

Color Correcting with History

By Jeff Schewe

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This figure shows a 16 bit capture from a Canon D30 camera showing a slight under exposure to maintain high light detail. It's a bit dark and flat but can easily be corrected in 16 bit with no risk of banding in the image.

Yes, the features and functions available when working on 16 bit/channel images is rather limited. Wish it wasn't, but it is. However with a bit of ingenuity and a bit of sideways thinking, you can do an enormous amount of work in 16 bit. Particularly, the all important tone and color correction to avoid image degradation that may cause problems down the road. So, what to do and how to do it?

One of the most powerful and from a photographer's point of view natural method is to use the History feature in Photoshop to allow you to literally "paint in" all your tone and color corrections. Now, a word here about History. . . it can be a little bit daunting to use if you don't really understand what History is all about. So, a short primer: History is Photoshop's ability to capture the state of pixels at a given point in the life of an image. If you do something to an image, History records the effected pixels and shows it in the History palette as an "event". It's only recording the actual pixels and not the parameters of what you did. It's just a "this event has changed the pixels and written the event to your scratch disk" kind of thing. Yes, that's right, History has no real effect on your RAM usage, only the size of your scratch disk.

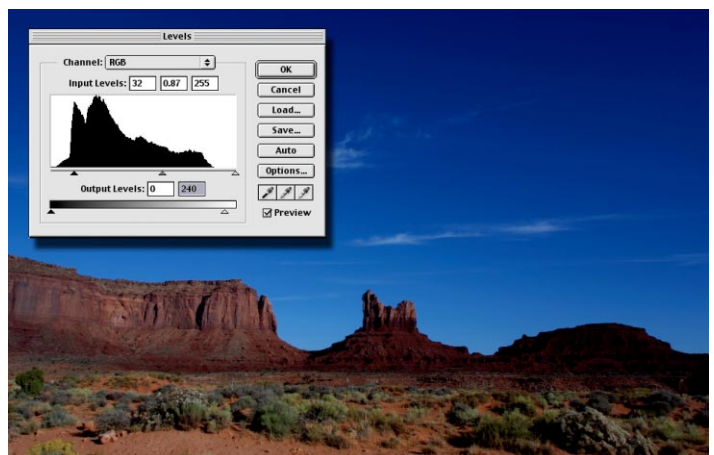
But these are only recorded events and while useful for multiple undo, they are not really useful for the full extent we'll use History in this technique. For the true power of History to be fully realized, you'll need to understand how to "Take A Snapshot". A snapshot is a



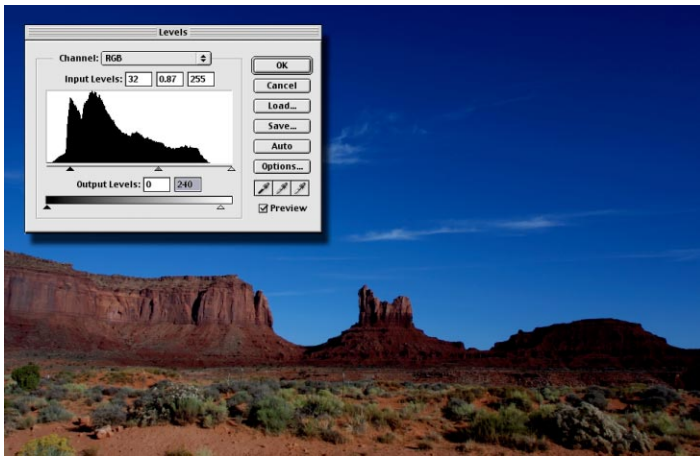
In this figure, the image has been tone and color corrected to bring up the mid-tone and enhance the color saturation - all painted in using the History brush.

record of the image at a given moment and saved as such in the History palette. There are actually 3 variations of snapshots; the whole file, the merged layers or just the active layer. The options have a role in the manner and way you wish to use snapshots, but for the purpose of this tutorial, let's just stick to the simpler concept of recording the state of the full document in a snapshot.

The other thing you'll have to understand is that in order to use History with 16 bit images, you'll have to use only the History Brush because at this time, there's no ability to fill using History. But, painting in tone and color correction is an easy thing to learn so let's do it. The first step is to go ahead and do a correction. In the figure below I've called up a Levels adjustment.

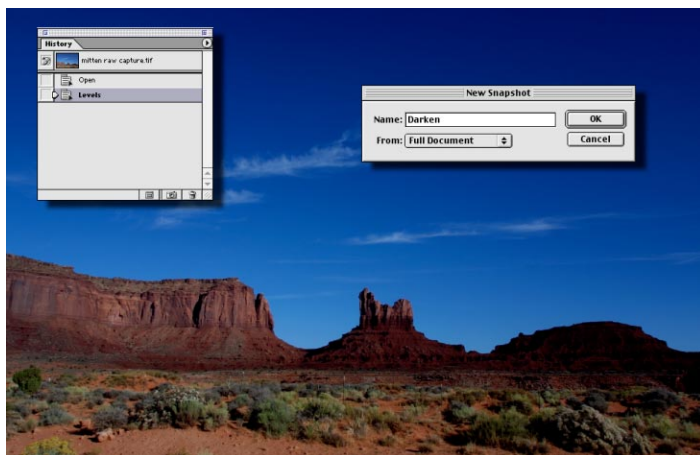


In this figure a Levels adjustment is being used to darken the image. Note, since there are no Adjustment Layers in 16 bit, you'll actually be adjusting the image.



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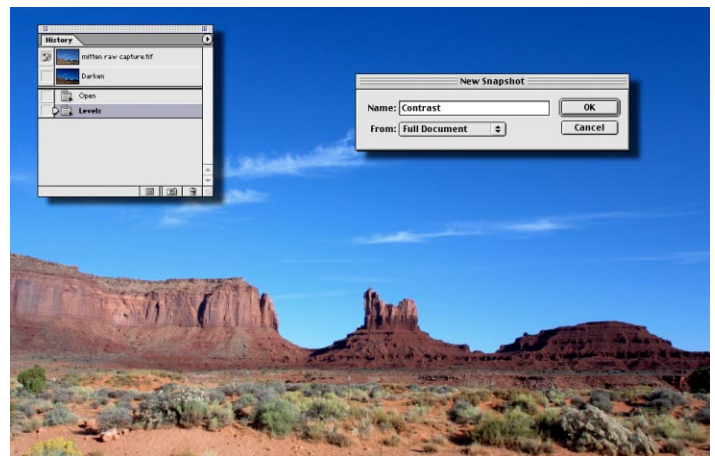
Since the image is in 16 bit AND because you'll end up applying the adjustment at a lowered amount with the History brush, don't be shy about doing a strong adjustment—you can really bite into the tone of the image. Once you've made a correction, go ahead and apply it. But, . . .don't do anything else until you go to



This figure shows the process of adding and naming a History snapshot. It's useful to give it a descriptive name to ensure selecting the correct snapshot later when painting from History.

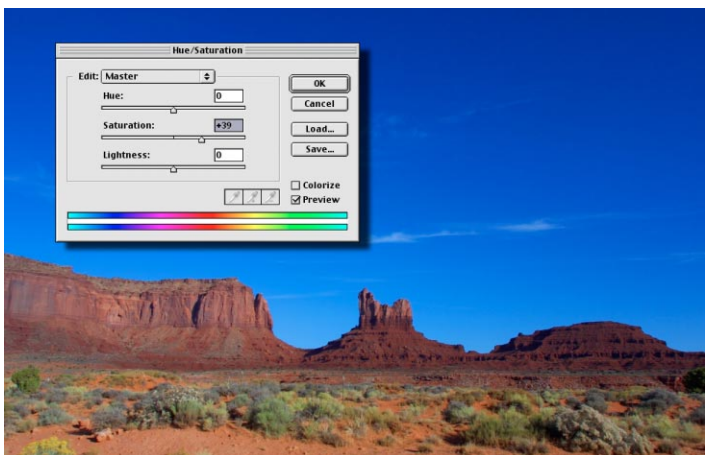
the History palette and from the fly out menu select "New Snapshot". You'll get a dialog box asking you name the snapshot (something I always try to do) and the option of where to take the snapshot from. Just leave it on Full Document and click "OK". Great, you've just taken a snapshot of the image in a darkened state. But, you don't want to keep it that way so the next step is extremely critical! UNDO! This will undo the correction and leave the image in the state it was when you opened it with the added new snapshot of the image.

After doing the first snapshot, you can proceed



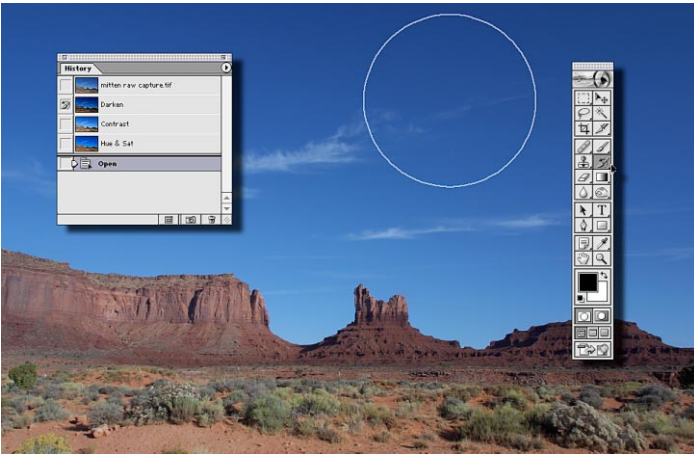
In this figure, the image is being adjusted to provide additional contrast (lightening the high lights and darkening the shadows).

through an additional series of tone and color corrections and create snapshots of each of the adjustments. Since you will be blending back and forth between the various snapshots by painting with the History brush, it doesn't really matter too much what the order of the snapshots may be. You are free to use any correction



This adjustment will be a strong bump in image saturation. Again, be sure to take a snapshot and then undo the actual correction on the image.

or combination of adjustments within the image and even filters such as Unsharp Mask. The one thing you do NOT want to do however is to do anything to alter the actual pixel dimensions of the file. Doing so will make the saved snapshot invalid. So, any cropping or image resizing should be done after the History correction technique is completed. Also it's worth noting that History in Photoshop can not be saved with the document. Once you close it, all the Histories you've created are gone. Therefore you'll need to leave enough time to go from beginning to final correction in a single session. You can always recreate snapshots and add additional ones down the



This figure shows the beginning of the History painting technique. The History brush is selected and the required History snapshot has been set as the History source by clicking in the box to the left of the snapshot.

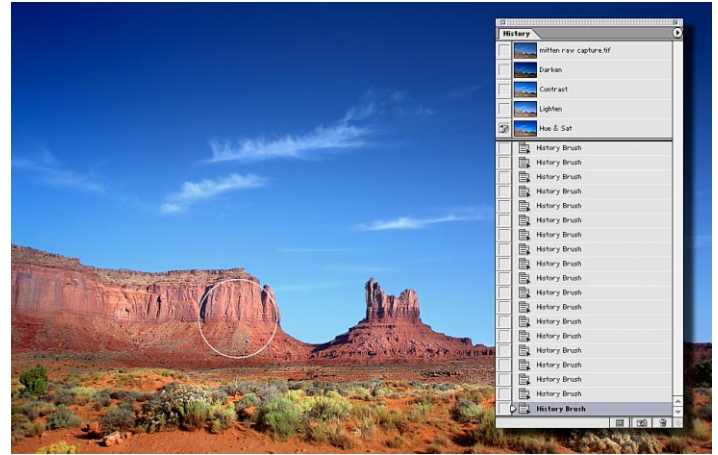
road.

At this stage of the process, all of the required tone and color corrections have been accumulated in the History palette and the process of “painting them in” can proceed. Select the History brush from the main Tool Bar and also select the current History snapshot you wish to use. It’s useful to work at a considerably lowered opacity for the brush - say 10-15% and also note that there are some brush blending modes you can not use. Not all modes are available when in 16 bit, but there are enough to get the job done.

Going slowly with a lowered brush opacity will allow you very fine control over the buildup of the tone and color corrections being applied. Note that if need be, you can create selections to apply the corrections only in a limited area. You can vary the size and the hardness of the brush. If you have a tablet, you can set the brush parameters to vary the size and opacity for you. Don’t worry overly much about screwing the image up. You can always paint away an unwanted adjust-



Here a smaller brush has been selected and the image is zoomed in to do finer detail work.



At this point a number of brush strokes have been applied using a variety of snapshots at various sizes and opacities.

ment by setting your History source back to the original snapshot created for you when you opened the image. In this way you can be freed up to work in a free form fashion without the need to be too precise at the time of painting.

Don’t forget you can also use the Shift key to constrain your brush strokes to either horizontal or vertical so shading in a sky with a top down darkening for example, is very easy.

This method is the ultimate “local correction” technique. All the adjustments can be applied to the image in a very subtle manner with the added ability to fine tune the corrections over and over. Could you do something similar using Adjustment Layers in an 8 bit/channel image? Yes, but given the flexibility of this method, it would take a lot of Adjustment Layers to duplicate the degree of sophistication you can use by painting in the effects while blending between different corrections. The number of adjustments required would be large. Additionally, the quality of the final result when working on 8bit images would not stand up to a comparison to the same adjustments done to an image while still in 16 bit/channel bit depth.

Try it. . .and practice it to accomplish a level of control over your images you may never have had before.

Before



After correcting the image by “History Brush”.

