### A visual exploration of party effort across space and time

With South Africa’s municipal elections in a few days time (3rd August 2016), I wondered about the effort being expended by the parties in each district or municipality. Has it increased or decreased since the 2011 elections? I must point out that I am not a political analyst or a political scientist. I am nevertheless a scientist with an appreciation for analytics.

Employing and promoting candidates costs money. Assuming that our political parties don’t have infinite financial resources it follows that investigating where they invest their resources may be a reasonable proxy for effort. Furthermore, looking at the change in effort adds a temporal dimension, suggesting where effort has increased or decreased between the elections.

The map below shows the change in PR candidate representation by each party across the county. If you hover your mouse pointer over a district, you can see by how much the representation has changed in terms of two metrics:

\*\*Relative change\*\*: The change in representation as a proportion of all representatives. E.g. In 2011 parties A and B each had 50% of a district’s PR candidates. In 2016 party A has 60% and party B has 40%. Party A’s relative change is 10% and party B’s is -10%.

\*\*Absolute change\*\*: The change in actual number of PR candidates in a party from 2011 to 2016.

Scroll below the map for more info regarding data sources and methods.

\*Disclaimer: As I said though, I am no political scientist and so maybe this is all nonsense.\*

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#### Data sources

The [Independent Electoral Commission]( http://www.elections.org.za) have published the [2016 candidate lists]( http://www.elections.org.za/content/Elections/Candidates-lists/) as pdf documents. The good people at [openAfrica](https://africaopendata.org/) have already gone to the trouble of [processing these pdfs](https://africaopendata.org/dataset/electoral-candidates-2016) (which can be a bit painful) so I used their lists instead. openAfrica also host the [2011](https://africaopendata.org/dataset/electoral-commission-of-south-africa-local-government-election-candidates) candidate lists. After learning a little more about the electoral system, it seemed that the proportional representative candidates would be the interesting group to look at.

The [Municipal Demarcation Board](http://www.demarcation.org.za/) website hosts shape files for South Africa's [districts](http://www.demarcation.org.za/index.php/downloads/boundary-data/boundary-data-main-files/districts) and [provinces](http://www.demarcation.org.za/index.php/downloads/boundary-data/boundary-data-main-files/province).

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#### R data processing

Some simple wrangling in R (scroll down for the process) exposed the list of district codes which I joined with the appropriate candidate lists from each election year. From there I produced a list of parties, ordered by the total number of district or municipal representatives. The Economic Freedom Fighters lead this list with a total of 1501 candidates, 106 more than the African National Congress and 139 more than the Democratic Alliance. These are the three largest parties which is why I mention them. I chose to load the map with ANC data because the EFF didn’t exist during the 2011 elections and so they’ve not decreased in any provinces. I believe that a few candidates have withdrawn from the elections. I'm not sure who they were but I doubt their withdrawal would make any substantive change to this analysis.