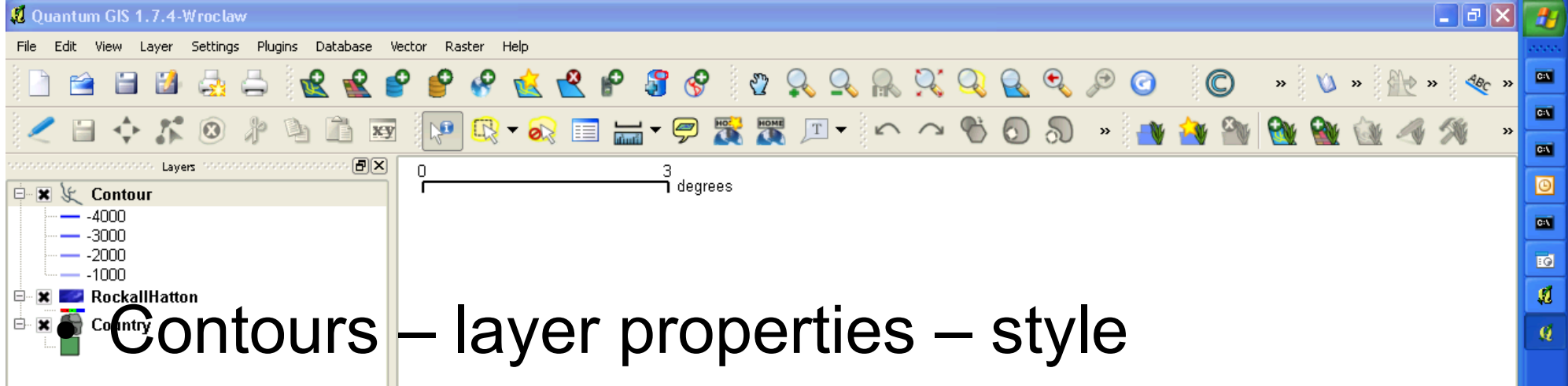
OK Close Help

Overview

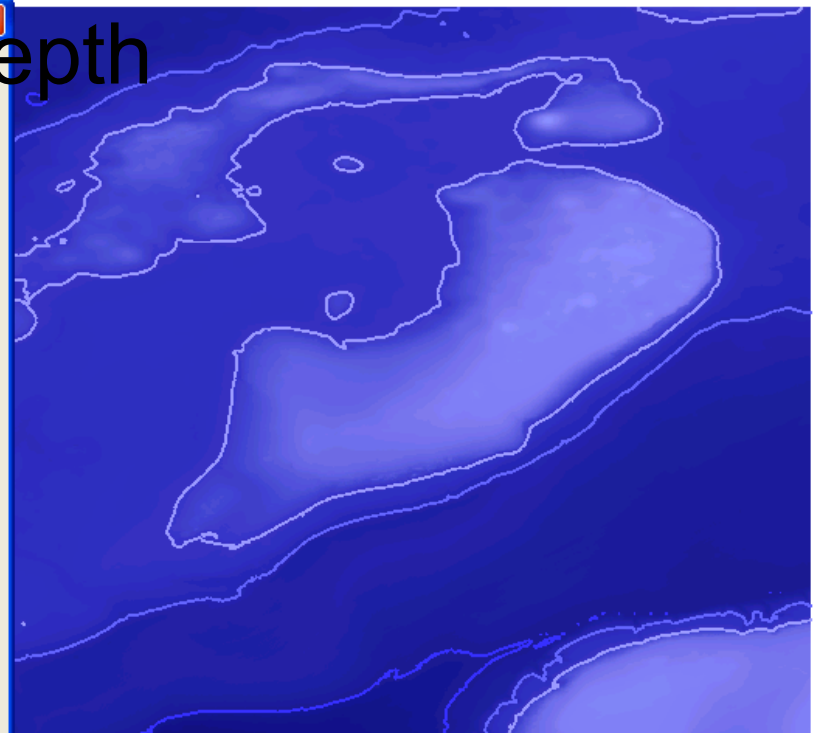
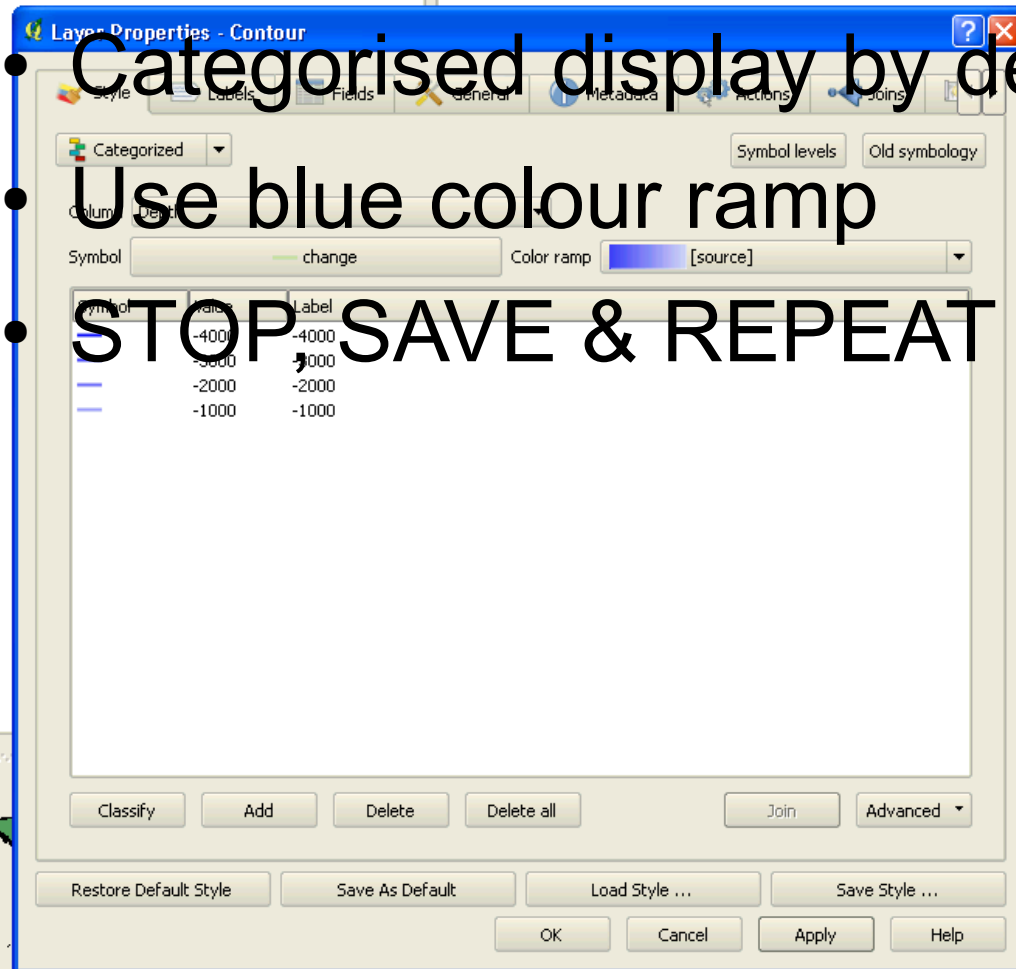
© QGIS 2012

Coordinate: -17.16,55.72 Scale: 1:2336865 Render EPSG:4326

16:54



- Categorised display by depth
- Use blue colour ramp
- STOP, SAVE & REPEAT



Quantum GIS 1.7.4-Wrocław

File Edit View Layer Settings Plugins Database Vector Raster Help

Layers

- Contour
 - 4000
 - 3000
 - 2000
 - 1000
- RockallHatton
- Country

0 3 degrees

Create shape file for Rockall and Hatton banks depth > 1000m

- Select depth contours
- Edit – copy features
- Create new shape – type = line
- Add text column “name”
- Call file RockallHatton1000contour.shp

New Vector Layer

Type: ☐ Point ☒ Line ☐ Polygon

EPSG: 326 - WGS 84 Specify CRS

New attribute

Name

Type Text data

Width 80 Precision

Add to attributes list

Name	Type	Width	Precision
id	Integer	10	
Name	String	80	

Remove attribute

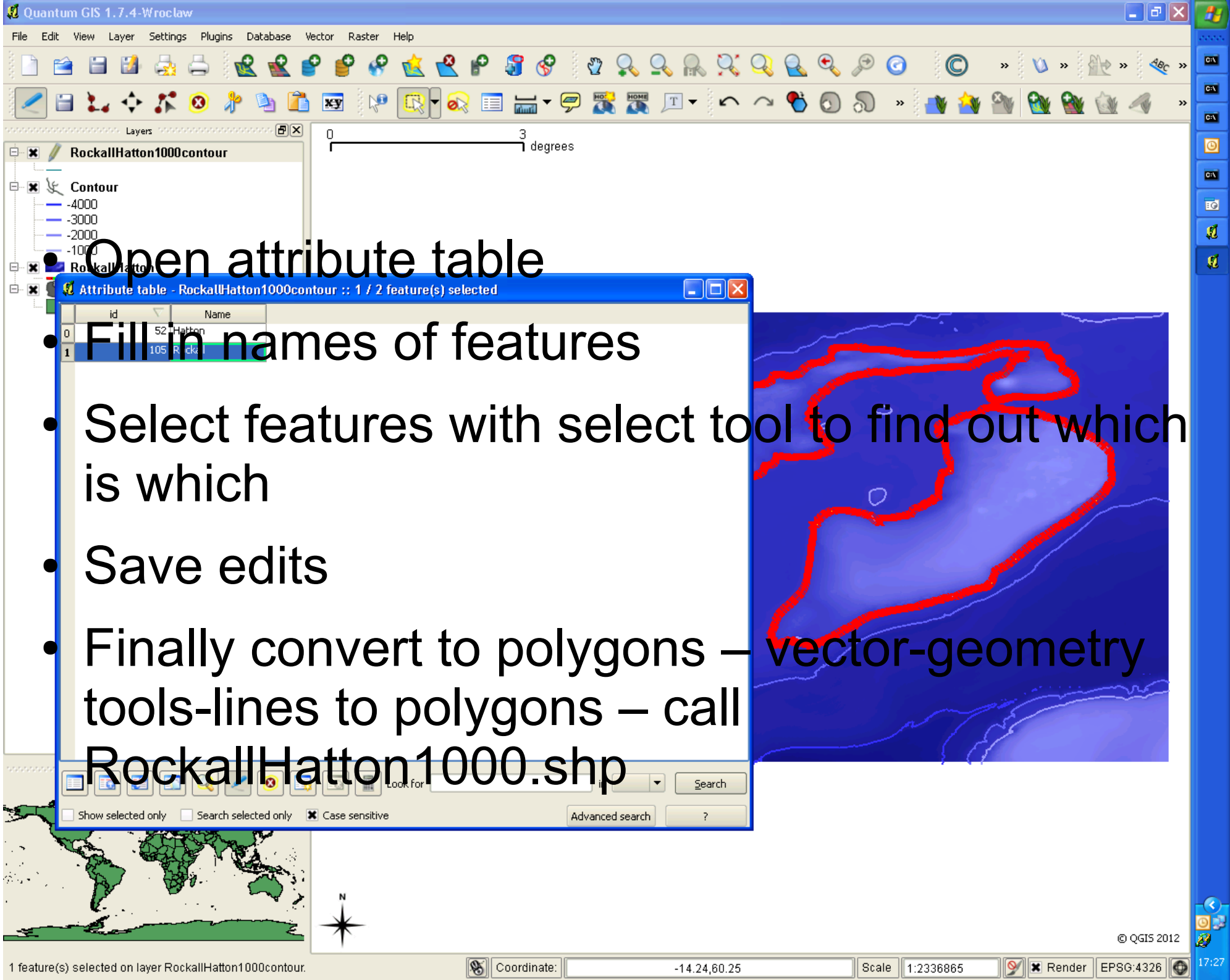
Overview

Toggle editing

Paste features

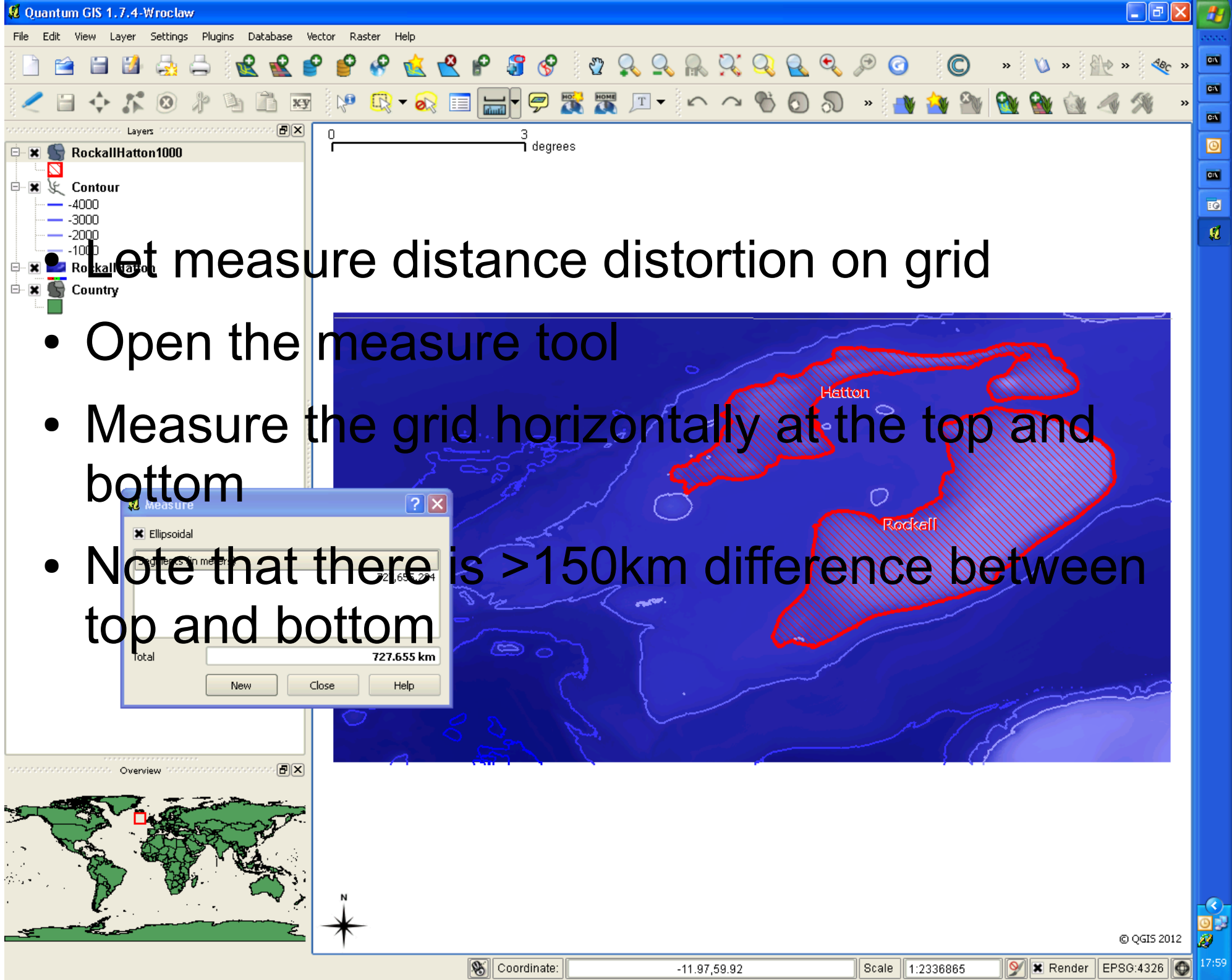
© QGIS 2012

Coordinate: -24.50,57.84 Scale 1:2336865 Render EPSG:4326 17:20



- # STOP, SAVE & REPEAT





Quantum GIS 1.7.4-Wroclaw

File Edit View Layer Settings Plugins Database Vector Raster Help

Layers

- RockallHatton1000
- Contour
 - 4000
 - 3000
 - 2000
 - 1000
- RockallHatton
- Country

0 200 km

Select UTM projection

We want UTM zone 28N

Change project CRS to WGS84/UTM zone 28N

Project Properties

Global Coordinate Reference System (CRS) Identifiable layers WMS Server

☒ Enable 'on the fly' CRS transformation

Coordinate Reference System	Authority ID	ID
WGS 84 / UTM zone 23S	EPSG:32723	3173
WGS 84 / UTM zone 24N	EPSG:32624	3108
WGS 84 / UTM zone 24S	EPSG:32724	3174
WGS 84 / UTM zone 25N	EPSG:32625	3109
WGS 84 / UTM zone 25S	EPSG:32725	3175
WGS 84 / UTM zone 26N	EPSG:32626	3110
WGS 84 / UTM zone 26S	EPSG:32726	3176
WGS 84 / UTM zone 27N	EPSG:32627	3111
WGS 84 / UTM zone 27S	EPSG:32727	3177
WGS 84 / UTM zone 28N	EPSG:32628	3112

+proj=utm +zone=28 +ellps=WGS84 +datum=WGS84 +units=m +no_defs +towgs84=0,0,0

Search

Authority All Search for ID ☐ Hide deprecated CRSs

Find

Recently used coordinate references systems

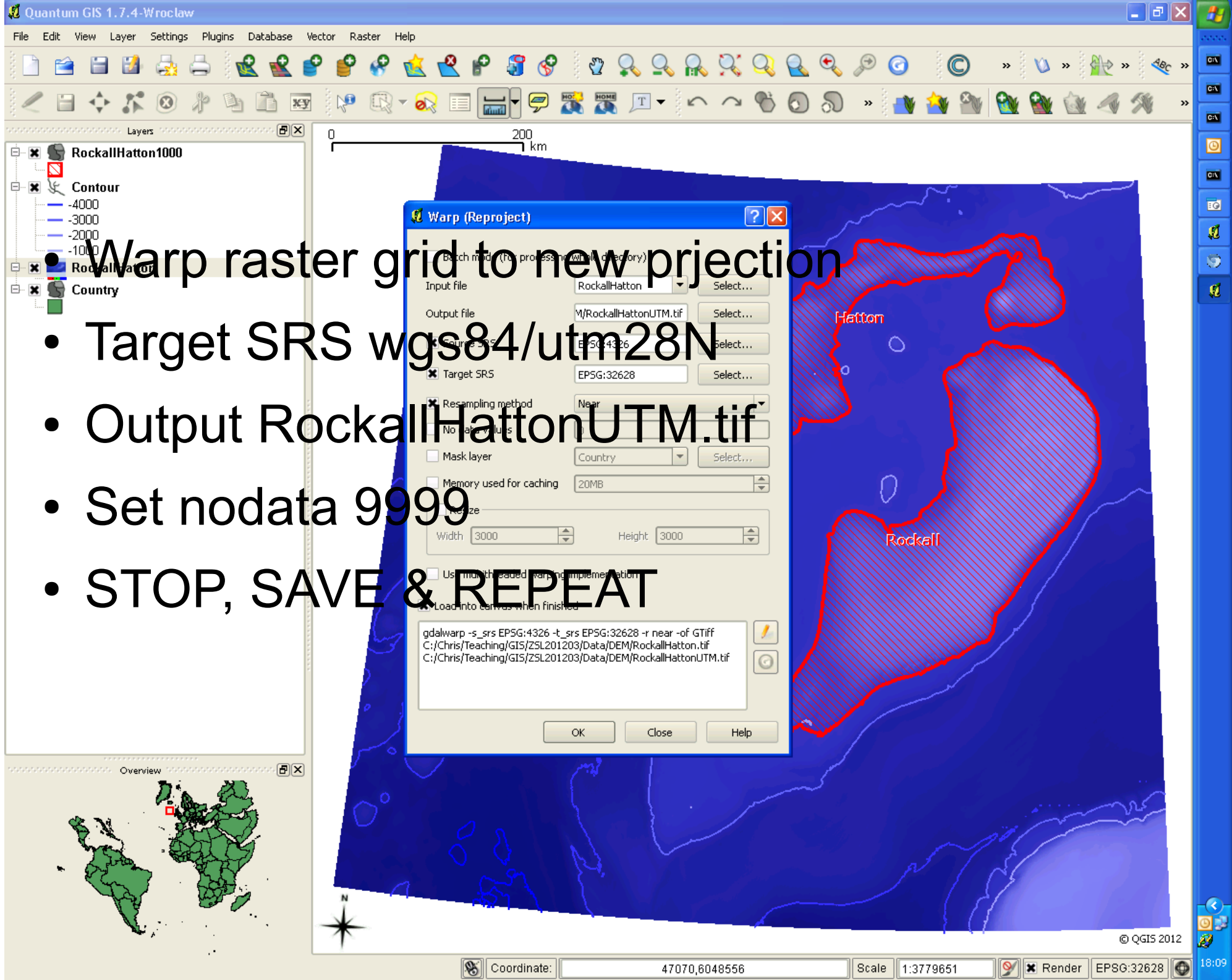
Coordinate Reference System	Authority ID	ID
Google Mercator	EPSG:900913	3644
WGS 84	EPSG:4326	3452
OSGB 1936 / British National Grid	EPSG:27700	2437
WGS 84 / UTM zone 28N	EPSG:32628	3112

OK Cancel Apply Help

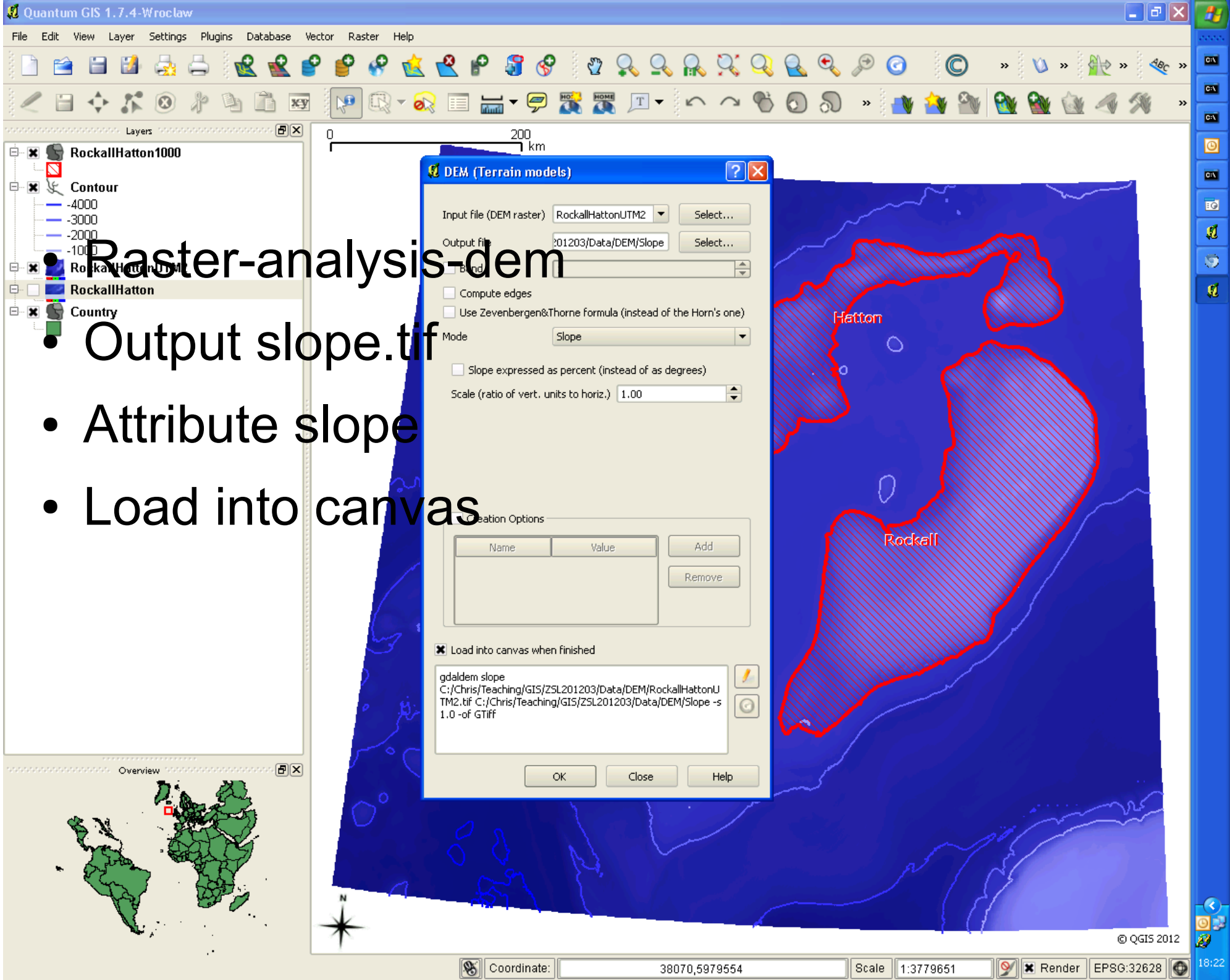
© QGIS 2012

Coordinate: -191938,6686577 Scale: 1:3779651 Render EPSG:32628

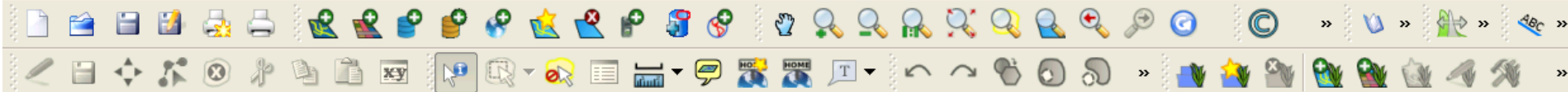
18:07



- Warp raster grid to new prjection
- Target SRS wgs84/utm28N
- Output RockallHattonUTM.tif
- Set nodata 9999
- STOP, SAVE & REPEAT



- Raster-analysis-dem
- Output slope.tif
- Attribute slope
- Load into canvas



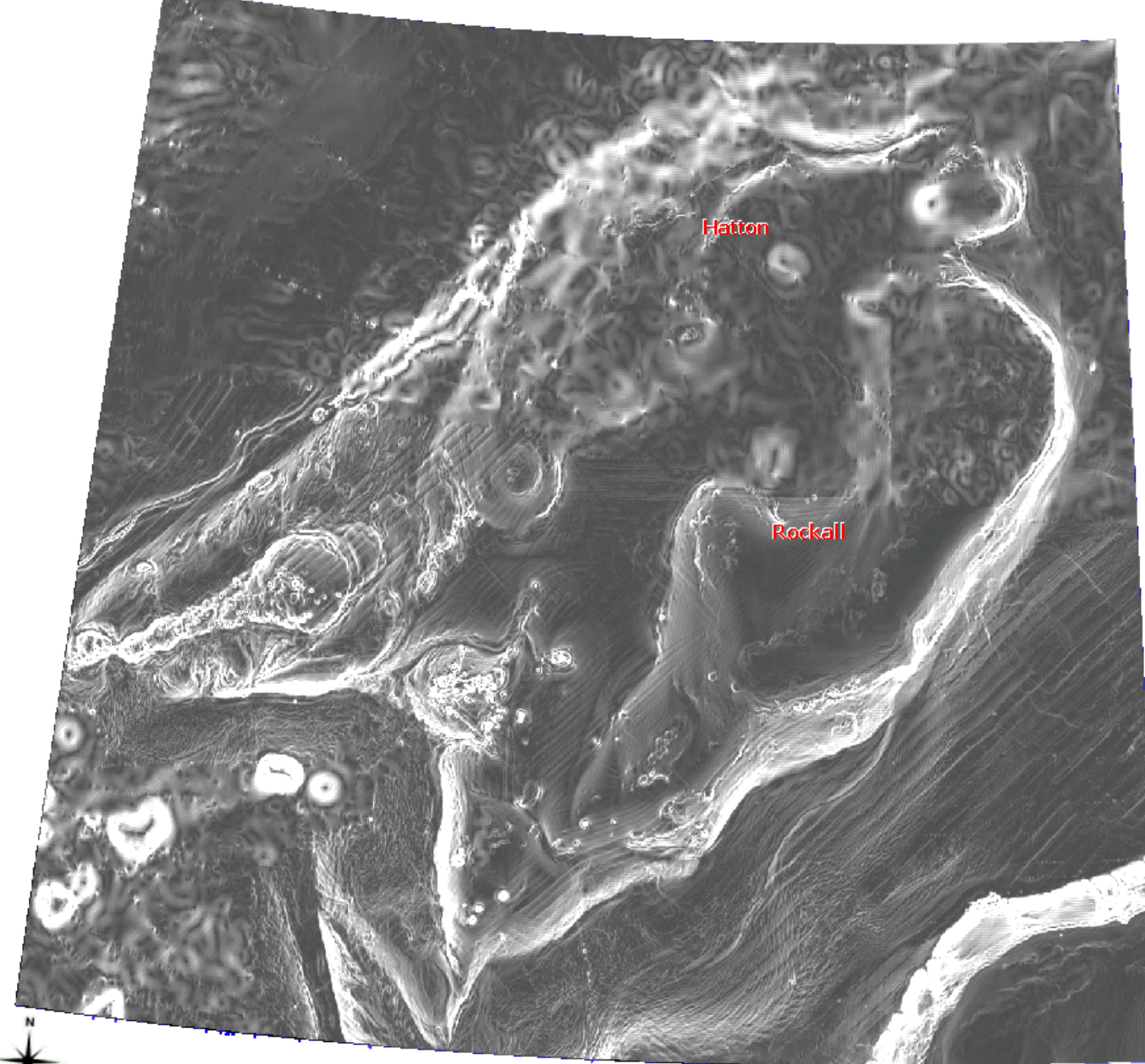
Layers

- ☒ Slope
- ☒ RockallHattonUTM3
- ☒ RockallHatton1000
- ☒ Contour
 - 4000
 - 3000
 - 2000
 - 1000
- ☒ RockallHatton
- ☒ Country

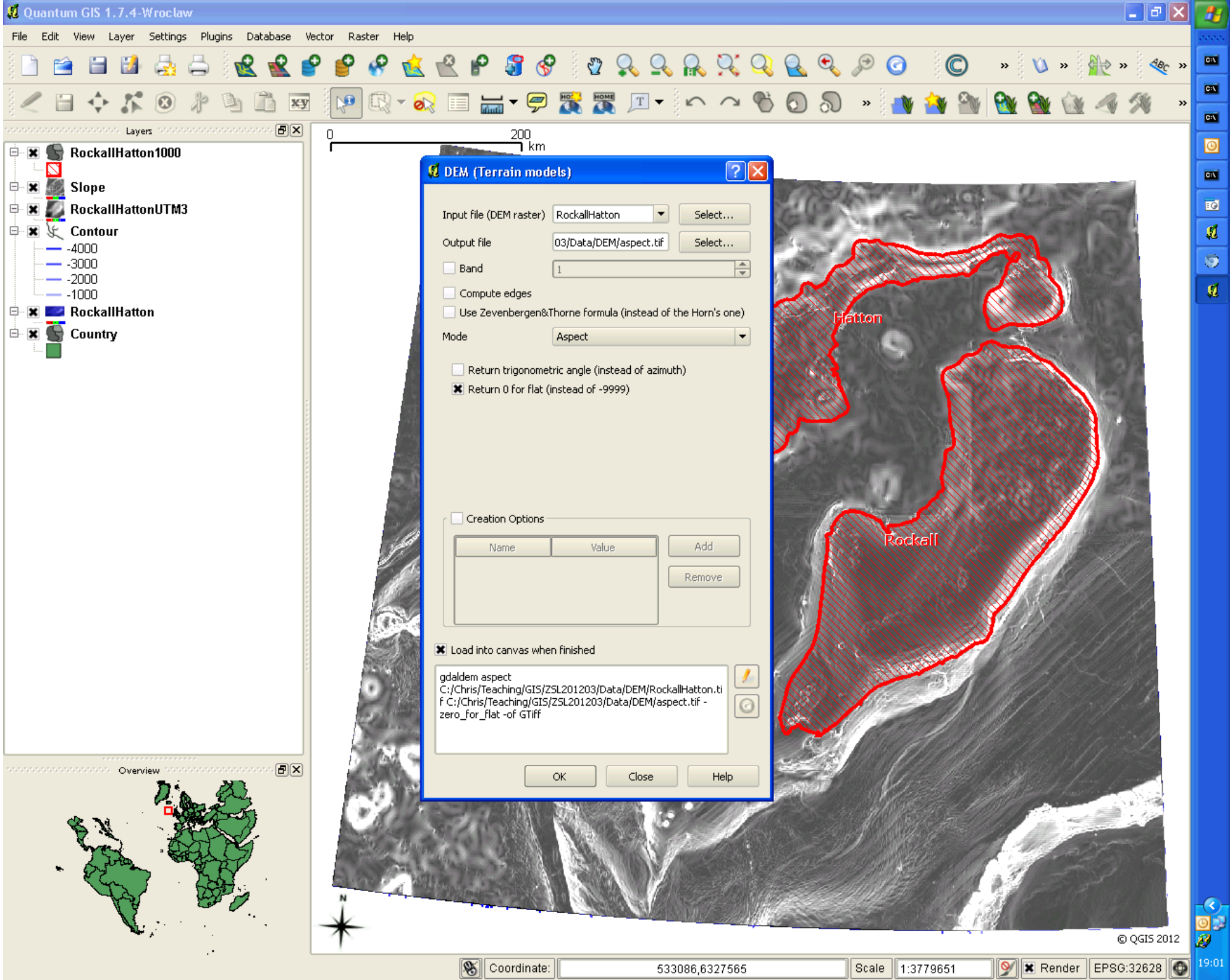
Overview

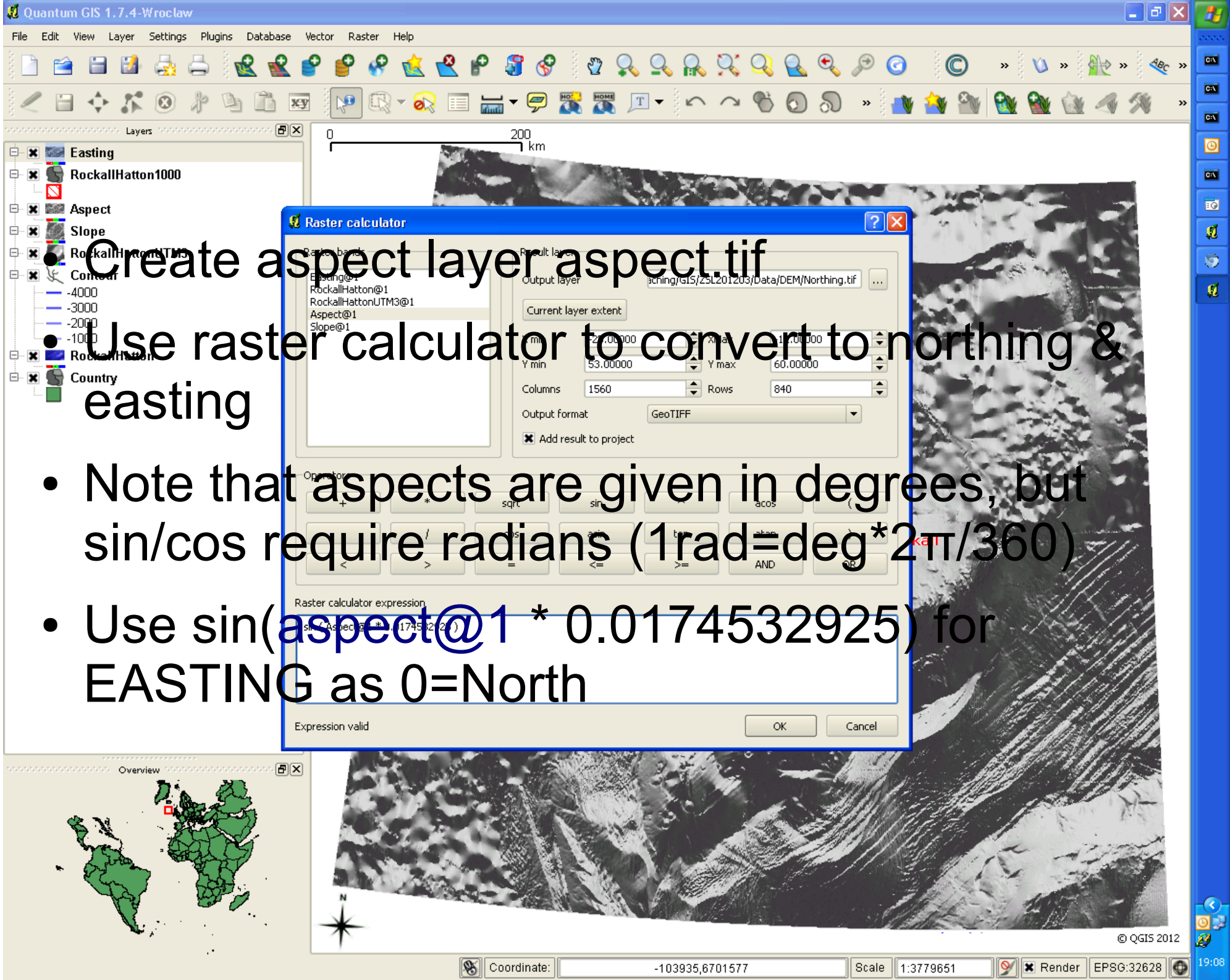


0 200 km

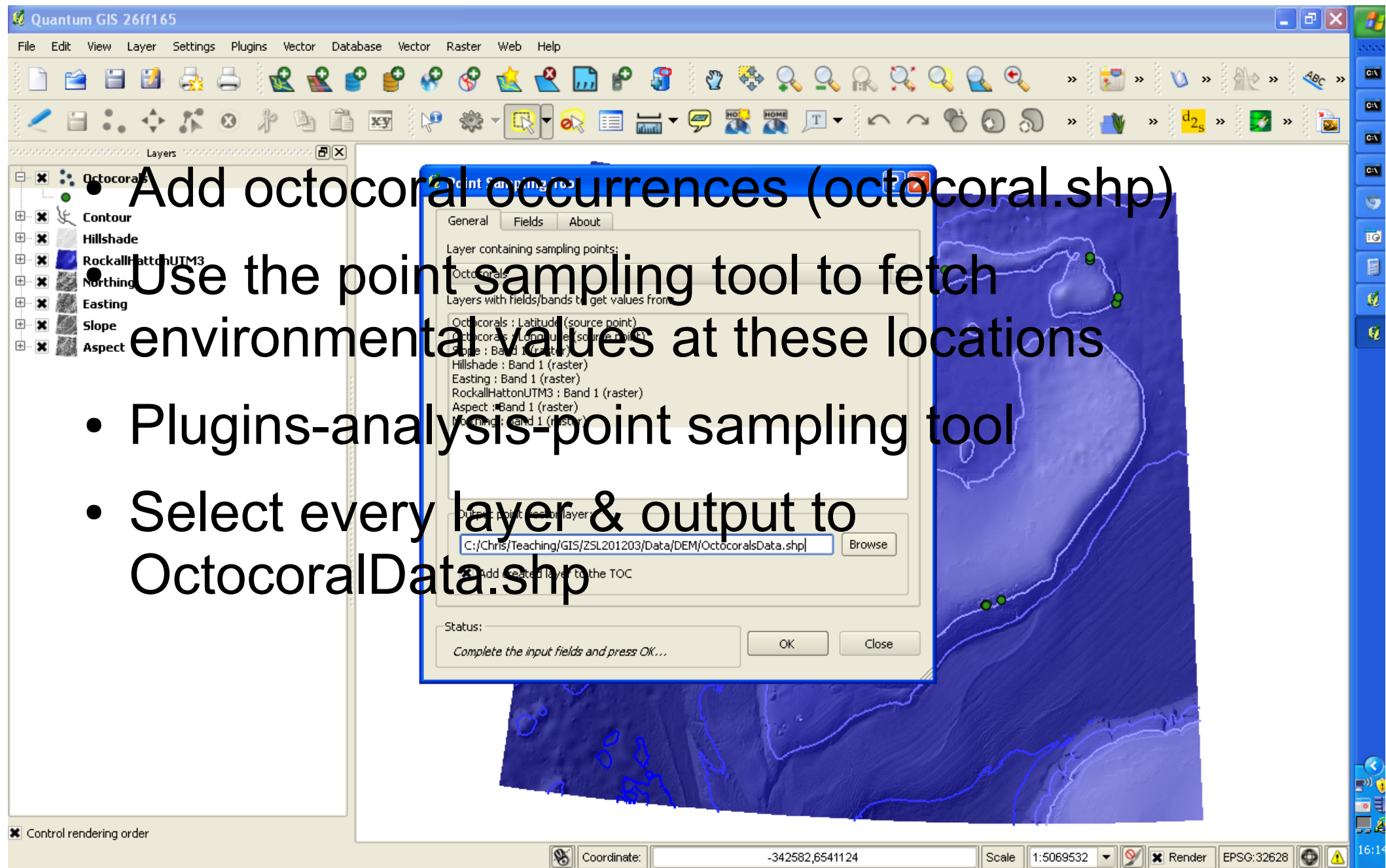


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- Create aspect layer aspect.tif
- Use raster calculator to convert to northing & easting
- Note that aspects are given in degrees, but sin/cos require radians ($1\text{rad} = \text{deg} * 2\pi / 360$)
- Use $\sin(\text{aspect@1} * 0.0174532925)$ for EASTING as 0=North



- Add octocoral occurrences (octocoral.shp)
- Use the point sampling tool to fetch environmental values at these locations
- Plugins-analysis-point sampling tool
- Select every layer & output to OctocoralData.shp

Quantum GIS 2.6.165

File Edit View Layer Settings Plugins Vector Database Vector Raster Web Help

Attribute table - OctocoralsData2 :: 0 / 120 feature(s) selected

	RH	Slope	Shade	Easting	Depth	Aspect	Normal
0		0.82441	180	-0.53866	-804	212.593	-0.84252
1		0.71019	178	0.75357	-658	131.1	-0.65737
2		3.09607	173	0.09186	-640	174.729	-0.99577
3		3.09607	173	0.09186	-640	174.729	-0.99577
4		5.60828	163	0.844	-609	122.436	-0.53635
5		1.70722	173	-0.11336	-592	186.509	-0.99355
6		1.70722	173	-0.11336	-592	186.509	-0.99355
7		1.70722	177	-0.11336	-592	186.509	-0.99355
8		13.7252	138	0.95858	-1229	106.547	-0.28481
9		0.86717	183	-0.86662	-649	299.932	0.49996
10		0.86717	183	-0.86662	-649	299.932	0.49996
11		1.70722	177	-0.11336	-592	186.509	-0.99355
12		1.70722	173	-0.11336	-592	186.509	-0.99355
13		2.46617	173	0.09186	-610	131.634	-0.66436
14		3.09607	173	0.09186	-640	174.729	-0.99577
15		3.28972	173	0.03803	-594	177.82	-0.99928
16		3.28972	173	0.03803	-594	177.82	-0.99928
17		3.09607	173	0.09186	-640	174.729	-0.99577
18		0.71019	178	0.75357	-658	131.1	-0.65737
19		3.09607	173	0.09186	-640	174.729	-0.99577
20		3.09607	173	0.09186	-640	174.729	-0.99577
21		0.71019	178	0.75357	-658	131.1	-0.65737

Look for in Search

☐ Show selected only ☐ Search selected only ☒ Case sensitive

Advanced search ?

Coordinate: -315756,6588070 Scale: 1:5069532 Render EPSG:32628

Control rendering order

16:20

- Open the attribute table of octocorals data
- Now you have a table of environmental values at the locations of your samples
- You can open the octocorals data.dbf file in excel or R to analyse