ROUGH GUIDES

Isopachyte Modelling



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Introduction

This Rough Guide explains how to create an Isopachyte (Level difference) model, and use coloured height bands to show areas of cut and fill between an OGL and Design models.

Outputting the level difference between two surveys.



Start by opening the Original Ground Survey (OGL)

The design model that we are going to compare the level difference to is an adapted version of the Ground survey in the LSS Testdata, specifically created for this Rough Guide.



We will then use the command "Output / Level Difference - At Observations".

Output Level	Difference at Obs	x					
Create file :	Isopachyte	Browse Edit Next					
Other survey	: C:\Surveys\Testdata\Ground\DESIGN.LSS	Browse					
	Current Survey Area Entire survey Surface feature : none Select Locate Level difference to BASE of surface depth Options	Points from Current survey Other survey Both					
Central difference positive where current survey above other Include Non-terrain observations (entire Current survey only) Generate extra points along links : None							
• At mid-point • Intersection of other survey triangle sides							
	Back OK Cancel	Help					

We will consider the Entire current survey area and include points from BOTH surveys. This will produce the most concise level difference model.

For this exercise, we will leave all the other options as default.

On clicking Ok, LSS will generate the level difference load file and prompt to Save and Load.



Continue through the process of creating a new survey and Input Loading the data in.



To display the coloured height bands, we need to go to the command "Configure / DTM Display".

Configure Dtm Display			
Options	Terrain contours	Display Presets	
Observations : Dot ~	✓ Interval : 1 (m)		Update
Points/Links : All ~	Prominent (Normalx) : 5	Contours Dats only	
Surfaces : All 🗸	Smoothed	Traverse	Delete
Control : All ~	Special features		
DTM : Off ~	Colour height bands Settings		
Grid : 50 (m) Ticks ~	Attachments		
Text and Plotting parameters	Settings		
Observations : 🔽 Levels 🗌 Numbers	Cursor 3D co-ordinates		
Stations : 🗌 Levels 🔽 Names	Scroll factor : 0.4	—	
General B/g B/g only	Zoom All + unused stations		
Point feature ID	Overlays - Terrain, Non-terrain, Crossing Lir	nks	
	T: 🗹 3-D: 🗌 Colour: Sel	ect 🛛 🔄 2-D : 📄 Colour : 🗾	Select
Scale 1 : 200	N · 🖉 3-D · 🛛 Colour · 🔽 Sal	ect 2-D · Colour ·	Select
Bearing : 0.0000 (degr) Mode			Jeleu
Plot colours White background	C : 🗹 3-D : 🔽 Colour : 🚺 Sel	ect 🛛 🗹 2-D : 🔽 Colour : 🚺	Select
	Back OK Cancel He	elp	

Here we need to select the option for "Colour height bands" and click the Settings button.

ds :	_						
		Select	Less than : 0	(m)	Select		
4.5	(m)	Select	Less than : -0.75	(m)	Select		
3.75	(m)	Select	Less than : -1.5	(m)	Select		
3	(m)	Select	Less than : -2.25	(m)	Select		
2.25	(m)	Select	Less than : -3	(m)	Select		
1.5	(m)	Select	Less than : -3.75	(m)	Select		
0.75	(m)	Select	Less than : -4.5	(m)	Select		
Options Reset all to last saved: Set Equal bands to cover Current survey height range Set Base level : -40 (m) Increment : 10 (m) Set							
	4.5 3.75 3 2.25 1.5 0.75 Options Reset all to last a Equal bands to a Page laws in [4]	4.5 (m) 3.75 (m) 3 (m) 3 (m) 2.25 (m) 1.5 (m) 0.75 (m) Options	4.5 (m) Select 3.75 (m) Select 3 (m) Select 2.25 (m) Select 1.5 (m) Select 0.75 (m) Select 0.75 (m) Select Options	4.5 (m) Select Less than : -0.75 3.75 (m) Select Less than : -1.5 3 (m) Select Less than : -2.25 2.25 (m) Select Less than : -3 1.5 (m) Select Less than : -3 0.75 (m) Select Less than : -3.75 0.75 (m) Select Less than : -4.5 Options Reset all to last saved: Set Set Equal bands to cover Current survey height range Set Set	4.5 (m) Select Less than : -0.75 (m) 3.75 (m) Select Less than : -1.5 (m) 3 (m) Select Less than : -2.25 (m) 2.25 (m) Select Less than : -2.25 (m) 1.5 (m) Select Less than : -3.75 (m) 1.5 (m) Select Less than : -3.75 (m) 0.75 (m) Select Less than : -4.5 (m) Options Reset all to last saved: Set Equal bands to cover Current survey height range Set Pase lawel : 40 (m) Set		

By clicking the "Set" button to "Equal bands to cover current survey height range, LSS will divide the level range by 13 height bands and populate the values.

Configure Dtm Display - Height ranges								
Height ranges								
Above bar	nds :		Select	Less than : 0	(m)	Select		
Less than	: 4.5	(m)	Select	Less than : -0.75	(m)	Select		
Less than	: 3.75	(m)	Select	Less than : -1.5	(m)	Select		
Less than	: 3	(m)	Select	Less than : -2.25	(m)	Select		
Less than	: 2.25	(m)	Select	Less than : -3	(m)	Select		
Less than	: 1.5	(m)	Select	Less than : -3.75	(m)	Select		
Less than	: 0.75	(m)	Select	Less than : 4.5	(m)	Select		
Options Reset all to last saved: Set Equal bands to cover Current survey height range Set Base level : 40 (m) Increment : 10 (m) Set Back OK Cancel Help								

We can then apply our own preferred colours to each range value.

Upon clicking Ok, LSS will then display the coloured height bands in the model.



When plotting, it is possible to include the height bands by adding an appropriate HEIGHT command in the Plan Description File(PDF). It is also possible to include a colour band Key by including the RANGES command. There are examples of this in the PDF folder in the LSS Testdata.

However, to include the height bands and a key when exporting to DXF, even though there are AutoCAD Description File (ADF) HEIGHT command, which will automatically include the ranges Key, if when exporting to DXF you use the "As per Conigure / DTM display.... " command, LSS will automatically include that is displayed on the screen and also include the ranges key...



If you need further Technical Support, or you wish to attend any training courses please contact us...

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