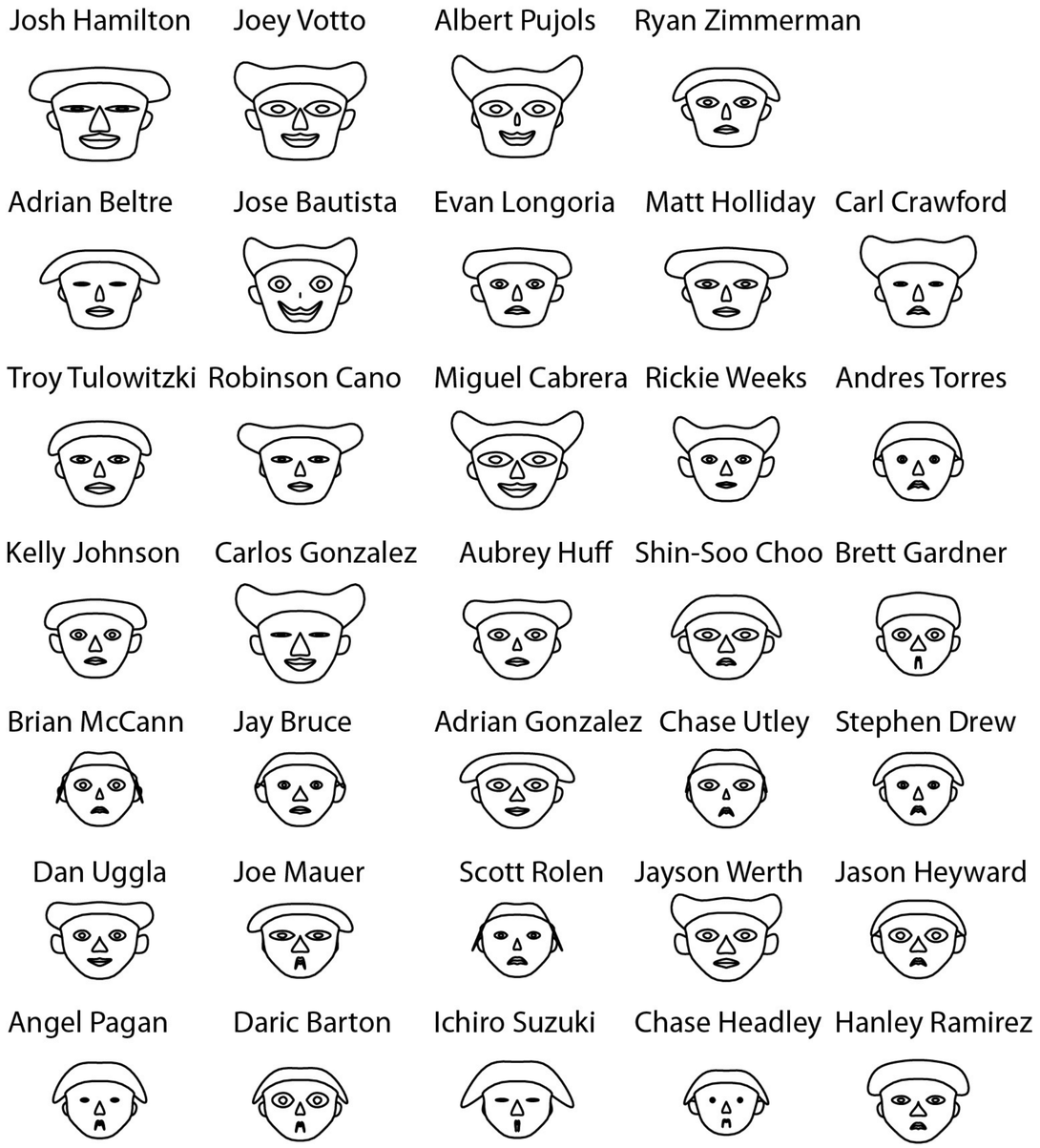
GR5702
Exploratory Data Analysis and Visualization

Prof. Joyce Robbins

21.75 secs
Ex ge le for the
m sensitive skin.
S itive skin, add the chemicals and moisture
d you have diaper rash.
B r's unique high-absorbency natural-blend cotton
ovides cotton-soft, extra thick, gel-free protection
you baby's sensitive skin. The chlorine-free materials and
sorbent polymers is non-toxic and non-irritating. Clinically
tested and pediatrician recommended for babies with allergies
and sensitive skin.
TM
If you are not satisfied with the baby leakage protection, you will get your money back. Read more about our leakfree guarantee at www.baby.com

Chernoff Faces by WAR



2010
top hitters

Albert Pujols

Size of the face—I used wOBA (height of the face), wRC (width of the face) and WAR (general shape of the face) to dictate the size of the face.

Shape of the mouth—Power makes people smile, ask **Jose Bautista**. I used slugging (height), isolated slugging (width) and total home runs (curve of the smile).

Shape of the eyes—Batters who walk a ton need good eyes. Therefore, walk rates (height) and on-base percentage (width) are represented here.

Shape of the hair—I couldn't think of anything here really, but hits (height) and RBI (width) are here. I also made the "style" of the hair set to stolen bases.

Shape of the nose—A general idea about high batting average on balls in play is that they are unsustainable (not in all cases, but let's go with this notion for a second). Thus, if a hitter had a high BABIP, he is lying about his true talent. Higher BABIP, bigger nose (think Pinocchio).

Shape of the ears—Psst...players with high strike out rates have big ears because they love to hear the sound of their bat whiffing.

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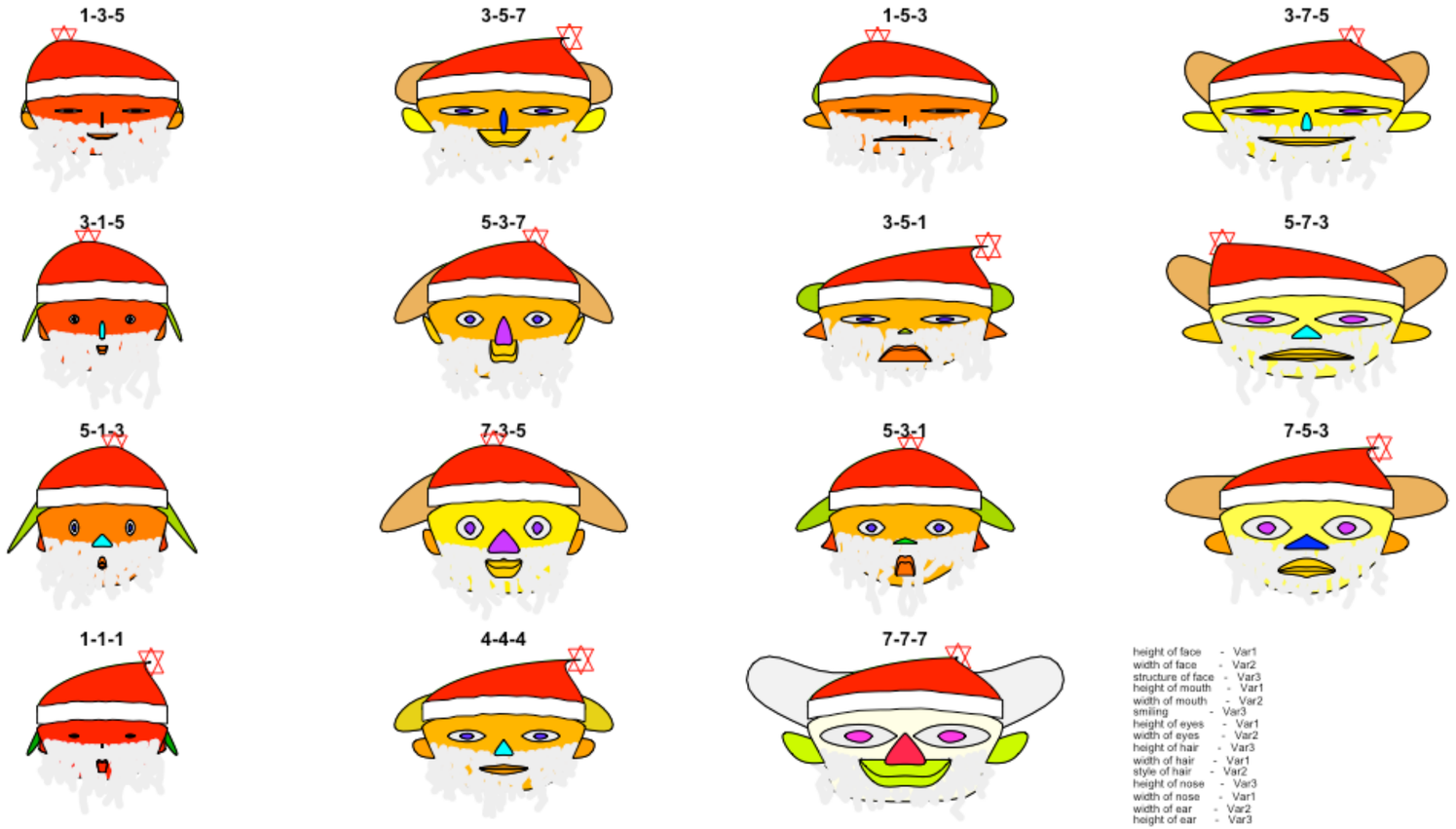
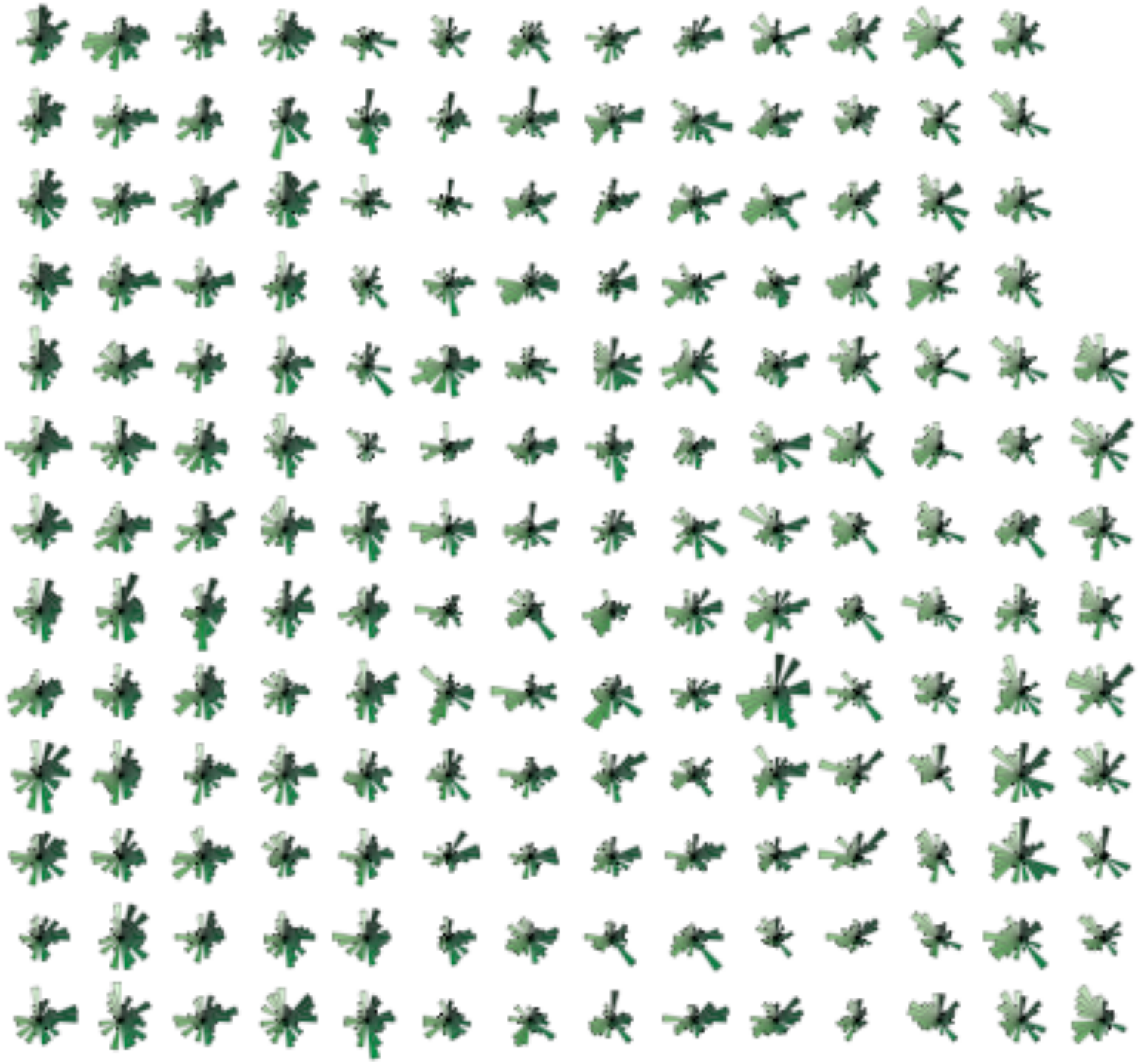
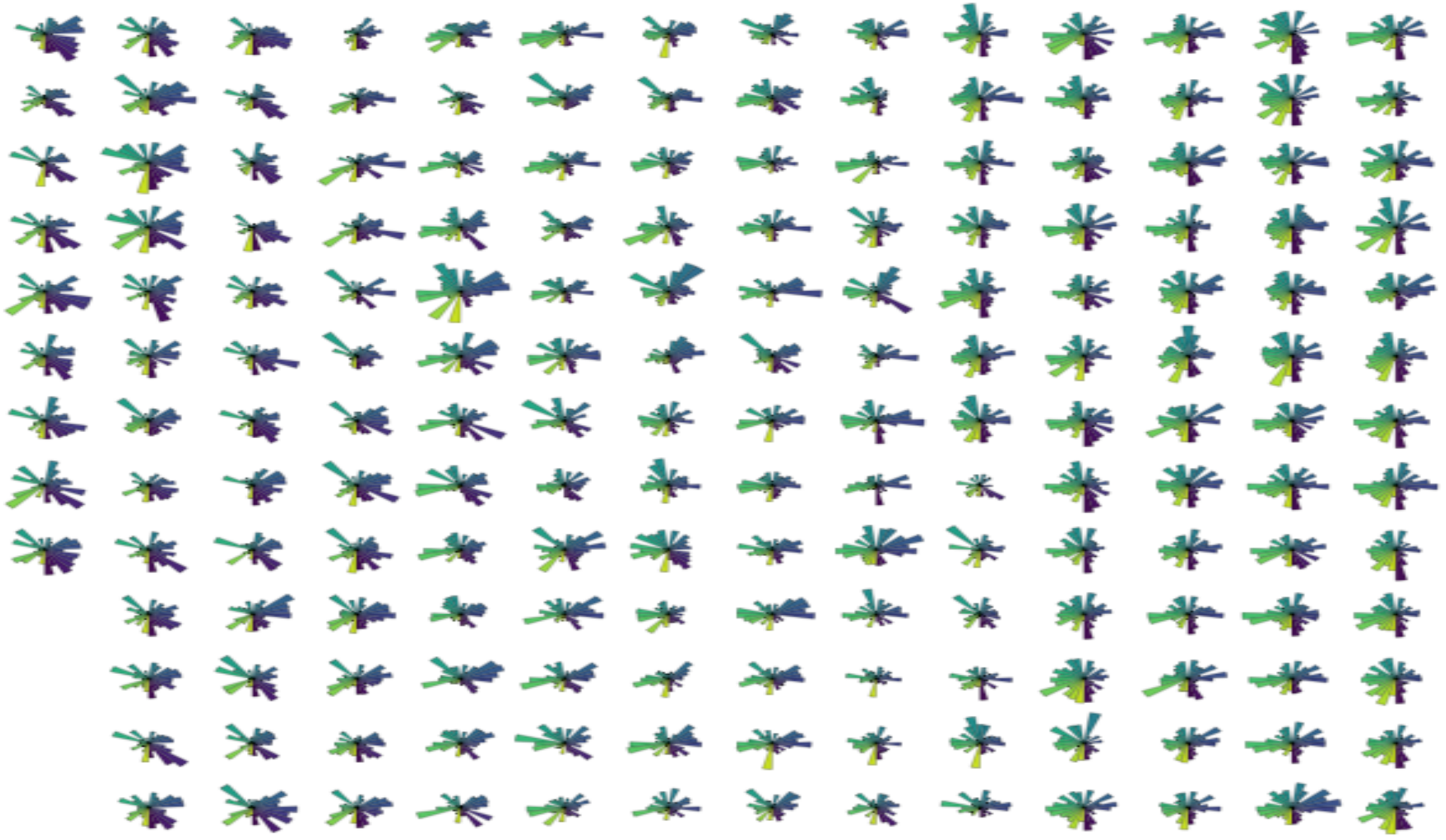
aplpack::
 faces()
```



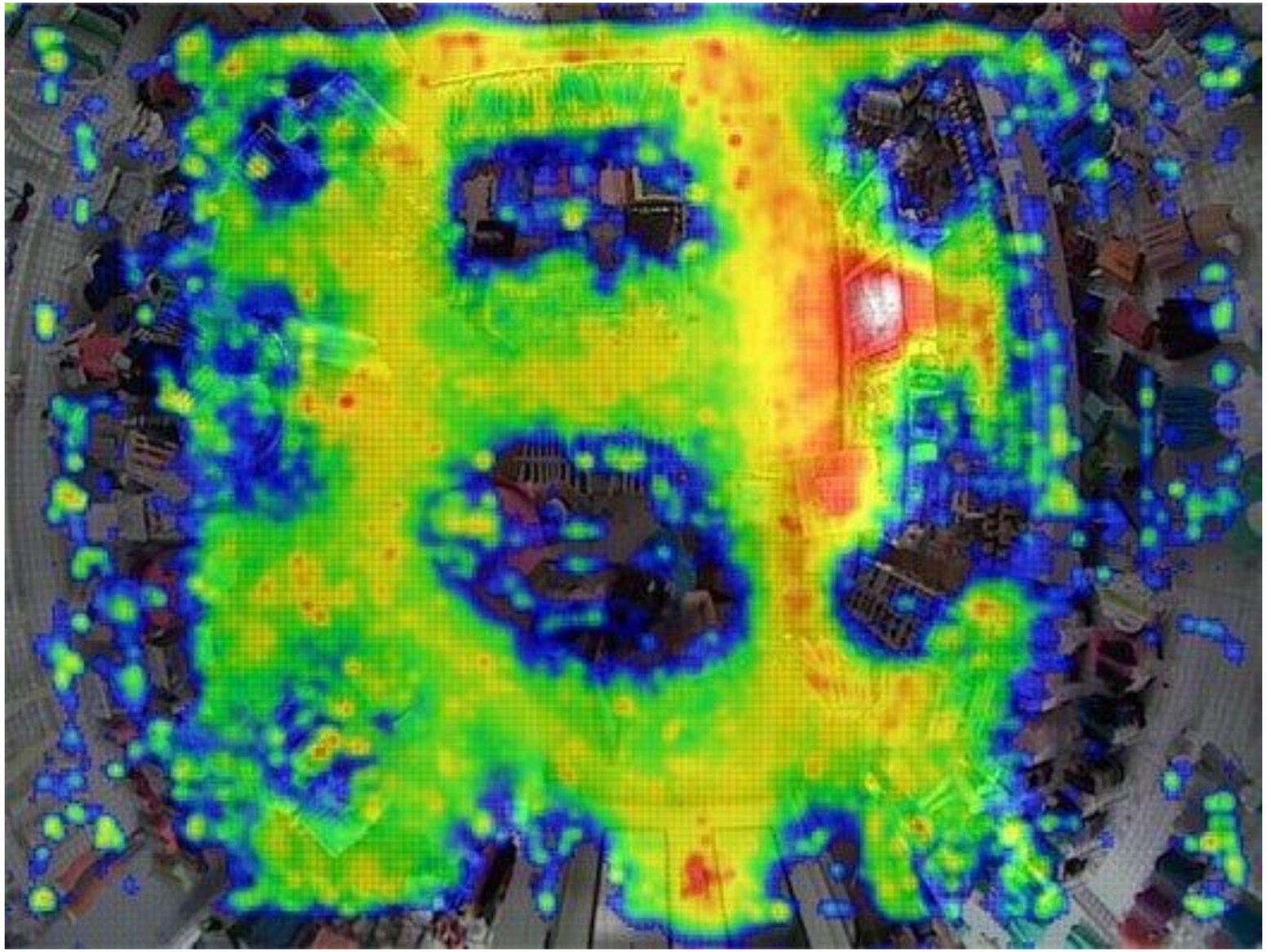
modified item	Var
"height of face "	"Var1"
"width of face "	"Var2"
"structure of face"	"Var3"
"height of mouth "	"Var1"
"width of mouth "	"Var2"
"smiling "	"Var3"
"height of eyes "	"Var1"
"width of eyes "	"Var2"
"height of hair "	"Var3"
"width of hair "	"Var1"
"style of hair "	"Var2"
"height of nose "	"Var3"
"width of nose "	"Var1"
"width of ear "	"Var2"
"height of ear "	"Var3"



glyphs
`stars()`

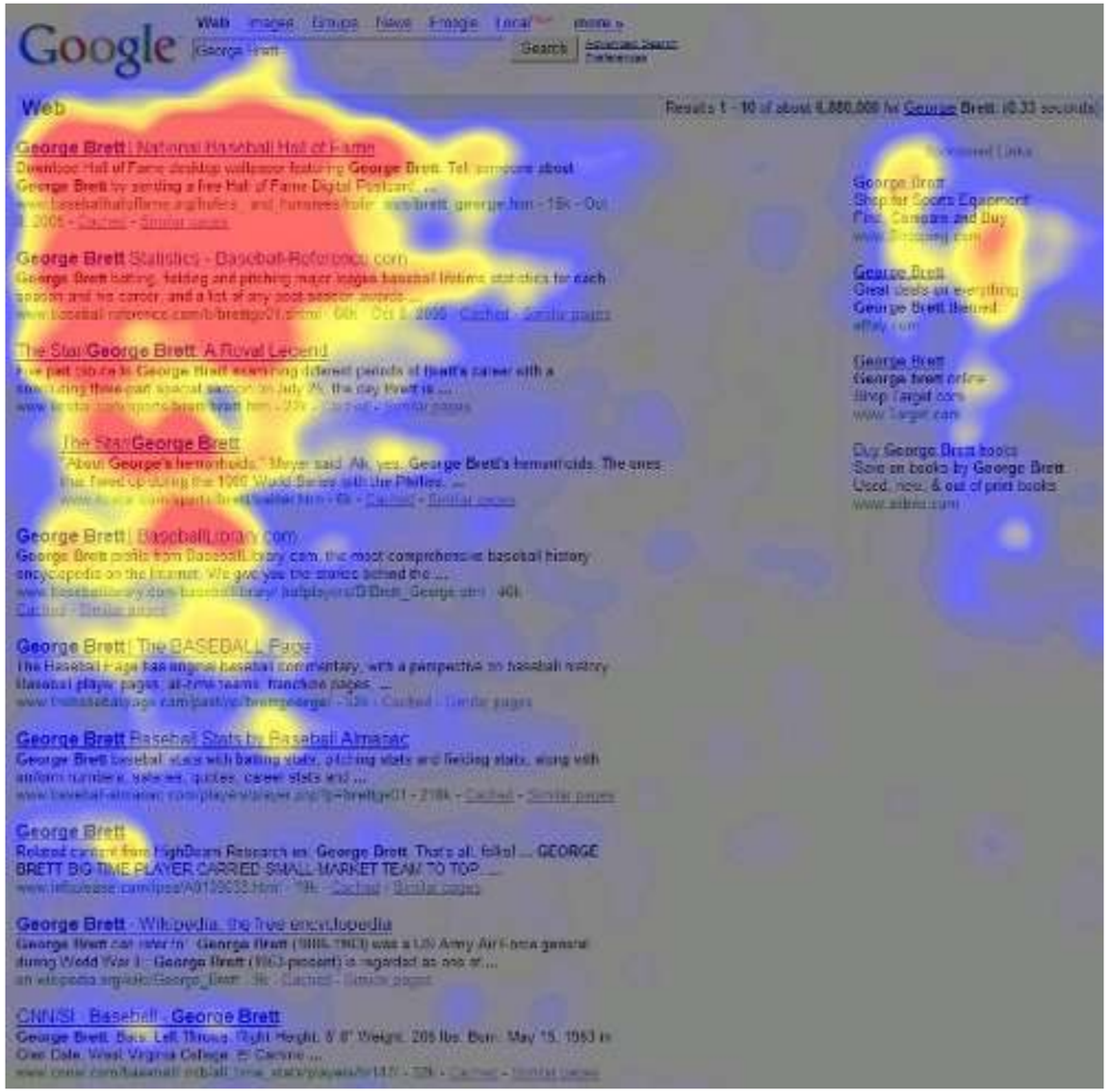


In-store shopping pattern



physical location

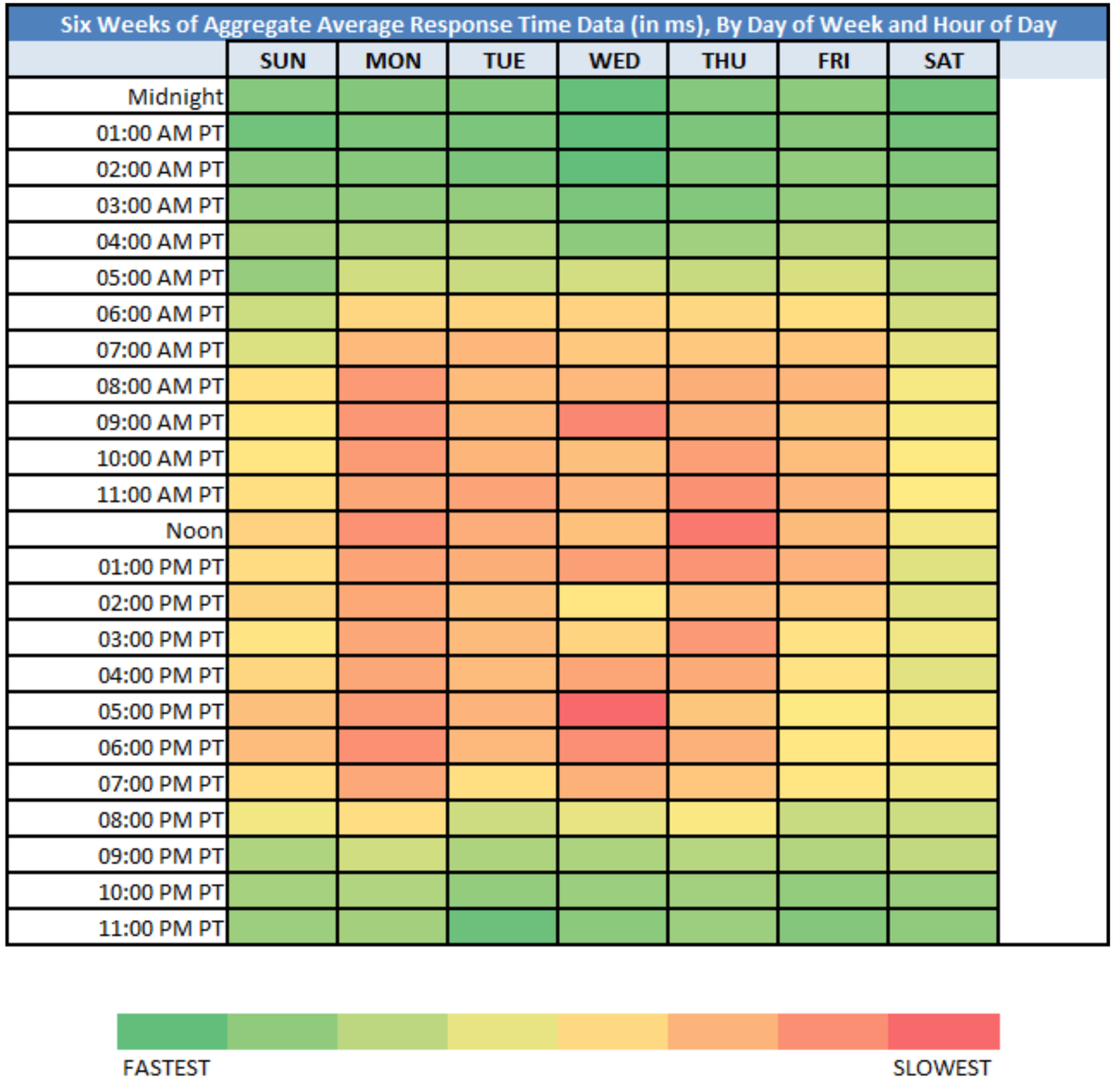
In-store shopping pattern



screen location

http://seocustomer.com/google-heat-maps-and-seo/

Web site response

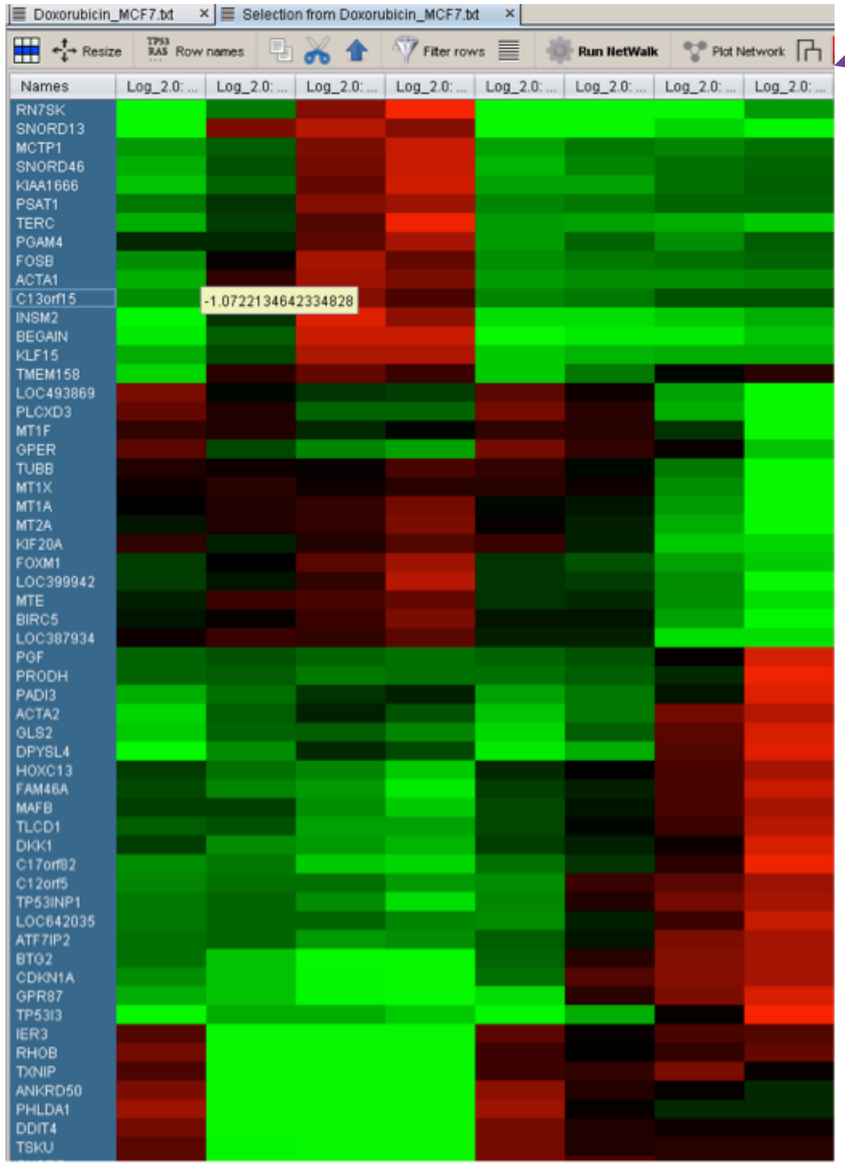


time

Gene expression

clustered samples

clustered genes



(normalized data)

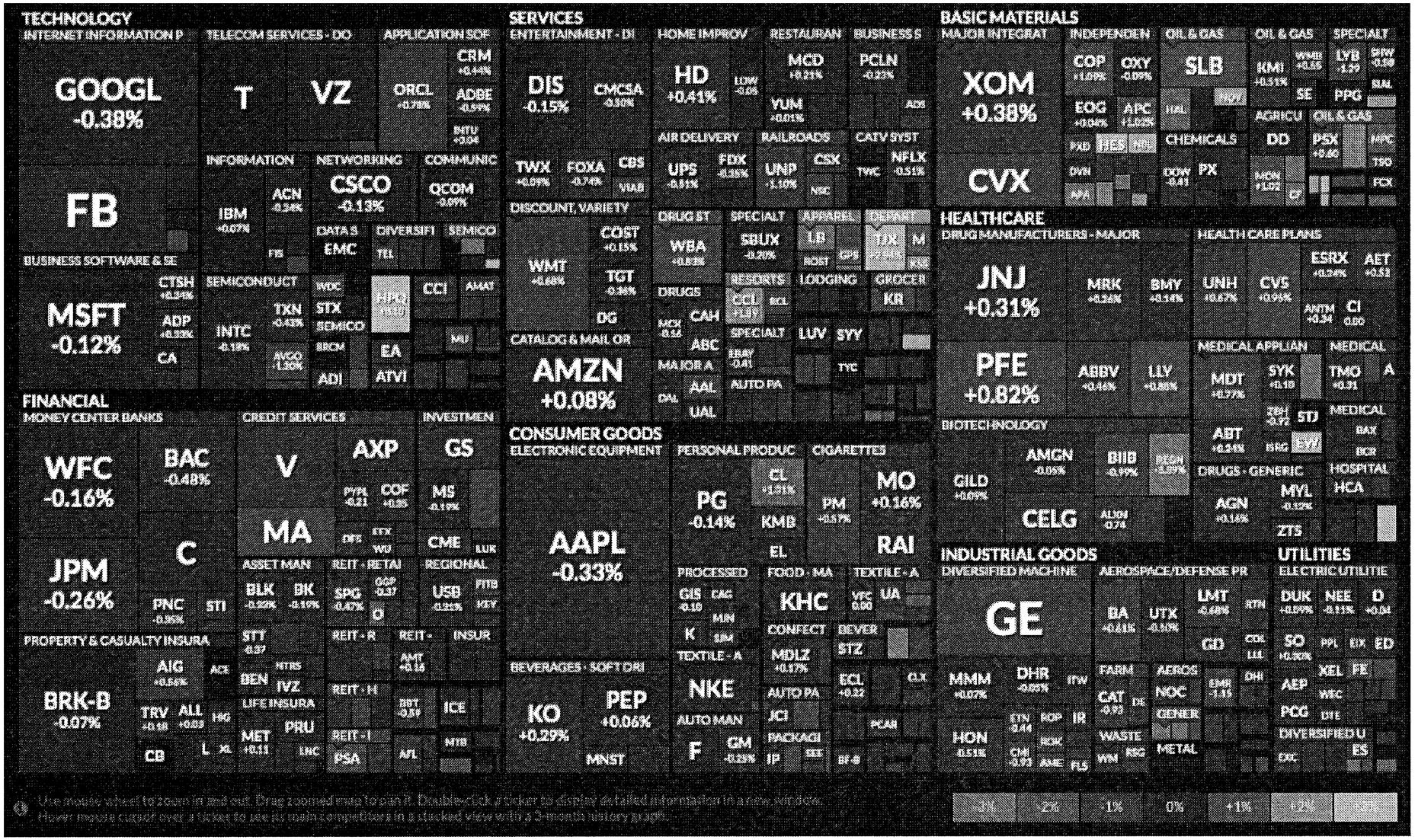
https://netwalkersuite.org/tutorials/doxorubicin/clustering-heatmap-analysis

S&P 500 Map

groups

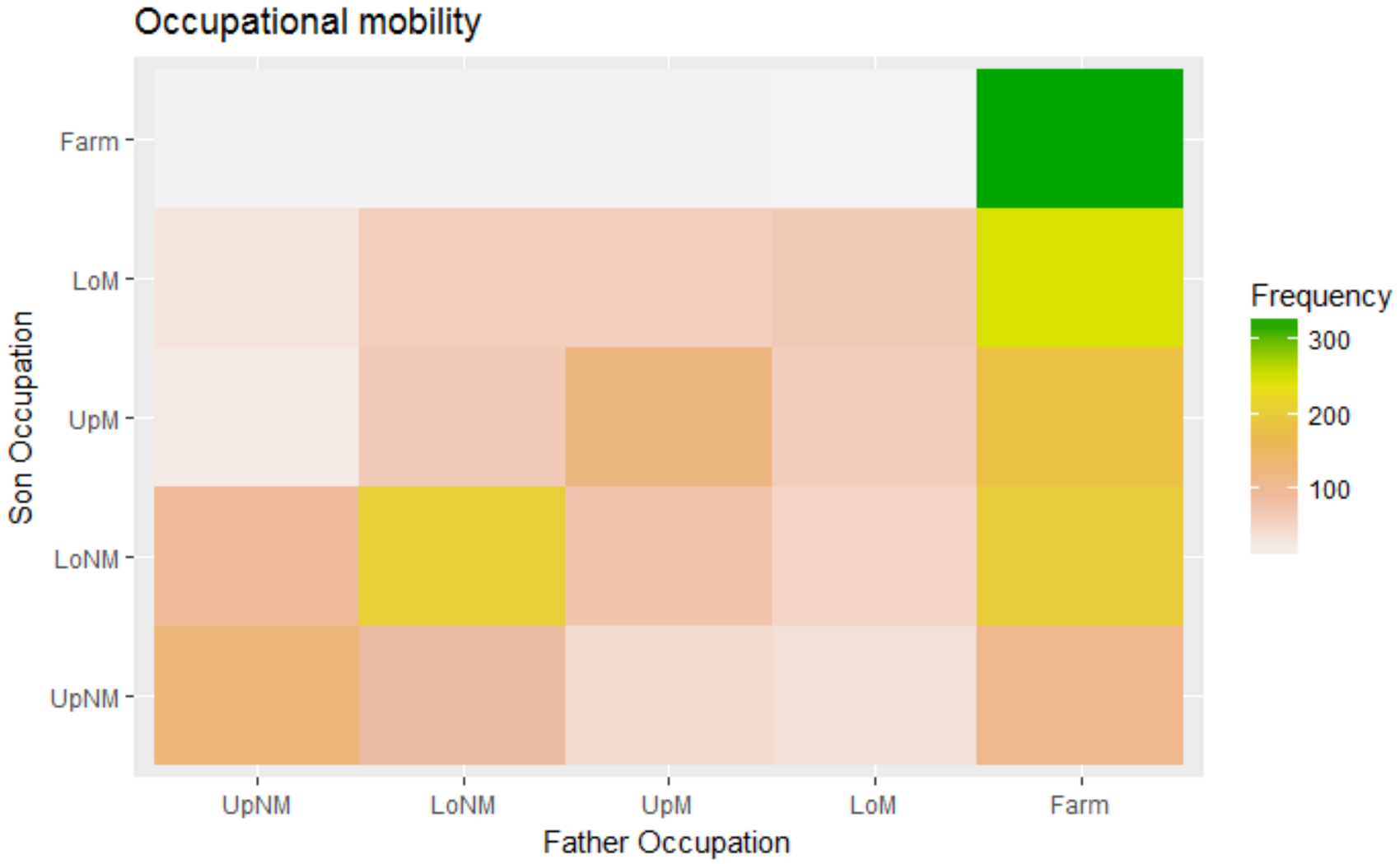
https://finviz.com/map.ashx

S&P 500 Map



https://finviz.com/map.ashx

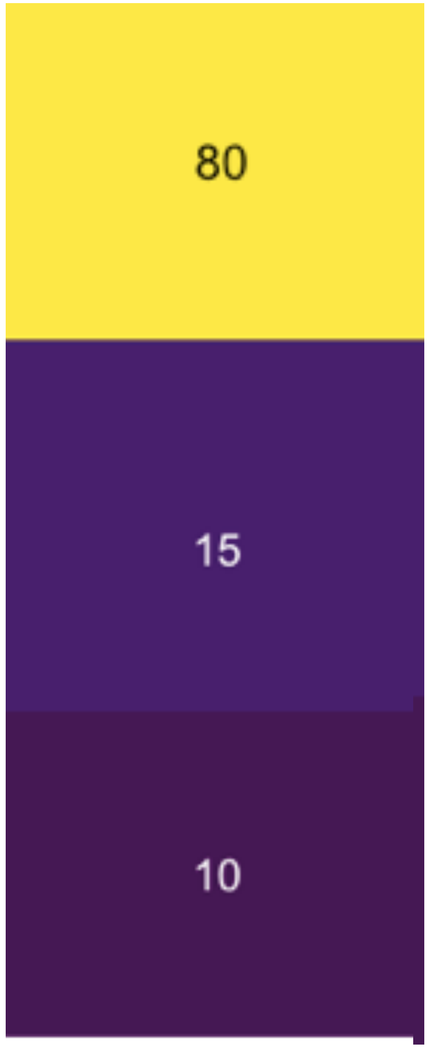
Japan

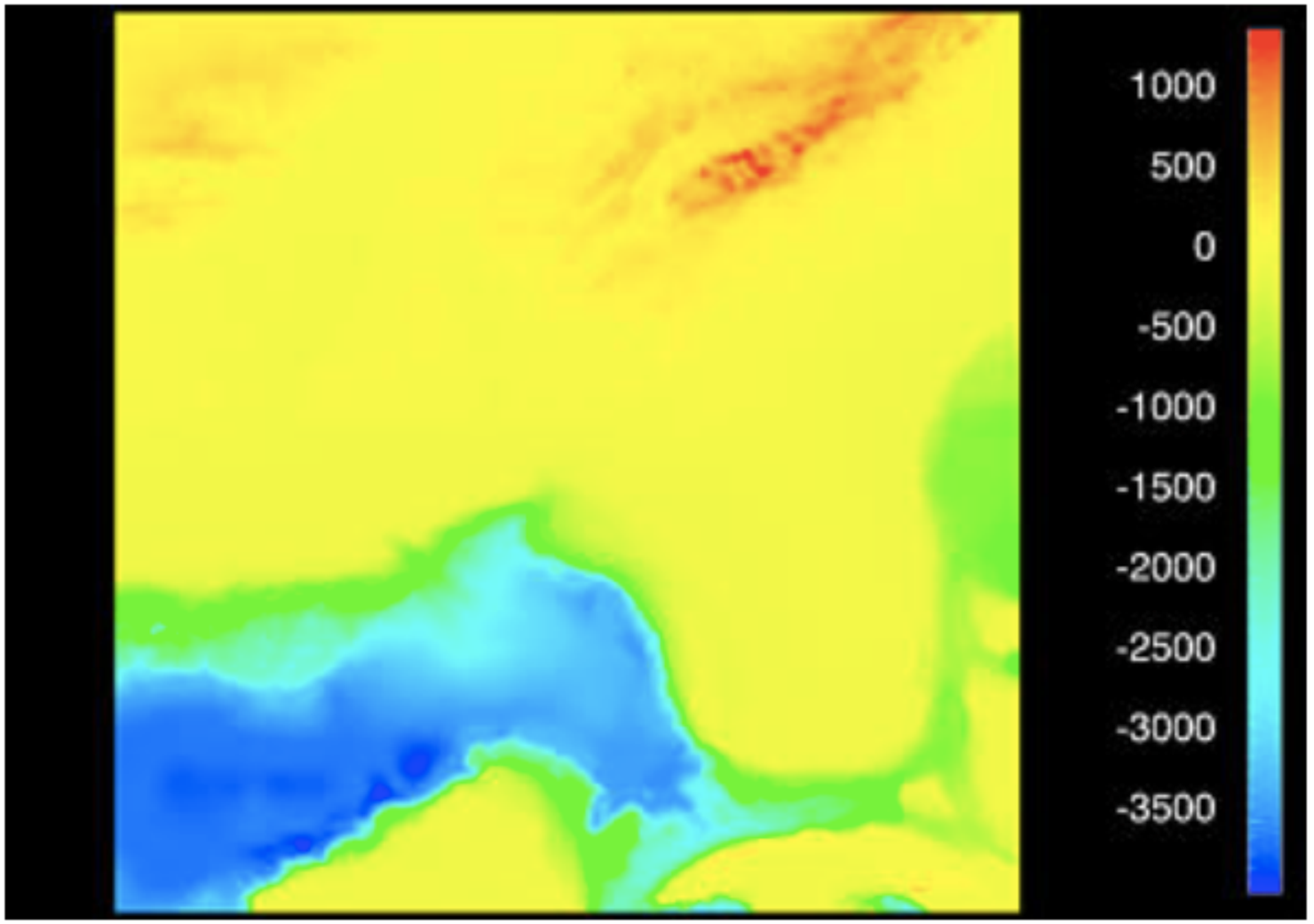

Occupational mobility
Farm
LoM
UpM
LoNM
UpNM
Son Occupation
UpNM
LoNM
UpM
LoM
Farm
Father Occupation
Frequency
300
200
100

Perceptually uniform color space

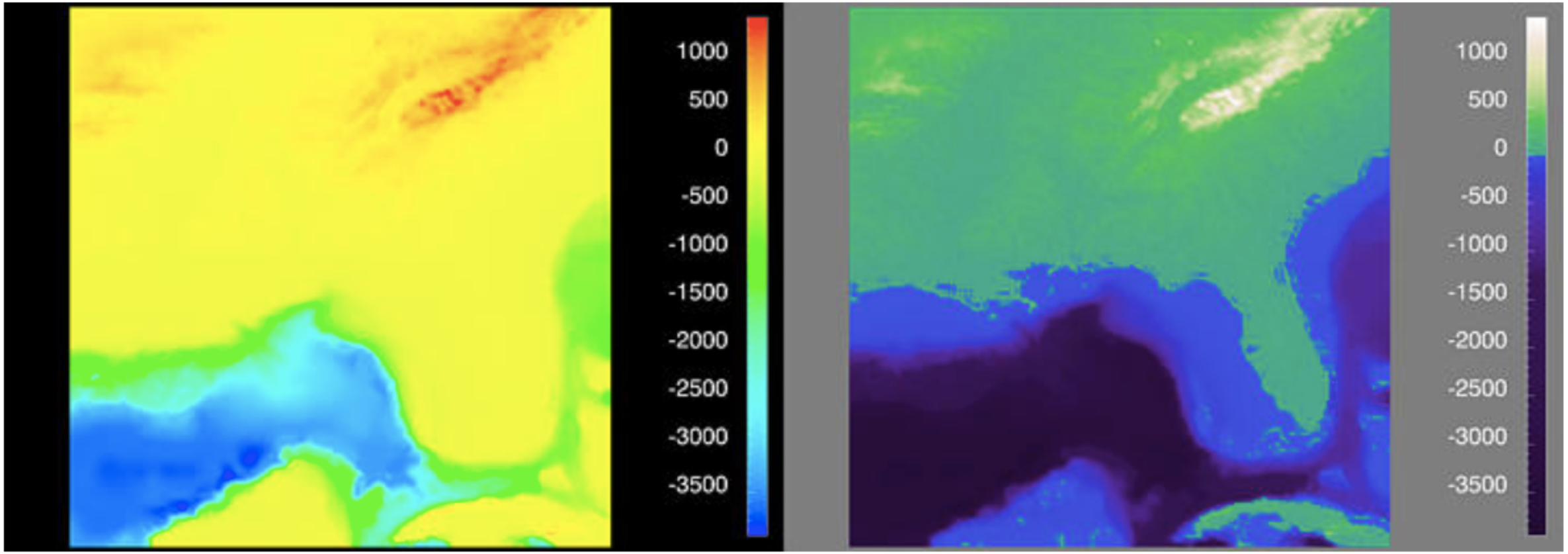
viridis

Perceptually uniform color space





Source: Krysten Thyng, "Custom Colormaps for Your Field"



Source: Krysten Thyng, "Custom Colormaps for Your Field"

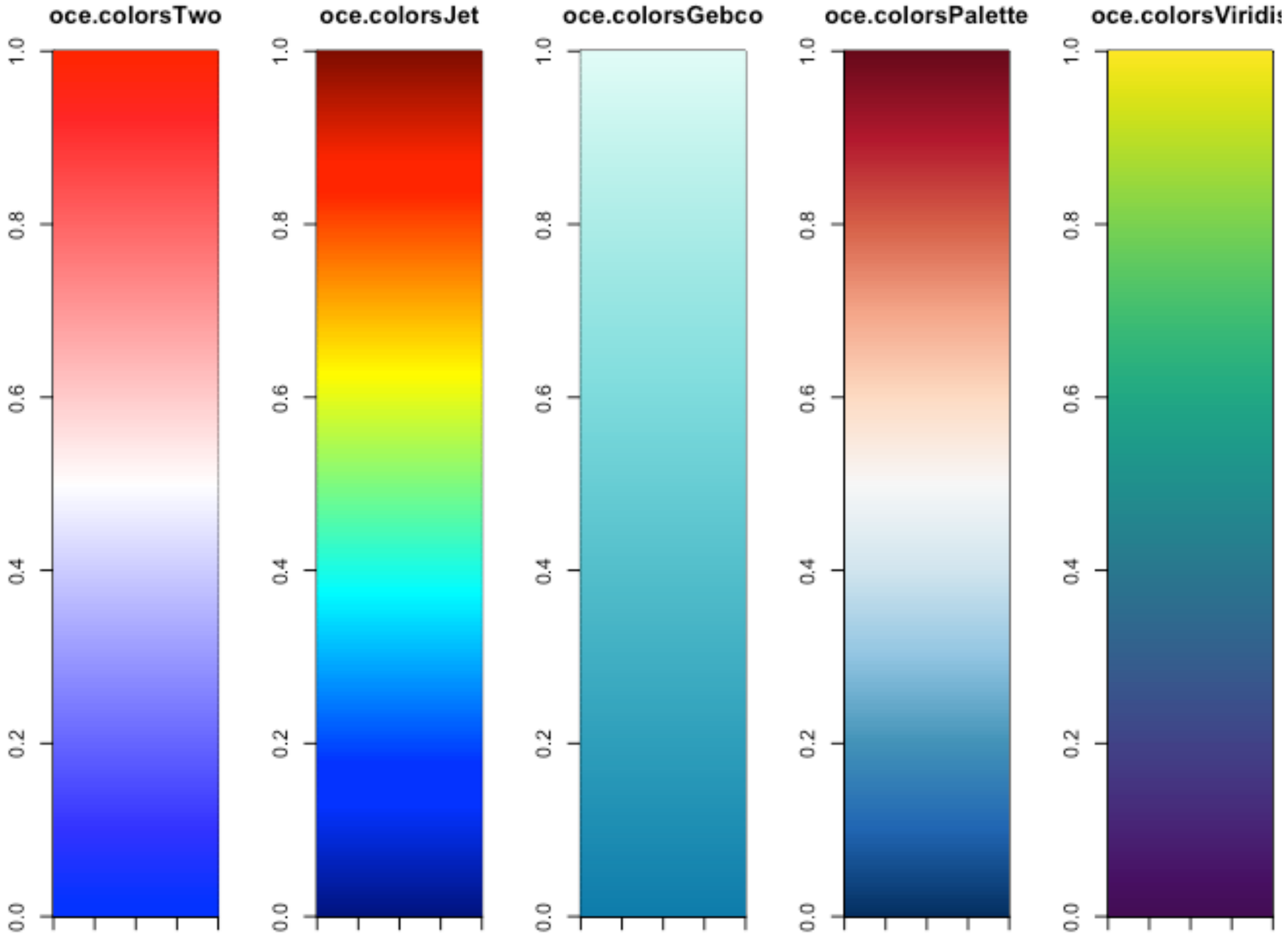
Perceptually uniform color spaces

- don't blur important distinctions in the data
- don't add distinctions that don't exist in the data

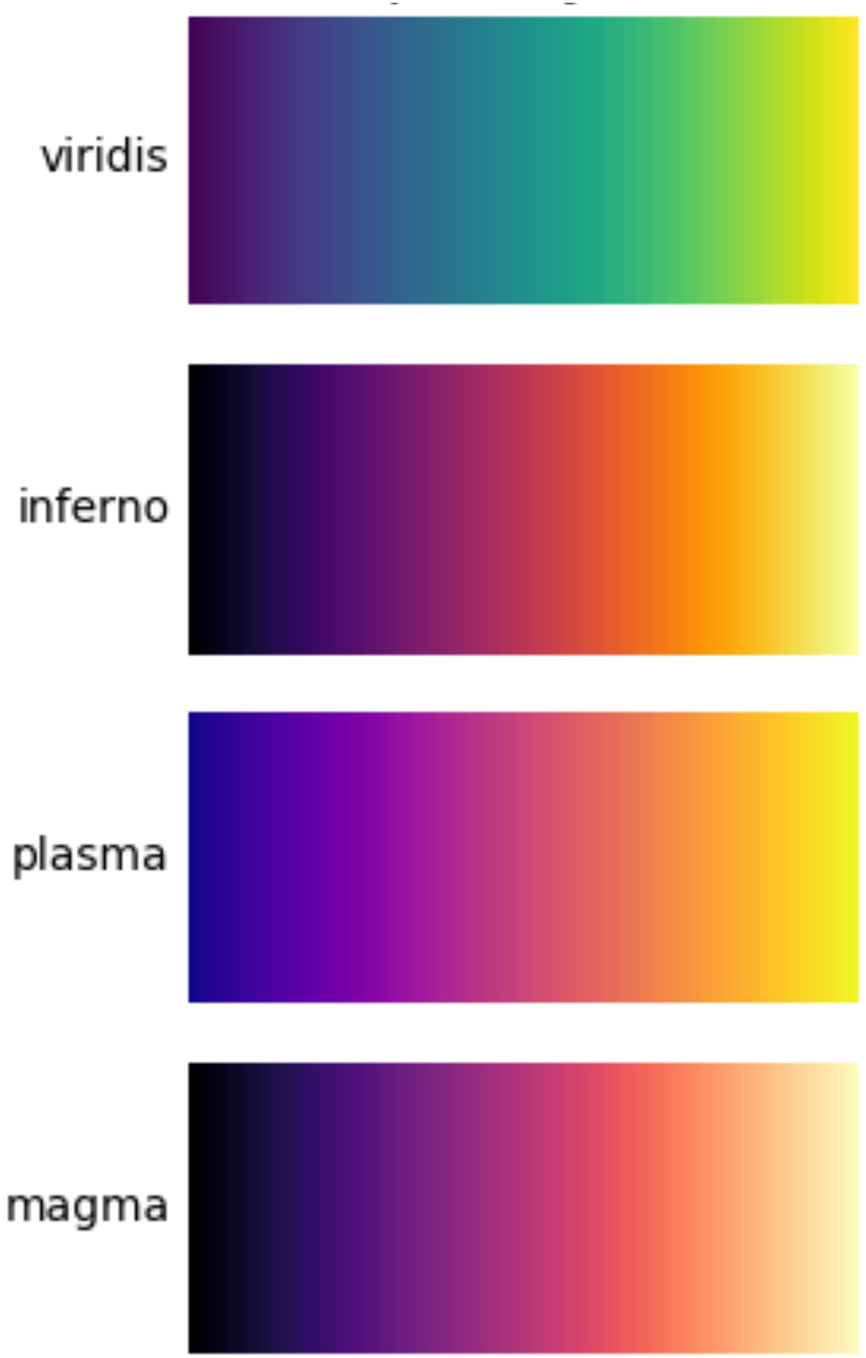
`viridis` package

tl;dr
Use the color scales in this package to make plots that are pretty, better represent your data, easier to read by those with colorblindness, and print well in grey scale.

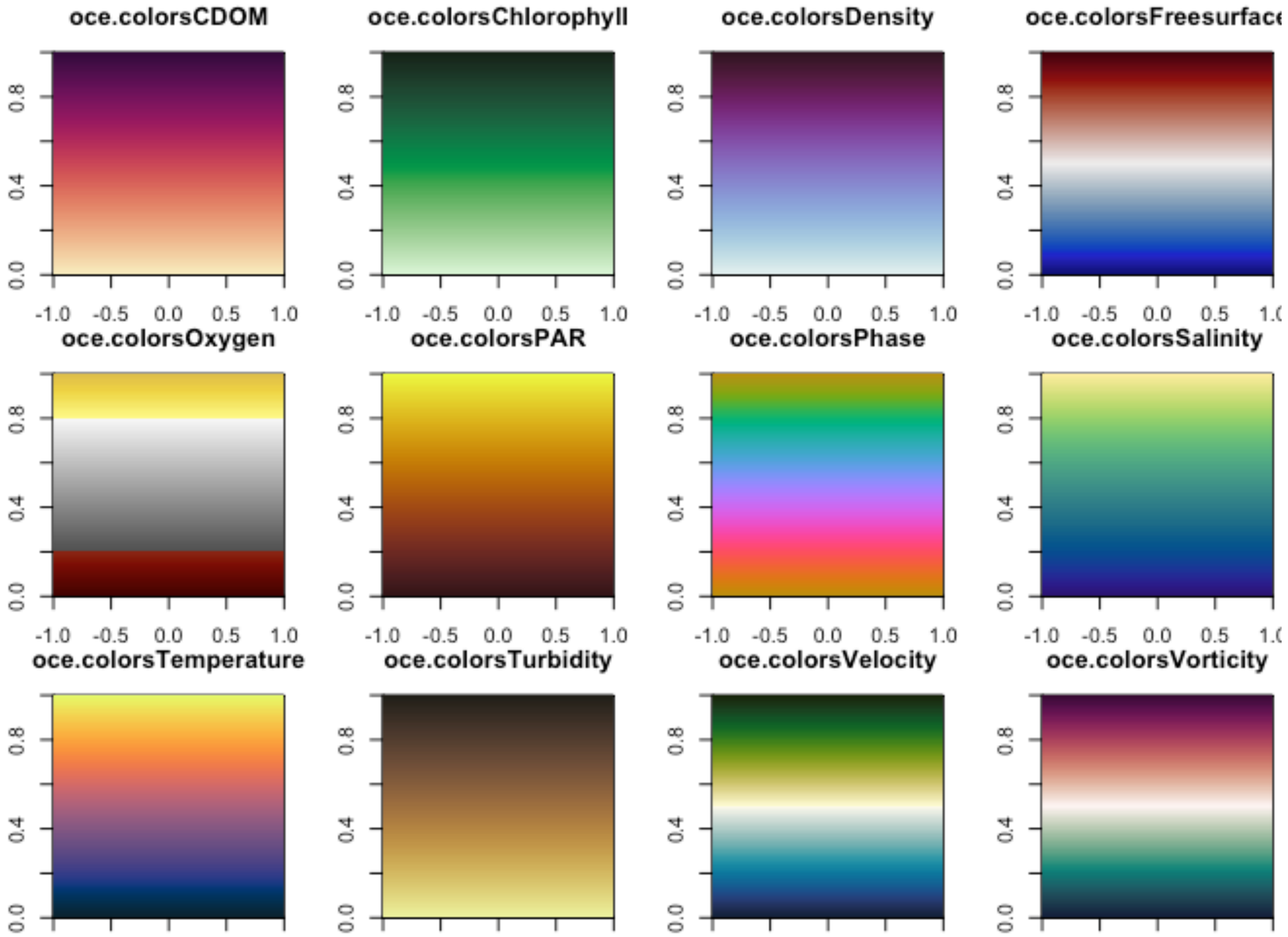
http://bids.github.io/colormap/ http://matplotlib.org/users/colormaps.html


oce.colorsTwo
oce.colorsJet
oce.colorsGebco
oce.colorsPalette
oce.colorsViridis
1.0
0.8
0.6
0.4
0.2
0.0

Perceptually Uniform Sequential



`viridis` package


oce.colorsCDOM
oce.colorsChlorophyll
oce.colorsDensity
oce.colorsFreesurface
oce.colorsOxygen
oce.colorsPAR
oce.colorsPhase
oce.colorsSalinity
oce.colorsTemperature
oce.colorsTurbidity
oce.colorsVelocity
oce.colorsVorticity
0.0
0.4
0.8
-1.0
-0.5
0.0
0.5
1.0

oce

Remainder of lecture

EDAV-20170223.Rmd

EDAV-20170223.html