

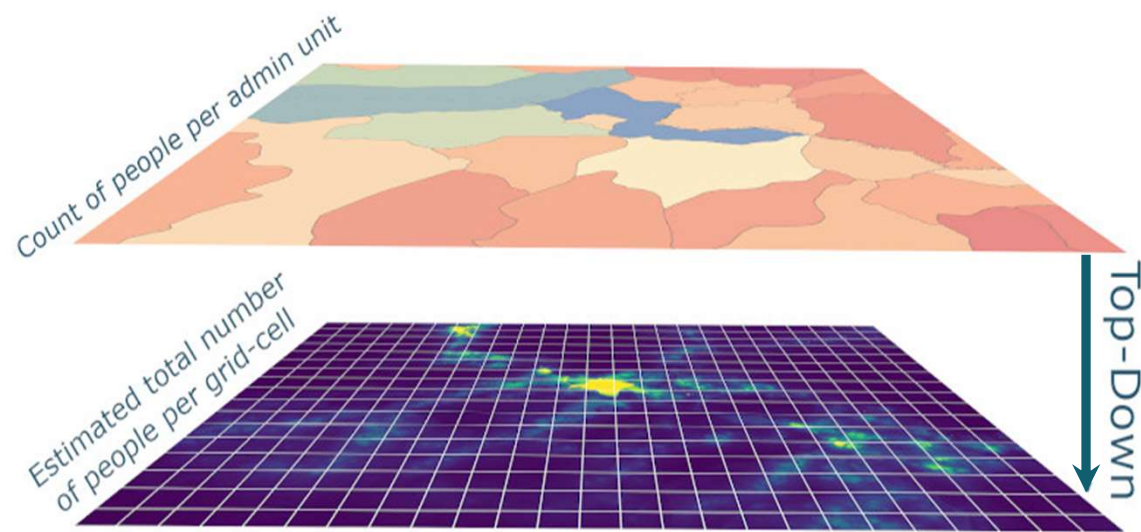
Technical workshop on geospatial population
estimation for selected countries in the Arab
Region

Day 3 – Short recap exercise

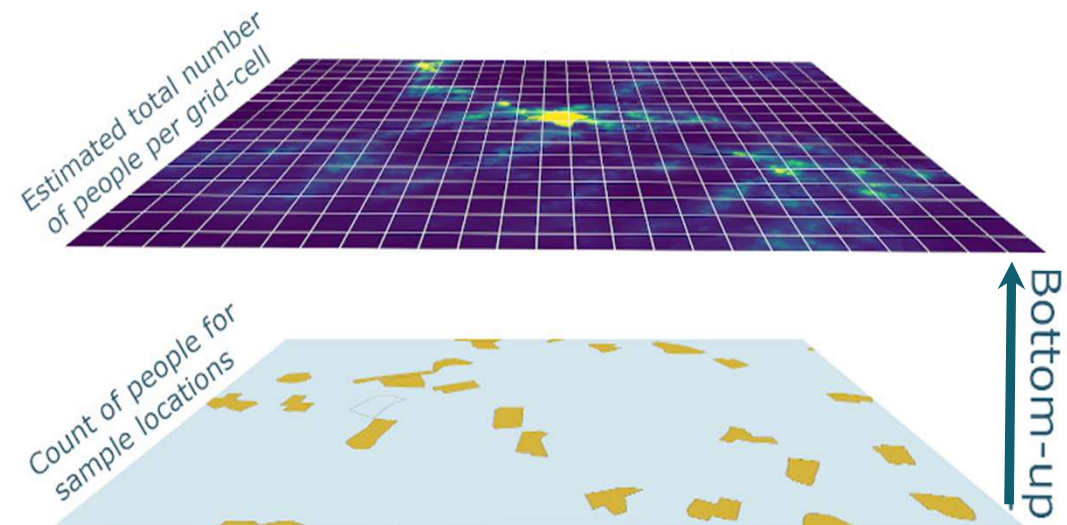
WorldPop

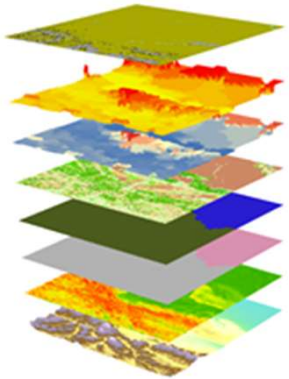
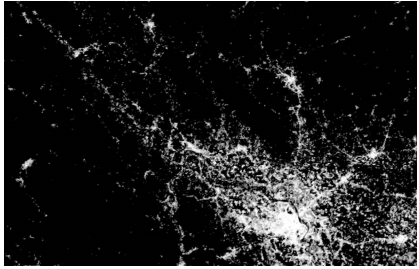
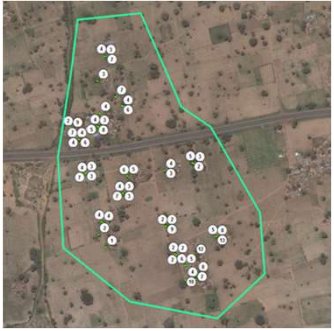
Small area population estimation approaches

“Top down” modelling approach



“Bottom-up” modelling approach





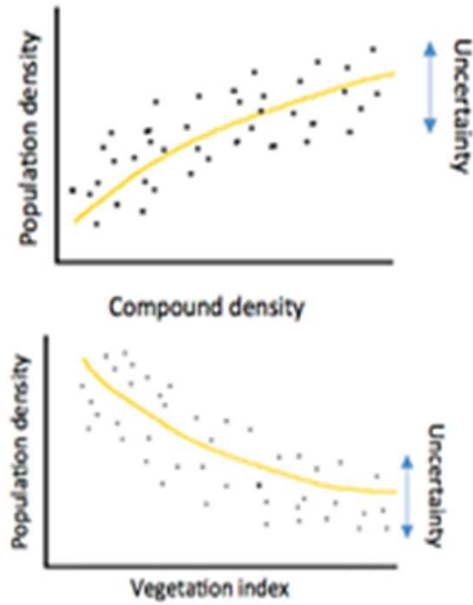
Population Data

Buildings / Settlement

Geospatial data stack

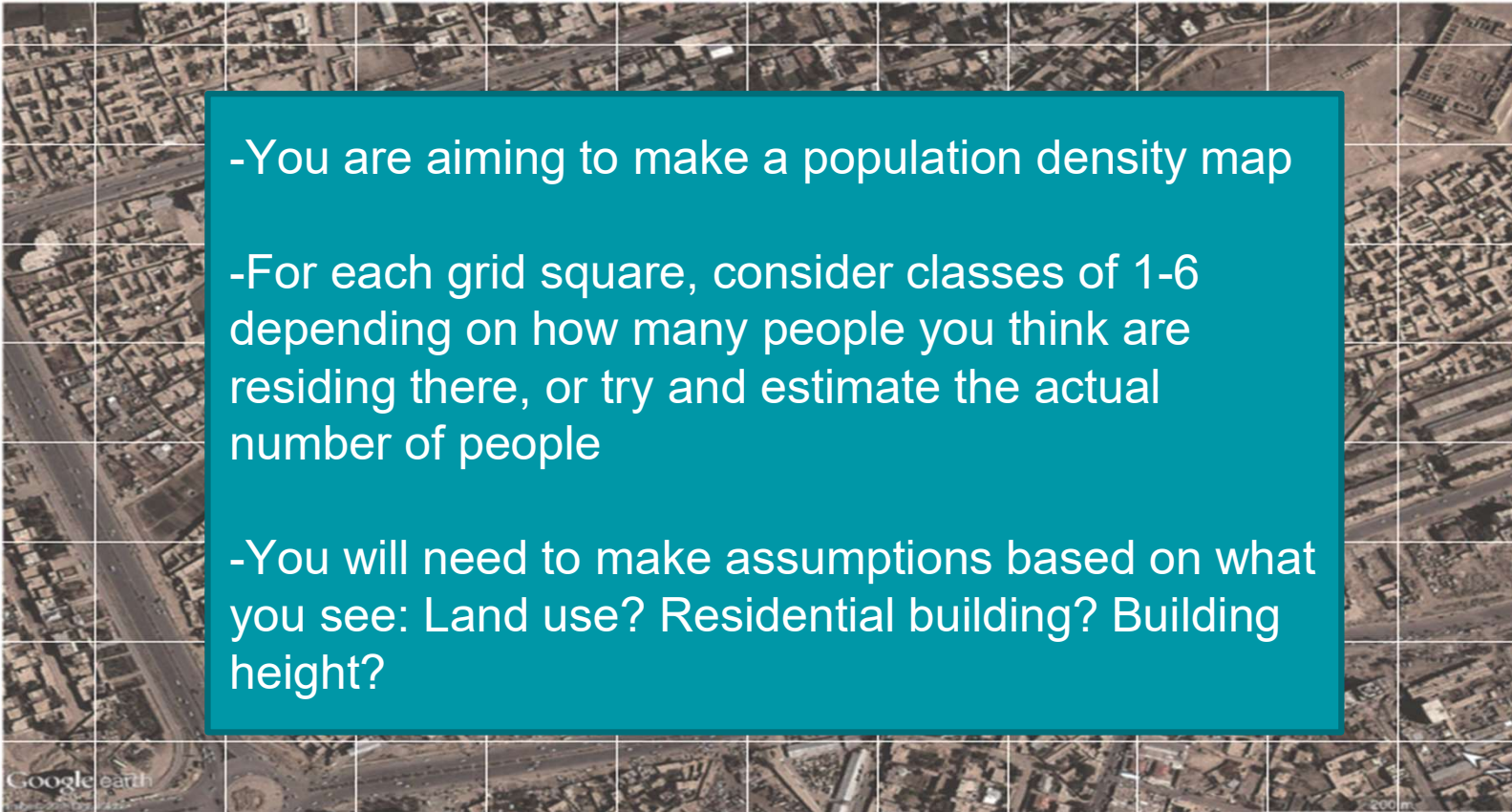


Population estimates



1	1	1	2	2	3	2	2	1	1	1	1	1	1
1	1	1	2	4	4	4	1	1	1	1	1	1	1
2	1	4	5	5	5	4	1	2	1	2	1	1	1
3	2	4	6	6	5	3	3	3	4	4	1	1	1
3	3	2	5	6	5	4	3	2	2	4	2	2	2
1	3	4	3	4	5	5	4	3	1	1	1	2	2
1	2	1	1	2	4	4	3	1	1	1	1	1	1
1	2	2	1	1	2	2	2	1	1	1	1	1	1
1	1	1	1	1	1	2	1	1	1	1	1	1	1

10-minute practical – creating a population map



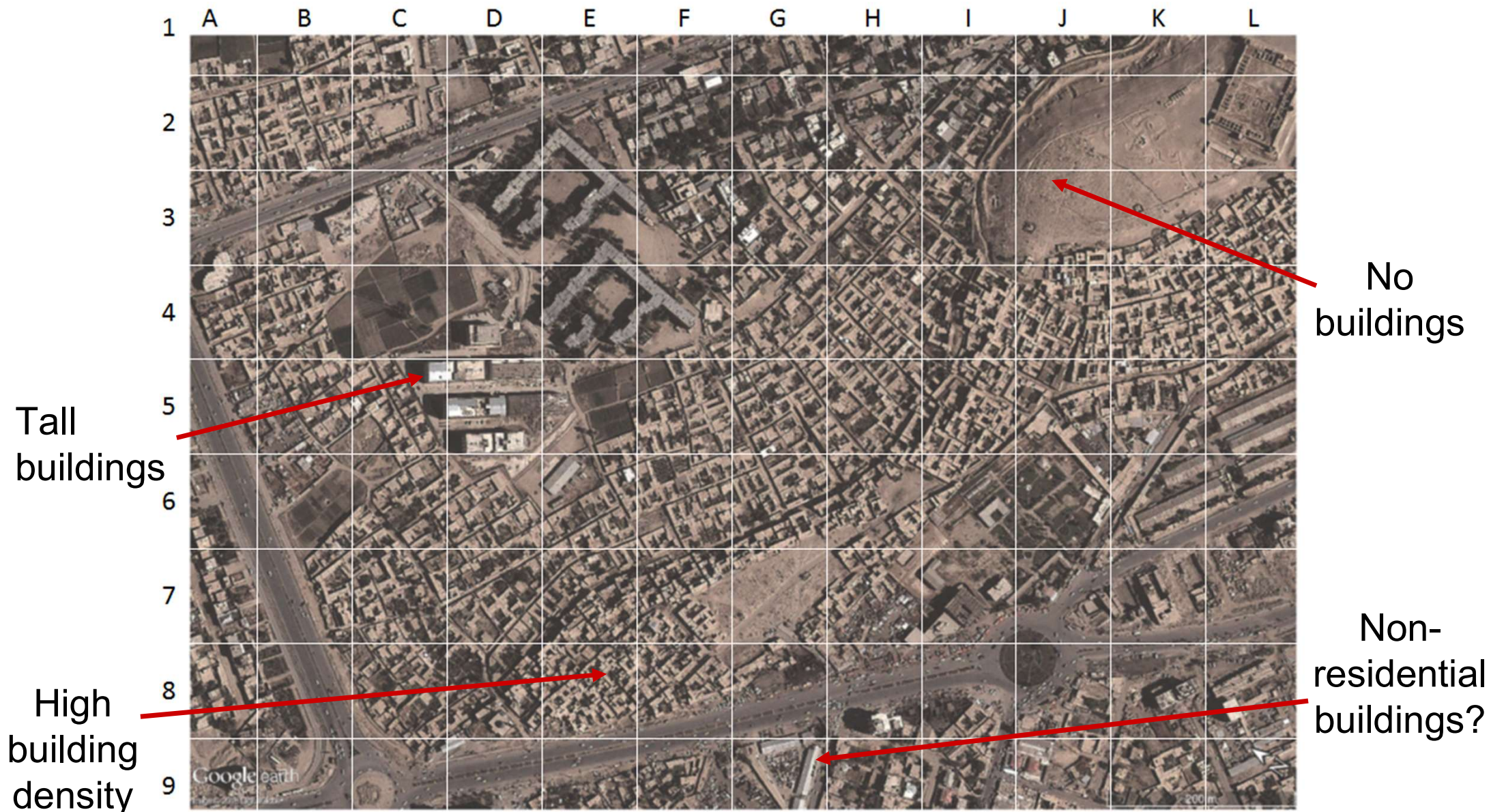
The image shows an aerial photograph of a city area, overlaid with a grid. The grid is labeled with letters A through L across the top and numbers 1 through 9 down the left side. A large teal text box is centered over the grid, containing instructions for a practical exercise. The text box contains the following text:

-You are aiming to make a population density map

-For each grid square, consider classes of 1-6 depending on how many people you think are residing there, or try and estimate the actual number of people

-You will need to make assumptions based on what you see: Land use? Residential building? Building height?

Google earth



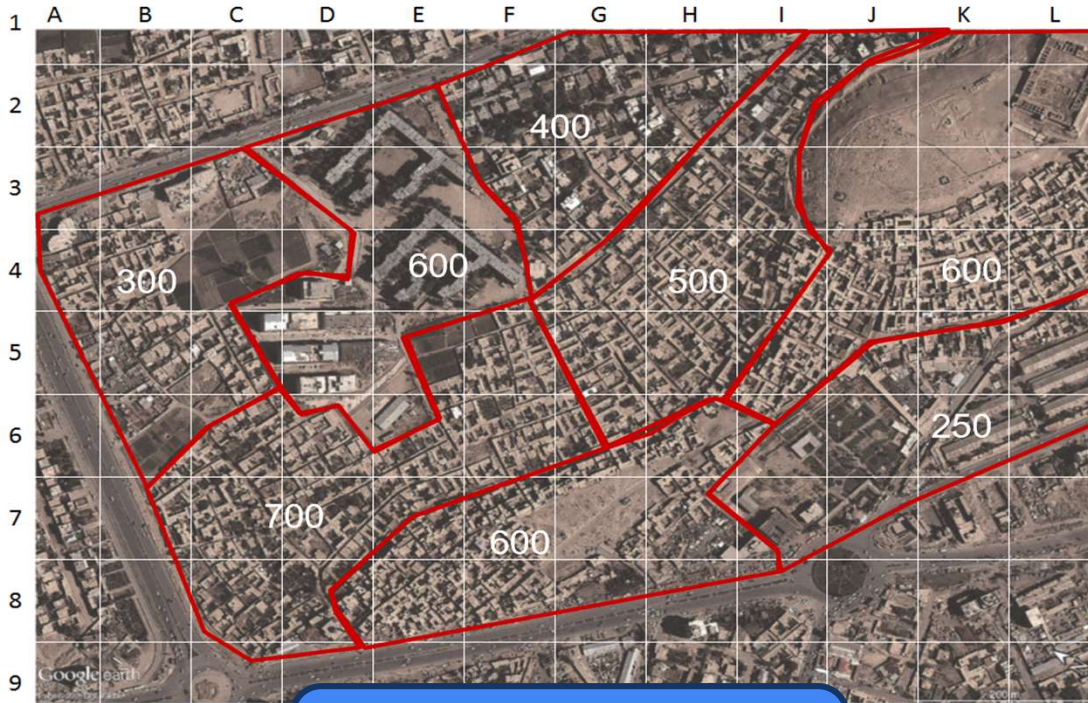
1	1	1	2	2	3	2	2	1	1	1	1	1
1	1	1	2	4	4	4	1	1	1	1	1	1
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3	2	4	6	6	5	3	3	3	4	4	1	1
3	3	2	5	6	5	4	3	2	2	4	2	2
1	3	4	3	4	5	5	4	3	1	1	2	2
1	2	1	1	2	4	4	3	1	1	1	1	1
1	2	2	1	1	2	2	2	1	1	1	1	1
1	1	1	1	1	1	2		1	1	1	1	1

Bottom-up model?



Population map

Top down model?

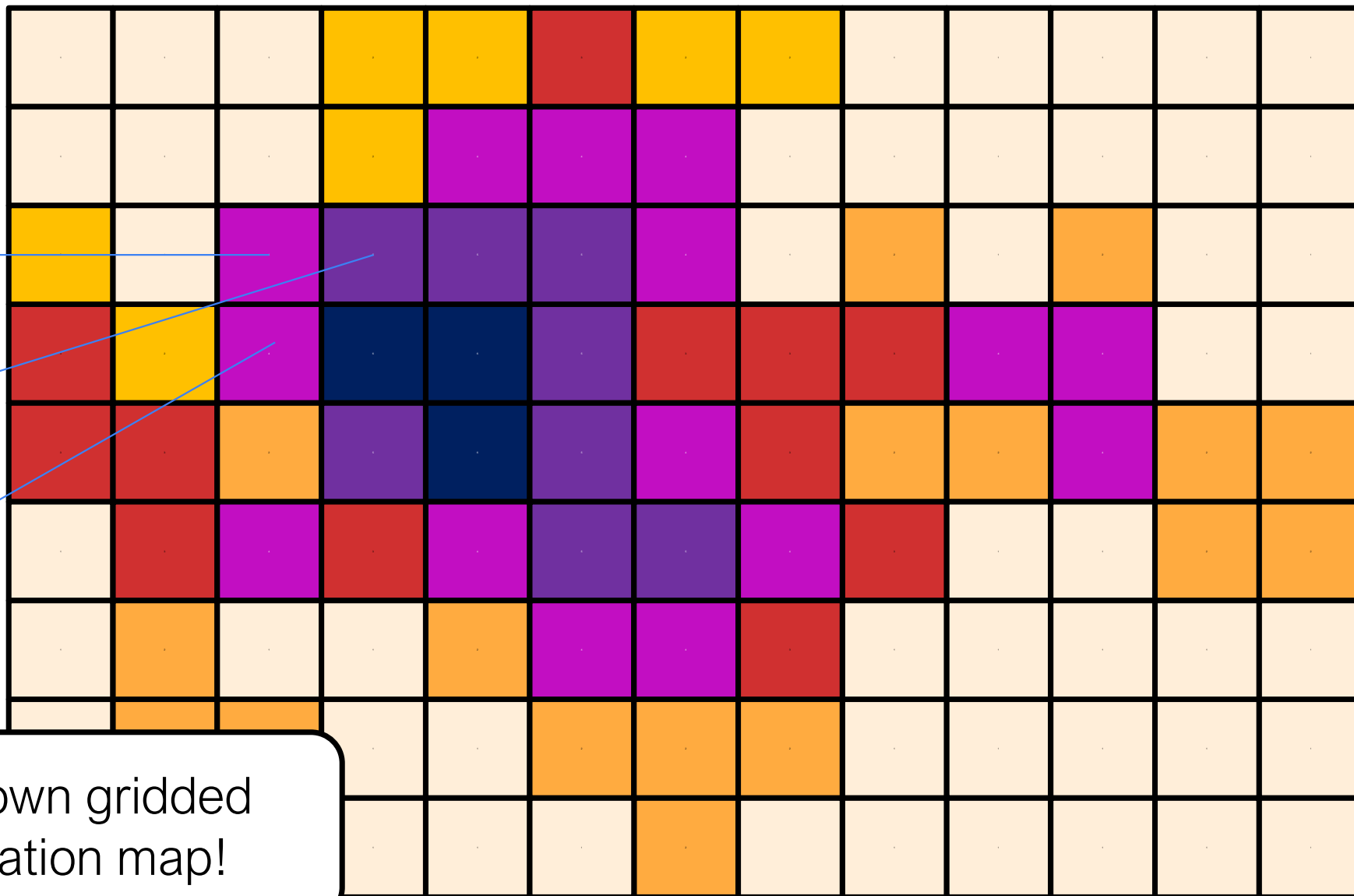


Area population counts

1	1	1	2	2	3	2	2	1	1	1	1	1
1	1	1	2	4	4	4	1	1	1	1	1	1
2	1	4	5	5	5	4	1	2	1	2	1	1
3	2	4	6	6	5	3	3	3	4	4	1	1
3	3	2	5	6	5	4	3	2	2	4	2	2
1	3	4	3	4	5	5	4	3	1	1	2	2
1	2	1	1	2	4	4	3	1	1	1	1	1
1	2	2	1	1	2	2	2	1	1	1	1	1
1	1	1	1	1	1	2		1	1	1	1	1

Weighting layer

100
people
150
people
100
people



Top-down gridded population map!

What datasets could help us improve our population map?



No buildings

Land cover/use:
Parks to use as mask

Non-residential buildings?

Building use

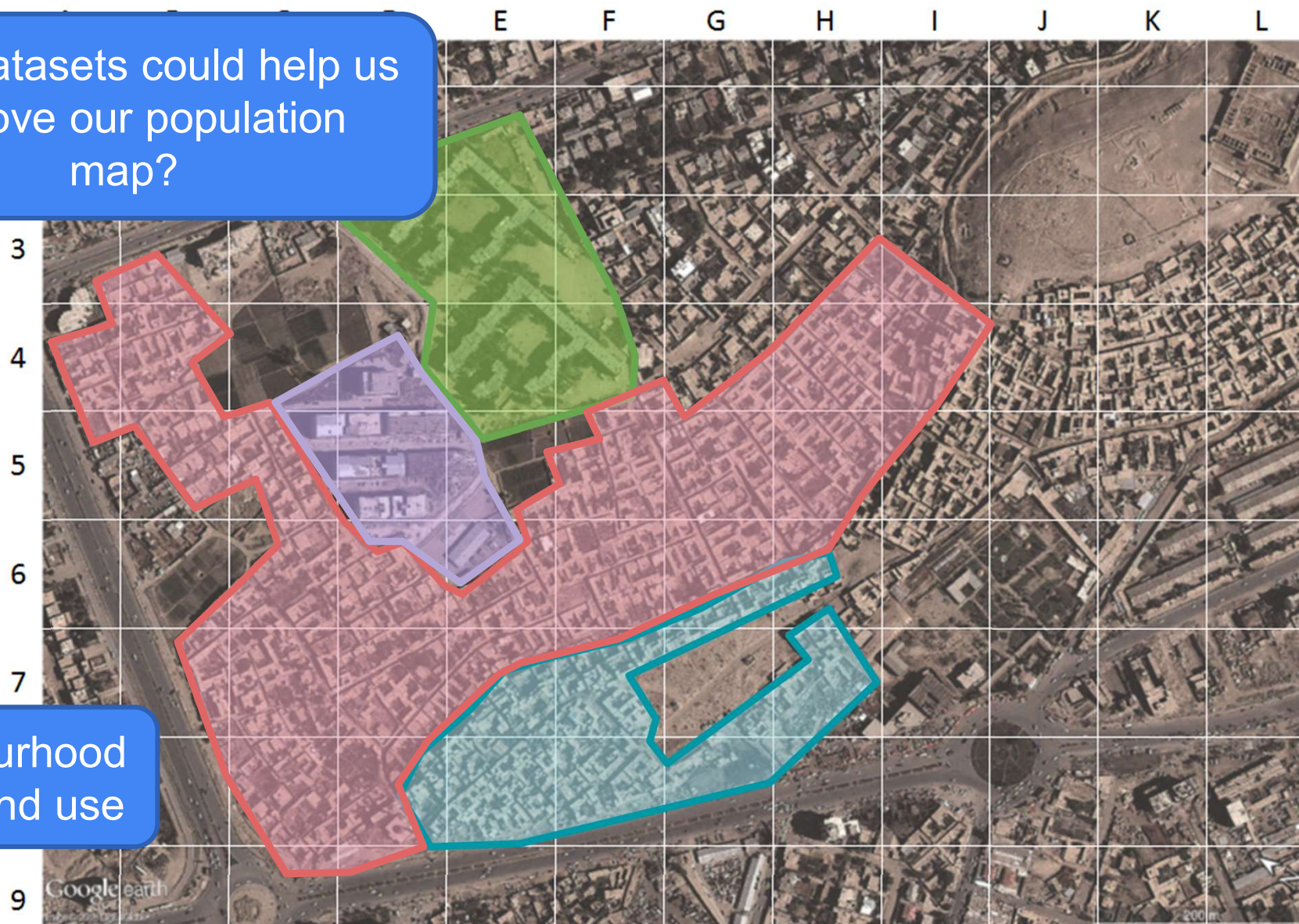
Tall buildings

Building heights, floors

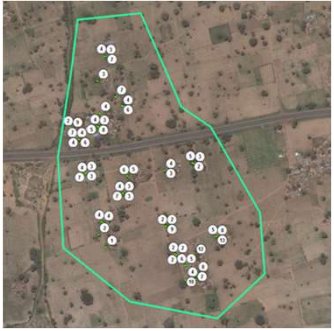
High building density

Neighbourhood types, land use

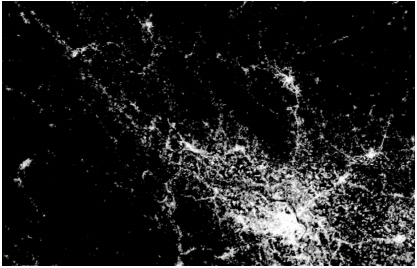
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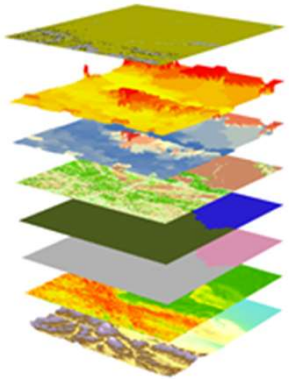
Neighbourhood types, land use



Population Data



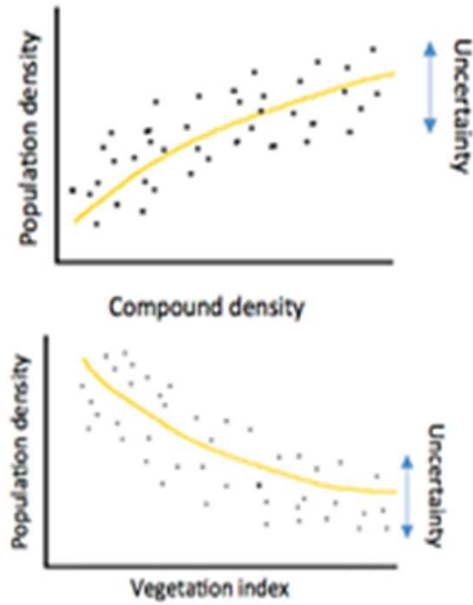
Buildings / Settlement



Geospatial data stack



Population estimates



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1	2	1	1	2	4	4	3	1	1	1	1	1	1	1
1	2	2	1	1	2	2	2	1	1	1	1	1	1	1
1	1	1	1	1	1	2	1	1	1	1	1	1	1	1