VEST NC 2020

RDH Criteria	Explanation

Is all raw data available?
 	
Yes
	<u>Accessible files:</u>
	● VEST NC 20 data file
	  ○ Accessed 10/11/21, Source: VEST
	  ○ https://dataverse.harvard.edu/file.xhtml?fileId=4863162&version=21.0
	● VEST NC 20 documentation file
	  ○ Accessed: 10/11/21, Source: VEST
	  ○ https://dataverse.harvard.edu/file.xhtml?fileId=5206372&version=21.0
	● NC Unsorted Precinct-Level Election Results
	  ○ Accessed: 10/11/21, Source: ID Secretary of State
	  ○ https://s3.amazonaws.com/dl.ncsbe.gov/ENRS/2020_11_03/results_pct_20201103.zip
	  ○ Note: Used for the counties listed by VEST in their documentation.
	● NC Sorted Precinct-Level Election Results
	  ○ Accessed: 10/11/21, Source: ID Secretary of State
	  ○ https://dl.ncsbe.gov/?prefix=ENRS/2020_11_03/results_precinct_sort/
	  ○ Note: Used for the counties listed by VEST in their documentation.
	● NC Voting Precincts "20201018" Shapefile
	  ○ Accessed: 10/11/21, Source: North Carolina State Board of Elections
	  ○ https://dl.ncsbe.gov/?prefix=PrecinctMaps/
	  ○ Note: This is the main shapefile VEST uses.
	● NC Voting Precincts "20190827" Shapefile

	○ Accessed: 10/18/21, Source: North Carolina State Board of Elections ○ https://dl.ncsbe.gov/?prefix=PrecinctMaps/ ○ Note: VEST uses this file for a handful of missing precincts.
Processing steps available? Yes	● The full processing steps can be accessed at the link above and were accessed on 10/11/21. Part of the documentation is copied below: ○ Election results and precinct shapefile from the NC State Board of Elections (https://www.ncsbe.gov/results-data) ○ Buncombe 681, Henderson CV, Wake 01-07A, 07-07A are missing from the 20201018 shapefile. They are added from the 20190827 shapefile. ○ North Carolina produces two sets of election results data. The precinct results are the unaltered results as initially reported by the counties. Many counties report early votes by vote center while provisional and other nonstandard ballots may be reported countywide. The precinct-sorted results are then produced within 30 days after the election. In the precinct-sorted data nearly all votes are assigned to precincts regardless of the manner by which the ballots were cast. However, North Carolina law requires the addition of statistical "noise" to the precinct-sorted data wherever any given vote by any specific voter may otherwise be deduced via cross referencing the various election-related data sets produced by the SBE. ○ For the 2020 general election 51 counties reported all votes by precinct in their initial precinct results. The precinct-sorted data set was used instead for the counties listed below. ○ Alleghany, Avery, Beaufort, Bertie*, Bladen, Buncombe, Cabarrus, Caldwell, Camden, Currituck, Dare, Davidson*, Davie, Duplin*, Durham*, Edgecombe, Guilford, Halifax*, Harnett, Haywood, Henderson, Hertford, Hyde, Johnston, Jones, Lee, Lincoln, Macon, Martin, Mecklenburg*, Moore, Nash, New Hanover*, Northampton*, Orange, Pasquotank, Pitt*, Polk, Richmond, Scotland, Stokes*, Surry*, Tyrrell*, Wake, Washington, Watauga, Wayne, Wilkes*, Yadkin ○ In counties marked by asterisk some votes were still reported by vote center or countywide in the precinct-sorted data. These were distributed by candidate to precincts based on the precinct-level reported vote. The precinct-sorted results were further adjusted to match the certified countywide totals based on the precinct-level vote by candidate.

	Information not in their processing steps: ● List of adjustments done to precinct-sorted results.
Able to replicate joining election data and shapefiles? Yes	Following VEST's documentation, we were able to join 2662 precincts to shapefiles. There were 87 election results precincts that we were unable to join to a shapefile, but these were all zero-vote precincts and not present in VEST's final file.
Able to replicate joining demographic data to block-level shapefiles? N/A	There is no demographic data on the file.
Able to replicate joining boundary data? N/A	There is no boundary data on the file.
Successfully ran validation? No	**Election results:** No ● We attempted to validate the election results at the state, county and precinct levels. ● VEST's statewide totals and county-level totals match those of the official totals from the North Carolina State Board of Elections (https://er.ncsbe.gov/). Our totals do not match either VEST or the official totals due to differences in counties where we used the precinct-sorted results. This is likely due to the statistical noise that VEST mentions, but does not fully explain, in its documentation:

- ○ "The precinct-sorted results were further adjusted to match the certified countywide totals based on the precinct-level vote by candidate."
- VEST's county-level totals match those of the official totals from the North Carolina State Board of Elections (https://er.ncsbe.gov/). Our totals do not match either VEST or the official totals due to differences in counties where we used the precinct-sorted results. This is likely due to the statistical noise that VEST mentions in its documentation.
- At the precinct-level, candidate vote totals did not match and were off by a number of votes likely due to the noise differences described above.

<u>Geographies:</u> Yes
- We were able to fully validate the geographies
- There were 2662 total precincts in VEST's file. Of the 2662 precincts we compared:
  - ○ 2650 precincts w/ a difference of 0 km^2
  - ○ 8 precincts w/ a difference between 0 and 0.1 km^2
  - ○ 2 precincts w/ a difference between 0.1 and 0.5 km^2
  - ○ 0 precincts w/ a difference between 0.5 and 1 km^2
  - ○ 1 precincts w/ a difference between 1 and 2 km^2
  - ○ 0 precincts w/ a difference between 2 and 5 km^2
  - ○ 1 precincts w/ a difference greater than 5 km^2