# ADOBE BRIDGE & THE CAMERA RAW DIALOGUE BOX
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Launch Adobe Bridge and open the file folder with your camera RAW images. Highlight your files in the Adobe Bridge window and select OPEN WITH CAMERA RAW from the main menu (CMD R or CTRL R) or from the contextual menu (by right clicking or CTRL clicking on your select image files.

BRIDGE MENU : CAMERA RAW PREFERENCES:
Save image settings in Sidecar ".xmp" files so that Camera RAW files and xmp files will be saved to the same folder. In that way, data can be written to a portable external drive, without relying upon data stored on a specific internal computer harddrive.
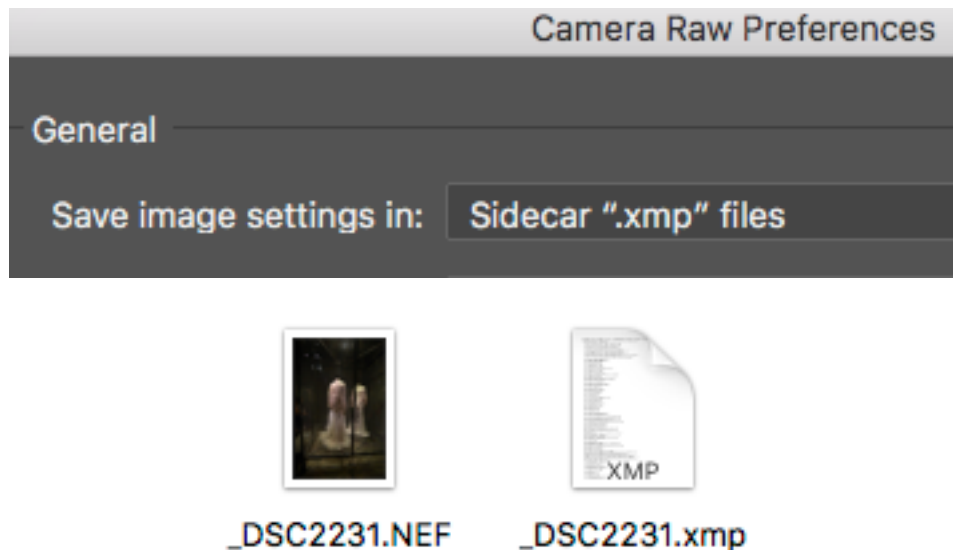
Non-destructive workflow:

SIDE CAR or XMP FILES
(XMP: Extensible Metadata Platform)
XMP files contain a list of your instructions (image edits, keywords, etc.) that can be permanently applied to your images in the future.

Onr your drive, the RAW file and the XMP file both retain the same file number, generated through the result of your commands in the Camera Dialogue Box.

BRIDGE MENU: PREFERENCES: CACHE

Select Checkbox to **Automatically Export Cache to Folders When Possible** to DISTRIBUTE CACHE FILES TO IMAGE FOLDERS. The data will accompany your Camera Raw files in the same folder, facilitating your movement of the data from computer to computer to external drive, and allowing you to keep track of your image editing.
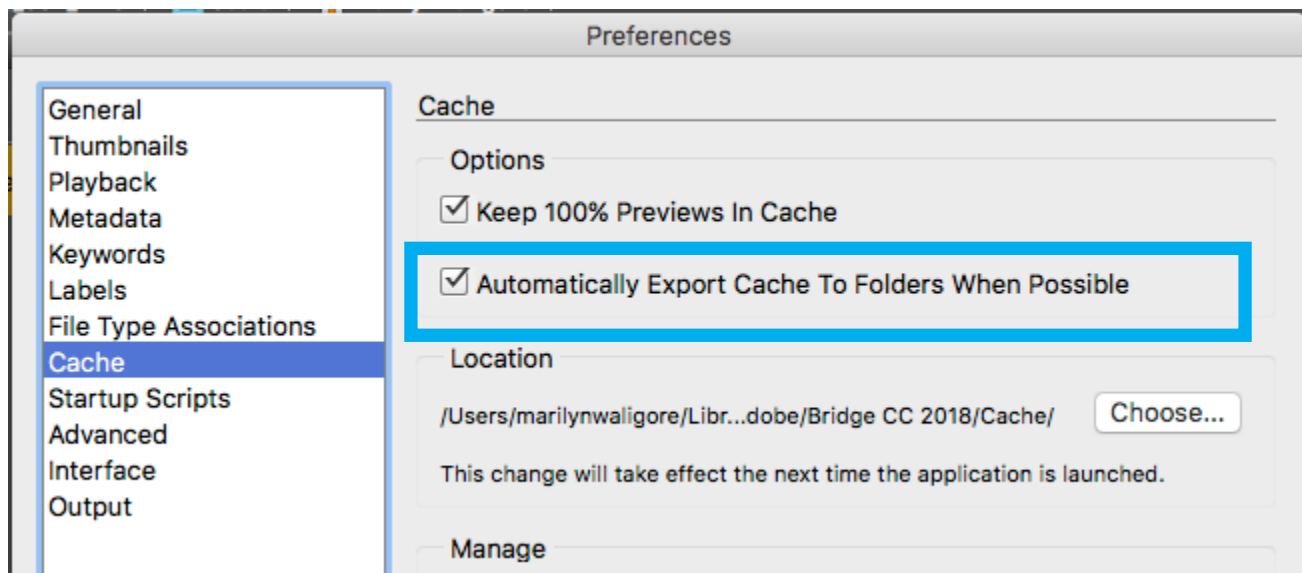
BRIDGE MENU: PREFERENCES: METADATA: Select the information you wish to include in the metadata that will accompany the image file. Select the Metadata Template from the Bridge Tools pulldown menu to add keywords.

BRIDGE MENU: TOOLS/CACHE
 BUILD and EXPORT CACHE so that your image editing data will be saved for future reference.
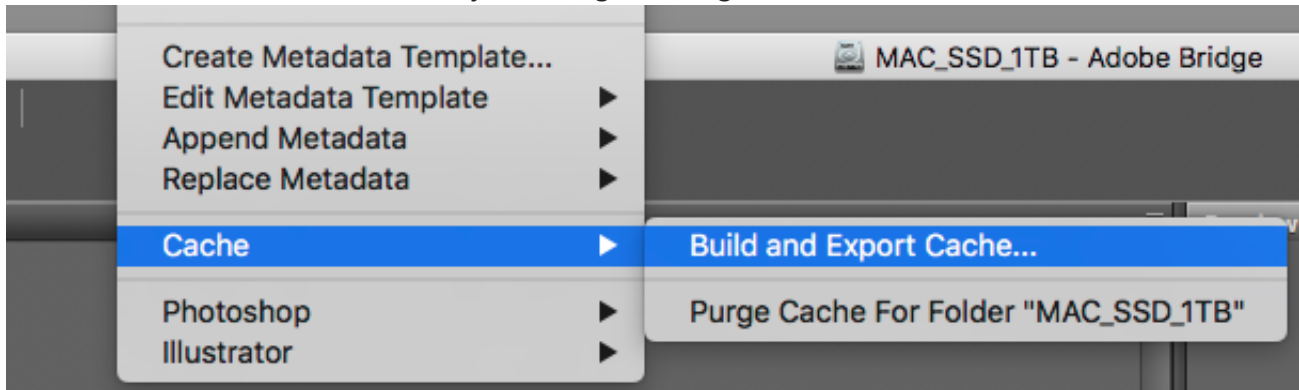
LABEL files
You can **RATE or LABEL** your files (with stars or colors). Select from the Label file menu or use the hotkeys CMD 1 or CTRL 1, etc.   This process allows you to prioritize the files you wish to review.

VIEW: SORT: BY RATING:
Once you have rated your files, chose **View: Sort: By Rating,** Label or by Filename. This method will speed your workflow. Sorted files can easily by moved into a new folder, inside the Adobe Bridge window.
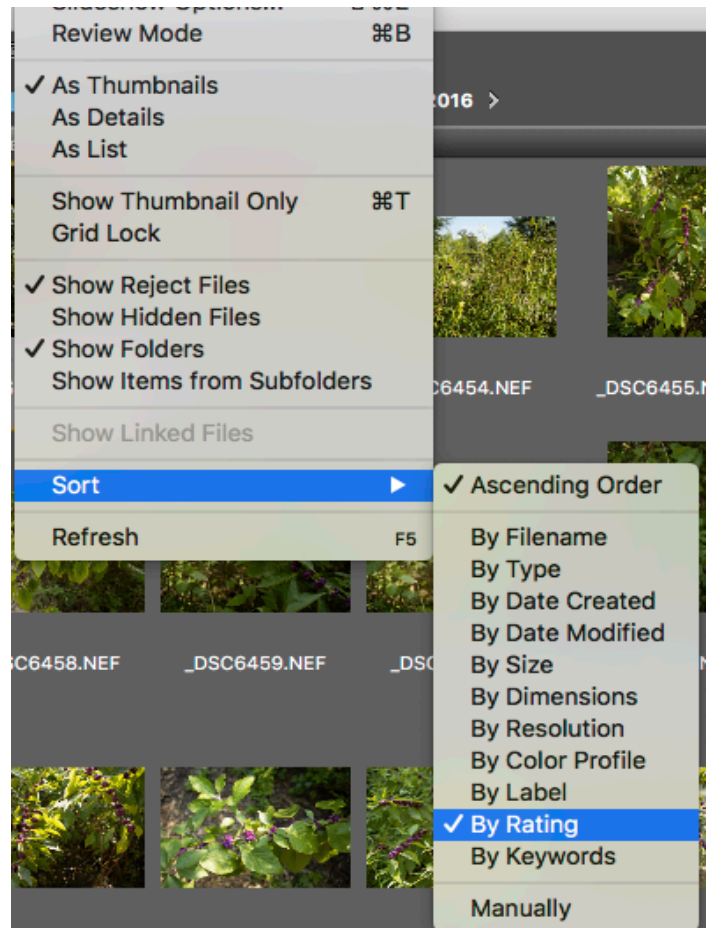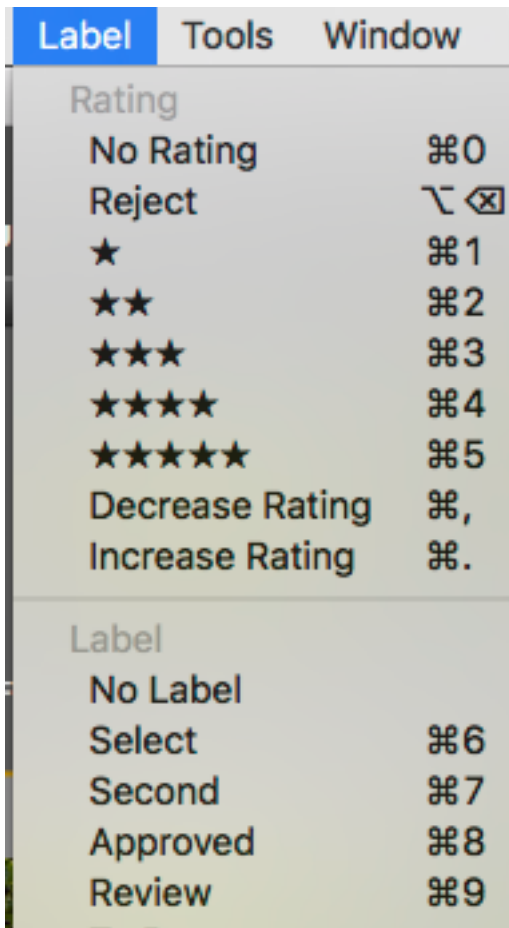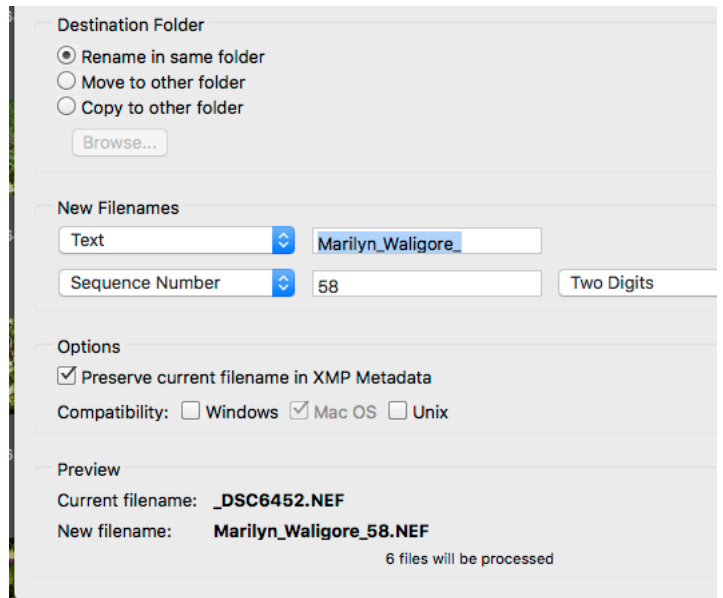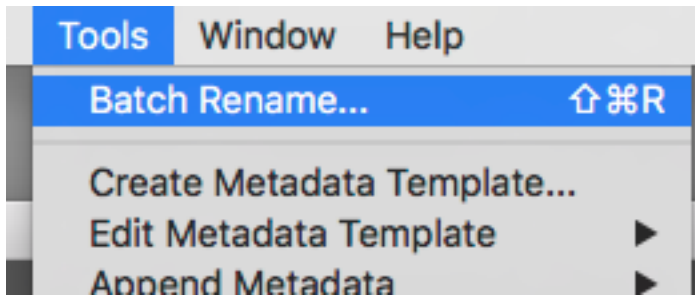
TOOLS: BATCH RENAME
Edit filenames using the batch command in the bridge. Enter new title in the dialogue box. You have the option of batch renaming the files in the same folder or in a new folder.

TOOLS: CREATE METADATA TEMPLATE
Keywords can be added through the generation of a Metadata Template, available from the Tools: Create Metadata Template. **GPS information** can be stored with the RAW file as well, in the form of the XMP file. This Metadata Template can be appended to the image files.
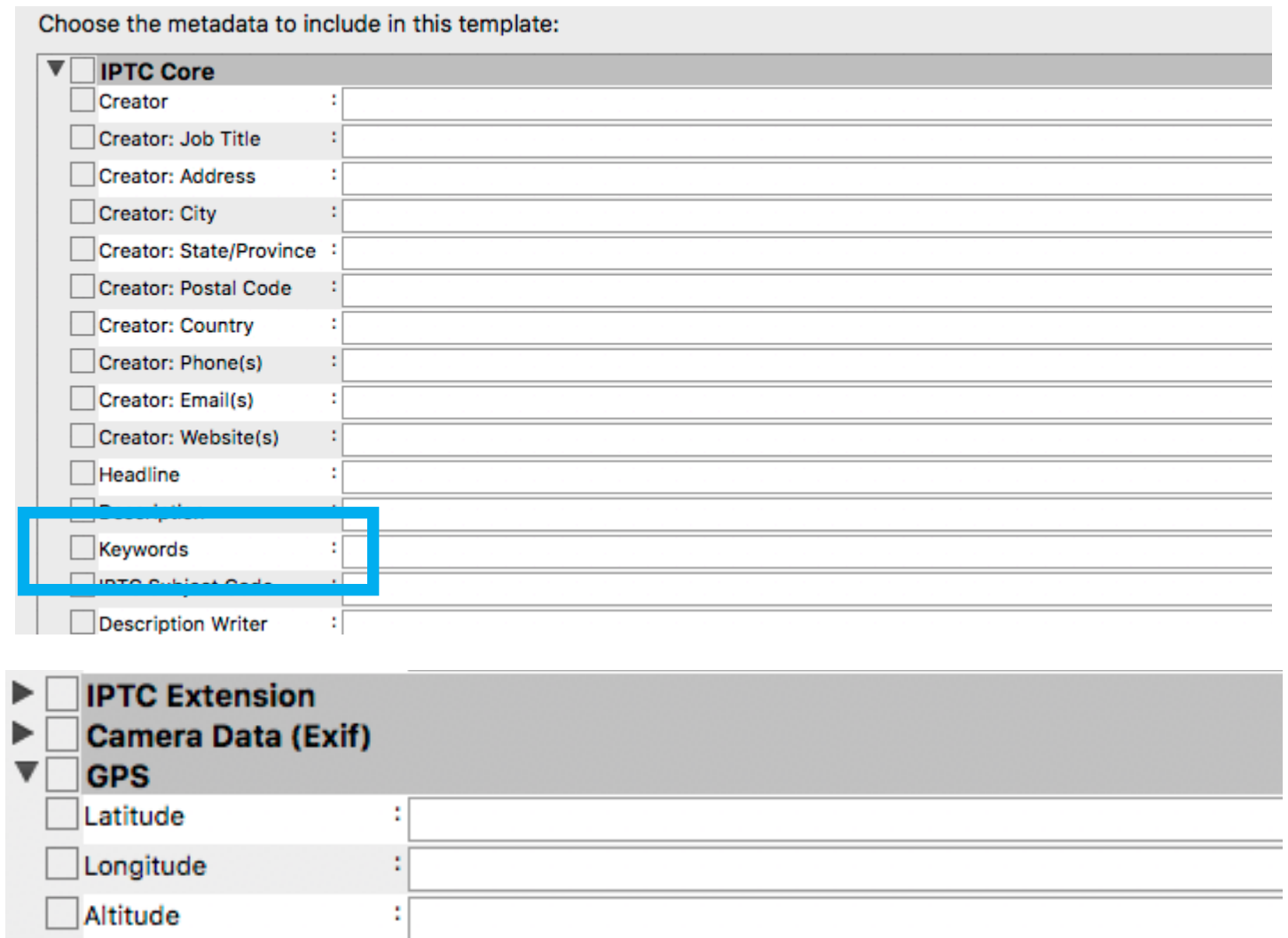
EDITING CAMERA RAW FILES
IN THE ADOBE BRIDGE / CAMERA RAW DIALOGUE BOX

The use of the Adobe Bridge to open Camera Raw files offers a great advantage over other methods of editing files in terms of controlling color balance, contrast and brightness, due to the use of a **nondestructive digital workflow.**

First you must set your camera to shoot in the **Raw file format**--not all digital cameras offer this option, but most DSLRs do. If your RAW files do not appear in the Bridge window, you may need to download the most recent version of the Camera Raw plug-in available from the Adobe website.

Highlight your files in the Adobe Bridge window and select OPEN WITH CAMERA RAW from the main menu or from the contextual menu by right clicking (PC) or CTRL clicking (MAC) on the images.
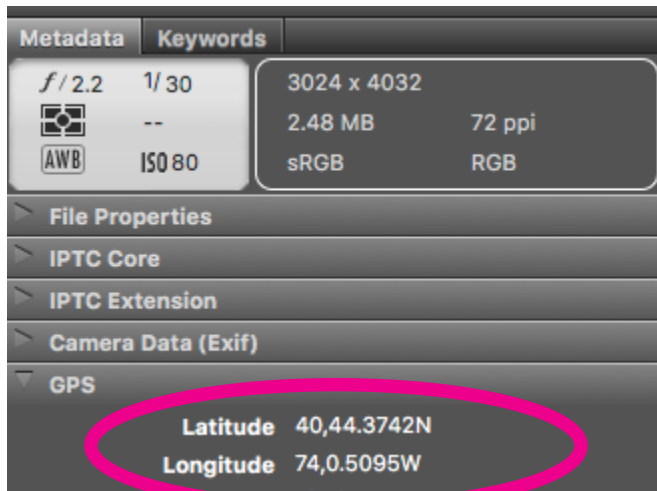

 The preview will reveal all the camera metadata that corresponds to a given exposure, including ISO, Fstop, white balance, and shutter speed.

In this example, the **GPS latitude and longitude are recorded as metadata on an iPhone.**

Smartphone apps, such as gps4cam, can be used to sync GPS data to a DSLR.

WHITE BALANCE TOOL:
Select the white balance eyedropper and click on an area of the image that should be neutral gray or black, to quickly color balance an image. Do not select a pure white area to color balance.
Use of a grey card when shooting will facilitate color balancing when editing in the Camera RAW Dialogue box.
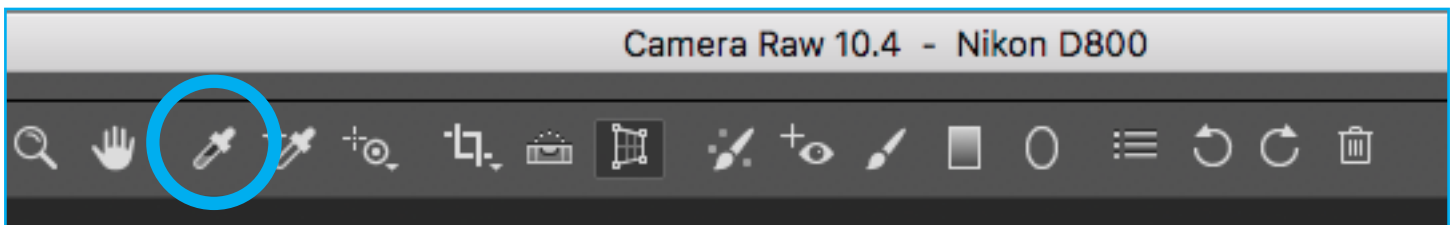
TEMPERATURE AND TINT:

Use the temperature and tint sliders to refine the image color and neutralize the color cast. Explore light temperature options from the White Balance pulldown menu
"As Shot" is the camera's white balance setting and will "reset" the original white balance.
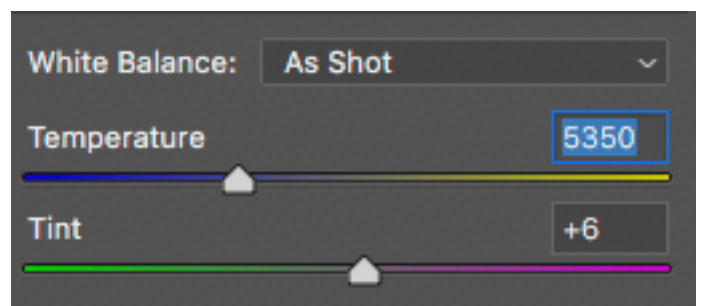
SLIDERS FOR EXPOSURE CONTROL: THRESHOLD PREVIEW

Begin by setting the Exposure, Contrast, Highlights, and Shadows sliders. Fine tune the Whites and Blacks sliders to determine the amount of clipping in the extreme shadows and highlights.

Hold down the OPTION (Mac) or ALT (PC) key as you move the sliders to see a threshold preview. Release the mouse when the color areas just begin to appear. **Watch for the clipping** that appears as a spike on either end of the histogram, revealing the presence of extremes, namely pure white, on the right, or pure black, on the left. Note the indicators at the top corners of the histogram.

This technique is known as the **THRESHOLD metho**d, a procedure that can also be applied when using the Levels Dialogue box inside Photoshop. The aim is to avoid clipping, minimizing the spikes that appear on either end of the histogram.

EXPOSURE: Begin with this slider to adjust the exposure should it remains light or dark overall.

CONTRAST: Alter modestly to increase contrast, especially in midtone areas.

HIGHLIGHTS: Retrieve detail in the highlight areas.

SHADOWS: Retrieve detail in the shadow areas

WHITES: Control extreme highlights, such as reflections in shiny surfaces, known as specular highlights.

BLACKS: Control extreme shadows.

CLARITY: Add depth by increasing contrast mostly in midtone areas. View at 100% to avoid introducing halos near edge details.

DEHAZE: Increase or decrease softness by controlling apparent haze.

VIBRANCE: Increase saturation in areas with hues of lower intensity, with minimal clipping.
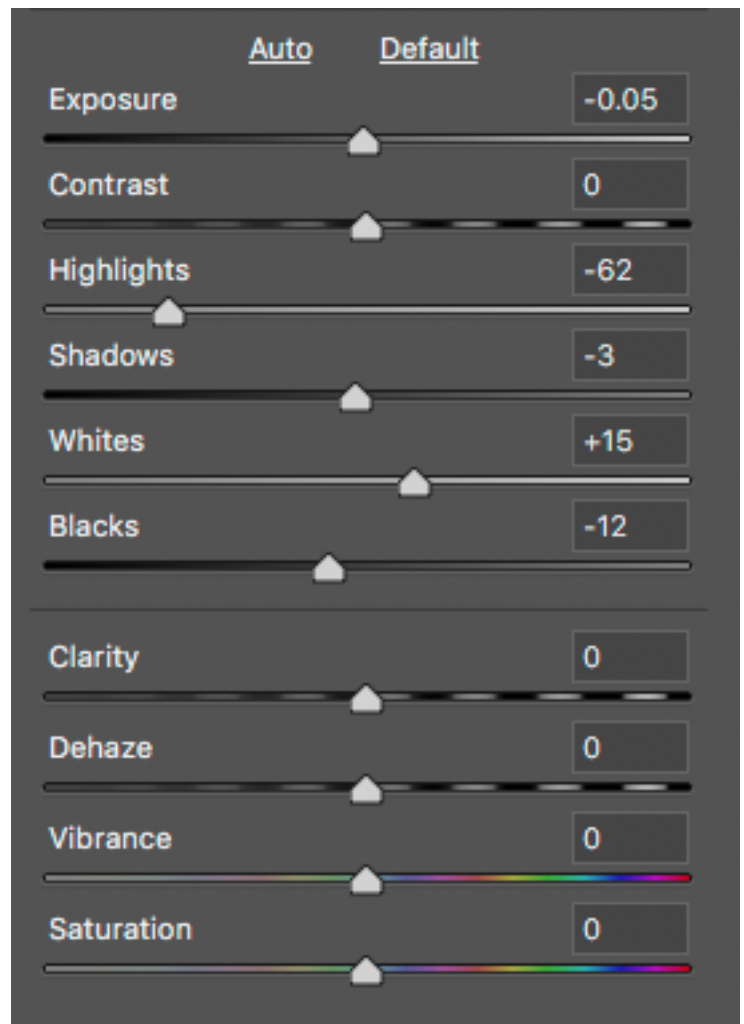
SATURATION: Increases in saturation may introduce clipping and noise, and affect all areas equally, so use with caution.

SAVE SETTINGS:
Custom Settings can be saved in the Camera RAW Basic window.
CAMERA RAW DEFAULTS:
Reset Camera Dialogue Box Settings.

| Auto	Default	
Exposure		-0.05
Contrast		0
Highlights		-62
Shadows		-3
Whites		+15
Blacks		-12
Clarity		0
Dehaze		0
Vibrance		0
Saturation		0

RGB VALUES: Place the cursor over specific areas of the image to view the RGB values: white values should retain tone, measured at around 225 or 230; specular highlights, such as reflections on metal, should be left at 255; black values may vary depending upon output, from 2-3 to 20.

SYNCHRONIZE SETTINGS:

A custom setting can be applied to all the images that have been opened in Camera RAW.

Edit a selected image file. Then, from the pulldown menu, simply click **Select All** to highlight the images in the Camera Raw Dialogue Box. Then **Sync Settings**. All the images are now color-balanced, and adjusted in terms of exposure, to match the current edited file.

This custom setting can also be saved in the Basic Adjustments pulldown menu, to be applied later.
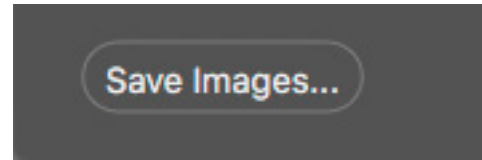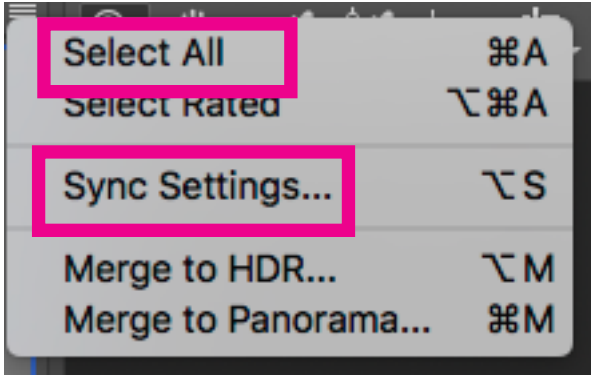
SAVE OPTIONS:
Select options for saving the files
(image size, color space, bit depth).

FILE SIZE, IMAGE SIZE, RESOLUTION, COLOR SPACE, BIT DEPTH

SAVE IMAGES: Archive versions of the files in a specific format: TIF, JPG, PSD, or DNG.

COLOR SPACE and BIT DEPTH: Select the **ADOBE RGB (1998) Color Space** for all print and editing applications. (sRGB is designed for web.) Working in Photoshop with a 16 bit file is preferred, at least for initial corrections, given the additional image information that facilitates editing. **A 16 bit file will be TWICE as large as an 8 bit file.**   JPG files are always 8 bit files.

IMAGE SIZE: Image size can be measured in pixel dimensions when saving images. Later, when preparing print output, the anticipated print size is prioritized, as in 8x10 inches, or 16x 24 inches, along with a concern for overal resolution, as in ppi. 8 bit files prepared for print output should total at least 10 megabytes.

LARGER TIF or PSD FILES
For larger files to be used for printing, select dimensions of **2500 pixels (minimum) or up to 4800 pixels** for the Width and Height. Usually the Adobe RGB (1998) Color Space is preferred for print output. For example, an 8 bit file measuring 2500 x 1600 pixels is about 12 megabytes in size. The same file with a bit depth of 16 would total 24 megabytes.

SMALLER JPEG FILES
Select Resize to Fit and set Width and Height at 1000 pixels, to restrict the dimension of the file both horizontally and vertically for smaller JPEGS. To retain high quality while still minimizing file size, set compression Quality at 8 or higher. Set resolution to 72ppi. For example, an 8 bit file measuring 1000 x 667 pixels is about 2 megabytes in size, before jpeg compression is applied.

RESOLUTION: Set the resolution to match your output. This setting can later be changed in Photoshop by selecting **Image: Image Size.**   Print resolution is usually 300 ppi for pre-press, but can be lower, especially in the case of large prints. Screen resolution is 72ppi.

TIFF versus JPEG: LOSSLESS VERSUS LOSSY FILE FORMATS

All of your editing should be done with the file saved in a PSD (Photoshop) or TIFF file format. Use of a LOSSLESS file format ensures that data will not degrade as you edit and resave your images. You will notice a loss of image quality when re-saving a JPEG (a LOSSY file format) by viewing gaps in the histogram or resulting artifacts.
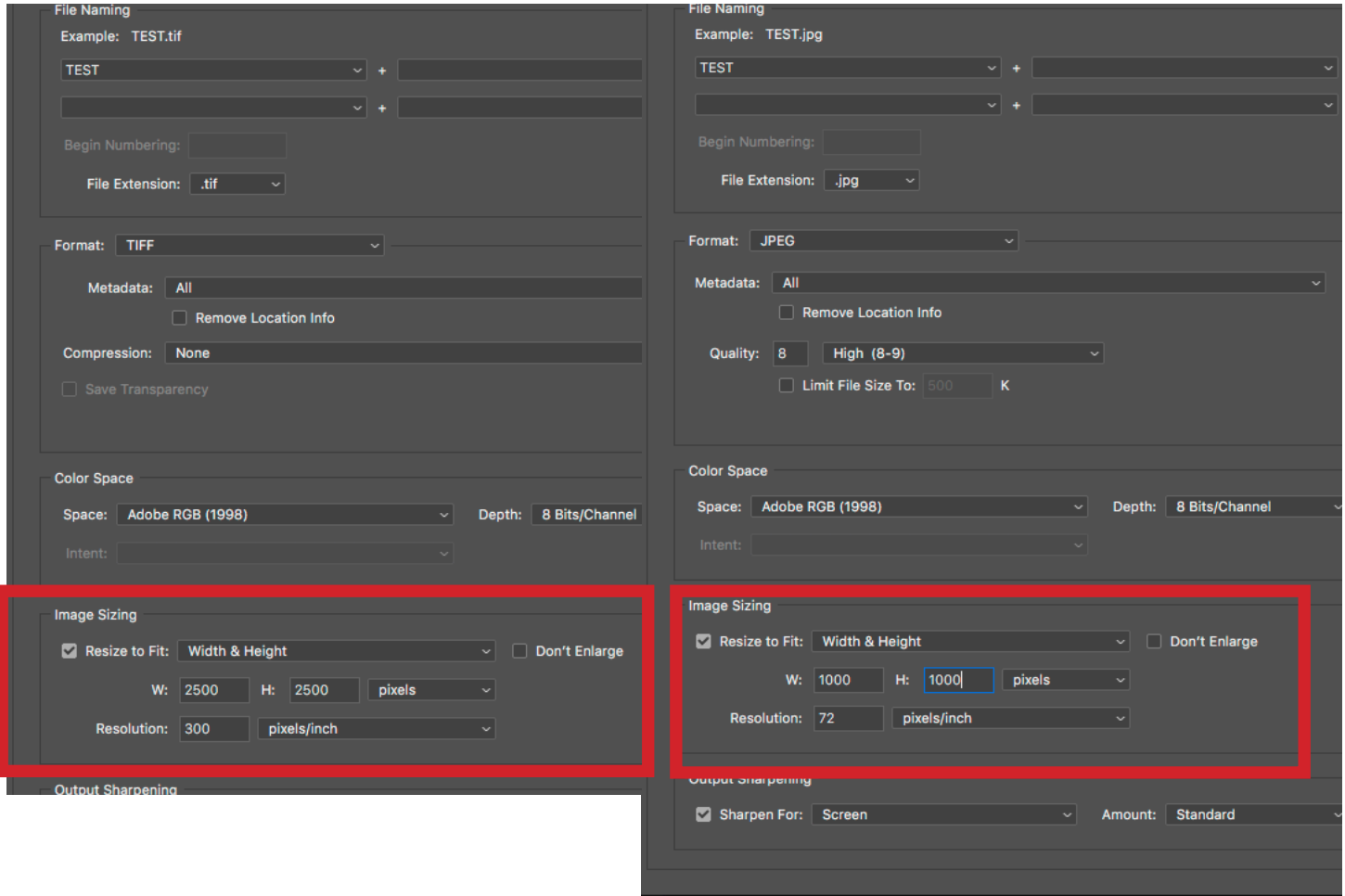
DONE: Image edits will be saved in the XMP file corresponding to the "unopened" RAW files.

OPEN IMAGES: Edit the files in Photoshop.

WORKFLOW OPTIONS (example below / located at the base of the dialogue box) will be over-riden by the SAVE OPTIONS, but will apply to images opened from the Camera Raw Dialogue Box, using the Open Images button.
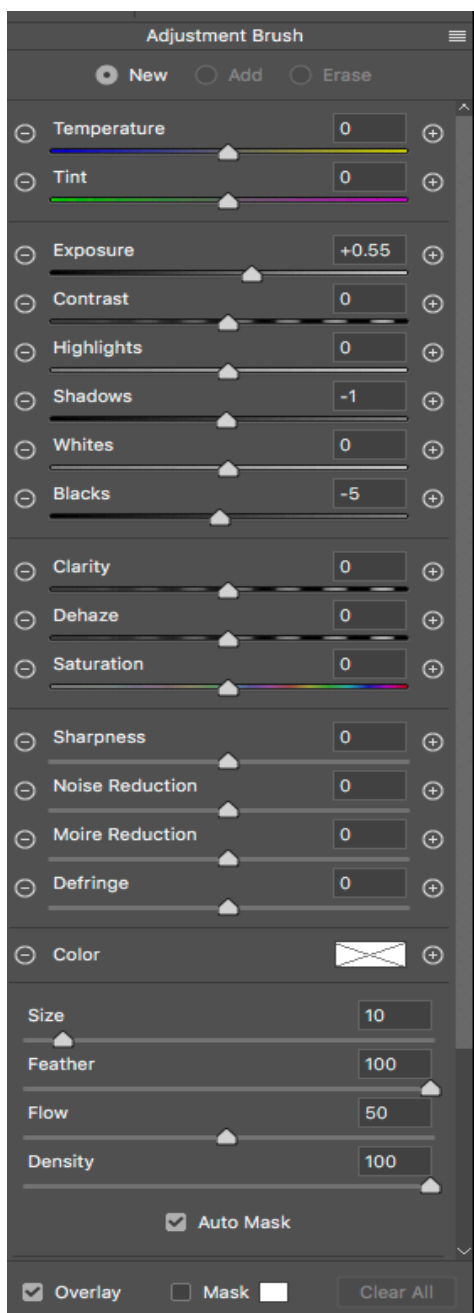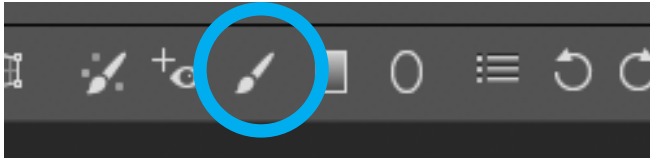
OTHER CAMERA RAW ADJUSTMENTS

ADJUSTMENT BRUSH:
To activate the Adjustment Brush, select the Brush icon in the Camera RAW Dialogue Box.

The Adjustment Brush permits editing of small or local areas, where selective darkening or lightening is preferred. The Auto Mask facilitates limiting the adjustment to specific areas.

TONE CURVE:
This extension of the Exposure sliders provides nuanced control over shadows and highlights.
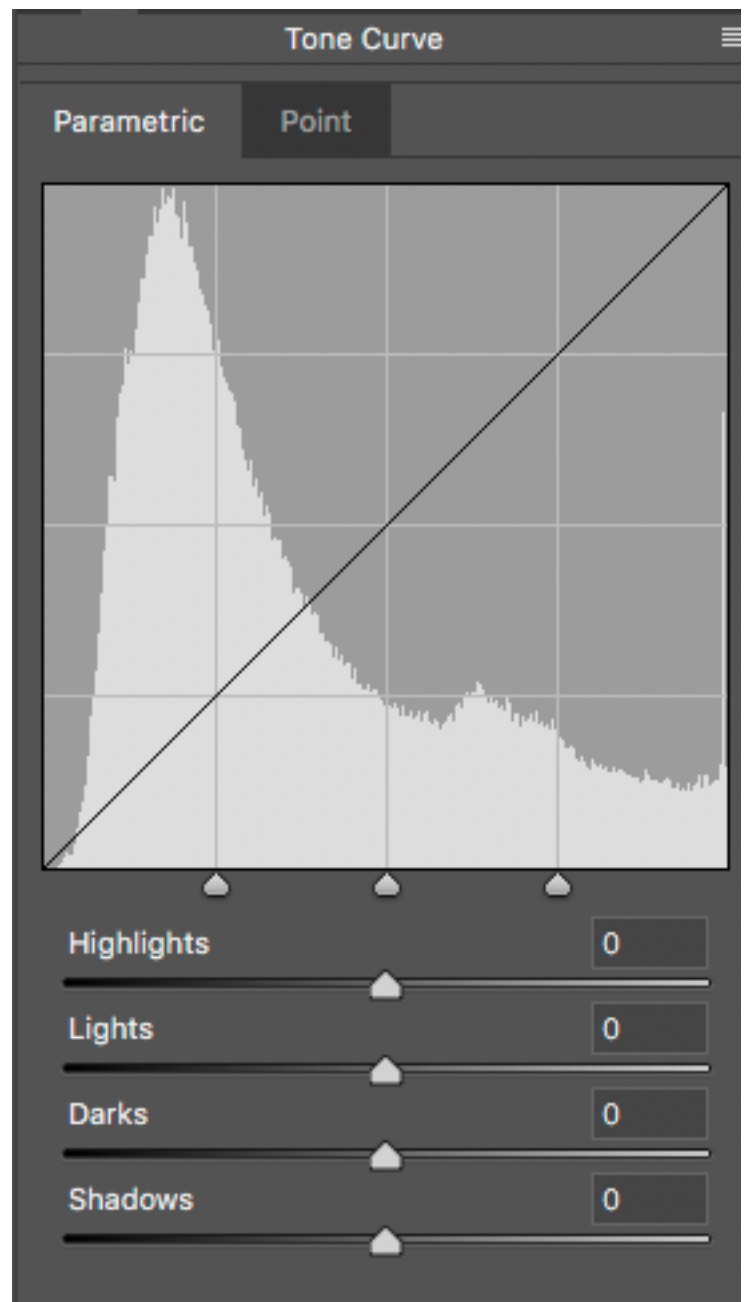
SHARPENING:

YOU MUST WORK at 100% enlargement
in the Camera RAW Dialogue Box to enable the **Preview function.**

Hold down Option key (MAC) or ALT key (PC) to the preview effect of the sharpening in terms of LUMINOSITY only, i.e. in grayscale.

AMOUNT: varies the intensity of the sharpening, as in edge definition
Be wary of oversharpening, which introduces artifacts and contrast.

DETAIL: adjusts how much high-frequency information is sharpened,
especially in terms of **how edges are affected**
Set HIGH: emphasizes texture
Set LOW: suppresses detail, as in removing blurring, to sharpen edges

RADIUS: adjusts how sharpening is applied based upon the size of the detail
Set HIGH: larger details within image can benefit from a higher setting
Set LOW: fine detailed images do not generally require sharpening

MASKING:

Hold down Option key (MAC) or ALT key (PC)
to the preview effect of the Mask for Sharpening.

Sharpening is limited to areas adjacent
to the most pronounced edges.

White areas will be sharpened while
Black areas will not.

This tool can be advantageous for work i
n portraiture, where sharpening of a
specific area is not desired--
 as in the pores of the skin.

NOISE REDUCTION:

This tool can be crucial when
processing files exposed at a
high ISO that exhibit excessive noise.