

## Links Discussed Throughout this Video:

- Watts Digital Home Page:  
<https://www.wattsdigital.com/Home.html>
- Free Useful Downloads:  
<https://www.wattsdigital.com/freecolorwheelstuff.html>
- Join my mailing list to receive my *Photoshop “Quick Tip” Newsletter*:  
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- Photoshop Meetups:  
[https://www.wattsdigital.com/San\\_Diego\\_Meetups.html](https://www.wattsdigital.com/San_Diego_Meetups.html)
- *Blogpost*: What is a Master File, and why do I need one?  
<https://blog.main.wattsdigital.com/?p=1853>
- *Blogpost*: Photoshop vs Lightroom? Wrong Question!  
<https://blog.main.wattsdigital.com/?p=1840>
- *Blogpost*: The Philosophy of RAW:  
<https://blog.main.wattsdigital.com/?p=2215>
- *Blogpost*: Layer Mask Concepts & Basics, Part 1:  
<https://blog.main.wattsdigital.com/?p=2283>
- Blog Home Page:  
<https://blog.main.wattsdigital.com>
- “Not Just Another Photoshop Book”:  
<http://www.amazon.com/dp/B07HNLS1Q2>
- My YouTube Channel:  
<https://www.youtube.com/user/wattsdigitalvideos>

Control your Contrast and Color

When it comes to a good color print, it's essential that you know what you're aiming for before you can properly use the tools in Photoshop. *I mean, what IS color, anyway?? Get ready to find out...*

I'm going to show you how to use **Levels** and **Hue /Saturation** to take care of your **Contrast** and **Color** needs, both globally and locally, using the acronym **K.I.S.S (Keep It Super Simple)** to drive home my point:

- ***With a well-exposed image, these 2 tools may be all that you need to properly optimize your image for Contrast and Color, both globally and locally.***

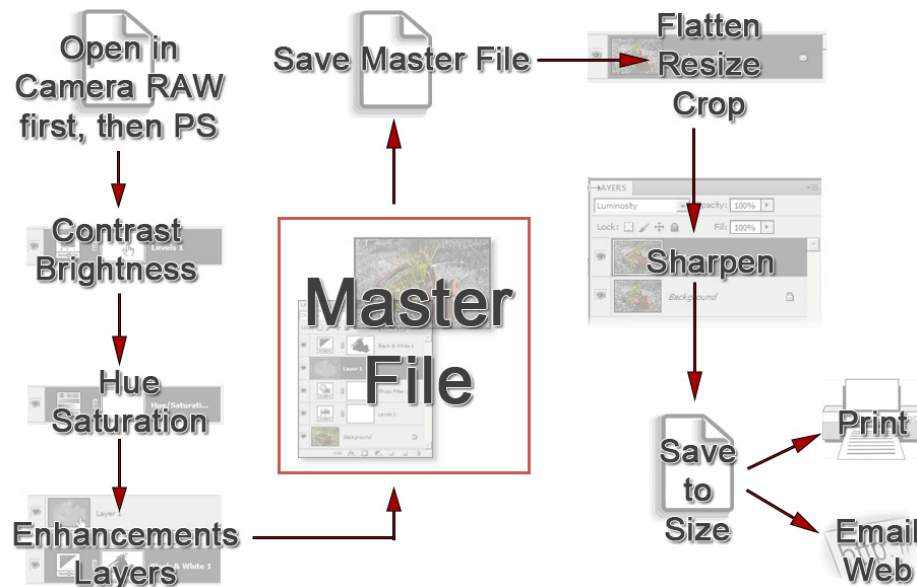
Think of my teaching method / philosophy as being analogous to a **“Manual Transmission” (vs. an “Automatic Transmission”) in a car**. A manual transmission is mechanically simple, but will give you tons of control & higher performance over your automobile (they don't use automatic transmissions in NASCAR, after all!). But it comes with a price: a “learning curve” – hand/eye/foot co-ordination, and so on. After a time, using a manual transmission becomes instinctive, and you don't even think about “stalling the car” anymore.

*What I'm going to show you in Photoshop is the same way – simple, but tons of control & high performance! And don't worry; you won't “stall the car” nearly as much while learning this ☺*

The Master File and Workflow	2
Basic Elements of a Good Color Print	3
Color Correction and the Color Wheel	5
Layers and The Layers Panel Basics	6
The Properties Panel Basics	7
The Levels Adjustment Layer	8
The Hue Saturation Adjustment Layer	11

## The Master File and Workflow

**If a picture is truly worth a thousand words**, then here's an overall visual representation of the **Workflow Chart** on page – notice that your Workflow centers on creating a **Master File**.



**Creating a Master File is NOT for every image:** it's for those images that you want to spend time with, doing all that's necessary to make your image "pretty". Here's where you pour your artistic "blood, sweat and tears" into your image, using the methods shown in this book.

**What is a "Master File"?** It's a 16-Bit, un-flattened, un-sharpened, un-cropped, un-resized file designated as such in its file name, all of this discussed later throughout the book.

### Why create a Master File?

- *It's Multi-purpose:* Use it to create separate files for a specific print size or printer, for the Web, for magazine output, etc. and you'll stay consistent between those files.
- *It's easily correctable:* for color, contrast, cropping, enhancements, etc. non-destructively (loss of digital information).
- *Sharpening is applied according to your print size:* Let's say that your Master File is created from a RAW file – It might be around 11"x16.5" at 300 ppi – If you sharpen for this size and reduce the file to prep for a 4x6 print, it will be over-sharpened.

## Basic Elements of a Good Color Print

### So, what makes a good color print and how do you use the basics of Photoshop to achieve it?

There are **eight basic elements necessary in the making of a good color print**, listed below, followed by the tool(s) in Photoshop to control that element - **If you make proper use of these elements, then you end up with a good print.**

A few definitions and explanations are in order:

#### Contrast:

*Contrast is the difference in brightness between the light and dark areas of an image.*

A high contrast image has a harsh look, typically having a lot of dark areas and a lot of light areas and very little mid-tones. A low contrast image, by comparison, is flat, bland and lifeless -- mostly mid-tones with very few dark areas and light areas.

#### What is color?

The dictionary defines it as *“the quality of an object or substance with respect to light reflected by the object, usually determined visually by measurement of **hue**, **saturation**, and **brightness** of the reflected light.”*

Basic Elements of a Good Color Print	Corresponding Basic Tool(s) in Photoshop
■ Contrast	■ Levels
■ Luminance/ Brightness	■ Levels
■ Hue/Color Balance	■ Levels ■ Hue/Saturation
■ Saturation	■ Hue/Saturation
■ Sharpness	■ Unsharp Mask
■ Crop/Composition	■ Crop Tool
■ Touch Up	■ Cloning Tool ■ Healing Brush
■ Impact/Feel/Creativity/ “WOW” Factor	■ N/A (Intangible/ Uniqueness)

So, the 3 main attributes/components of color are: **Hue, Saturation, and Luminance (Brightness).**

- **Hue** -- Hue is a single color cast or color name. *Green is a hue, Orange is a hue, and so on.*
- **Saturation** -- Saturation is the intensity, purity or amount of a hue. *A pastel red is less saturated than a fire-engine red, lime green has more saturation than chiffon green, etc.*
- **Luminance (Brightness)** -- Luminance is the amount of perceived brightness of a color. *The color black has no luminance, whereas the color white has the highest luminance.*

By the way, in this Seminar, we’re only going to be spending time with the first four elements, with the other elements covered in other seminars.

## What Makes a Photograph unique?

You'll see that we'll be able to control all of these elements in Photoshop, with the exception of the last one - **Impact/Feel/Creativity**. *This is up to your skill and artistic interpretation as a photographer.*

I like to call this the **"WOW" Factor**, because as you look at a strong image with impact, you want to say, "WOW!". It is my opinion that Photoshop, used properly, will take a good image and make it a very good image - - It will take a great image and make a "WOW" image.

So, how do you your increase your **"WOW Factor"** in an image?

**Increase its uniqueness!**

*Ask yourself: What makes a photograph unique?*

Here, according to John Szarowski, are the 5 essential characteristics of Photography – concentrate on these, and you'll increase your image's uniqueness:

- **Subject (The Thing Itself)**
- **Detail**
- **Frame**
- **Vantage Point**
- **Time**

*For more resources on this subject, search for: ["John Szarkowski – 5 Characteristics"](#)*

## Color Correction and the Color Wheel

### "The color in my print doesn't look right..."

How many of us have heard this from friends and other photographers, or have said this about our own prints? Let's go over some basics of **Color Correction**-- then you can color correct with more confidence and accuracy.

- **Color Correction** is correcting an imbalance in the color cast of the image.
- Use the **Color Wheel** to help you determine the proper **color balance**.

**When judging for proper color balance in your image**, look for "neutrals", such as white or gray – Correct for those neutrals, and the rest of your colors generally will fall into place.

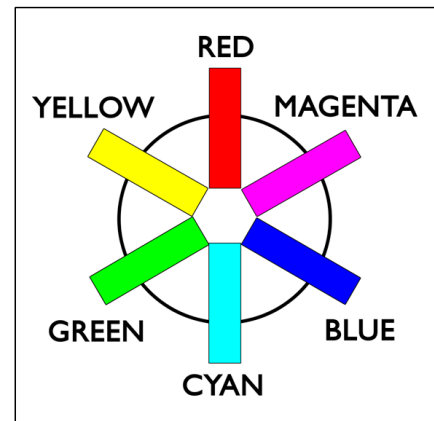
### Correct using the Color Wheel

The "Color Wheel" will help you visualize how the **Primary Colors** -- **Red, Green, and Blue** -- and their corresponding **Complementary Colors** -- **Cyan, Magenta, and Yellow** -- interact with each other to achieve proper **color balance**.

**To correct an image with an improper color cast**, add its complementary color to bring the color balance back to where it needs to be.

Here's how it works:

1. **Opposite the Primary Colors in the wheel is their Complementary Color**, such as Blue being the Primary Color, and Yellow being its Complementary Color.
2. **You can describe a color by adding the two surrounding colors in the wheel** -- for instance, Yellow + Magenta = Red.



- **Here's an example:** let's say that by looking at the "neutrals" in an image, the color cast is too magenta; add green to correct the improper color balance.
- **However, this is over-simplifying things a bit**, because in the "real world" true primary colors don't exist: Bottom line, you'll probably need to use two colors in your RGB settings in Photoshop to correct your image. As an example, let's say your image has an orange cast (which is Red + Yellow) – you would add a combination of Blue + Cyan (the complementary colors) to correct (I'll show you "real world" examples shortly).
- Rules are made to be broken, so you should know that the "**Neutral rule**" **doesn't always apply** - - a sunset is a perfect example, as it needs to stay nice and warm.

*Want a **free printable JPG** of the **Color Wheel** (and other free "post-processing" resources for photographers)? Go to: <http://www.wattsdigital.com/freecolorwheelstuff.html>*

## Layers & The Layers Panel Basics

### What's a Layer Mask, and why do I need it?

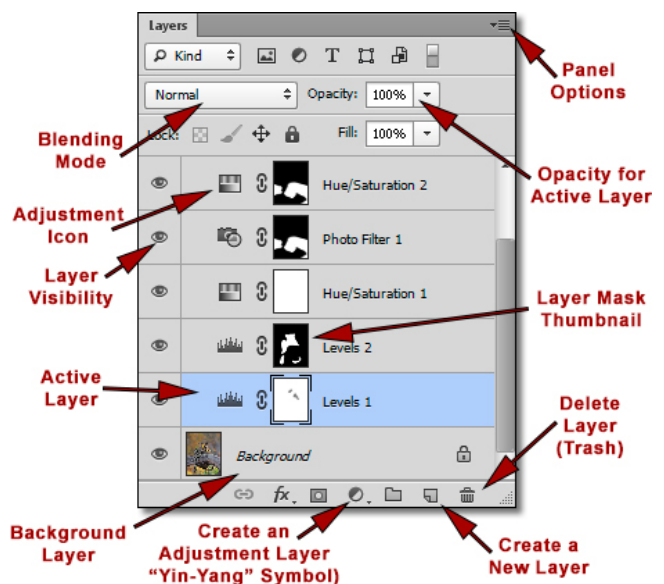
- **Layer Masks** give you the ability to make adjustments to your image locally, not just globally, by hiding or revealing portions of your adjustment - you can pinpoint specific areas to change.
- You don't "see" a Layer Mask in your final output, only the results – it's invisible, and works in the background.
- What adjustments can you localize? Virtually anything you can do in Photoshop, such as contrast, color, sharpness, brightness, etc.

You work with **Layer Masks** through **Adjustment Layers**, such as the **Levels** or **Hue Saturation Adjustment layers**, (discussed in this Seminar). Think of **Adjustment Layers** as "clear plastic overlays" sandwiched over your original image, with each layer giving you the global ability to control an adjustment (contrast, color, etc.) to your final image. In addition to "global" control, you can define what areas to "localize" by shaping your **Layer Mask** (part of an adjustment layer) using **Selections** (discussed in a later seminar).

### The Layers Panel

**The Layers Panel** is where you'll manage all of your **Layers**, including **Adjustment Layers**. Think of this as a 2-dimensional side-view of your original image (the **Background Layer**), with your layers ("clear plastic overlays") stacked on top of it

- A **Background Layer** is the image you bring into Photoshop - - This layer should generally be left alone - - Most of the time, no work should be done to it.
- The **Active Layer** is the layer that you are working on, and is highlighted in a darker color.
- You can control your **Layer Visibility** by toggling the "Eye" on and off - - This will help you see the effects of a particular layer on your image.
- To access the **Layers Panel Options**, just click on the button shown in the diagram above. Here you can quickly delete a layer, duplicate a layer, flatten your image, and so on. If you go to "Panel Options" at the bottom, you can change the size of the thumbnails displayed in the panel (A personal favorite, as my eyes are getting older!). By the way, each Panel (not just this one) has a different set of options.



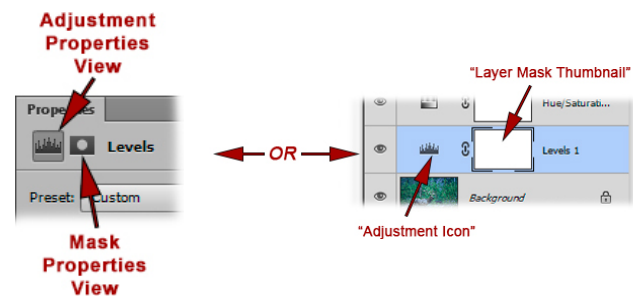
## The Properties Panel Basics

The **Properties Panel** has two “Views”, both tied to the active **Adjustment Layer** on your **Layers Panel**:

1. *The Adjustment Properties View*
2. *The Mask Properties View (Covered in the Layer Mask Seminar)*

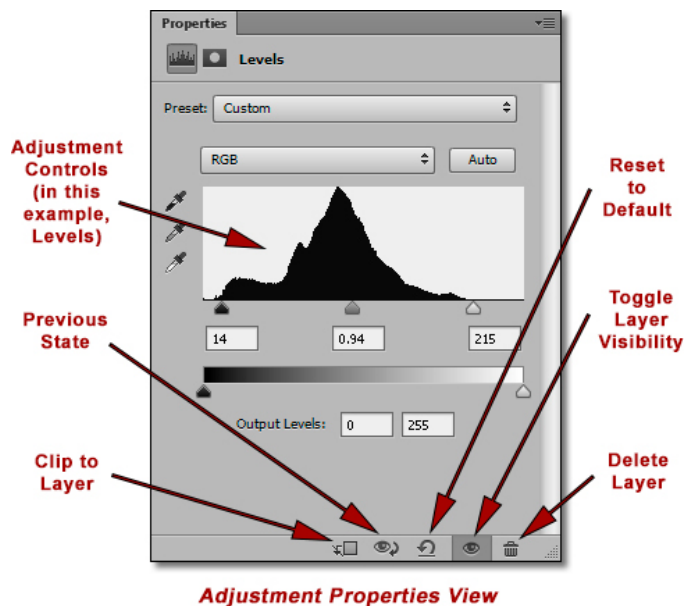
There are two ways to switch between the Views:

1. Click on the appropriate Icon in the **Properties Panel**
2. Click on **Adjustment Icon** or **Layer Mask Thumbnail** in your **Adjustment Layer** (in your **Layers Panel**)



An explanation of some of the functions in the **Adjustment Properties View**:

- **Toggle Layer Visibility** – This shows and hides the visibility of the layer – when this is toggled, the **Layer Visibility** button in your **Adjustment Layer** (in your **Layers Panel**) will show the same results.
- **Reset to Default** – This returns the adjustment to its default settings.
- **Delete Layer** - This discards the current layer in your Adjustment Layer.
- **Clip to Layer** - Most of the time, it's best to leave this one alone. Otherwise, click it to affect only the layers below it in the Adjustment Panel.
- **Previous State** - Click to view the previous state (one step back) of your adjustment.





## The Levels Adjustment Layer

### Purpose:

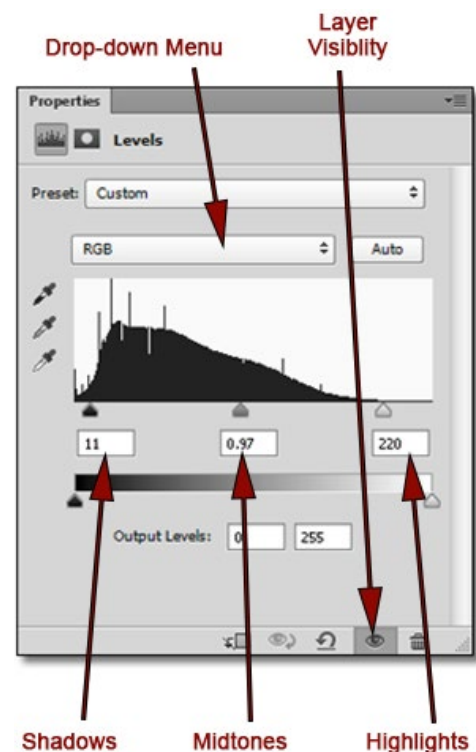
The **Levels Adjustment Layer** is used for contrast control and color correction, both in the same layer. It's an extremely versatile tool: If I only had one function available to me in Photoshop, this would be the one. *In a well-exposed image, it's entirely possible that with a few simple adjustments in levels, your image will be ready to print.*

### Where to Find:

- The easiest way to create it is to click on its icon in the **Adjustments Panel**. Once you create a **Levels Adjustment Layer** (which shows up in the **Layers Panel**), you'll view its properties and controls in the **Properties Panel**.

*(By the way, if that sounds foreign to you, we'll discuss all of those functions in Section 4)*

- In addition, you can click on the *"New Adjustment Layer"* button (the Yin-Yang button) in the **Layers Panel**, and choose **Levels** from the drop-down list.
- Note that there are two places you do NOT want to open any Adjustment Layer: The *"Image" menu → "Adjustments"* and the speed keys that are shown in that menu. *The reason? If you choose either one of these locations, a separate adjustment layer is not created, which defeats the whole purpose of layers.*



### The Histogram:

The **Histogram** is a graph that represents the total range of an image, as measured in pixels. It basically tells you how your image is exposed. *The higher the graph for a particular value, the more information there is at that level.*

- The left side of your histogram represents "dark" pixels, with "0" being Black.
- The right side of your histogram represents "light" pixels, with "255" being White.
- The middle of your histogram represents mid-tones, with 1.00 being right in the middle. *By the way, don't let the mid-tone numerical value confuse you – it's different because it's technically "Gamma", which is midtone contrast.*

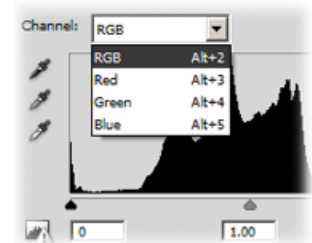
## The Histogram (Cont'd):

- **Generally speaking**, an image that is under exposed will have more values on the left side of the graph (similar to the diagram on the previous page), an image that is over exposed will have more values on the right side of the graph, and an image that is “normally” exposed will have values evenly distributed throughout the histogram (you’ll learn later in the chapter on RAW that you should be slightly under-exposing your images anyway).
- Note that I said “generally speaking” in the above sentence -- there are always exceptions to the rule. For example, a scene of snow may print well, but its histogram will be weighted with more “light” pixels, whereas a night scene may also print well, but its histogram will be weighted with more “dark” pixels.
- In my opinion, it’s easy to place too much emphasis on what a histogram shows you. It’s important, to be sure, but you should use it as a guide, and not let it become your “gospel”. How your final image looks should be the deciding factor in what works and in what doesn’t. *No one looks at a print and says, “Oh, that’s a great print, but the histogram looks terrible!”*

## What’s with the Drop-Down Menu?

Remember, you can control both **contrast** and **color balance** in **Levels**, and here’s where you do it:

- **Contrast** is adjusted using the **default composite RGB Channel**.
- The overall **Color Balance** is adjusted using the individual **Red, Green and Blue Channels**.



## Start with Contrast:

- As you'll recall, the definition of **Contrast** is the difference in brightness between the light and dark areas of an image. *As our eyes generally like “snappy” (higher contrast) prints, you are trying to achieve the maximum “snap” or high contrast without blocking up shadow areas, while at the same time retaining detail in the highlight areas.*
- Adjust your overall Contrast before adjusting your overall Color – If you adjust your color first, then adjust your contrast, you’ll get unrealistic and unexpected color shifts.

## White Point /Black Point and Clipping:

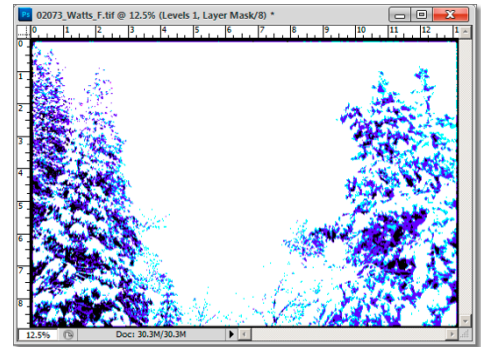
Set the **White Point** and **Black Point in your RGB Composite Channel**: this gets you on the road to proper contrast. *It allows you to set the brightest parts of your image as close to pure white as possible and the darkest parts as close to pure black as possible.* By moving the sliders properly, you’ll take advantage of the full range of tonal values available to you in your image; put another way, doing this critical step properly utilizes the full range of dark to light which can be displayed on your monitor and print.

- You’ll be using the **Clipping Warning** quite a bit to get the most out of your image, and this is an important feature. To see a Clipping Warning (the unwanted elimination of pixels), hold down the “**Option**” key in Mac (“**Alt**” key in Windows) as you move the “**Shadows**” and “**Highlights**” Sliders (There is no clipping warning in the “**Midtones**” Slider).
- **When using the Clipping Warning**, it should be used as a critically important guide, but a guide nonetheless: What your eyes see is still the best judge of how your image should look. It’s possible that you may sacrifice the “greater good” of the image and live with a bit of clipping (or control it with a Layer Mask, discussed in another workshop) – let your eyes decide.

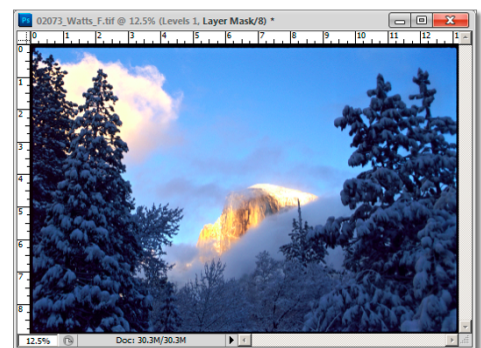
## To Adjust Contrast:

As you can see in the diagram on page 37, you can control the values of **Shadows**, **Midtones**, and **Highlights**. *Start by adjusting your white and black points first (no particular order on which one is first), then adjusting your midtone slider.* By the way, I've gone "too far" on the Clipping Warning examples shown to the right to show you what it looks like – they aren't "right".

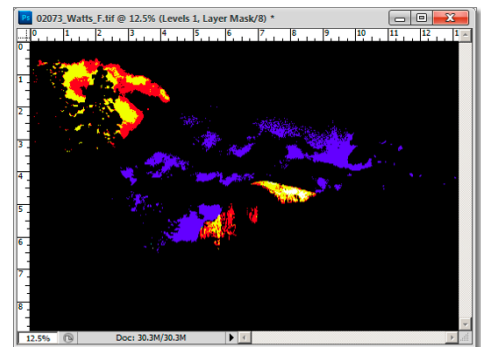
- Move the **"Shadows"** Slider to the right to increase contrast in the shadow areas. **Adjust until clipping just starts to occur.** Check this by using your Clipping warning described above. This sets your **Black Point**.
- Move the **"Highlights"** slider to the left to increase contrast in the highlight areas. Be very careful with this one -- you don't want to lose any highlight detail. You can avoid this by not dragging the slider so far to the left that it starts clipping. **Adjust until clipping just starts to occur, then back off a bit.** Check this by using your Clipping warning described above. This sets your **White Point**.
- Move the **"Midtones"** Slider to the left (or increase the numerical value) to decrease the contrast in the midtones, and to the right (or decrease the numerical value) to increase the contrast in the midtones. *Too many folks forget to do this, and it makes a world of difference in the "pop" of your image.* By moving the slider to the right, you can darken your midtones and brighten your highlights, and vice versa. I call using the **"Midtones"** slider **"Ye Olde Magic Move"** -Try it, you'll like it!



Shadow Clipping Warning



Original Image



Highlight Clipping Warning

## Color Channels:

A **Color Channel** stores information about color elements in the image. You will note that in the **Drop-Down menu**, you have four choices: **RGB**, **Red**, **Green**, and **Blue**. Each one of these is a color channel, with RGB being a composite of all three colors. *Think of these as being akin to a color filter in front of your camera lens.*

## To Globally Color-Correct:

1. Click on the **Drop-Down Menu**, and pick the Color Channel that you desire to add or subtract.
2. Starting with the **"Midtones"** Sliders, move the appropriate **Sliders** or input the numerical value to make your desired color correction.

**Example:** If your print needs more Red, go to the **"Red" Channel** in the **Drop-Down Menu**, then move the **"Midtones and/or Highlights"** Slider to the left to increase the red cast. Conversely, if you desire more Cyan (The opposite of Red), you would move the **"Midtones and/or Shadows"** slider to the right to increase the Cyan cast.

## The Hue - Saturation Adjustment Layer

### Purpose:

The **Hue – Saturation Adjustment Layer** is used for color correction. More specifically, it allows you to control **Hue**, **Saturation** and **Luminance** for each color channel. *If Levels is a “Hatchet”, then Hue - Saturation is a “Scalpel”*.

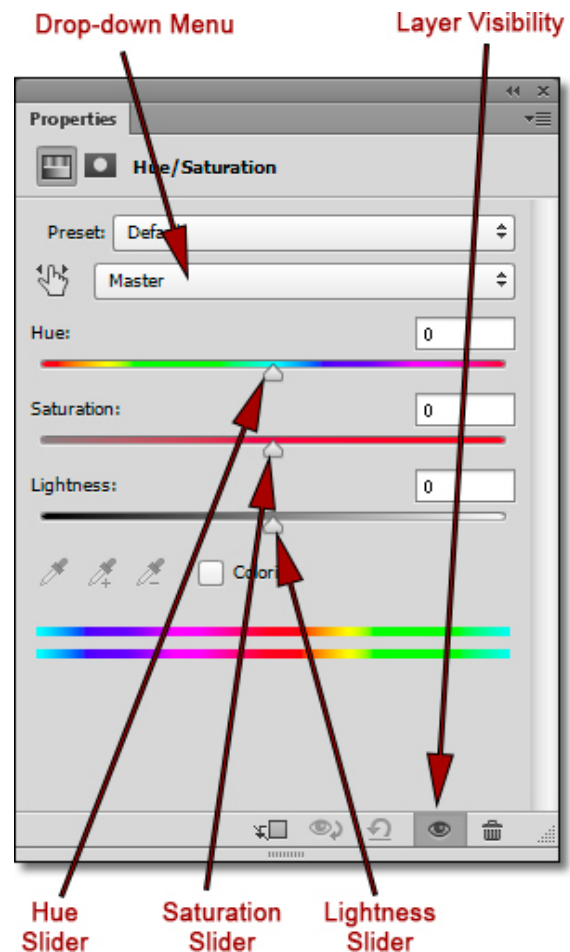
- **Hue - Saturation** is great for changing the characteristics of a particular color, not your overall “global” color (Levels is great for that). When you make changes to a particular Hue, none of the other colors in your image are affected.
- For instance, if the Reds in your image are too saturated, you would simply choose the “Red” channel from the **Drop-Down menu** to desaturate your Reds to the desired level, without affecting any other colors in your image.
- Or let's say that the Greens in your landscape shot are too Blue/Green: Choose the “Green” channel from the **Drop-Down menu**, then change the Hue to bring your Greens back to a more realistic color, such as Forest Green, again without affecting any other colors in your image.

### Where to Find:

- The easiest way to create it is to click on its icon in the **Adjustments Panel**. Once you create a **Levels Adjustment Layer** (which shows up in the **Layers Panel**), you'll view its properties and controls in the **Properties Panel**.

*(By the way, if that sounds foreign to you, we'll discuss all of those functions in Section 4)*

- In addition, you can click on the “*New Adjustment Layer*” button (the Yin-Yang” button) in the **Layers Panel**, and choose **Hue-Saturation** from the drop-down list.
- You can also go to the “*Layers*” menu → “*New Adjustment Layer*” and choose it from that menu.



## How Hue – Saturation Works:

The **Dialog Box** for **Hue – Saturation** (in the **Properties Panel**) is very intuitive:

1. Choose the **Color Channel** that you want to adjust from the **Drop-Down menu** (you have 6 to choose from – The 3 Primary Colors, as well as the 3 Complementary Colors).

By the way, I rarely use the **"Master"** channel - - I find that I have much more control by choosing a single color channel to make changes (like a "Color Scalpel").

2. **Adjust the Hue:** As an example, choose the **"Green"** channel from the **Drop-Down menu**. Remember the **Color Wheel**? Now you will see it in action:

- As you move the **"Hue"** slider to the left, you will see the green values in your image go from a green cast to a yellow cast, then to a red cast, and finally end up with a magenta cast.
- As you move the **"Hue"** slider to the right, you'll see your green values go from a green cast to a cyan cast, then to a blue cast, and finally to a magenta cast.

3. **Adjust the Saturation:** Again, using the **"Green"** channel as an example, move the **"Saturation"** slider all the way to the right and you'll see the effect of way too much saturation. Conversely, if you move the slider all the way to the left, your green values will turn to shades of black and white.
4. **Adjust the Lightness:** I rarely use this slider; I personally find it ineffective. It is more effective and less destructive to adjust your Lightness with **Levels** and/or **Curves**.

