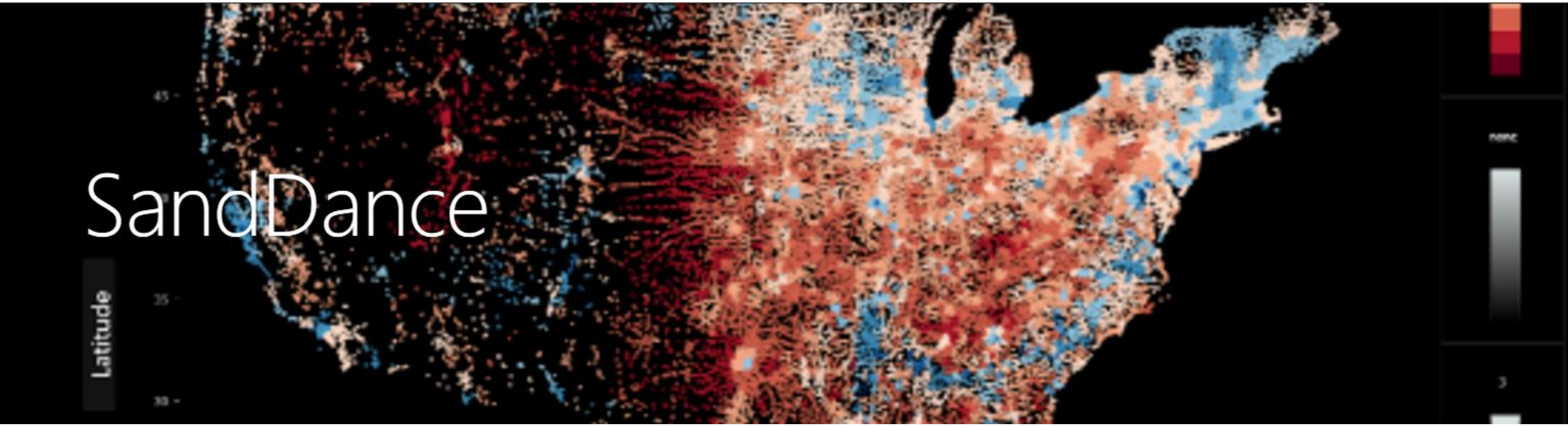
# SandDance




https://www.microsoft.com/en-us/research/project/sanddance

# Background

- Microsoft Research project.
- Available as a (cloud) hosted web application or custom Power BI view.
- More PoC than commercial application – aims to “showcase Microsoft Research data visualization innovations and novel natural user interaction techniques”.[1]
- Doesn’t run on iOS.

# Overview

- “Enables you to more easily explore, identify, and communicate insights about data”.[2]
- Some support for exploratory analysis, however is really a hybrid model - for use with curated data sets[3] (cleaned & structured data).
- Touchscreen support allows users to navigate data in a semi-guided way.
- Sweet spot: “We've found it especially useful for showing stories about how people came to insights about their data by taking the audience through a logical sequence of steps (which may or may not be the steps they used to find the insights themselves).” [4]

# Innovations

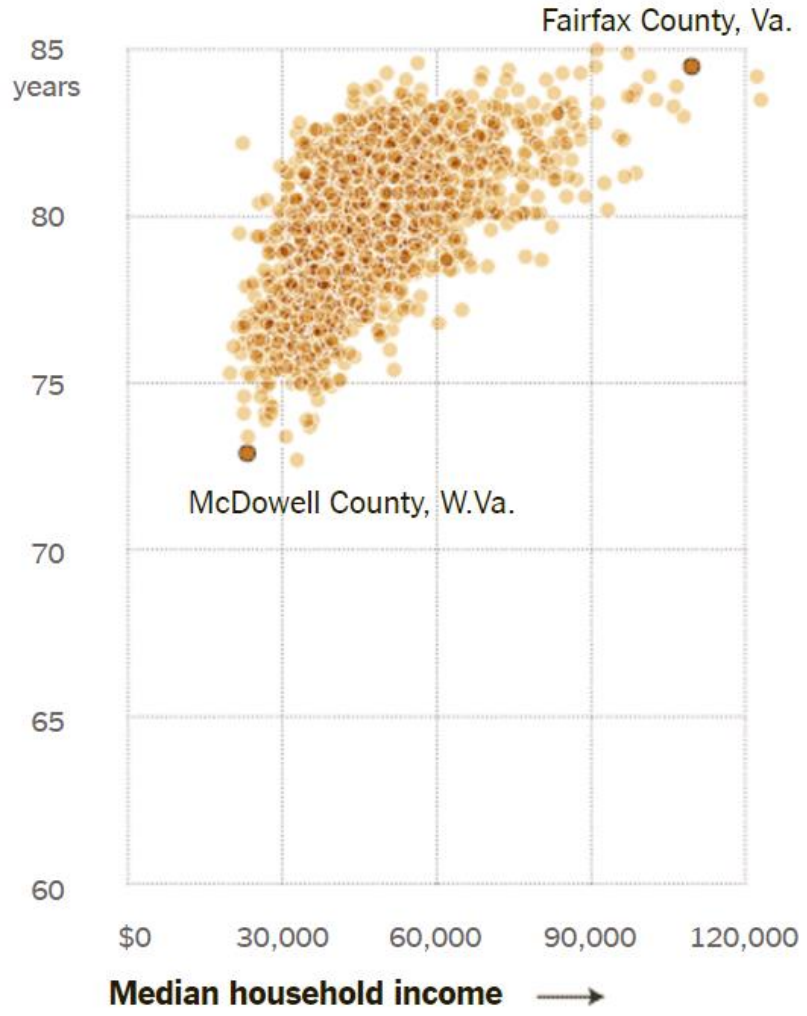
- Each datapoint individually shown, even on aggregate views.
- Use of animated transitions allows insight into how visualisations relate back to each other, and to the individual datapoints.
- Gimmick? Or new kind of visual device / gesture.
- Intention is to enable users to see how the data fits together, pull it apart and put it back together in different ways.

# Life expectancy and income

- Downloaded county income/expectancy data [url1]
- Downloaded county latitude/longitude data [url2]
- Feature-engineering (Excel)
  - join datasets (VLOOKUP)
  - calculate regression line (LINEST/INTERCEPT)
  - calculate diff from regression line for each county
- Uploaded CSV to SandDance webapp

[url1] healthinequality.org/dl/health_ineq_all_online_tables.xlsx

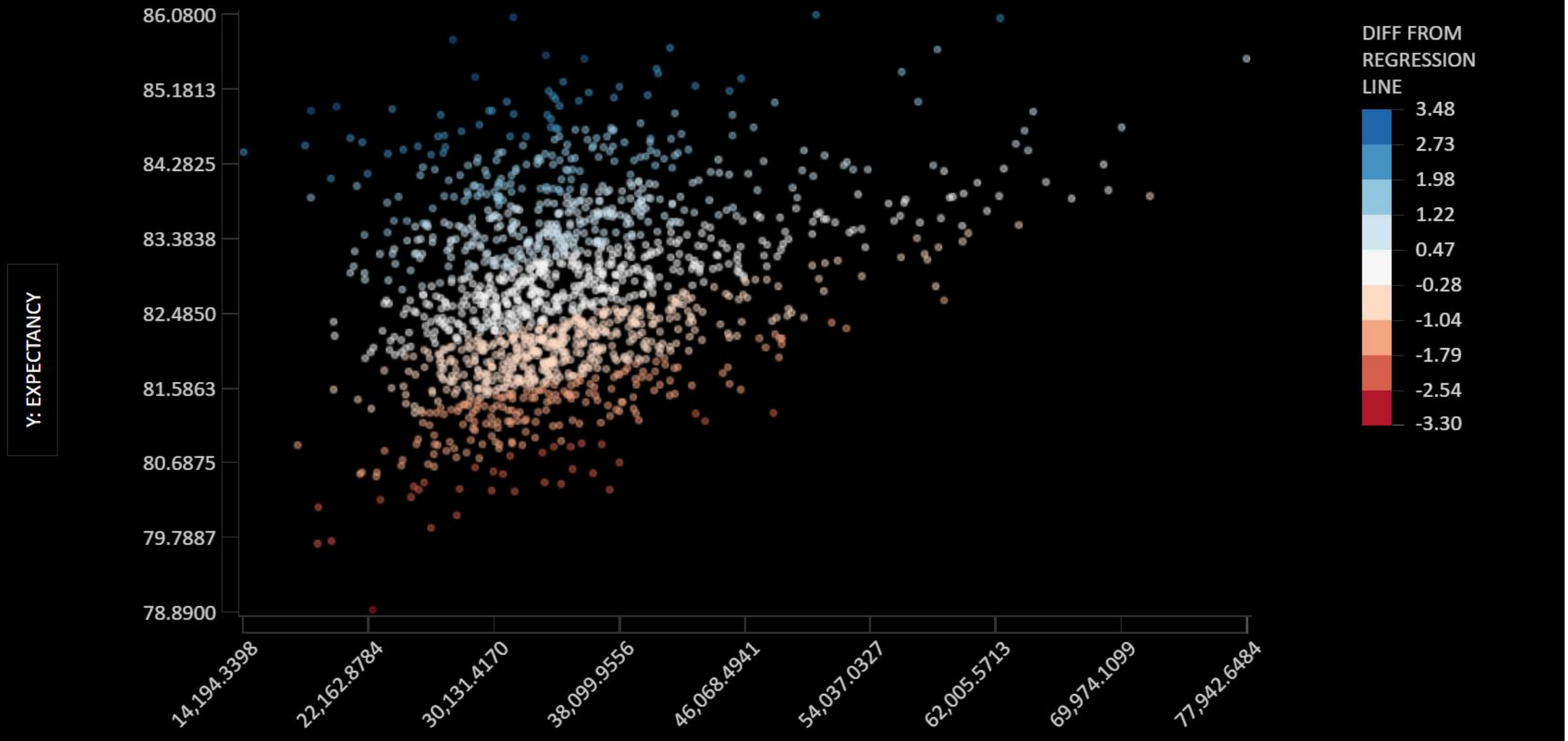
[url2] www2.census.gov/geo/docs/maps-data/data/gazetteer/Gaz_counties_national.zip




http://www.nytimes.com/interactive/2014/03/15/business/higher-income-longer-lives.html

| Dataset | Items | View as | X axis | Facet by | Color by | Size by | Shape by |
|---|---|---|---|---|---|---|---|
| sanddance.csv | 1559 | Scatter | INCOME | None | DIFF FROM REGRESS... | None | None |

| Filtered | Selected | Y axis | Text by | Sort by | Chart |
|---|---|---|---|---|---|
| None | None | EXPECTANCY | None | None | Options |



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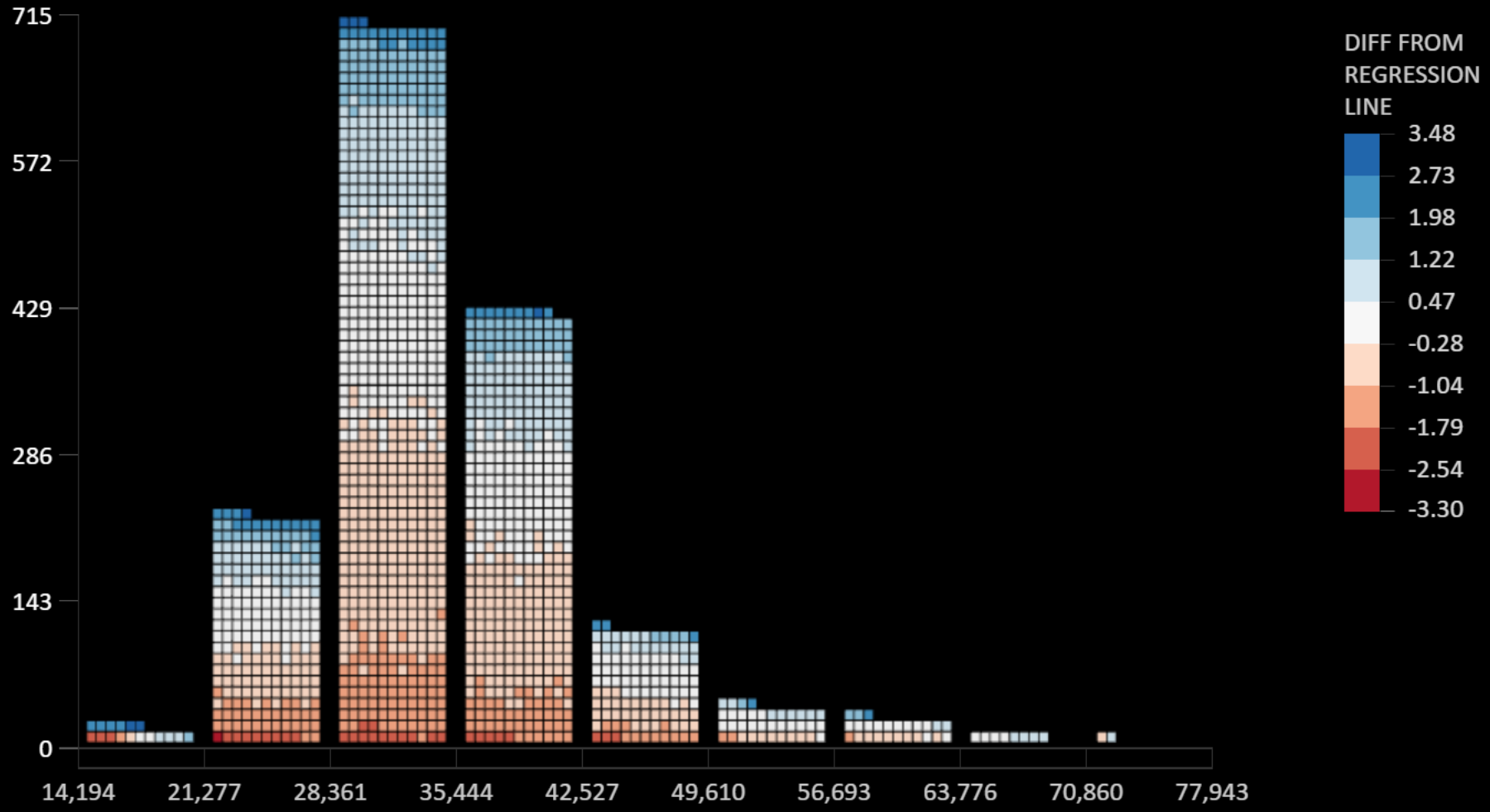

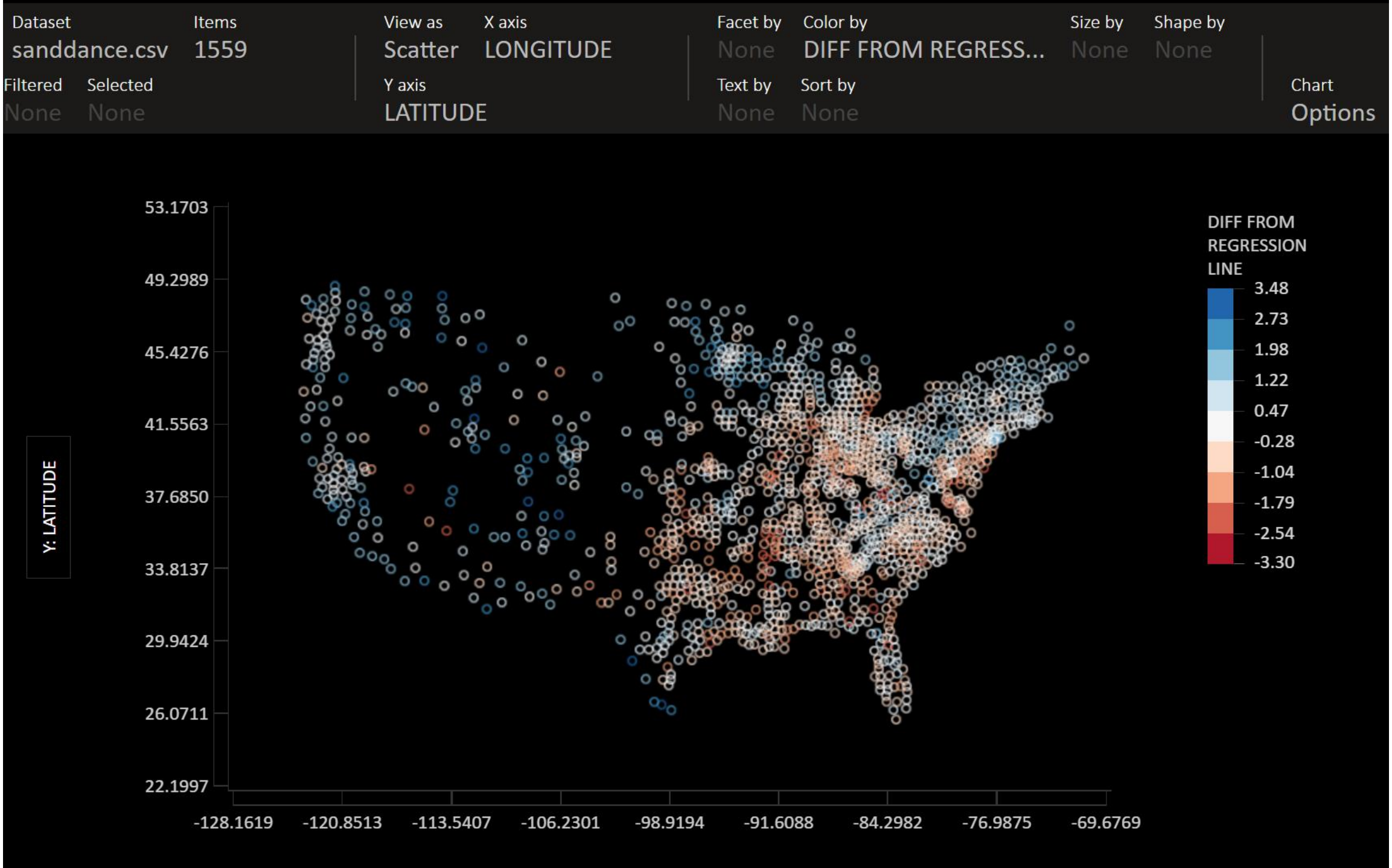
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DIFF FROM REGRESS...
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DIFF FROM REGRESSION LINE
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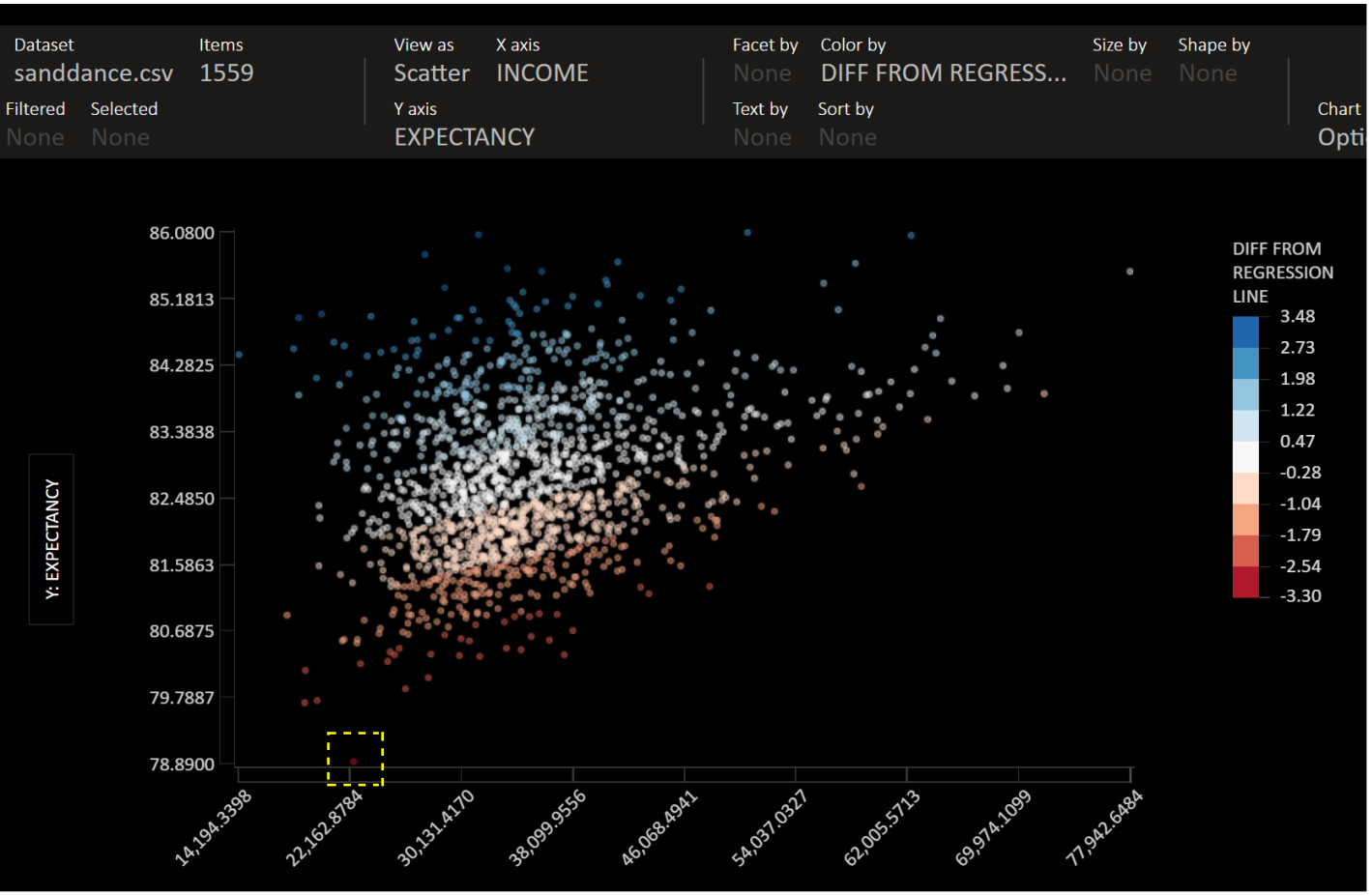
-0.28
-1.04
-1.79
-2.54
-3.30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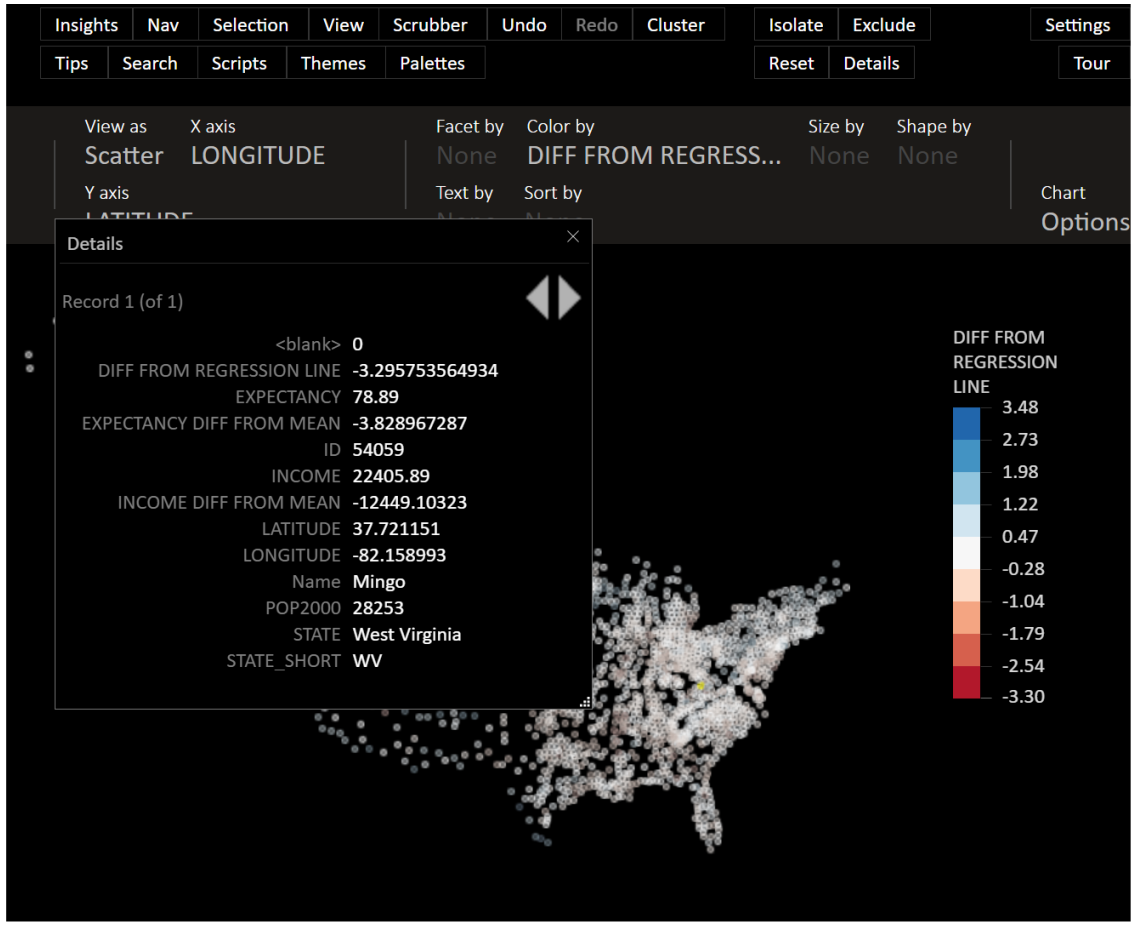
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-1.79
-2.54
-3.30

http://appvoices.org/images/uploads/2011/07/WV-early-deaths-_2008.pdf


**Early Deaths:**
**West Virginians Have Some of the Shortest Life Expectancies in the United States**
**A Report by West Virginians for Affordable Health Care**

Developed under a grant from the Claude Worthington Benedum Foundation.
The West Virginia Council of Churches is the fiscal agent for this grant.

In April 2008 Harvard researchers published a report examining life expectancy in the United States.[1] The report examined life expectancy over a 38-year period by county and by gender. Their basic finding is that counties with high life expectancies continued to improve, while the life expectancy in the worst-off counties was stagnant or actually declined. The result is that the inequity in life expectancy among different counties increased from 1961 to 1999, the last year that data was available.

West Virginians for Affordable Health Care (WVAHC) examined the data used by this report. A summary of the counties with the lowest one percent of life expectancies in the country is attached as Appendix A. States that are most prevalent in this lowest one percent are: South Dakota, Mississippi, West Virginia and Arkansas. Major findings that relate to West Virginia include the following:

- West Virginians have lower life expectancy than the average in the United States.
- Southern West Virginia has some of the lowest life expectancy in the country. McDowell, Logan and Mingo counties were rated among the lowest one percent for shortest life expectancy in the United States.

# References


- [1, 2, 4, cover graphic]
  https://www.microsoft.com/en-us/research/project/sanddance
- [3] Iliinsky, N. P. N., & Steele, J. (2011). Designing data visualizations. Sebastopol, CA: O'Reilly.