



CPOPC Photo 101 B&W Processing

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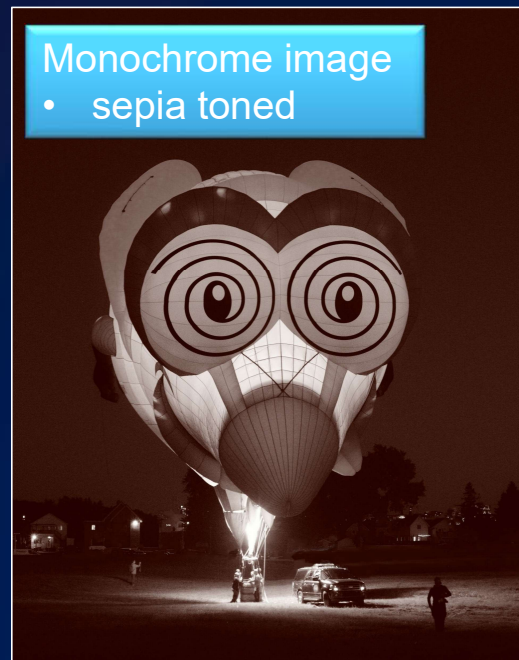
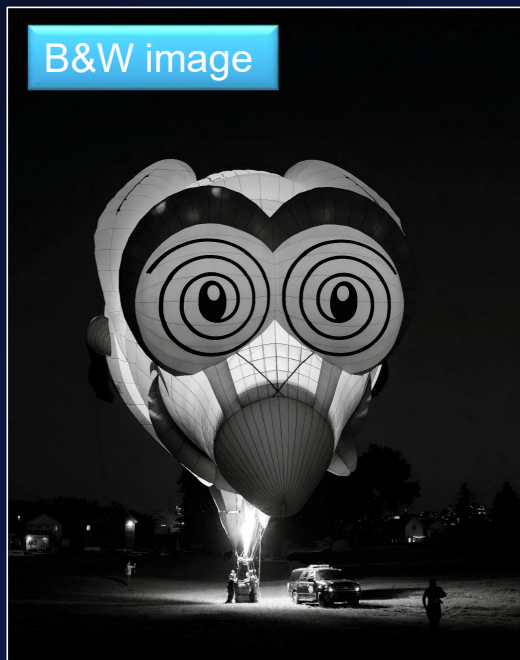
B&W vs. *Monochrome*

- B&W
 - absence of all colour
 - **every** pixel has the same **luminance** value for all 3 RGB colour channels **R**(ed), **G**(reen), and **B**(lue)
- Monochrome
 - single colour or hue—often termed *toned*
 - e.g. sepia, selenium, gold, copper

December Competition is *B&W*, **NOT** *Monochrome*

B&W vs. *Monochrome*

- All B&W images are monochrome images
- Not all monochrome images are B&W images

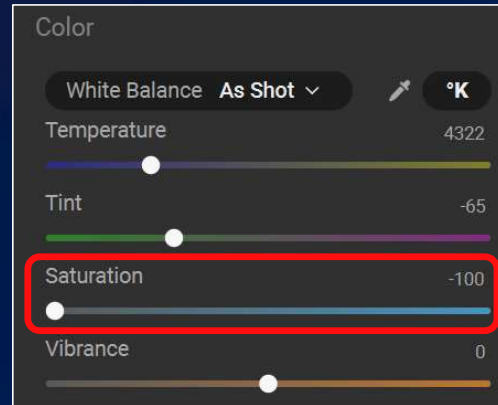


Making a colour image B&W

Desaturate image

Blunt instrument approach

- removes colour
- **tonality** treated equally in all colours
- make sure you desaturate **completely**

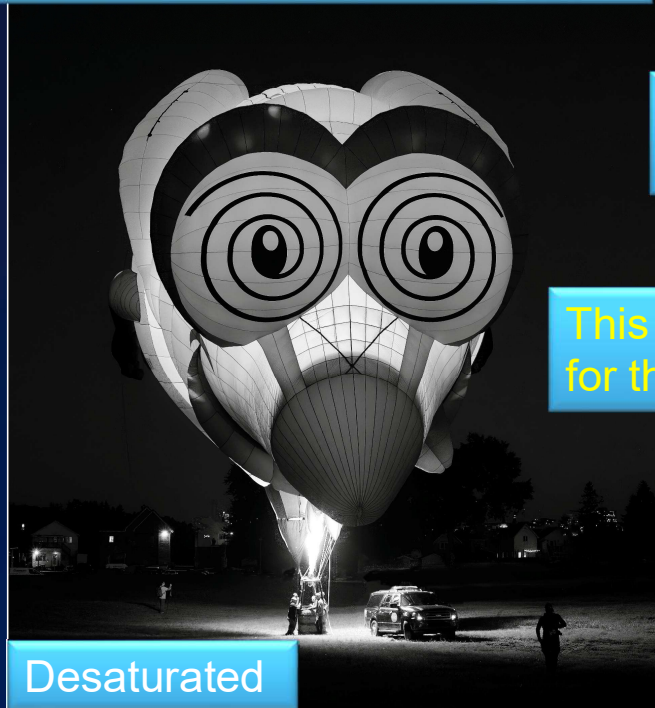


Some photo editors may have a **Greyscale** option

This may be all you need to do for the December Challenge



Original



Desaturated

Using Histograms

- Graphical representation of the distribution of various levels of brightness (luminance) in your photo
- In black/white photo, it shows the frequency of pixels that are from pure black to pure white
- Pure black is the left side of the histogram and pure white is the right side
- Useful when shooting and editing

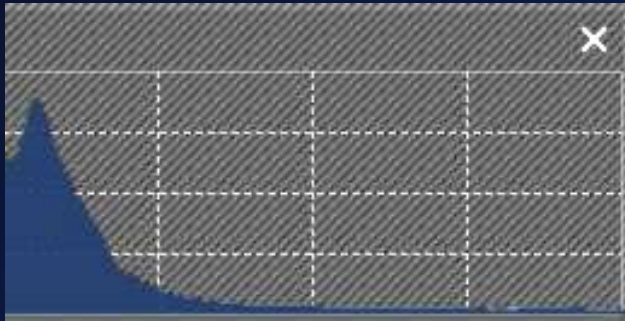
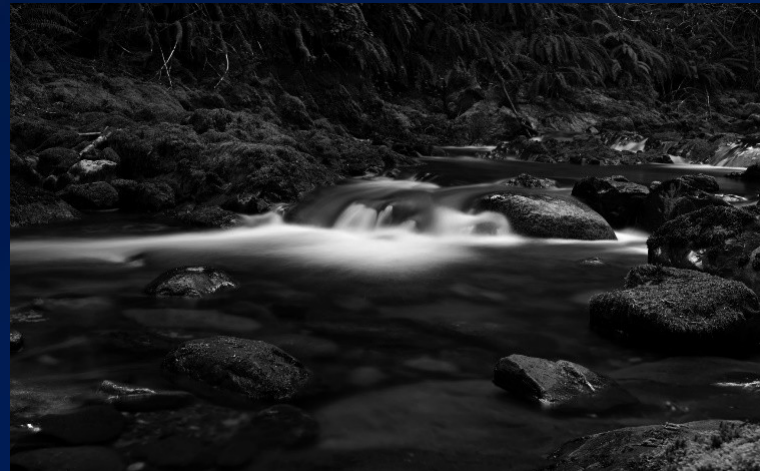
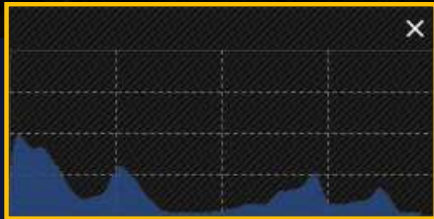


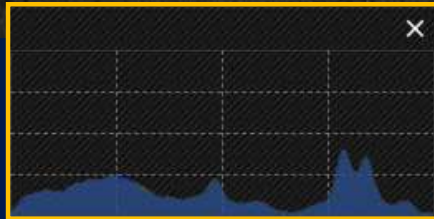
Photo a little underexposed



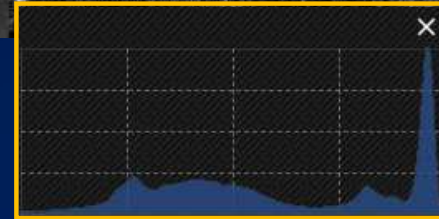
Dark



Even



Bright



How a photo editor makes an image B&W

- Each pixel evaluated for overall luminance
 - average value for R(ed), G(reen), & B(lue)
- All three colour channels—R(ed), G(reen), B(lue)
 - set to average luminance value for that pixel

Original colour

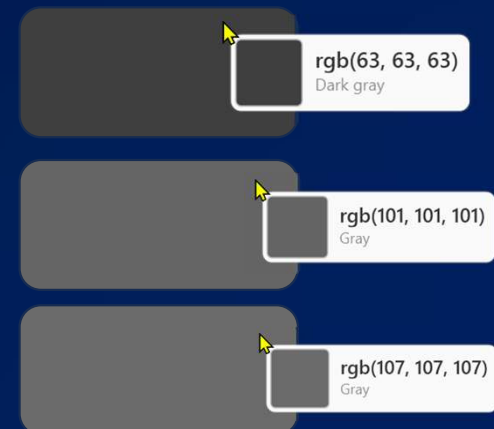


average RGB = 63

average RGB = 101

average RGB = 107

Resulting B&W



Adjusting luminance for each colour

More sophisticated approach

- removes all **colour** (make image true B&W)
- adjust **luminance** separately for different colours



Reds made brighter (+100)

- other colours unchanged



Reds made darker (-100)

- other colours unchanged



Adjusting luminance for each colour

More sophisticated approach

- removes all **colour** (make image true B&W)
- adjust **luminance** separately for different colours



Blues made brighter (+100)

- other colours unchanged



Blues made darker (-100)

- other colours unchanged



Adjusting luminance for each colour

More sophisticated approach

- removes all **colour** (make image true B&W)
- adjust **luminance** separately for different colours



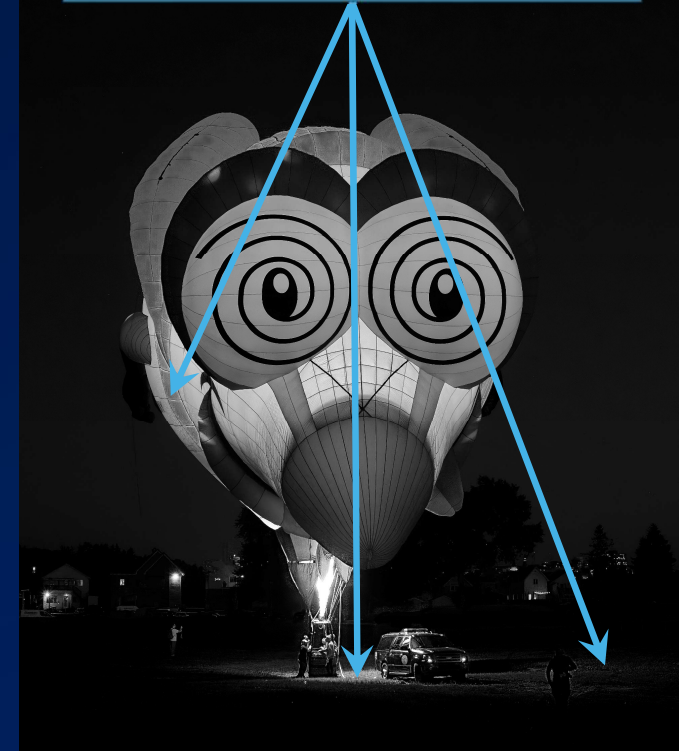
Yellows made brighter (+100)

- other colours unchanged

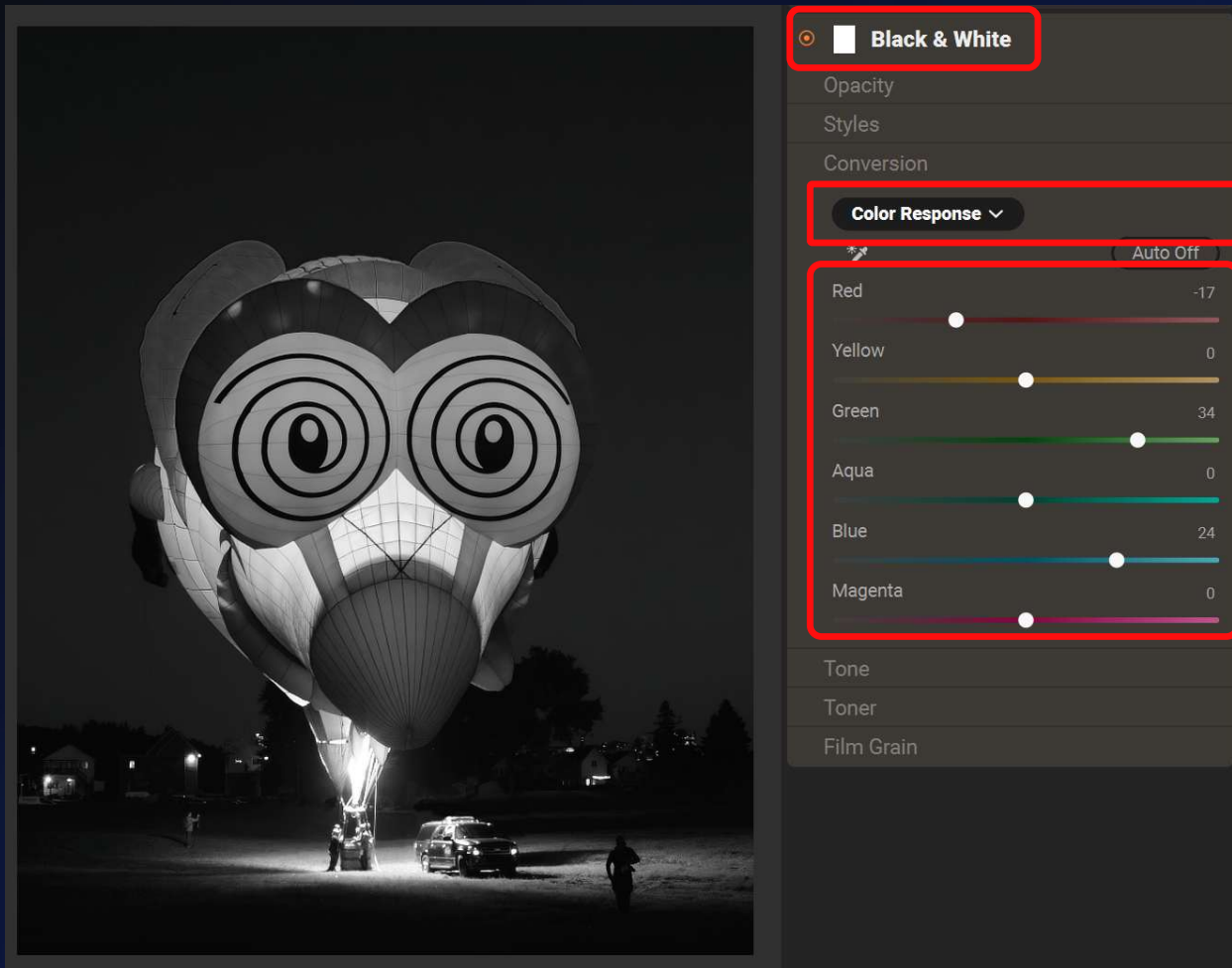


Yellows made darker (-100)

- other colours unchanged



Selective control of luminance in photo editor



Look for a term like “colour response”
Typically found in a section

- “Black & White” or,
- “Saturation”

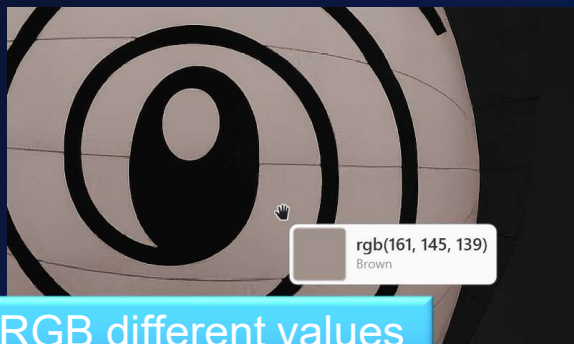
Dragging sliders allows you to adjust
the luminance of different colours in
your original image

Making sure your image is B&W

- Some photo editors will allow you to see colour value under mouse pointer
- Lightroom Classic
 - open the image in Develop
 - move the pointer over the photo
 - look immediately below the histogram in the upper-right panel
 - read the displayed R(ed), G(reen), and B(lue) values
- Note that you may not need to take it to this level
- **Just make sure your image looks truly B&W**

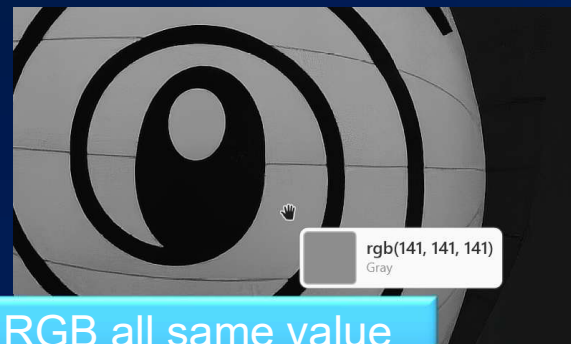
Colour values using Microsoft PowerToys

- Install free PowerToys from Microsoft Store
 - run Windows Store app, search for “Microsoft PowerToys”, & install
- Default:    opens “Color Picker”
- Hover mouse over various parts of image
- Look for equal values for RGB



RGB different values

- not true B&W



RGB all same value

- true B&W

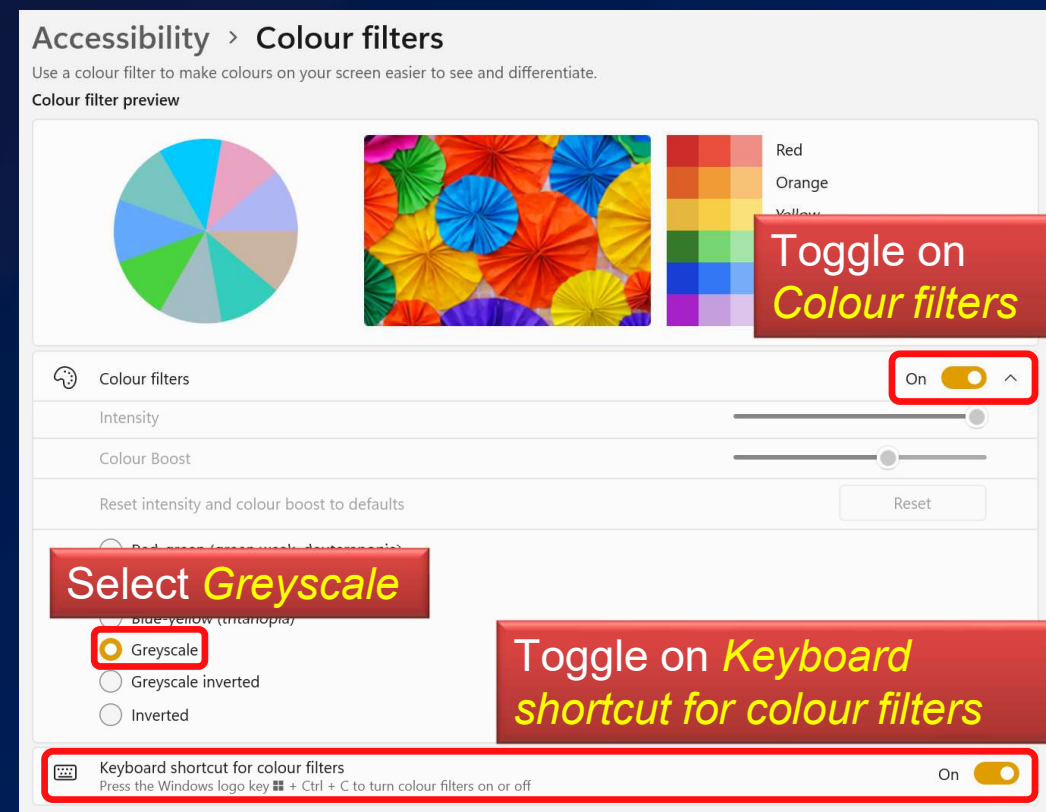
Visualizing in B&W while shooting

- Difficult to imagine what something look like in B&W when shooting
 - may not want to change mode to B&W in case you decide colour is better
- Set camera mode to **B&W**
 - camera display will be B&W (it displays a JPeg in current mode)
- Set camera to capture in **RAW**
 - RAW will still capture **full colour** data
 - JPeg will be **B&W** because JPeg processed in-camera & follows mode
- Image editor may initially display image in B&W
 - editor will see tag in RAW image indicating B&W mode used
 - can change in editor to any other mode or simply adjust for colour

Quickly assess images in B&W

- Windows has *Colour Filters*
- Toggle entire screen between colour & B&W
 - *Settings > Accessibility > Colour filters*

- Press    to toggle screen display between colour and B&W



Colour filters in greyscale mode

- quickly assess images in B&W



114426165-boat-colour-croppe
d.jpg



CTZ_4556.NEF



CTZ_5412.NEF



CTZ_5612.NEF



CTZ_5717.NEF

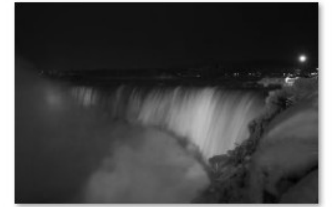


CTZ_5779.NEF

Viewing thumbnails in image viewer



114426165-boat-colour-croppe
d.jpg



CTZ_4556.NEF



CTZ_5412.NEF



CTZ_5612.NEF



CTZ_5717.NEF



CTZ_5779.NEF

Colour filters in greyscale mode

- quickly assess images in B&W

While editing: faster than

- desaturating
- applying a B&W filter
- easily toggle back & forth

