matplotlib

Making your figures beautiful

This PPT and associated code has useful tips about how to get your figures to be more effective in presentations and publications. It is part graphical advice, and part about how to get matplotlib to do what you want.

Associated code at:
https://github.com/parkermac/pmec.git
Keep it simple
Maximal control, by Neil Banas
Professional touches, from *Annual Reviews*
Movies can be made from collections of .png's using ffmpeg

Color names you can use:

- black
- gray
- silver
- whitesmoke
- rosybrown
- firebrick
- red
- darksalmon
- sienna
- sandybrown
- bisque
- tan
- mocassin
- floralwhite
- gold
- darkkhaki
- lightgoldenrodyellow
- olivedrab
- chartreuse
- palegreen
- darkgreen
- seagreen
- mediumseagreen
- lightseagreen
- paleteal
- darkcyan
- darkturquoise
- deepskyblue
- aliceblue
- slategray
- royalblue
- navy
- blue
- mediumblue
- darkorchid
- plum
- indigo
- mediumvioletred
- palevioletred
- k
- grey
- lightgray
- w
- lightcoral
- maroon
- mistyrose
- coral
- seashell
- peach puff
- darkorange
- navajowhite
- orange
- darkgoldenrod
- lemonchiffon
- ivory
- olive
- yellowgreen
- lawngreen
- limegreen
- mediumseagreen
- mediumaquamarine
- mediumturquoise
- darkslategrey
- c
- cadetblue
- skyblue
- dodgerblue
- slateblue
- ghostwhite
- darkblue
- slateblue
- Rebecca purple
- darkviolet
- violet
- fuchsia
- deep pink
- crimson
- dimgray
- darkgray
- lightgrey
- white
- indian red
- darkred
- salmon
- orangered
- chocolate
- peru
- burlywood
- lightgoldenrod
- khaki
- beige
- y
- dark olive green
- honey dew
- forest green
- green
- spring green
- aquamarine
- azure
- dark slate grey
- aqua
- powder blue
- lightsky blue
- lightslategrey
- lightsteel grey
- lavender
- medium blue
- darkslategrey
- dark blue
- royal blue
- medium blue
- indigo
- light pink
- hot pink
- pink
- dimgrey
- dark grey
- gainsboro
- snow
- brown
- r
- tomato
- lightsalmon
- saddle brown
- linen
- antique white
- papaya whip
- old lace
- cornsilk
- pale golden rod
- light yellow
- yellow
- green yellow
- dark seagreen
- lime green
- lime
- mintcream
- turquoise
- light cyan
- teal
- cyan
- light blue
- steel blue
- light slate grey
- corn flower blue
- midnight blue
- b
- medium slate blue
- indigo
- thistle
- dark magenta
- orchid
- dark magenta
- orchid
- lavender blush
- light pink
Colormaps (also available as [cmap]_r)

eample_show_colormaps.py
Fontsizes, line widths, and markers

Y axis

X axis

Smooth Line

Discrete Points
Controlling things using defaults: plt.rc()
more thoughts about using defaults

• One of the quickest ways to make all your text big enough to read is to use these few lines at the start and end of the plotting section of your code:

```python
fs = 18  # set default fontsize
plt.rc('font', size=fs)
# -- plotting code goes here --
plt.rcdefaults()  # restore defaults
```
Always use "transform = ax.transAxes"

Right Justified

Rotated -30

LaTeX formatting: $\Delta \rho = 1.5 \ [kg \ m^{-3}]$

**Color, Style, and Weight**

Bounding Box Loud

Bounding Box Subtle
colormaps.py

and ax.set_axis_off()
salt_map.py: aspect ratio and inset colorbar