Good practices in visualising geo-spatial disease data

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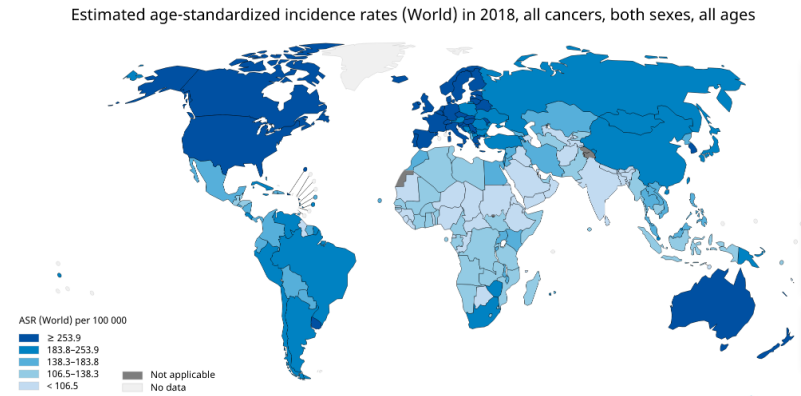
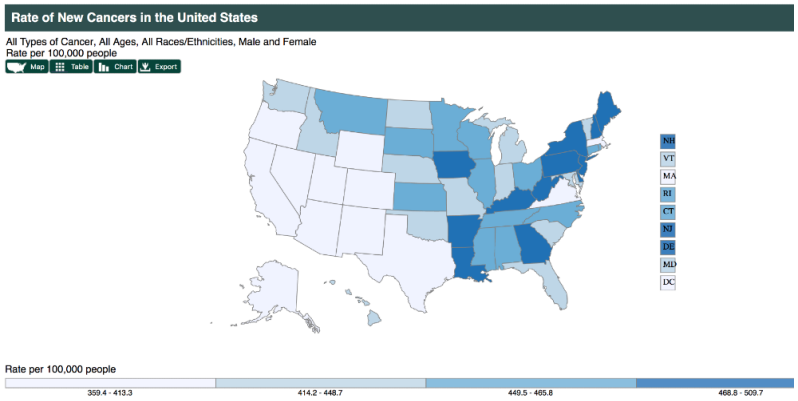
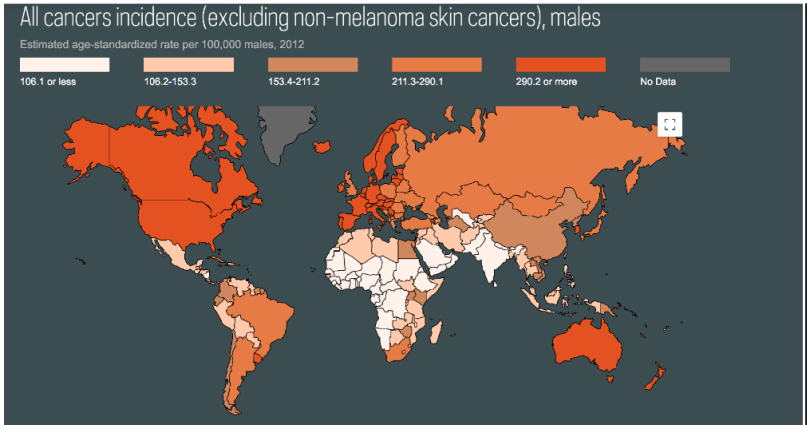
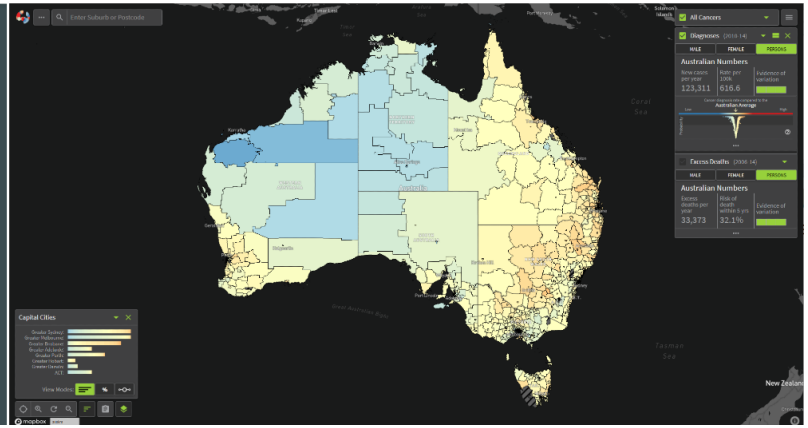
Australian Cancer Atlas

Global Atlases









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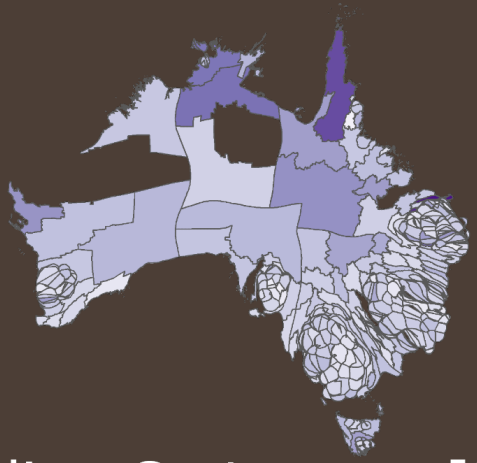
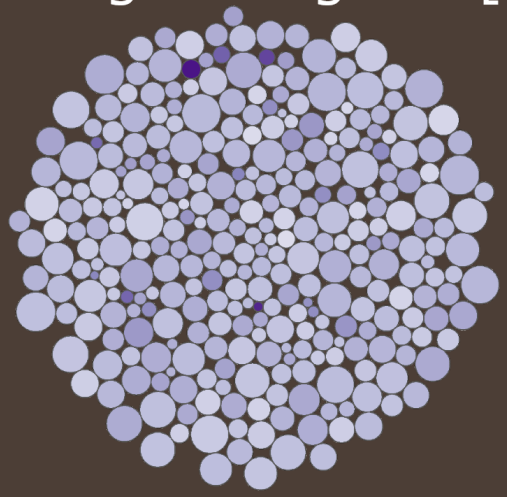
Alternative displays of Australia

a. Contiguous Cartogram [1]

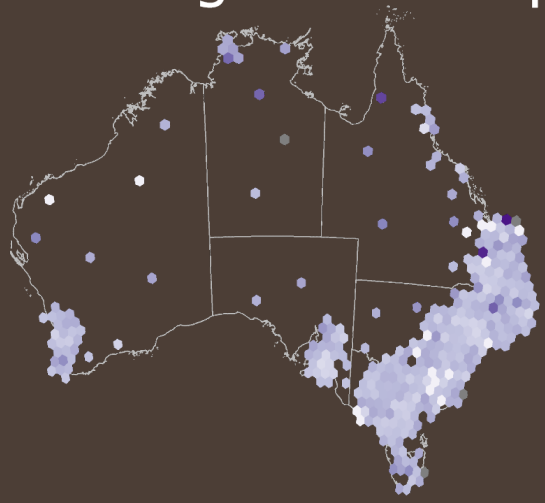


b. Non-contiguous Cartogram [2]

c. Dorling Cartogram [3]



d. Hexagon tile map



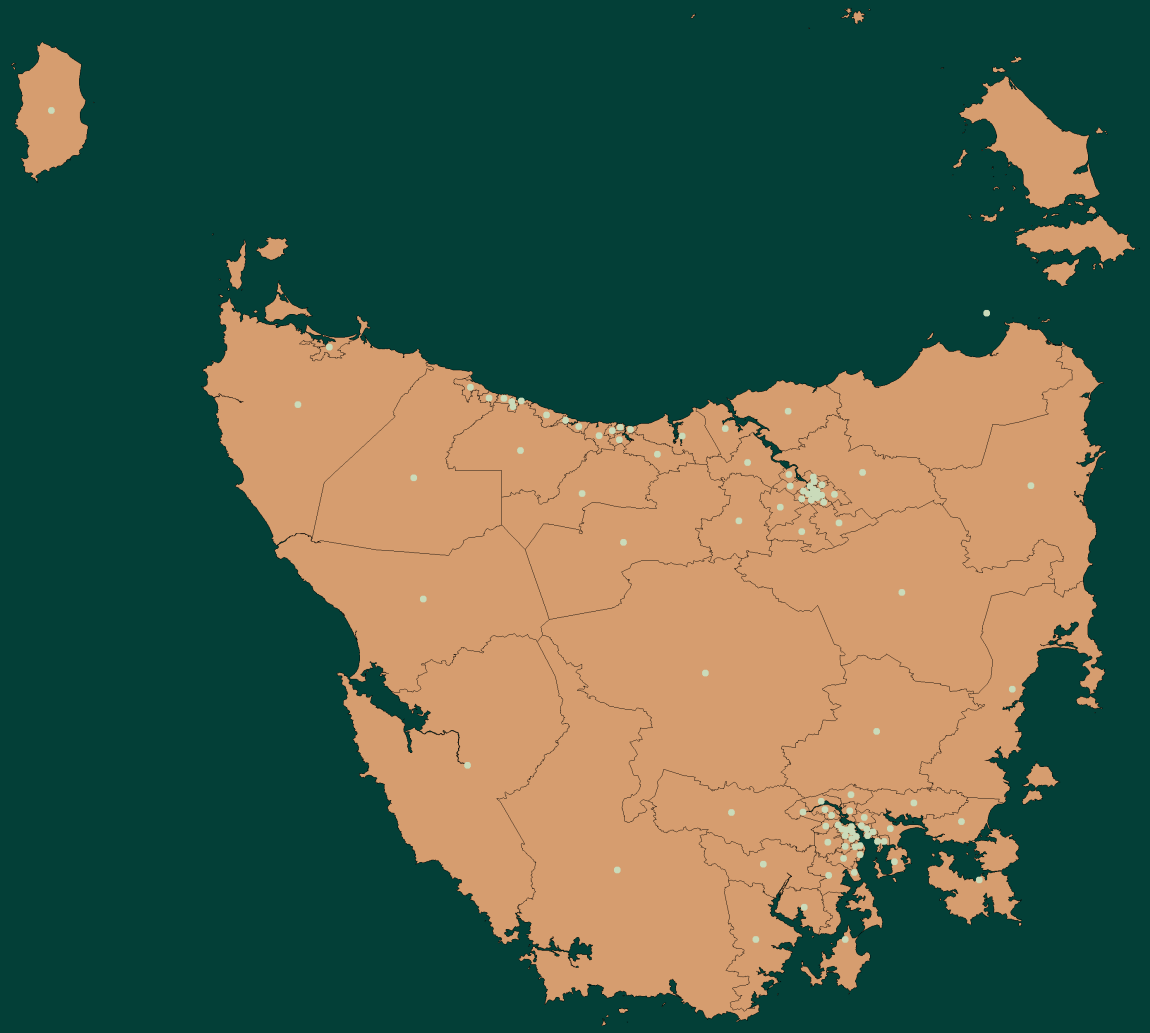
Aims

1: Algorithm for hexmapping Australia

2: Animate between the hexagon tile map and choropleth map

3: Test the effectiveness of the hexagon tile map

Tasmania: 98 SA2 regions



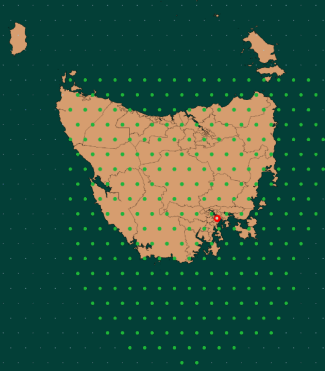
Choosing a hexagon

Step 1: Create grid

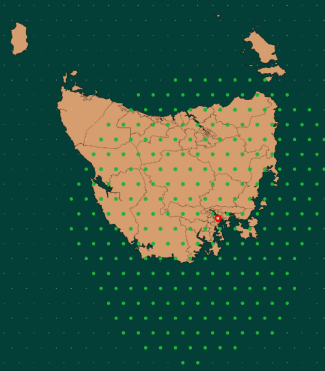
Step 2: Shift grid

Step 3: Apply buffer

Step 4: Square distance

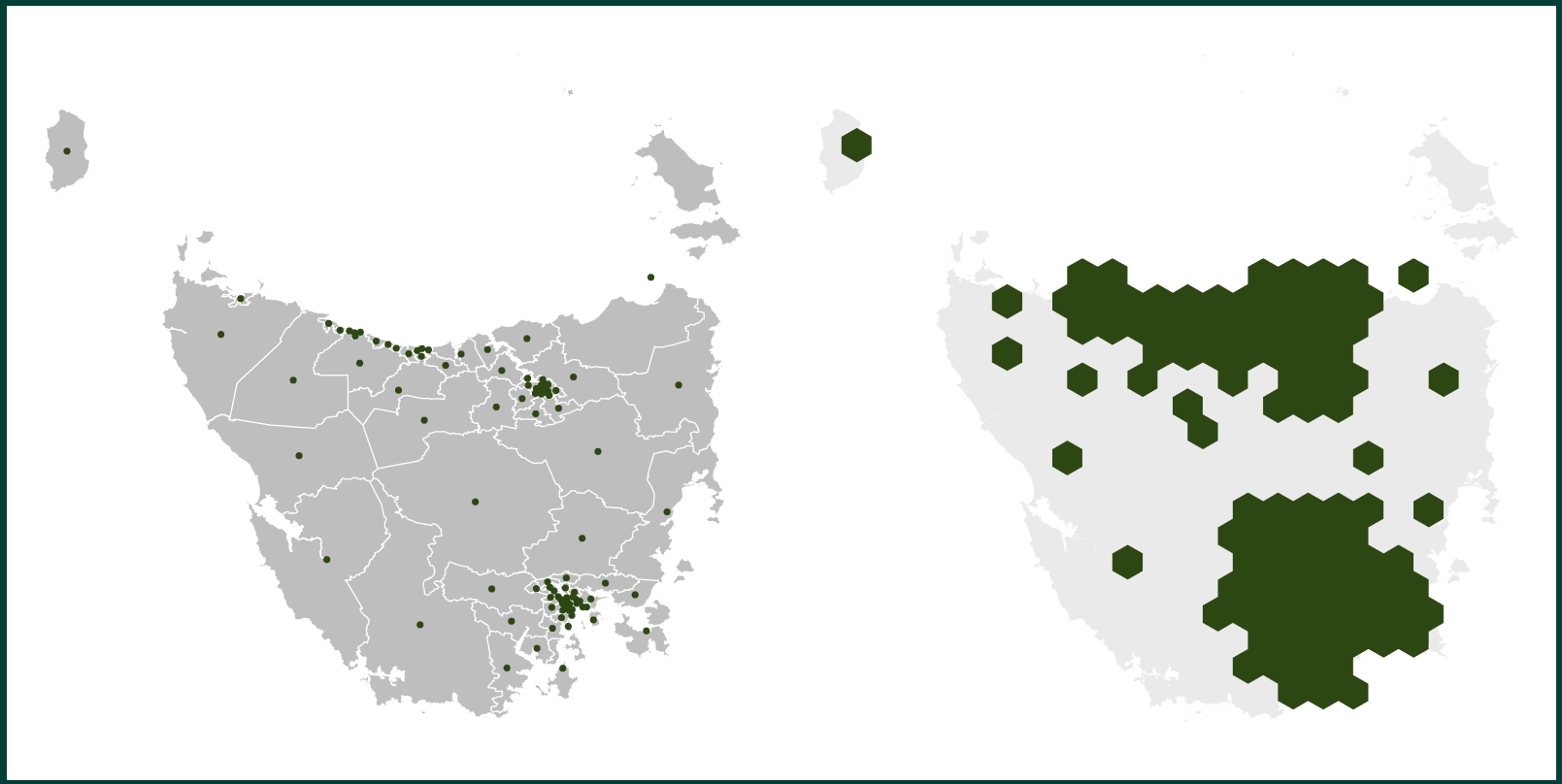


Step 5: Circle distance

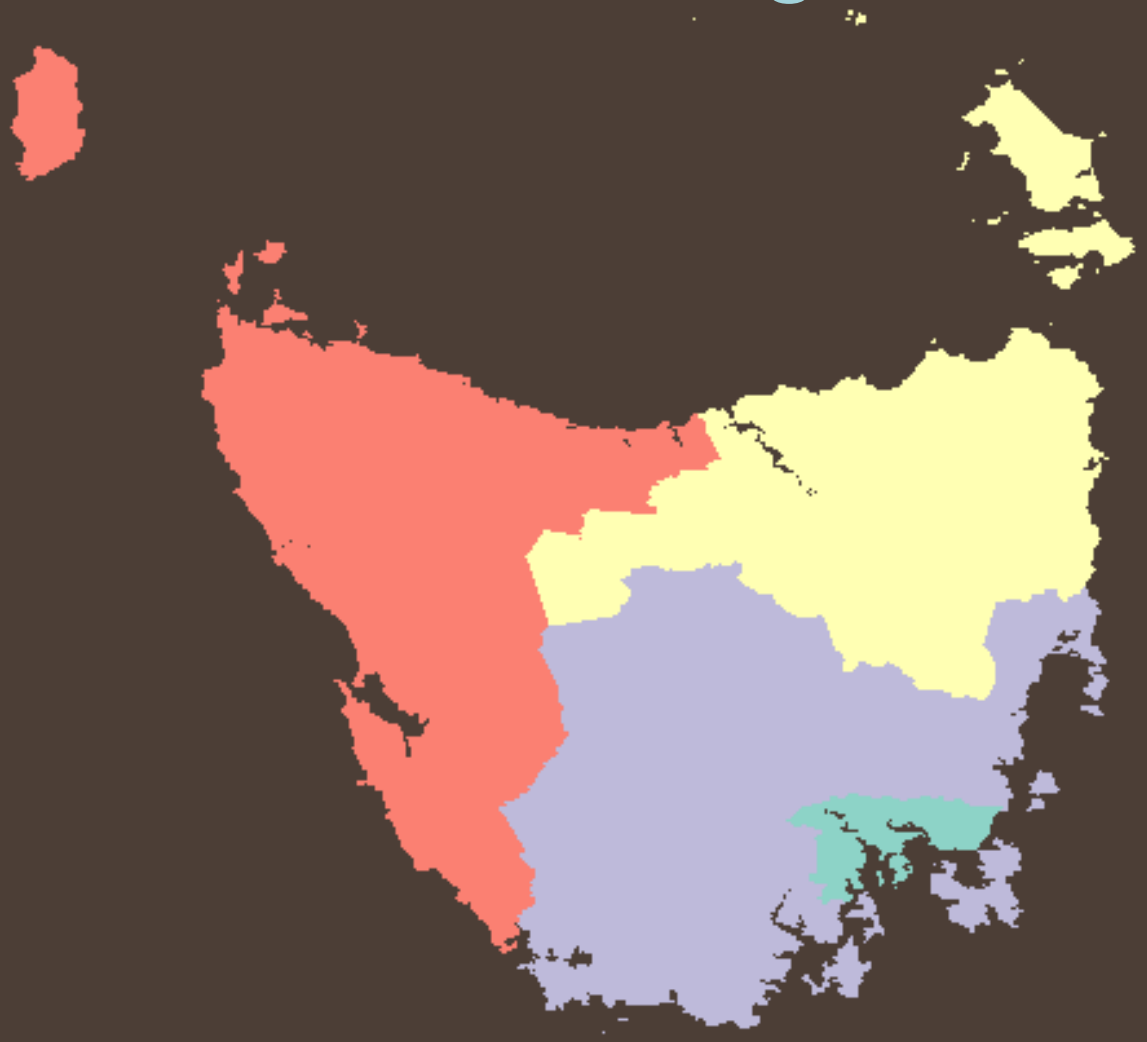


Step 6: Pie slice

Final product

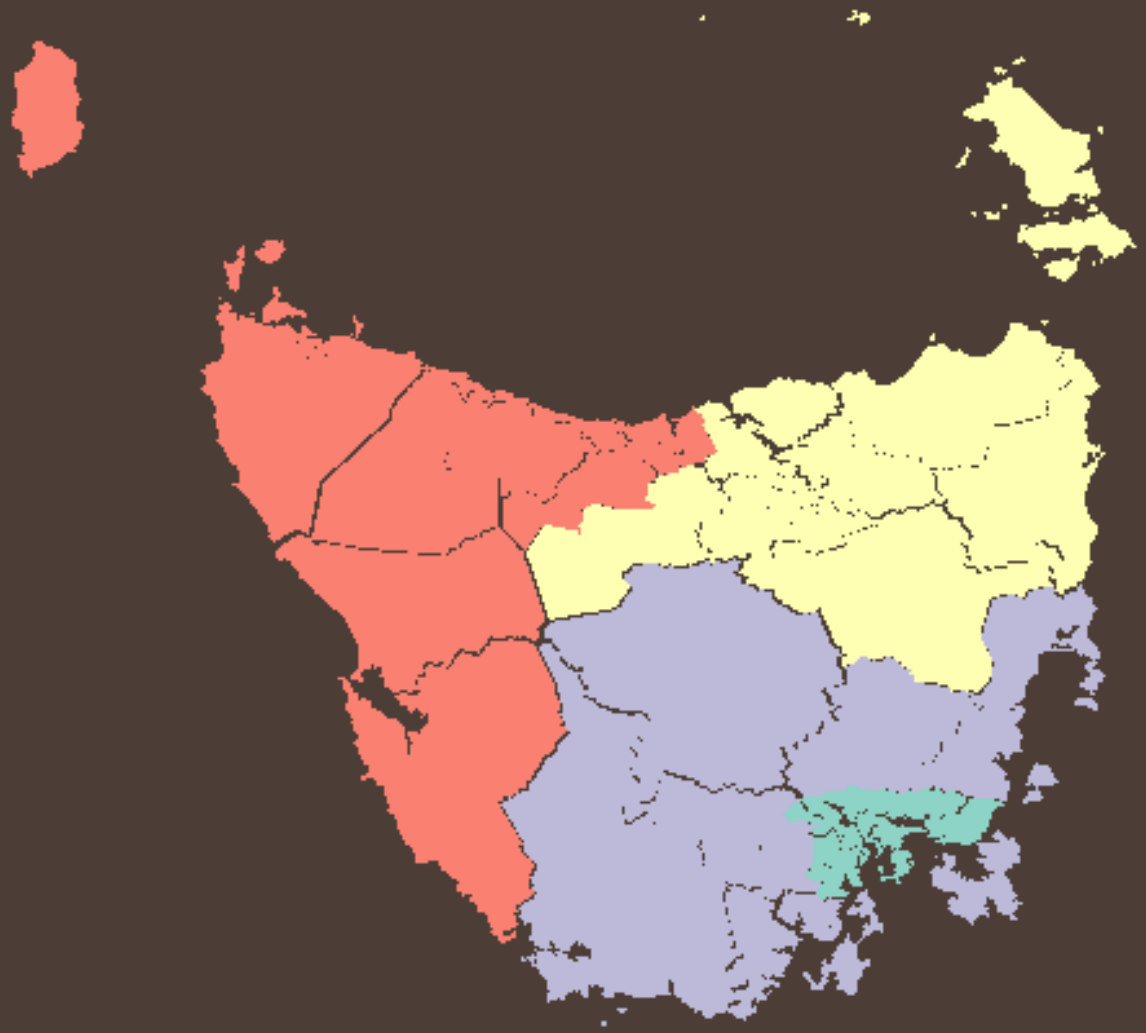


Animating



animation: srkobakian-qut.netlify.com/tasanim.gif

Animating



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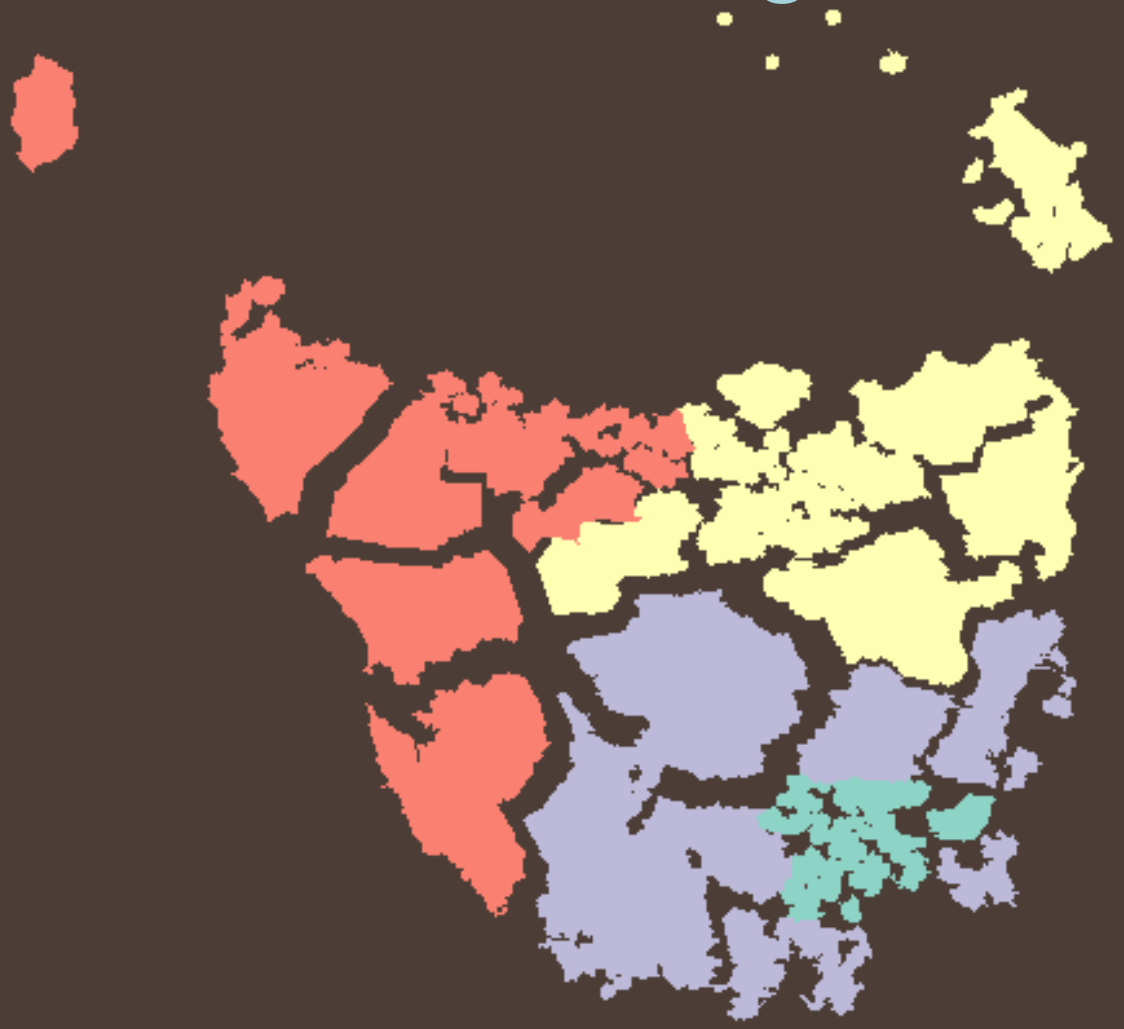
Animating



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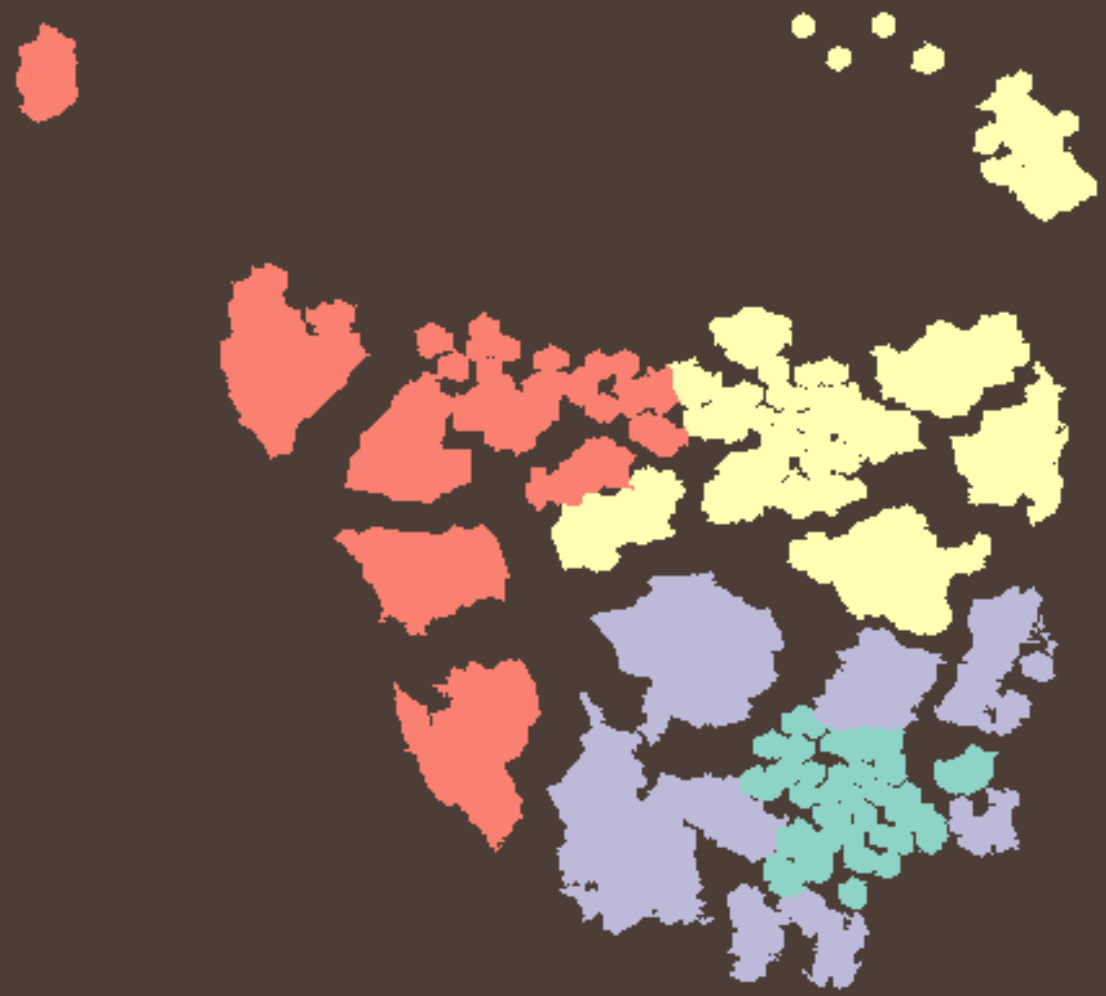

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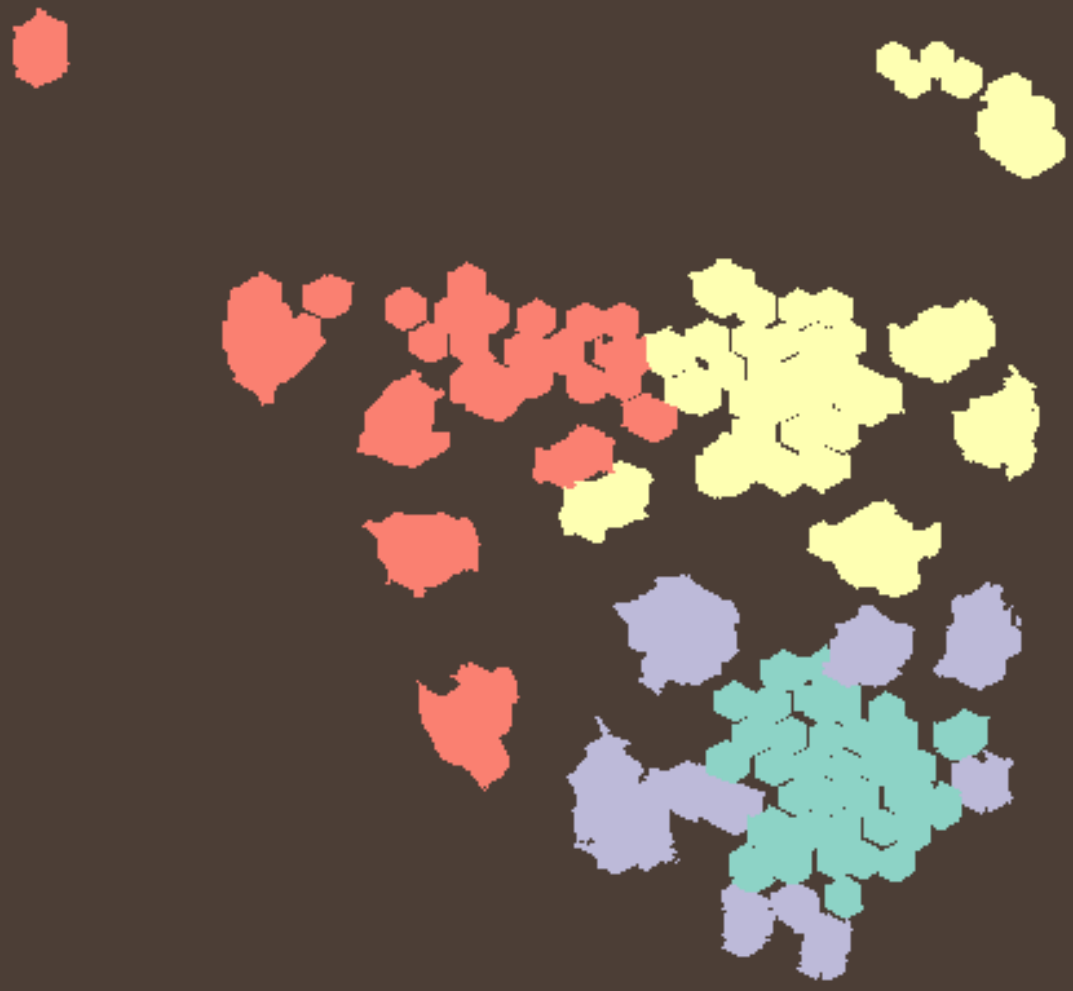
Animating



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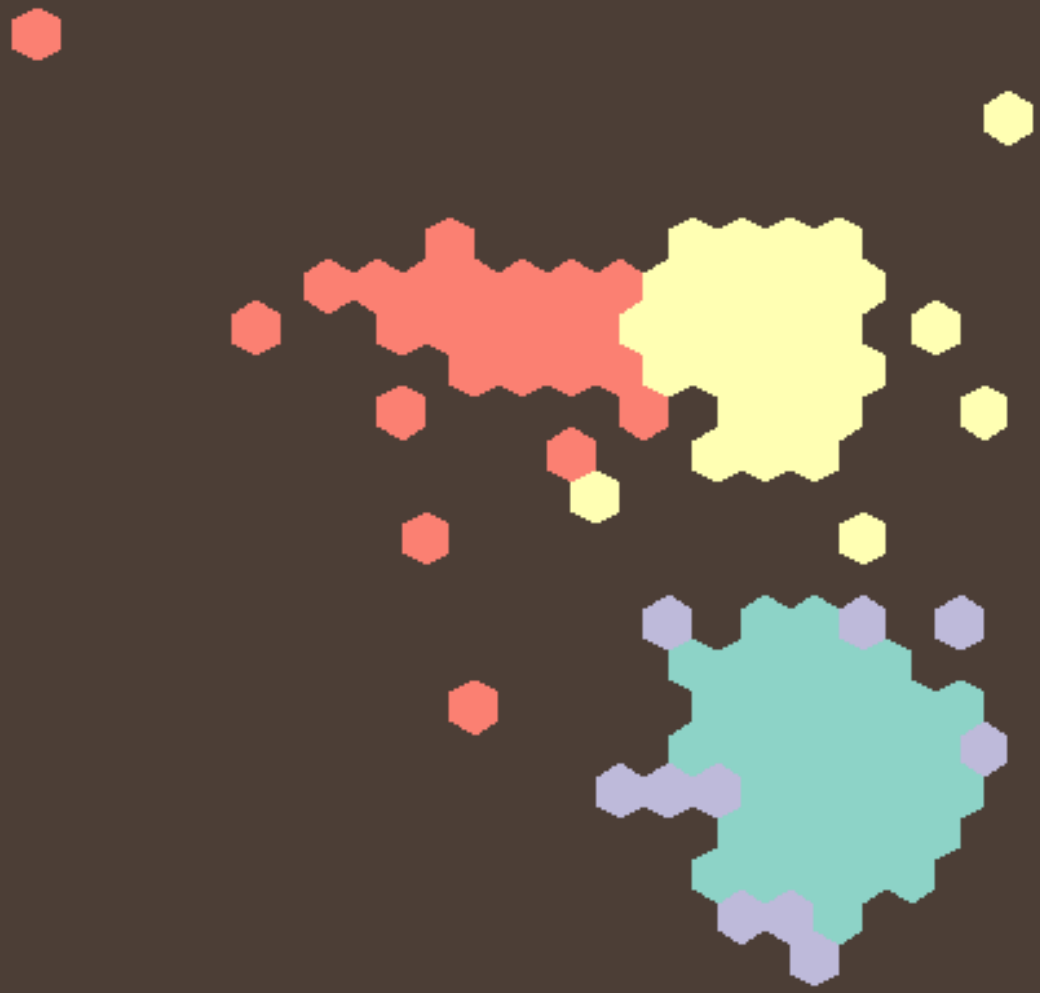
Animating



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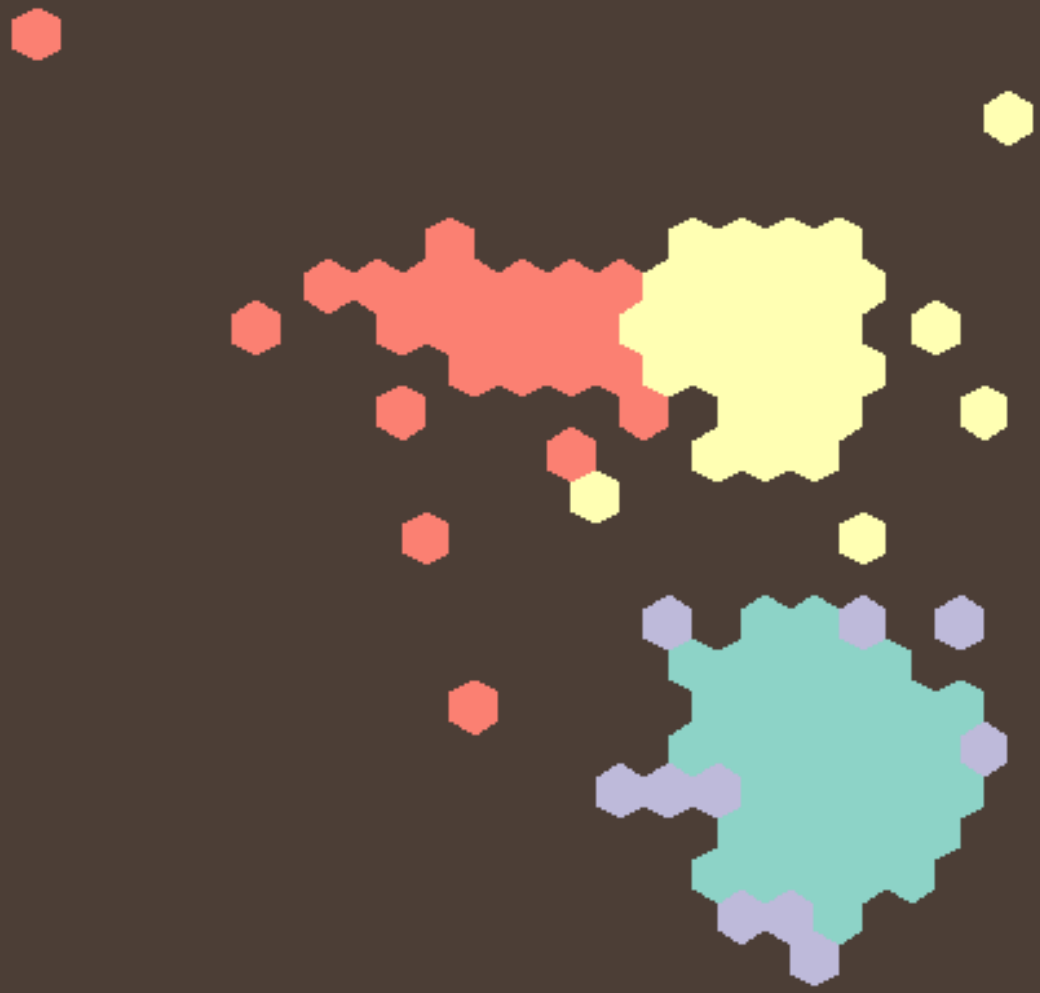
Animating



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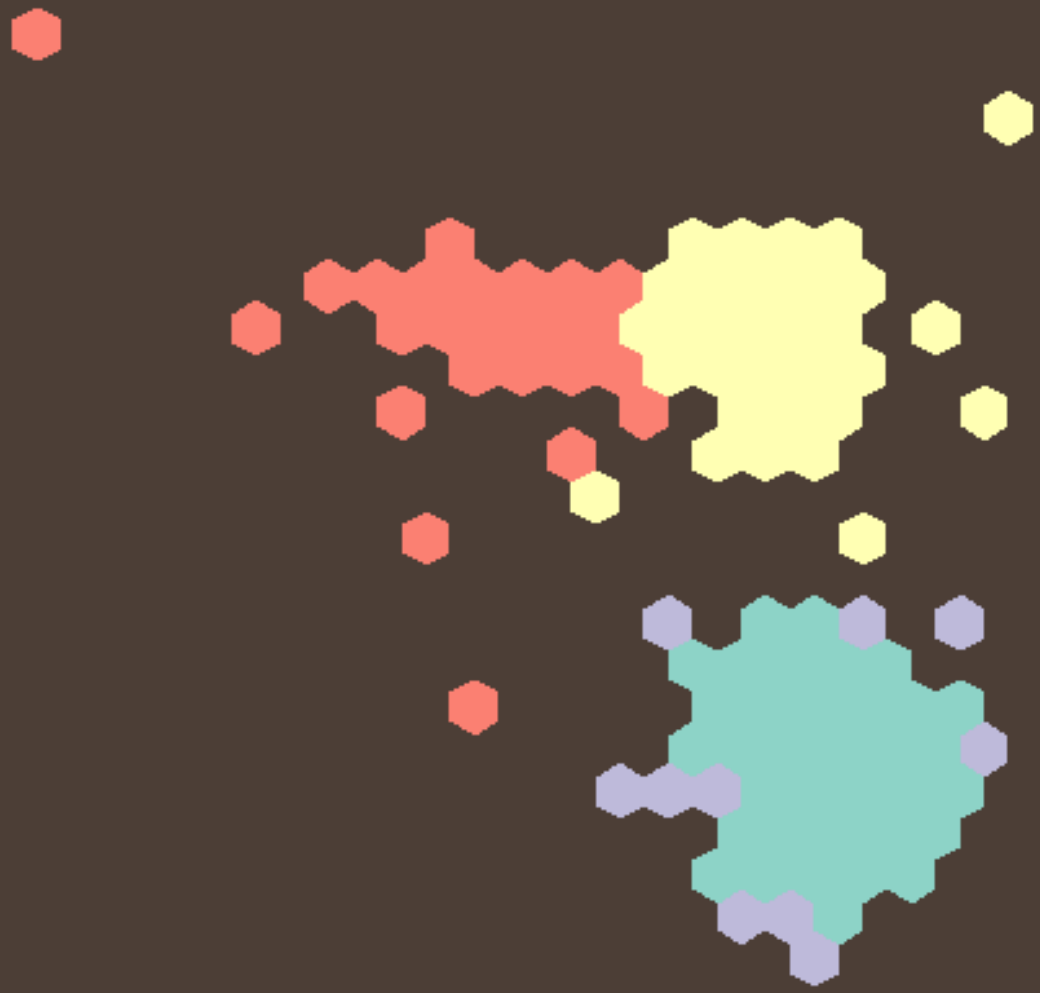
Animating



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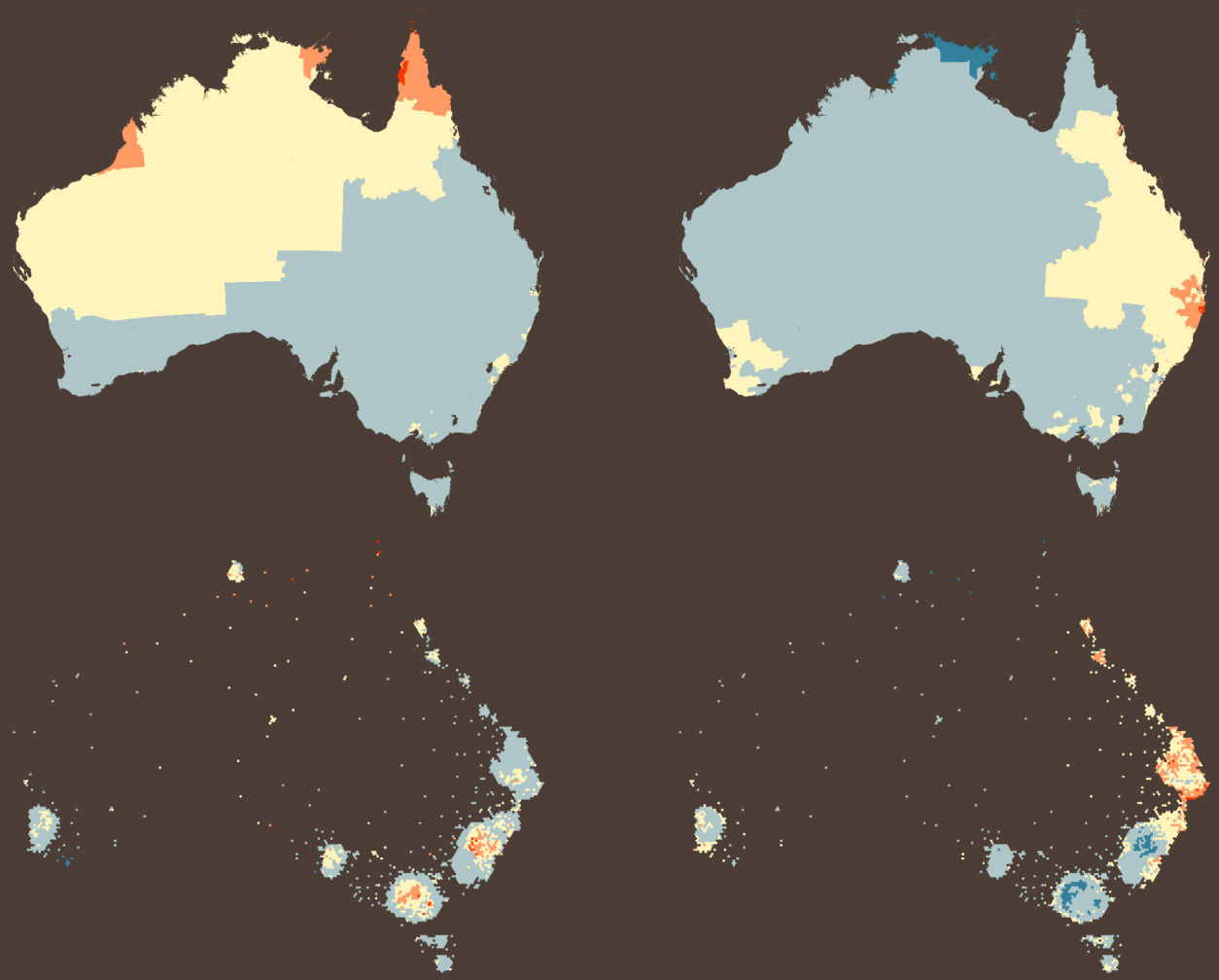
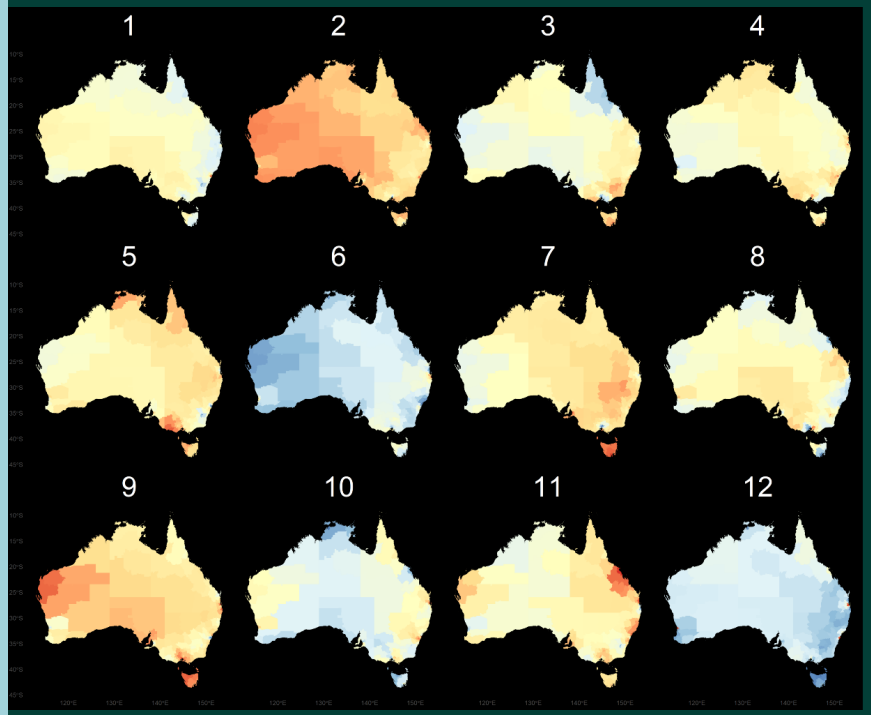
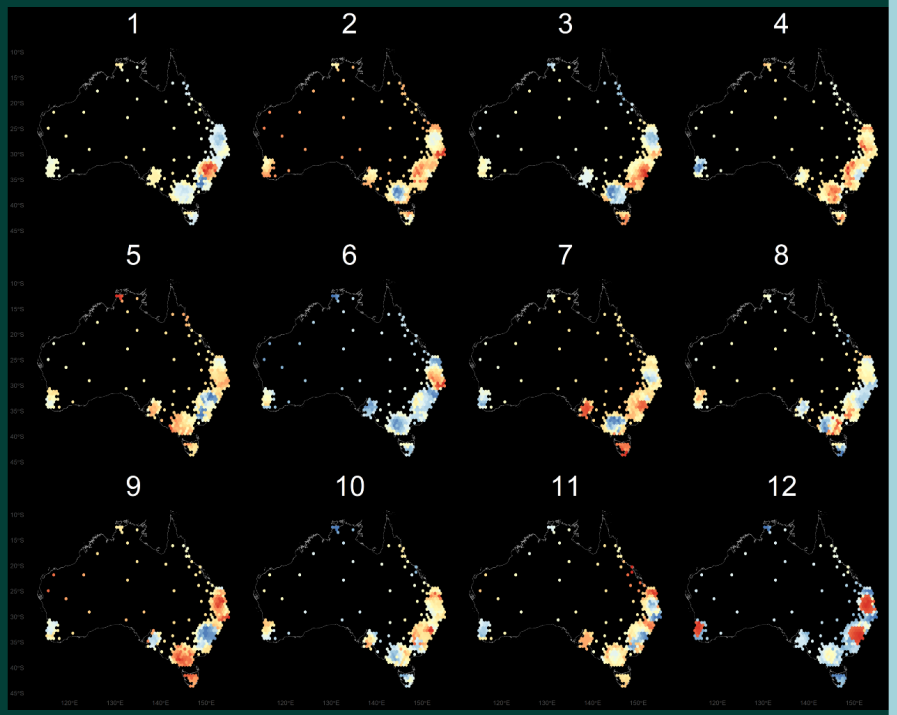
What can we learn?



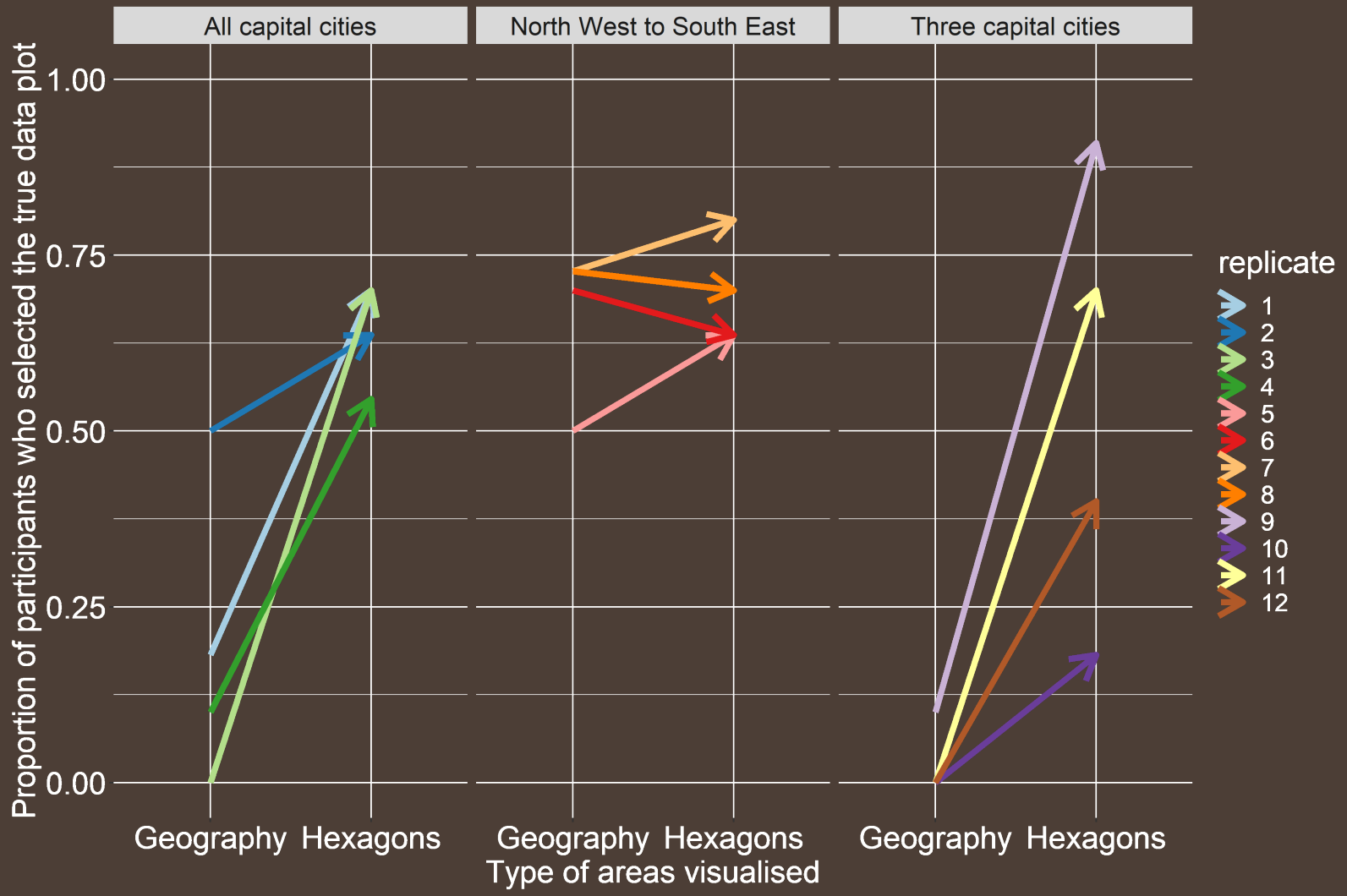
Line up experiment

Same data, different display





Probability of detection



References

[1] Dougenik JA, Chrisman NR, Niemeyer DR. An Algorithm to Construct Continuous Area Cartograms. The Professional Geographer 1985;37:75–81. doi:10.1111/j.0033-0124.1985.00075.x.

[2] Olson JM. Noncontiguous Area Cartograms. The Professional Geographer 1976;28:371–80. doi:10.1111/j.0033-0124.1976.00371.x.

[3] Dorling D. Area Cartograms: Their Use and Creation. In:. Concepts and techniques in modern geography (catmog), vol. 59, 2011, pp. 252–60. doi:10.1002/9780470979587.ch33.

[4] Buja, A., D. Cook, and D. Swayne. (1999). “Inference for Data Visualization.” In Talk given at Joint Statistical Meetings. Baltimore, Maryland. Accessed 11 November 2019 from **http://www-stat.wharton.upenn.edu/~buja/PAPERS/visual-inference.pdf**.

Thank you!

Prof. Kerrie Mengersen, Dr Earl Duncan, Prof. Di Cook

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scripts and data available srkobakian

sugarbag maps srkobakian/sugarbag

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