DDV 498

Graded Assignment: 7-3-3 Create a Narrative Visualization

Submitted by – Sayan Chakraborty (sayan3@illinois.edu)

Github Page: https://sayanchak15.github.io/DDV498/

Source Files : https://github.com/sayanchak15/DDV498

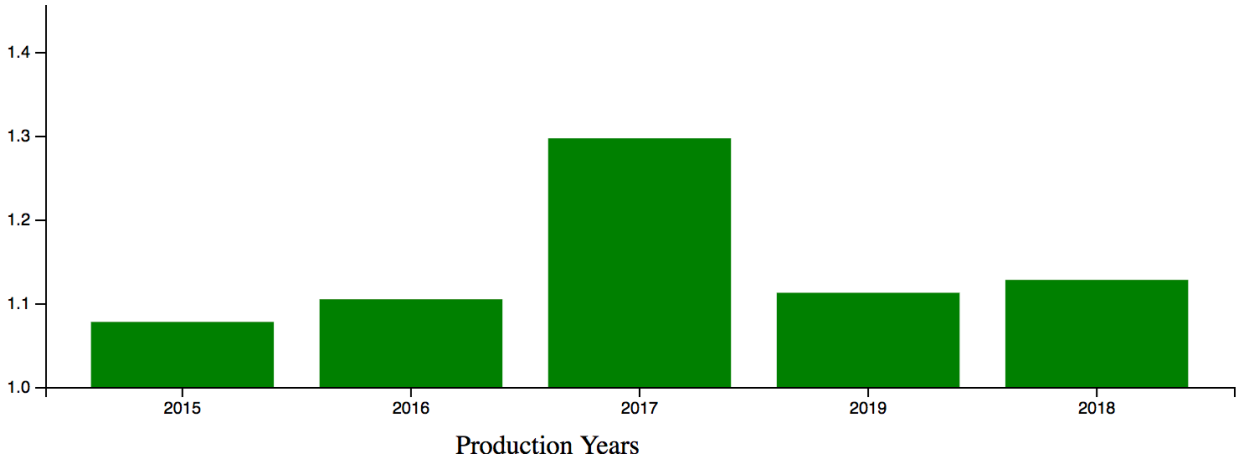
Messaging -

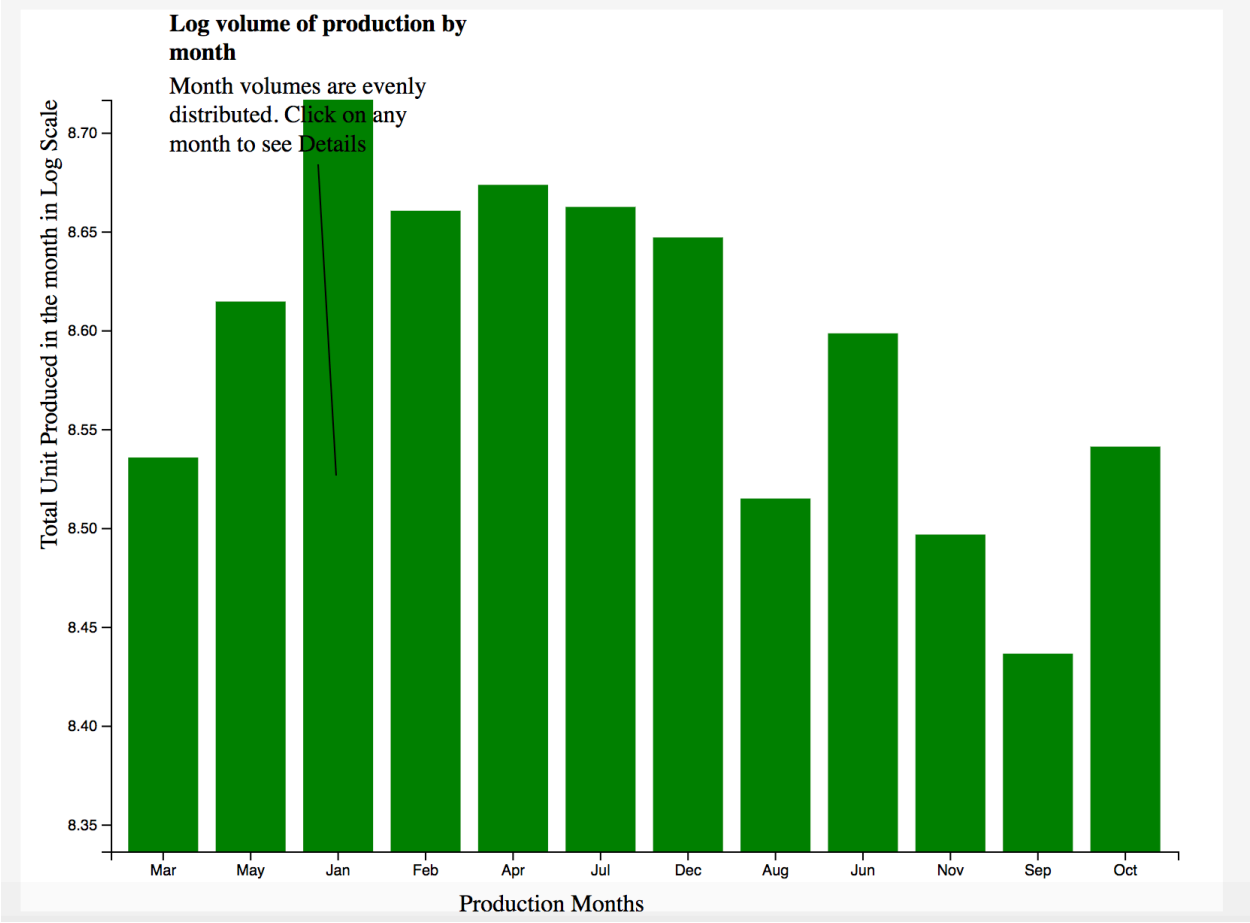
The dataset represents weekly 2019 retail scan data for National retail volume (units) and price. Retail scan data comes directly from retailers' cash registers based on actual retail sales of Hass avocados. Starting in 2015, the charts below reflects an expanded, multi-outlet retail data set. Multi-outlet reporting includes an aggregation of the following channels: grocery, mass, club, drug, dollar and military. The Average Price (of avocados) in the table reflects a per unit (per avocado) cost, even when multiple units (avocados) are sold in bags.

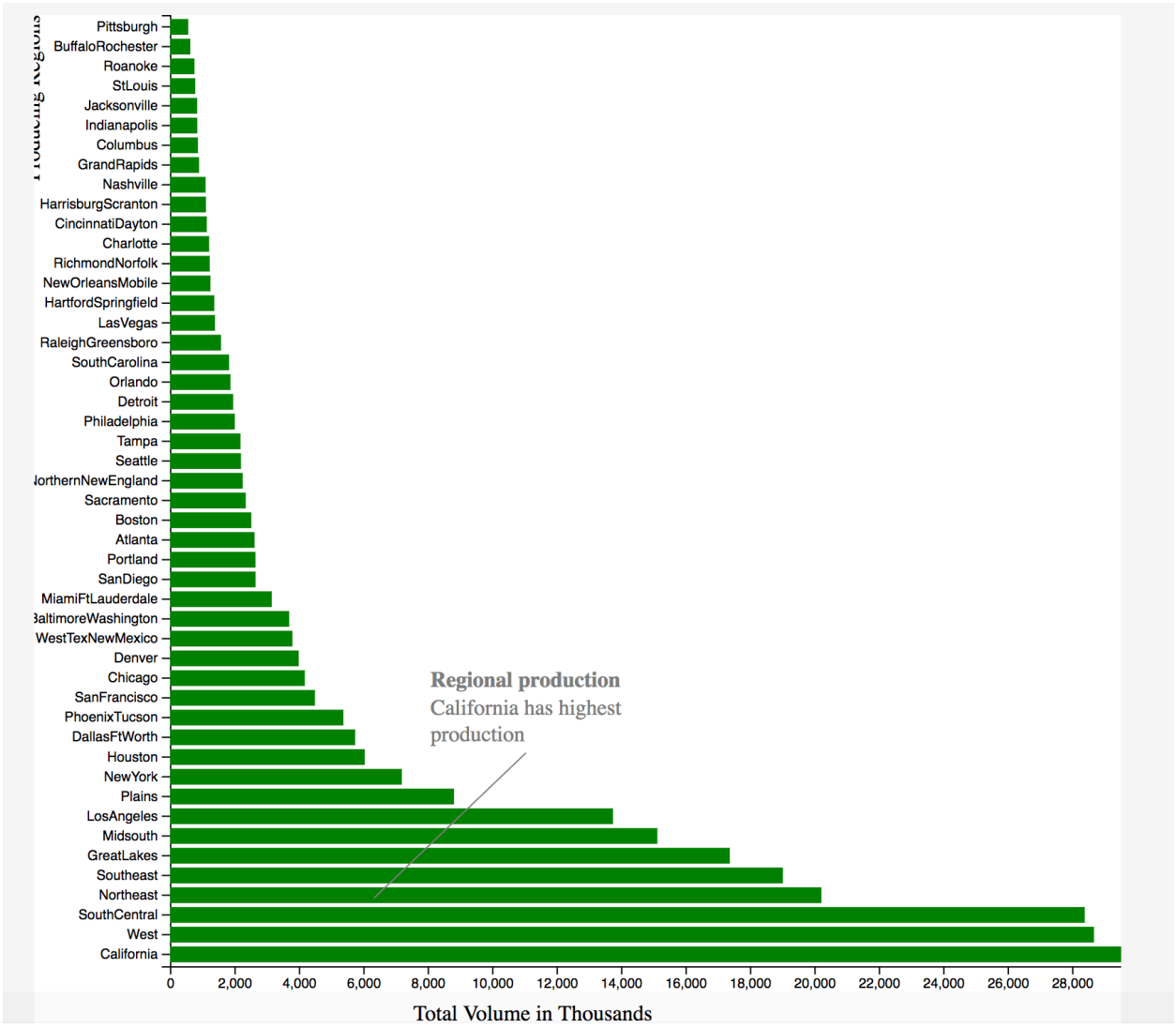
With this Narrative visualization we'll be observing avocado production and average selling price deviations. If production goes high, price goes down. We do not have data for 2019 and 2018. But monthly volume shows a great detail of price variation.

Narrative Structure -

The Narrative structure is designed with User directed Ordering (with Annotated Chart) and user manipulative interactivity. I've used Drill Down Story to implement this Narrative structure. Users will be given a chance to click on individual bar charts at the beginning to drill down to next chart of monthly and again to drill down to regional production volume. Some sample graphs as –


1.4
1.3
1.2
1.1
1.0
2015
2016
2017
2019
2018
Production Years


Log volume of production by month
Month volumes are evenly distributed. Click on any month to see Details
Total Unit Produced in the month in Log Scale
8.70
8.65
8.60
8.55
8.50
8.45
8.40
8.35
Mar
May
Jan
Feb
Apr
Jul
Dec
Aug
Jun
Nov
Sep
Oct
Production Months



Visual Structure –

It has 3 parts:

(1) Structure: The Charts are built with animated bar graph and annotated to click on each to help users navigate.
(2) Highlight: Animated transition should take users attention towards it.
(3) Transition: Clicking on any bar graph would transition to drill down charts.

Scenes:

I've 3 scenes each contains bar graphs.

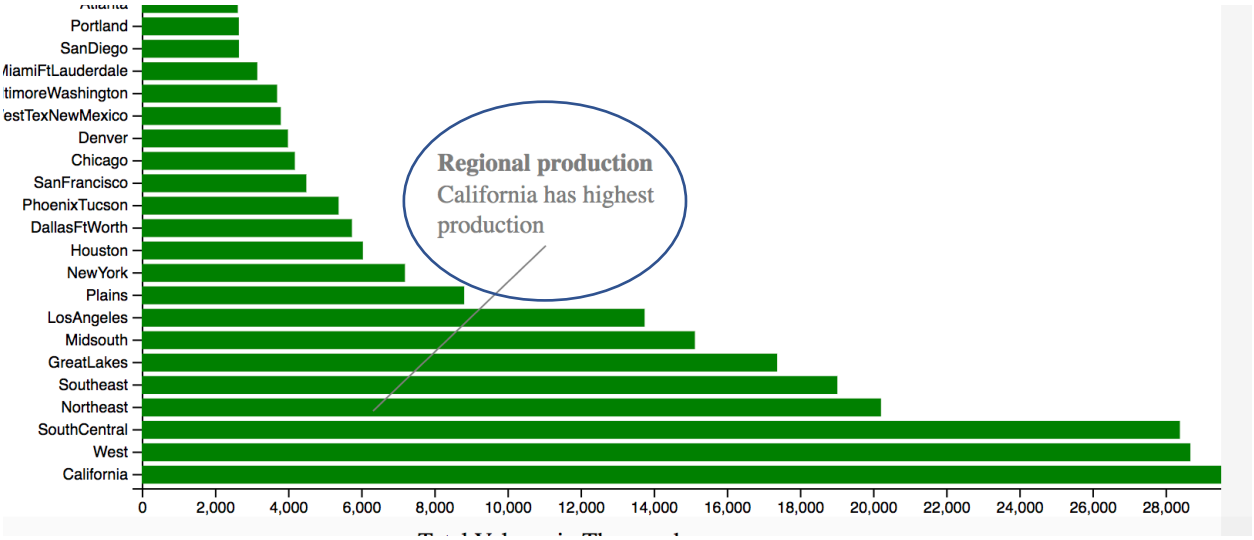
Scene1: Year vs Price bar chart.

Scene2: Month vs Total Volume chart in a selected year.

Scene3: Regional production in a particular month.

Annotations:

Each chart uses annotation as we can see in the scenes. Annotation followed same template for each scene. Here is an example:



Template used: Simple directed with below js code:

```
const annotations = [
                {
                    note: {
                        label: "Month volumes are evenly distributed. Click on any
month to see Details",
                        title: "Log volume of production by month",
                        wrap: 200
                      },
                      x: 150,
                      y: 250,
                      dy: -207,
```

```
                    dx: -12,
                    color: "black"
                }]
```

The annotation explained each graphs main feature, thus avoiding user confusion.

Annotation didn't **change** within single scene. That helps user oriented throughout the scene.

Parameters:

Parameters are variables in a scene/chart. The states of my visualization are – Price with year -> volume by month of the year -> regional volume of that month.

Parameters used in 1st scene are – Avocado type, Year Range, animation , svg element.

Parameters used in 2nd scene are – Avocado Type, Year, Animation, svg element

Parameters used in 3rd scene are – Avocado Type, Month, Animation, svg element

Triggers -

I've used button as trigger to select between Organic Avocado vs Conventional Avocado. Users can study the monthly, regional production of any of the avocado types.