**Research Questions**

The purpose of this note is to flesh out the questions I want to answer to guide my work.

1. What is DRA’s method for evaluating the partisan characteristics of maps?   
     
   Write up the elements of the methodology we used: composite elections, the specific elections, fractional seat probabilities, inferring a seats­­–votes curve using proportional shift.
2. How much does the statewide Democratic two-party vote share () vary by election in a state?  
     
   For each state, calculate the mean , the SEM, and the RSE.
3. How much do district-by-district Democratic two-party vote shares () vary by election?  
     
   For each map, calculate mean , SEM, and RSE for each district.
4. How much do the Democratic two-party seat shares () vary for each vote share () the inferred seats–votes curve?   
     
   For each map, for each point in the inferred seats–votes curve calculate mean , SEM, and RSE.  
     
   Question: What range around can we constrain this analysis to? Most of the range 25–75% is not realistic for a state-map, and a narrower range should yield an even tighter result. Probably depends on the answer to #5 below.
5. How much do partisan analytics, when average by election, differ from the analytics applied to a state’s composite election?  
     
   For each map and metric, calculate the mean, SEM, and RSE. Compare the mean to the same metric for the composite.

*Note: Answering the next questions about* actual *election results requires processing the 2022 election like I have for previous election results and imputing the results for uncontested races.*

1. How much do actual 2022 statewide congressional Democratic two-party vote shares () vary from the statewide Democratic two-party vote share () for each state’s composite? Ideally, we could say something like, “Based on this sample, actual congressional Democratic two-party vote shares were within +/–N% of the composite’s statewide vote share.” and have confidence narrowing the range of analysis of the seats–votes curve.  
     
   For each state, calculate the difference () … Question: I’m a little uncertain how to characterize this variation. Should I calculate the mean difference across states/maps and then SEM and RSE for this?
2. How well do the inferred seats–votes curves track actual 2022 election results? IOW, given actual statewide congressional Democratic two-party vote shares (), how well do inferred seat shares () track actual seats ()?  
     
   For each map, interpolate the seat fraction () for the actual statewide congressional Democratic two-party vote share () and then the implied first-past-the-post (FPTP) seats (). Compare predicted seats () to actual seats ().

[end]