The Digital City: Interpolation Map

Manual: Weixuan Li, 2017

As you have already seen from the past two weeks, the Excel spreadsheet contains 1562 kohier information will serve as your main source understanding your own block. In this assignment, you need to link the 1562 kohier record with the cadastral map and create an interpolation map based on the 1562 housing value. You will need the following information from the 1562 kohier table:

	Α	В	С	D	E	F	G	H	- I -	J	к	L	М	N	0	Р	4
1	ID	Fol.	Persoonsnaam	Beroep	M/V bewoner	Straat	KadSectieN	i Nr.	Bouwblok	Aanduiding/ huisnaam	Opmerkingen	M/V eigenaar	Huurwaarde				
1222	6016	333	Gerijt van Valckenburch		m	Warmoesstraat	G376/375	2-4				m	120				
1223	6017	333	Fflorijs van Roedenburch		m	Warmoesstraat	G374		6			m	200				
1224	6018	333	Govert Jansz		m	Warmoesstraat	G373/372		в			m	150				
1225	6019	333	Duijff Adriaen Ockersz		v	Warmoesstraat	G371/370	1	0	[zeepziederij]		v	170				
1226	6020	333	Mathijs Mathijsz		m	Warmoesstraat	G369/368	1	2			m	150				
1227	6021	333	Adriaen Paeuw		m	Warmoesstraat	G367	1	4			m	200				
1228	6022	333	Cornelis Louffsz		m	Warmoesstraat	G366	1	6		h. van Griet Barten	v	300				
1229	6023	333v	Harman Int boot		m	Warmoesstraat	G364	16a				m	140				
1230	6024	333v	Hans Wilkes		m	Warmoesstraat	G363	1	в		h. van Gerijt Stuver	m	210				
1231	6025	333v	Gerijt Jansz in Parijs		m	Warmoesstraat	G362	2	0	In Parijs	h. van Jacob Henricxz	m	162				

- ID An unique number that indicates the number of the record in the entire document
 - Bouwblok Building block, we can add this, based on the block map
- Beroep Profession

.

- Straat Street name
- Opmerkingen h. van means: tenant, house is owned by XX
- Huurwaarde Rent value of the house (per year)

Once you have linked the two sources, the following manual will show you how to create an interpolation map in QGIS.

Task 1: Find your own block on the map

- Create a blank project and set the coordinate system to Amersfoort RD/new; EPSG:28992 (as you did in the previous weeks)
- Load AMS_Blokkenkaart.shp and OmgevingWarmoesstraat.shp
- Right click OmgevingWarmoesstraat.shp → [Open Attribute Table]



To select the parcels that belongs to your block: in the lower left corner, click [Show All Features] → [Field Filter] → [Bouwblok]

1	× 13 13			· · · · · ·					
	id	Bouwblok	Huurwaarde	Beroep	EigHuur	Straatnaam v	info		
	6232	80	80			Warmoesstr			
	6233	80	200	zeepzieder		Warmoesstr			
	6234	80	160		h. van Hans	Warmoesstr			
	6236	80	120			Warmoesstr			
	6237	80	180		h. van Jacob	Warmoesstr			
	6220	80	122		h. van Jan V	Warmoesstr			
	6145	95	105		h. van Neel J	Warmoesstr			
	6146	95	60			Warmoesstr			
	6147	95	70			Warmoesstr			
)	6148	95	130			Warmoesstr			
	6149	95	110			Warmoesstr			
2	6150	95	70			Warmoesstr			
	6151	95	40		h. van Geert	Warmoesstr			
	6195	84	180		h. van Sijmo	Warmoesstr			
1	Show All Featu	res Features	160			Warmoesstr			
ŝ	Show Features	Visible On Map	240		h. van de	Warmoesstr			
H	Show Edited ar	nd New Features	abe id			Warmoesstr			
1	Advanced Filte	r (Expression)	abe Bouwbloi	()		Warmoesstr		1-1	
	Show All Features	s .	123 Huurwaa abe Beroep abe EigHuur abe Straatnaa abe info	ırde Irm	-				

• In the bottom line of the attribute table window, fill in the block number of your choice (in the following steps, I will use Blok78 as an example) and hit [Enter], the parcels belong to your block will be filtered.

	id	Bouwblock	Huurwaarde	Beroep	EigHuur	Straatnaam 🔻	info	
1	6232	80	80			Warmoesstr		
2	6233	80	200	zeepzieder		Warmoesstr		
3	6234	80	160		h. van Hans	Warmoesstr		
4	6236	80	120			Warmoesstr		
5	6237	80	180		h. van Jacob	Warmoesstr		
8	6220	80	122		h. van Jan V	Warmoesstr		
7	6145	95	105		h. van Neel J	Warmoesstr		
в	6146	95	60			Warmoesstr		
9	6147	95	70			Warmoesstr		
10	6148	95	130			Warmoesstr		
11	6149	95	110			Warmoesstr		
12	6150	95	70			Warmoesstr		
13	6151	95	40		h. van Geert	Warmoesstr		
14	6195	84	180		h. van Sijmo	Warmoesstr		
15	6196	84	160			Warmoesstr		
16	6191	85	240		h. van de	Warmoesstr		
17	6192	85	150			Warmoesstr		
18	6193	85	110			Warmoesstr		

• To select the filtered parcels belonging to your block, click on the upper left corner of the table to select all filtered records – all selected records will be highlighted in blue:

id	Bouwblok	Huurwaarde	Beroep	EigHuur	Straatnaam 🔻	info
	78					
12	78					
13	78					
14	78					
15	78					
16	78					
17	78					
18	78					
19	78					
20	78					
21	78					
22	78					
23	78					
24	78					

• Going back to the map window, your selected parcels will be highlighted in yellow:



• Then you may export the selected parcels as a new layer: in the [Layers Panel], right click *OmgevingWarmoesstraat* layer, and select [Save As].

	•							QGIS 2.18	9 - week 3						
			- R - R	1	(ک	1 II 🔍	Q Q	8		2 9	(Q,)	€, € , □	L 🛅 🖾 🕻	Σ 🛲 🗸	P T, 2
1.	1	8 8	6. 8	灰面	× B		🌒 🖻	-	-	res csv	- 🔧 E	h 🛥 😊	4 3		
		Project hon Home Favourites / Nolumes DB2 MSSQL PostCIS SpatiaLite Q Q MSSQ AMS	Erowser Panel		Com to Layer w in Overview Remove Duplicate Layer CRS Project CRS fr Bogen Attribute toggle Editing JABL. b As Layer Def w Feature Cou- enties ame	sibility om Layer Table inition File									
Toggle	s the	editing state of	the current laye	r i	Coordinate 12	1375.9,48754	13.2 8	Scale 1:2,196		A Magnifie	r 100%	C Rotation 0	.0 🗘 🗹 Re	nder 🕥 EPSG	28992

- In the pop-up window, in the [File Name] menu, click [Browse] and save this new layer, in this case, I name this layer [Blok78].
- In the [Encoding] menu, check the [Save only selected features] option to export only parcels within your block. Then click [OK].

	0			QGIS 2,1	8.9 - week 3			
0		🕞 🔍 🖑 🗞 🚰		📲 🎧 Tộn 🏠 🏠	in 🗊 🕋 👩 for layer as	A 17 6	- 😼 🛅 🔛 Σ	
11.	1 13 3	Tor 3 1 to 1					😔 🍕	
9,00	00	Browser Panel	Format	ESRI Shapefile				
Va		0	File name			Browse		
0	Home		Layer name					
	Favourites		CRS	Selected CRS (EPSG:28992,	Amersfoort / RD New)	0		
•	MSSQL PostGIS		Encoding		System			
	SpatiaLite	Layers Panel	Save only Select field	selected features Ids to export and their export	options			
	× A × T	E. 1 1 1.	Add saved	file to map				
9.	Omgev	ingWarmoesstraat	Symbology e	xport	No symbology			
M	MAMS_E	llokkenkaart	Scale	•	1:50000			
V°,			Geometry t	ype	Automatic	0		
2			Force m	ulti-type z-dimension				
			▶ Exten ▼ Layer Op	it (current: layer) itions				
			RESIZE	NO		0		
			Help		C	ancel OK		
Toggle	s the editing state of t	he current layer Coord	linate 121377.5	5,487433.2 🛞 Scale 1:2,19	Magnit	lier 100% C Rotation	n 0.0 C Render	@ EPSG:28992 @

• Your new layer will be added to the [Layers Panel]



In the next assignments, you will create a point layer for every parcel in your block.

Task 2: Create a point layer



In the pop-up window, in [Type] menu, select [Point] and in the [New field] menu, add new fields.
 To add a new field, you need to specify [Name] of the field, [Type] of the data (from the dropdown

menu), **[Length]** of the data and **[Precision]** if it needs decimals. When finish one specification, click **[Add to field list]** (the example below shows a specification of *huurwaarde* field while the *bouwblok* field is already added:

g Sys	System					
RS (EPSG:2899	2, Amersfoort / RD	New)				
Jurwaarde						
	Brasisian 0					
,	Frecision 2					
		Add to fields list				
Туре	Length	Precision				
Integer	10 10					
intogor						
	g Sya CRS (EPSG:2899 Jurwaarde Decimal number Decimal number Decimal number Decimal number Decimal number	g System CRS (EPSG:28992, Amersfoort / RD Jurwaarde Decimal number D Precision 2 Type Length Integer 10 Integer 10				

• Add all fields according to the table below. When you finish, click **[OK]** and save this layer with your file name and location of your choice. In this case, I name it **[Blok78]**

Column name	Description	Туре	Length
id	id number in the Excel table	Whole number	10
bouwblok	Your block number	Whole number	10
huurwaarde	House value in the 1562 kohier	Decimal number	10, precision 2
beroep	Only in some cases available in the 1562 kohier	Text data	35
eig#huur	Ownership in the 1562 kohier	Text data	10
straatnaam	Street name in 1562 kohier	Text data	25
info	Blank, any notes you want to add	Text data	35

Now a new point layer is added to your map:



- Zoom in to your block and select the newly created point layer (i.e., *Blok* 78)from [Layers Panel]
- Right click *Blok 78* and select [Toggle Editing] or click on the *Toggle Editing* button: *L*; then the icon of your layer will turn to a pencil when you are in this Toggle Editing mode

(If you can't find this button, check that the *Digitizing Toolbar* is enabled. There should be a check mark next to the **[View]** –**[Toolbars]- [Digitizing Toolbar]** menu entry.)



Click [Add feature] button from *Digitizing Toolbar* and then in the map window, click on a parcel in your block

• In the pop-up window, fill in manually the information regarding that parcel, based on your investigation in the Excel database. When you finish, click **[OK]**

bouwblok	78	4
huurwaarde	230	-
beroep	NULL	
eig#huur	NULL	
straatnaam	NULL	
info	NULL	

A data point is added to the layer:



• Repeat this process for all the parcels in your block, when you finish, save your project.



Task 3: Make an interpolation map using the point layer

Why do we need an interpolation map? As you may have already encountered, in many cases, historical records are often incomplete or having problem connecting to other sources. Interpolation is an estimation of a value within two known values in a sequence of values and an interpolation map use existing values to project the unknown parts, which may help us understand the historical record and to use them appropriately.

With the point layer you have created in Task 2, here's how to create an interpolation map of your own:

• Go to [Raster] – [Interpolation] – [Interpolation]



- In the pop-up window:
 - In the [Input] menu, select your point layer in [Vector layers], and use *huurwaarde* as [Interpolation attribute], then click [Add]
 - In the **[Output]** menu, you just need to specify the output name (in this case *Blok78interpolation*) and location

0				
	 Number of row 			
0	Number of rows	300		
0	Cellsize Y	0.00000		
	Set to current ext	lent		
		Cellsize Y	Cellsize Y 0.00000	

• When you finish, click **[OK]** and you will see a layer look like this:



- In order to change the style of this interpolation layer, go to [Layer Panel] and double click on the layer's name
- In the pop-up [Layer Properties] window, click [Style] from the left list
- On the [Style] page, go to [Render type] and choose the [Singleband pseudocolor] option from the dropdown menu

• • •	🕺 Layer Properties - Blok 78 interpolation Style
General	■ Band rend Multiband color Paletted Render type ✓ Singleband gray Singleband pseudocolor
I Transparency	Gray band Hillshade
	Color gradient Black to white
	Min 12.1482 Max 146.649
Kana Histogram	Contrast Stratch to MinMay
(i) Metadata	enhancement
-	Load min/max values
E Legend	▼ Color rendering
	Blending mode Normal 📀
	Brightness 0 0 Contrast 0 0
	Saturation 0 C Grayscale Off
	Hue Colorize Strength 100% C
	▼ Resampling
	Zoomed: in Nearest neighbour 📀 out Nearest neighbour 📀 Oversampling 2.00 🗘
	Help Style - Apply Cancel OK

• In the [Color] menu, select [Spectral] and check the [Invert] box – click [OK] when you finish

00			🌠 Layer Prope	erties - Blok78inte	erpolation Style		
General	Band rende	ering					
🥳 Style	Render type	Singleb	and pseudocolor	0			
Transparency	Band	Band 1					2
 Bu Pyramids		Min		12.1482	Max		146.649
	Load min/	max value	25				
- Histogram	Interpolation	Linear					0
Metadata	Color		Spectral		Edit	Invert	
- Legend					1999 9 1994 - L		
	Label unit suffix						
	Min / max origin:	Estimated	I cumulative cut of	full extent.			
	Value	Color	Label				
	12.1		12.1				
	79.4		79.4				
	113		113				
	Help	Style -	Apply				Cancel

Your interpolation map will look like this:



[Questions] What can you learn from this interpolation map? Will it help you to reconsider your original assignment of the kohier record and the cadastral parcels? If so, what change you would like to make and why?