

VEST VA 2018

State: Virginia
Organization: Voting and Election Science Team (VEST)
Summary of Races included: U.S. Senate [General]
Date File Updated: 10/24/2019
Date Report Updated: 06/14/2021
RDH Validation Code (Github): <https://github.com/nonpartisan-redistricting-datahub/pdv-va>

RDH Criteria	Explanation
<p>Is all raw data available?</p> <p>Yes</p>	<p><u>Accessible files:</u></p> <ul style="list-style-type: none"> ● VEST Data File <ul style="list-style-type: none"> ○ Accessed: 03/01/2021, Source: VEST ○ https://dataverse.harvard.edu/file.xhtml?persistentId=doi:10.7910/DVN/UBKYRU/FQDLOO&version=33.0 ● VEST documentation <ul style="list-style-type: none"> ○ Accessed: 03/01/2021, Source: VEST ○ https://dataverse.harvard.edu/file.xhtml?fileId=4366213&version=33.0 ● VA Precinct-Level Election Results <ul style="list-style-type: none"> ○ Accessed: 03/02/2021, Source: VA Dept. of Elections ○ https://historical.elections.virginia.gov/elections/view/134055/ ● U.S. Census Bureau's 2020 Redistricting Data Program Phase 2 release <ul style="list-style-type: none"> ○ Accessed: 03/02/2021, Source: U.S. Census ○ https://www.census.gov/geo/partnerships/pvs/partnership20v2/st51_va.html ○ Note: One can download five county VTD shapefiles at a time. These files were aggregated together as part of this analysis. <p>Note: There were a handful of local municipal files that VEST describes in laying out their precinct shapefile changes. We did not attempt to locate these due to minimal direction from VEST as to where to locate these files and how exactly to use them.</p>
<p>Processing</p>	<p><u>Description of processing steps:</u></p>

<p>steps available?</p> <p>Yes</p>	<ul style="list-style-type: none"> ● VEST’s full processing steps were accessed on 03/01/2021 and can be found via the link above. VEST uses one documentation file for their three VA 2018 files. ● Ex: Description of VEST process: <ul style="list-style-type: none"> ○ VEST describes the source files for their election results and precinct shapefiles, which match those listed above. ○ For election results, VEST also mentions that: <ul style="list-style-type: none"> ■ “Absentee ballots and provisional votes were reported at the county or city level throughout the state. These were distributed by candidate to precincts based on their share of the precinct-level reported vote.” ○ For the precinct shapefiles, VEST also mentions that: <ul style="list-style-type: none"> ■ “Virginia election reports often include precinct splits that are obsolete or unused in practice. These have been omitted. In cases where voters were incorrectly assigned to the wrong district the de facto precinct split has been included for that election.” ○ Then VEST lists out the various modifications they made to the 2018 precinct boundaries. This full list can be found in their documentation file. ○ Lastly, VEST notes that “results are divided across three files. Because precincts can be split across legislative districts, the legislative races are reported with their own geography that divides these split precincts, resulting in shapes that are assigned to exactly one district.” <p><u>Information not in their processing steps:</u></p> <ul style="list-style-type: none"> ● A full list of name changes used to join shapefiles and election results.
<p>Able to replicate joining election data and shapefiles?</p> <p>No</p>	<p>There 2462 election result precincts and 2448 shapefile precincts. Of these, 2438 were joined between the two files. The RDH was not able to find a matching identifier for the remaining precincts. The RDH did not attempt to replicate the geometry changes noted in VEST’s documentation that required an external source for a single change. The discrepancies are likely accounted for in the manual shapefile changes noted in the documentation that the RDH did not attempt to replicate.</p>
<p>Able to replicate joining demographic</p>	<p>There is no demographic data on the file.</p>

<p>data to block-level shapefiles?</p> <p>N/A</p>	
<p>Able to replicate joining boundary data?</p> <p>N/A</p>	<p>There is no boundary data on the file.</p>
<p>Successfully validated election results?</p> <p>Yes</p>	<p><u>Election results:</u></p> <ul style="list-style-type: none"> ● We validated election results at the column total, county and precinct levels. ● Totals matched exactly at the column total level and with a difference of one vote due to rounding after absentee re-allocation at the county level for Essex and Lunenburg counties between VEST’s file and the RDH’s recreation. ● VEST’s party totals matched perfectly with the VA Department of Elections report for all party columns except write-in totals. VEST reported 5507 write in votes, where the state reported 5125. (https://results.elections.virginia.gov/vaelections/2018%20November%20General/Site/Congress.html) ● At the precinct level, there are 2463 precincts in VEST’s file. When we joined VEST’s file to the source election results, we were able to match 2462 precincts. The one unjoined precinct is a zero-vote precinct called Fairfax Court. Of these 2462: <ul style="list-style-type: none"> ○ 1034 of these precincts have election result differences ○ 1428 of these precincts are the same ○ The max difference between any one shared column in a row is: 1.0 ● Given the max difference of 1 and equivalent county and race totals, we can conclude that the precinct-by-precinct differences are due to rounding differences in allocating votes. <p><u>Geographies:</u></p> <ul style="list-style-type: none"> ● There were 2438 precinct identifiers that matched between the two files, of these:

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- 1791 precincts w/ a difference of 0 km²
- 535 precincts w/ a difference between 0 and 0.1 km²
- 61 precincts w/ a difference between 0.1 and 0.5 km²
- 17 precincts w/ a difference between 0.5 and 1 km²
- 15 precincts w/ a difference between 1 and 2 km²
- 17 precincts w/ a difference between 2 and 5 km²
- 2 precincts w/ a difference greater than 5 km²