You are viewing this thread in readonly mode.

# How to bind different attribute as one field #544

Z Zihang Gao
4 months ago in **Assignments – Vis 2 Vega-Lite**

94 VIEWS

Hi,

I have an issue that when I create a stacked bar chart, I want to use color to encode the different types of the renewable energy type, but I don't know how to combine them as one field,

Is there any way I can combine the different column data in vega-lite?

**Line 189 - 209**: The stacked bar chart that I want to make

**Line 207**: the color channel, now only include one type of attribute, I expect to include (Hydropower, Solar, Wind, Other) as different types of color.

```
{
    "$schema": "https://vega.github.io/schema/vega-lite/v5.json",
    "data": {
        "url": "https://raw.githubusercontent.com/1099238610/global-map-vis/main/data/mode
    },
    "params": [
        {
            "name": "year_selection",
            "value": "2018",
            "bind": {
                "input": "range",
                "max": 2018,
                "min": 1985,
                "step": 1,
                "name": "Year selection"
            }
        },
        {
            "name": "power_type",
            "value": "Hydropower",
            "bind": {
                "input": "select",
                "options": [
                    "Hydropower",
                    "Solar",
                    "Wind",
                    "Other"
                ],
                "name": "Power type"
            }
        }
    ],
```

```
        "vconcat": [
            {
                "width": 1000,
                "height": 400,
                "title": "Global clean energy power amount (1985 - 2018)",
                "projection": {
                    "type": "equirectangular"
                },
                "transform": [
                    {
                        "lookup": "Code",
                        "from": {
                            "data": {
                                "url": "https://raw.githubusercontent.com/1099238610/global-ma
                                "format": {
                                    "type": "topojson",
                                    "feature": "custom.geo"
                                }
                            },
                            "key": "properties.wb_a3"
                        },
                        "as": "geo"
                    },
                    {
                        "calculate": "datum[power_type]",
                        "as": "p_type"
                    },
                    {
                        "filter": "datum.Year == year_selection"
                    }
                ],
                "mark": {
                    "type": "geoshape"
                },
                "encoding": {
                    "shape": {
                        "field": "geo",
                        "type": "geojson"
                    },
                    "color": {
                        "field": "p_type",
                        "type": "quantitative",
                        "scale": {
                            "type": "threshold",
                            "domain": [
                                0,
                                10,
                                50,
                                100,
                                500
                            ],
                            "range": [
                                "#FADBD8",
                                "#F1948A",
                                "#EC7063",
                                "#CB4335",
                                "#B03A2E",
```

```
                        "#78281F"
                    ]
                }
            },
            "tooltip": [
                {
                    "field": "Entity",
                    "type": "nominal",
                    "title": "Country"
                },
                {
                    "field": "p_type",
                    "type": "quantitative",
                    "title": "datum.power_type"
                }
            ]
        }
    },
    {
        "hconcat": [

    {
        "width": 750,
        "height": 200,
        "mark": "line",
        "title": "Global clean energy power amount - top 5 country",
        "params": [
            {
                "name": "time_select",
                "select": {
                    "type": "interval",
                    "encodings": [
                        "x"
                    ]
                }
            }
        ],
        "transform": [
            {
                "filter": "datum['Entity'] == 'China' || datum['Entity'] == 'Russia'||
            },
            {
                "filter": "datum.Year >= 1985"
            },
            {
                "calculate": "datum[power_type]",
                "as": "p_type"
            }
        ],
        "encoding": {
            "x": {
                "field": "Year",
                "axis": {
                    "title": "Year"
                }
            },
            "y": {
```

```
                "field": "p_type",
                "type": "quantitative",
                "title": "Power(TW/h)"
            },
            "color": {
                "field": "Entity",
                "title": "Country",
                "type": "nominal"
            }
        }
    },
    {
        "mark": {
            "type": "arc",
            "innerRadius": 60
        },
        "transform": [
            {
                "filter": "datum['Entity'] == 'China' || datum['Entity'] == 'Russia'
            },
            {
                "filter": "datum.Year == year_selection"
            },
            {
                "calculate": "datum[power_type]",
                "as": "p_type"
            }
        ],
        "encoding": {
            "theta": {
                "field": "p_type",
                "type": "quantitative"
            },
            "color": {
                "field": "Entity",
                "type": "nominal",
                "title": "Country"
            }
        }
    }
        ]
    },
    {
        "mark": "bar",
        "transform": [
            {
                "filter": "datum['Entity'] == 'China' || datum['Entity'] == 'Russia'
            },
            {
                "filter": "datum.Year == year_selection"
            },
            {
                "calculate": "datum[power_type]",
                "as": "p_type"
            }
        ],
        "encoding": {
```

```
                "column": {"field": "year"},
                "x": {"field": "p_type", "type": "quantitative"},
                "y": {"field": "Entity", "type": "nominal"},
                "color": {"field": "power_type", "type": "nominal"}
            }
        }
    ]
}
```

# 1 Answer

Kane Li **STAFF**
4 months ago

Hi Zihang,

Good question. Yes, you can.

check the second line chart example here: https://vega.github.io/vega-lite/docs/repeat.html

here is for stacked bar chart.

```
{
    "$schema": "https://vega.github.io/schema/vega-lite/v5.json",
    "data": {
        "url": "https://raw.githubusercontent.com/1099238610/global-map-vis/main/data/mode
    },
    "repeat": {
        "layer": ["Wind", "Solar"]
    },
    "spec": {
        "mark": "bar",
        "transform": [{
                "filter": "datum['Entity'] == 'China' || datum['Entity'] == 'Russia'  || d
            },
            {
                "filter": "datum.Year == 2000"
            },
            {
                "calculate": "datum['Solar']",
                "as": "p_type"
            }
        ],
        "encoding": {
            "x": { "field": { "repeat": "layer" }, "type": "quantitative" },
            "y": { "field": "Entity", "type": "nominal" },
            "color": { "datum": { "repeat": "layer" }, "type": "nominal" }
        }
    }
}
```

You can put both the repeat and spec parts in your final layer.

cheers,

Kane

Z Zihang Gao 4mth

Thanks Kane, that's very helpful!