

Redistricting in Georgia: 20-year history and case for reform

Testing Maps Against Non-partisan Statistical Benchmarks

The existing state House and Senate maps exhibit durable Republican majorities over the 2018 and 2020 elections cycles in which Georgia's statewide voting preferences have become much more balanced. Georgia has become a swing state with close margins in major elections for Governor, President, and U.S. Senate. Is this durable majority due to gerrymandering, or is it simply a reflection of Georgia's natural political geography? Georgia tends to be a politically polarized state with Democrats clustered in cities and Republicans occupying more exurban and rural areas with some competitive territory in between.

One way to separate the effects of gerrymandering from natural political geography is to compare each currently enacted map, such as that of the state Senate, to a large collection of state Senate maps drawn without political influence. This collection of maps, sometimes called an ensemble, should reflect Georgia's natural demographic distribution and political preferences. Characteristics of the ensemble such as partisan balance, competitiveness, and minority representation become the statistical benchmarks, or fairness tests, for enacted maps. Statistically, we can compare how closely an enacted map meets the benchmarks by calculating what percentage of the collection of maps is similar to the enacted map. Ideally, enacted maps should closely resemble a significant number of the ensemble maps.

The Princeton Gerrymandering Project (PGP) is bringing this innovation to Georgia for the first time. This document presents PGP's findings for the current state House, Senate, and Congressional maps. This is Phase 1 of a two-phase project. Phase 2 will create benchmarks for 2021 maps using the 2020 census data.

Simulated map methodology – state Senate

For the state Senate map analysis, PGP has created an ensemble of 500,000 simulated maps based on 2010 census data. Although they are created at random with no political influence or intent, each potential map must comply with traditional redistricting criteria such as compactness, county boundaries, contiguity, and compliance with laws including the VRA. To comply with the VRA, each potential map must include, at a minimum, the same number of majority-minority districts as the currently enacted map. The 500,000 simulated maps selected for the ensemble are analyzed to determine the natural demographics and political preferences we might expect to see in an unbiased Senate map. A similar analysis is then applied to the enacted Senate map for comparison. Note that these results do not predict the current demographic and political environment in the state, which requires the 2020 Georgia census data.

First test: minority representation

The first benchmark we apply to the existing state Senate map is minority representation. For each of the 500,000 simulated maps, we calculate the Black voting age population (BVAP) for each of the 56 Senate districts. We then summarize the results of the entire ensemble to create the distribution shown in Figure 7.