

## VEST UT 2018

**State:** Utah

**Organization:** Voting and Election Science Team (VEST)

**Summary of Races included:** US Senate. [General]

**Date File Updated:** 09/08/2020

**Date Report Updated:** 08/03/2021

**RDH Validation Code (Github):** <https://github.com/nonpartisan-redistricting-datahub/pdv-ut>

RDH Criteria	Explanation
<p>Is all raw data available?</p> <p>Yes</p>	<p><b>Accessible files:</b></p> <ul style="list-style-type: none"> <li>● Utah 2018 Election Results (precinct level) <ul style="list-style-type: none"> <li>○ Date accessed: 05/01/2021, Source: OpenElections</li> <li>○ <a href="https://github.com/openelections/openelections-data-ut/tree/master/2018">https://github.com/openelections/openelections-data-ut/tree/master/2018</a></li> <li>○ Notes: VEST provides the link to OpenElections website, but the actual file used is in the openelection-data-ut repo on their GitHub, saved as “20181106__ut__general__precinct.csv”</li> </ul> </li> <li>● Utah Shapefile <ul style="list-style-type: none"> <li>○ Date accessed: 05/01/2021, Source: Utah State’s Automated Geographic Reference Center (AGRS)</li> <li>○ <a href="https://gis.utah.gov/data/political/voter-precincts/">https://gis.utah.gov/data/political/voter-precincts/</a></li> <li>○ Notes: The file is saved as “Utah Vista Ballot Areas: Shapefile” under Downloads and Web Services</li> </ul> </li> <li>● VEST UT 2018 Data File <ul style="list-style-type: none"> <li>○ Date accessed: 05/01/2021, Source: VEST</li> <li>○ <a href="https://dataverse.harvard.edu/file.xhtml?persistentId=doi:10.7910/DVN/UBKYRU/EQ4Z1H&amp;version=36.0">https://dataverse.harvard.edu/file.xhtml?persistentId=doi:10.7910/DVN/UBKYRU/EQ4Z1H&amp;version=36.0</a></li> </ul> </li> <li>● VEST UT 2016 Data File <ul style="list-style-type: none"> <li>○ Date accessed: 05/01/2021, Source: VEST</li> <li>○ <a href="https://dataverse.harvard.edu/file.xhtml?persistentId=doi:10.7910/DVN/NH5S2I/T2GAPY&amp;version=56.0">https://dataverse.harvard.edu/file.xhtml?persistentId=doi:10.7910/DVN/NH5S2I/T2GAPY&amp;version=56.0</a></li> </ul> </li> <li>● VEST UT 2018 documentation file <ul style="list-style-type: none"> <li>○ Accessed: 05/06/21, Source: VEST</li> </ul> </li> </ul>

- <https://dataverse.harvard.edu/file.xhtml?fileId=4499066&version=36.0>
- VEST UT 2016 documentation file
  - Accessed: 05/06/21, Source: VEST
  - <https://dataverse.harvard.edu/file.xhtml?fileId=4499004&version=56.0>
- Utah 2018 Box Elder County Election Results
  - Accessed: 06/14/21, Source: OpenElections
  - <https://github.com/openelections/openelections-sources-ut/blob/master/2018%20General%20Election/Box%20Elder%20UT%202018%20General%20Precinct%20Results.csv>

**Inaccessible files:**

- VEST UT Shapefile at the exact time that VEST downloaded the file
  - AGRS continuously updates their shapefiles

Note: VEST lists Raw files used to fix Open Elections transcription errors were not listed or used as VEST manually referenced pdfs stored on OpenElections github (<https://github.com/openelections/openelections-sources-ut/tree/master/2018%20General%20Election> )

Processing steps available?

Yes

**Description of processing steps:**

- Several transcription errors were corrected from OpenElections using their raw results gathered from counties (<https://github.com/openelections/openelections-sources-ut/tree/master/2018%20General%20Election>). OE results in Rich and Morgan Counties were based on non-final reports, which were collected from county sources.
- Emery County - 8 "canvas votes" were distributed to precincts.
- Weber County - 6 precincts had their results suppressed, since all cast fewer than 15 votes, for a total of 42 votes. These were distributed based on the number of votes cast and the reported vote in 2016, which was not suppressed.
- Some additional entries appear to have been added in the shapefile to fill holes within the AGRS's geometries

**Information not in their processing steps:**

- The list of transcription errors was not provided - unable to verify whether some vote counts were different due to transcription errors or mistakes

	<ul style="list-style-type: none"> <li>Some subprecincts in the shapefile were merged together to match election data's format, while others were left as-is before joining with election data</li> </ul>
<p><b>Able to replicate joining election data and shapefiles?</b></p> <p><b>No</b></p>	<p>No, given the documentation they provided we would not be able to follow their steps to complete the join. We were able to join 2321 precincts out of 2335 shapefile precincts and 2344 election result precincts.</p> <p>The main reason for our inability to fully join the election data and shapefiles is that Utah continually updates their shapefile, as mentioned above, which means that in some cases, a shapefile will no longer exist in the file for precincts where there are election results.</p>
<p><b>Able to replicate joining demographic data to block-level shapefiles?</b></p> <p>N/A</p>	<p>There is no demographic data on the file.</p>
<p><b>Able to replicate joining boundary data?</b></p> <p>N/A</p>	<p>There is no boundary data on the file.</p>
<p><b>Successfully ran validation?</b></p> <p><b>No</b></p>	<p><b><u>Election results:</u> Yes</b></p> <ul style="list-style-type: none"> <li>In VEST's documentation, they note that the Utah Open Elections data contains several errors.</li> <li>We validated election results at three different levels:             <ul style="list-style-type: none"> <li>Statewide candidate vote totals</li> <li>Countywide candidate vote totals</li> <li>Precinct-level candidate votes</li> </ul> </li> </ul>

- At the statewide total level, the election results initially did not match VEST's, as was expected given the Open Elections typos. After correcting the Open Elections errors, the state totals do match. In addition, these totals match those present on the state elections website, except for the write-in choice, as the state website does not appear to list all of the different write-in results (<https://elections.utah.gov/Media/Default/2018%20Election/2018%20General%20Election%20Canvass.pdf>).
- At the countywide total level, vote totals match after correcting the Open Elections typos.
- At the precinct-level there are 2261 precincts, before correcting for differences there were:
  - 20 of these have election result differences
  - 2241 of these are the same.
- However, as described in detail in the notebook, all of these differences are either attributable to Open Elections typos or 1 vote differences from allocating votes.

**Geographies: No**

- Out of 2321 total precincts:
  - 0 precincts w/ a difference of 0 km<sup>2</sup>
  - 2246 precincts w/ a difference between 0 and .1 km<sup>2</sup>
  - 60 precincts w/ a difference between .1 and .5 km<sup>2</sup>
  - 3 precincts w/ a difference between .5 and 1 km<sup>2</sup>
  - 3 precincts w/ a difference between 1 and 2 km<sup>2</sup>
  - 6 precincts w/ a difference between 2 and 5 km<sup>2</sup>
  - 3 precincts w/ a difference greater than 5 km<sup>2</sup>
- All precincts with a difference greater than 1 km<sup>2</sup> are printed in the notebook. As described above, Utah's precinct shapefile is continually updated, so we did not expect to fully validate the geographies.