The Data Visualization Society Atlas

Map labels (landmasses and features):

- Wise Coast
- **Engineer's Dominion**
- Healthcare Waterfront
- IT Beach
- Sotsi and Business Ravine
- Art Mesa
- Asian Peak
- South America Plains
- University Height
- **Island of Developers**
- Finance Shallows
- Financial Shore
- North America Stream
- IT Crest
- Cape Asia
- Academia Bay
- EU Pinnacle
- **Science Highlands**
- Oceania Gorge
- Maths Summit
- **Student's Land**
- Social Sciences and Business Pass
- Alternative Education Peak
- Plateau Mathematics
- **Scientist Country**
- Other Education Ridge
- Social Height
- Marketing and Finance Cliff
- Knowledge Strait
- **Humanities Massif**
- Business Bluffs
- **the Analyst Expanse**
- Alternative Studies Ile
- Consulting and IT Range
- Channel of North America
- **Teacher's Islet**
- Academic Volcano
- Social Sciences Valleys
- Consultant Barrier
- Euro Inlet
- Science Twin Peaks
- **Leader's Island**
- Experience Slope
- Medical Canyon
- Mount Business
- Oceania and Africa Hills
- Information Technology Ridge
- **Unknown Territory**
- **Cartographer's Rock**
- Gulf of Asia and South America
- Socsci Hills
- Expert's Cove
- Peninsula of Alternative Education
- Humanities Cliff
- **The Journalists**
- Asia and Africa Shore
- Finance and IT Range
- **Designer's Kingdom**
- Art Basin
- Social Sciences Headland
- Sierra Tech Training
- European Reef

Elevation
[scaled point density]

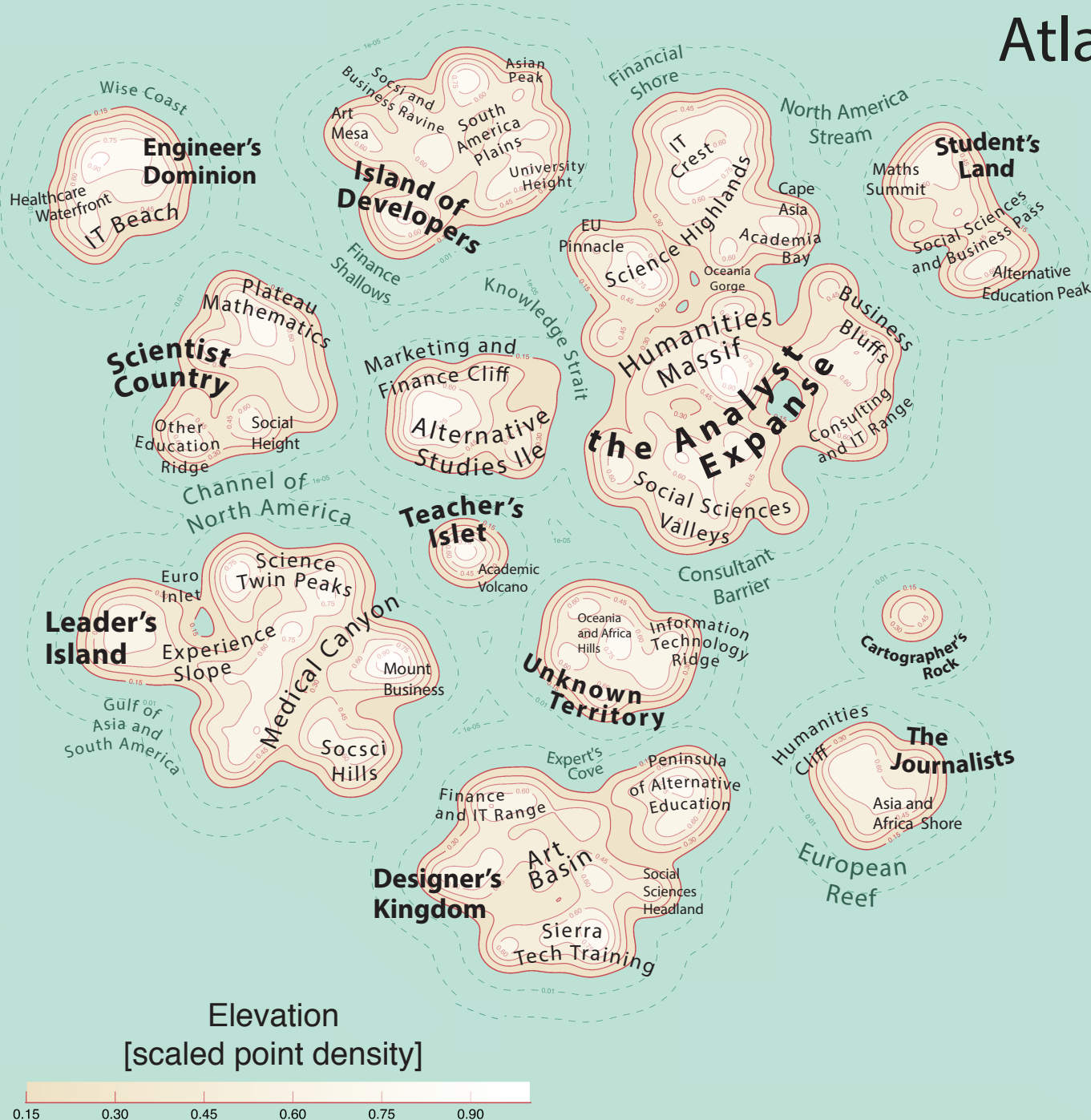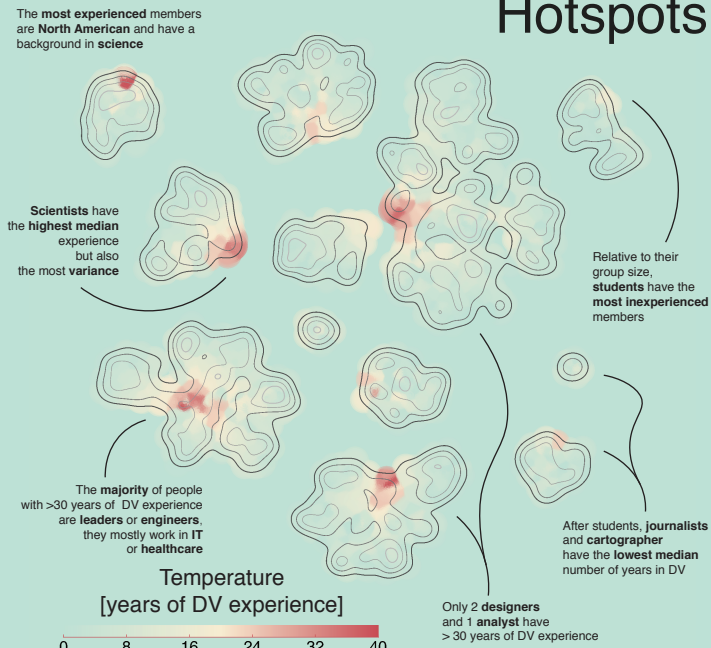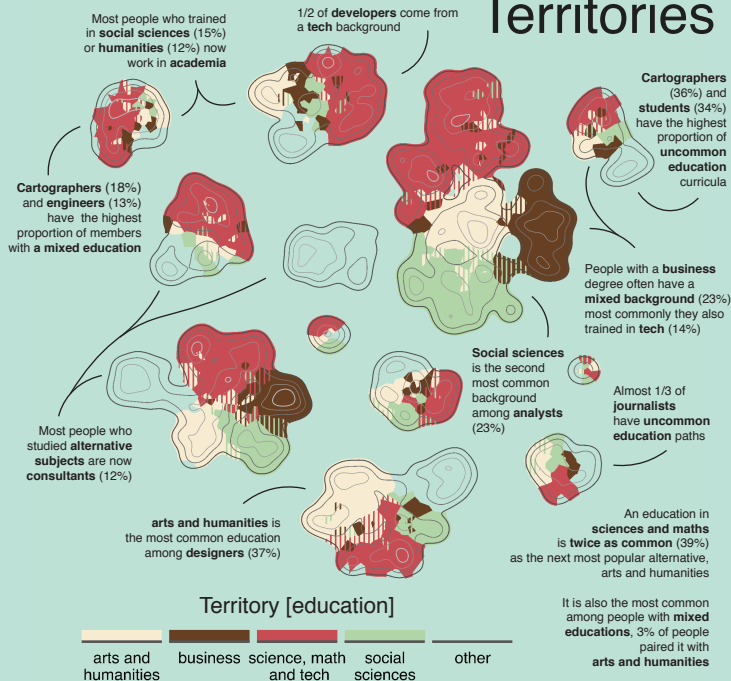| 0.15 | 0.30 | 0.45 | 0.60 | 0.75 | 0.90 |

This visualization was made for the State of the Data Visualization Industry 2021 challenge. Data from the 2021 DVS Survey was projected onto a 2d plane with UMAP, a non-linear dimensionality reduction algorithm. Job role, job sector, education, location, and years of experience in data visualization were included as input features. The map was produced by measuring the point density (translated into altitude) rescaled between 0 and 1. Landmasses represent areas with more than 0.15 of rescaled density and are proportional to the number of members in each job role. Toponyms are based on the most relevant local features but are not exhaustive.

Hotspots

- The **most experienced** members are **North American** and have a background in **science**.
- **Scientists** have the **highest median** experience but also the **most variance**.
- The **majority** of people with >30 years of DV experience are **leaders** or **engineers**, they mostly work in **IT** or **healthcare**.
- Relative to their group size, **students** have the **most inexperienced** members.
- After students, **journalists** and **cartographer** have the **lowest median** number of years in DV.
- Only 2 **designers** and 1 **analyst** have > 30 years of DV experience.

Temperature
[years of DV experience]
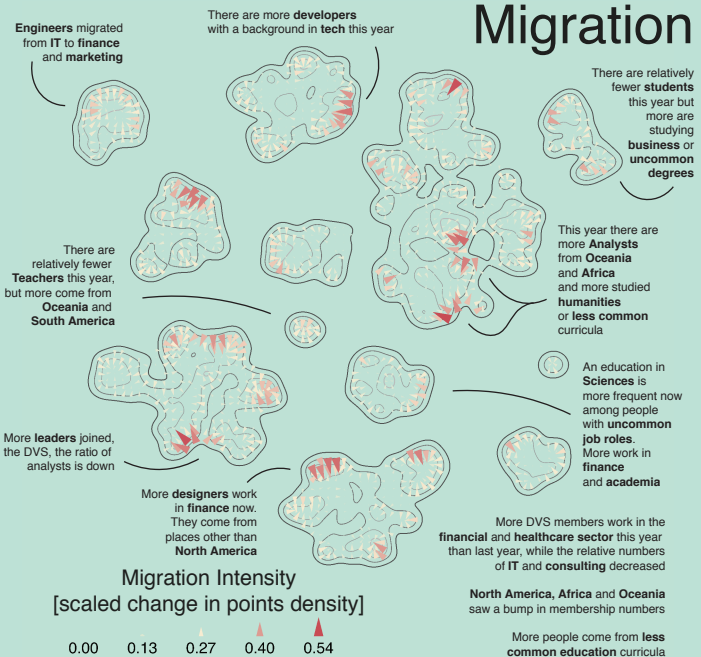
| 0 | 8 | 16 | 24 | 32 | 40 |

Gaussians are superimposed for each data point, one for each member, and coloured according to their number of years experience in data visualization.
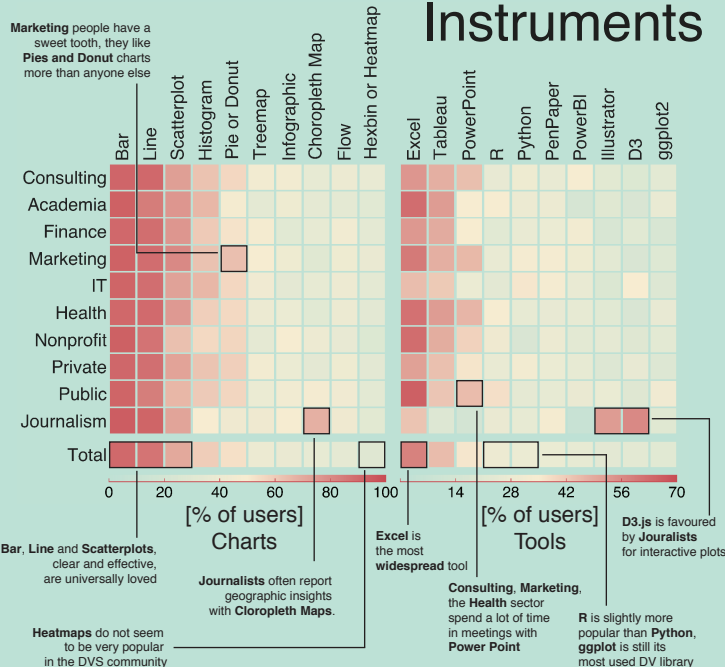
Territories

- Most people who trained in **social sciences** (15%) or **humanities** (12%) now work in **academia**.
- 1/2 of **developers** come from a **tech** background.
- **Cartographers** (36%) and **students** (34%) have the highest proportion of **uncommon education** curricula.
- **Cartographers** (18%) and **engineers** (13%) have the highest proportion of members with **a mixed education**.
- People with a **business** degree often have a **mixed background** (23%), most commonly they also trained in **tech** (14%).
- **Social sciences** is the second most common background among **analysts** (23%).
- Most people who studied **alternative subjects** are now **consultants** (12%).
- Almost 1/3 of **journalists** have **uncommon education** paths.
- **arts and humanities** is the most common education among **designers** (37%).
- An education in **sciences and maths** is **twice** as common (39%) as the next most popular alternative, arts and humanities.
- It is also the most common among people with **mixed educations**, 3% of people paired it with **arts and humanities**.

Territory [education]

- arts and humanities
- business
- science, math and tech
- social sciences
- other

Partitions are colored by education of their data points. In regions where members answered with multiple choices, vertical hatching is used.

Migration

- **Engineers** migrated from **IT** to **finance** and **marketing**.
- There are more **developers** with a background in **tech** this year.
- There are relatively fewer **students** this year but more are studying **business** or **uncommon degrees**.
- This year there are more **Analysts** from **Oceania** and **Africa** and more studied **humanities** or **less common** curricula.
- There are relatively fewer **Teachers** this year, but more come from **Oceania** and **South America**.
- An education in **Sciences** is more frequent now among people with **uncommon job roles**. More work in **finance** and **academia**.
- More **leaders** joined the DVS, the ratio of analysts is down.
- More **designers** work in **finance** now. They come from places other than **North America**.
- More DVS members work in the **financial** and **healthcare sector** this year than last year, while the relative numbers of **IT** and **consulting** decreased.
- **North America**, **Africa** and **Oceania** saw a bump in membership numbers.
- More people come from **less common education** curricula.

Migration Intensity
[scaled change in points density]

| 0.00 | 0.13 | 0.27 | 0.40 | 0.54 |

Vector field representing the change in membership between the 2020 and 2021 surveys. The difference has been calculated in terms of ratios, that is the number of members with certain properties with respect to the total number of members for that year. Finance was not an explicit option in the 2020 survey, the comparison was made with those members who declared finance or banking as their organization sector in the "other" field.

Instruments

- **Marketing** people have a sweet tooth, they like **Pies** and **Donut** charts more than anyone else.
- **Bar**, **Line** and **Scatterplots**, clear and effective, are universally loved.
- **Journalists** often report geographic insights with **Cloropleth Maps**.
- **Heatmaps** do not seem to be very popular in the DVS community.
- **Excel** is the most **widespread** tool.
- **Consulting**, **Marketing**, the **Health** sector spend a lot of time in meetings with **Power Point**.
- **D3.js** is favoured by **Journalists** for interactive plots.
- **R** is slightly more popular than **Python**, **ggplot** is still its most used DV library.

Charts
[% of users]

Columns: Bar, Line, Scatterplot, Histogram, Pie or Donut, Treemap, Infographic, Choropleth Map, Flow, Hexbin or Heatmap

Scale: 0, 20, 40, 60, 80, 100

Rows: Consulting, Academia, Finance, Marketing, IT, Health, Nonprofit, Private, Public, Journalism, Total

Tools
[% of users]

Columns: Excel, Tableau, PowerPoint, R, Python, PenPaper, PowerBI, Illustrator, D3, ggplot2

Scale: 0, 14, 28, 42, 56, 70

Heatmap of the top 10 most popular charts and tools reported by DVS members. These are shown in percentages of users and split by job sector. The total across all industries is shown at the bottom.

fcomitani.github.io