AURORA HDR '19

User Guide

By Richard Harrington

Version 1.0
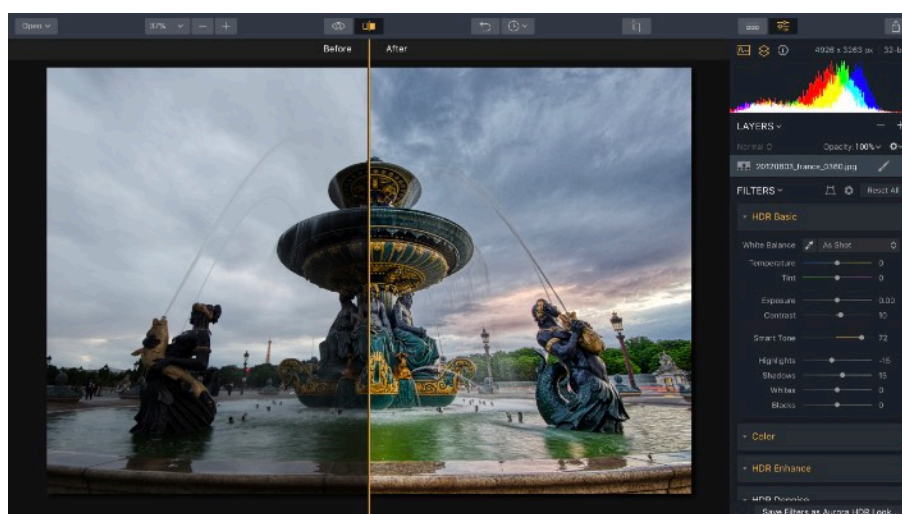
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Image by Dima Sytnik

Welcome to Aurora HDR 2019

Aurora HDR is a joint project between Skylum and Trey Ratcliff to produce the most powerful, simple and fast HDR photo editing software in the world for Mac and PC.

- Skylum is one of the world's leading developers of consumer and professional photography software, serving Mac, Windows, and enterprise customers worldwide.

- Trey Ratcliff is the world's most renowned HDR photographer, with over 16 million online followers and more than 150 billion views of his images. Besides fine art sales to collectors around the world, he runs the #1 Travel Photography blog at www.stuckincustoms.com.

When Skylum looked to create the best HDR software ever, we turned to Trey to assist at all stages. Using Trey's vast experience with the current tools in the market, and advanced technology from Skylum, we have jointly created state-of-the-art software to help photographers of all skill levels create amazing high-dynamic-range photos.

Aurora HDR 2019 contains every imaginable tool needed to produce high-quality "next generation" dramatic images, as well as Aurora HDR Looks and video training developed by Trey and other professional photographers that will appeal to every photographer.

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What is HDR?

High Dynamic Range (HDR) photography is a popular photographic technique designed to overcome the limitations of image sensors in digital photographs. This process utilizes multiple exposures of the same subject, each shot at different exposure values ("brackets"). Those brackets are then automatically merged into a single shot which encompasses a greater exposure range.
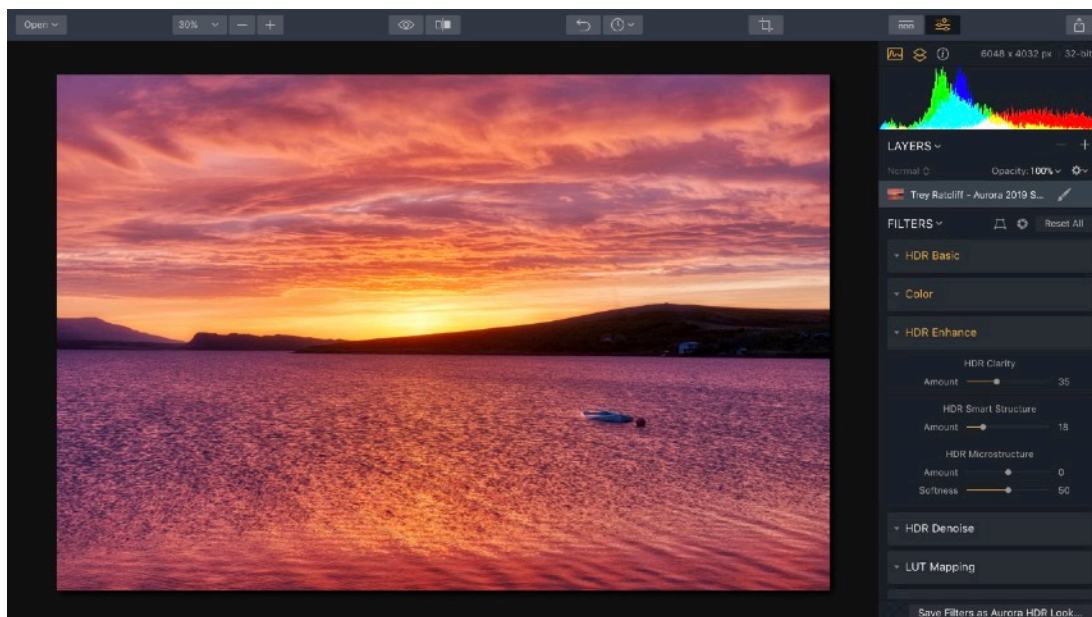
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Image by Trey Ratcliff

Key Features and Benefits of Aurora HDR 2019

- Tone-mapping technology for single and bracketed images with the Quantum HDR Engine

- HDR Smart Structure for realistic and artifact-free depth and details

- LUT Mapping filter for creative color and tone adjustments

- Total HDR editing experience with the most complete set of tools available

- Powerful one-click Aurora HDR Looks, including Signature Pro Looks by Trey Ratcliff, Serge Ramelli, Randy Van Duinen, and others, that yield fantastic results instantly

- Layers, brushes and masking provide the ultimate in selective editing

- Luminosity masking to blend layers

- Unique Radiance and Glow controls and custom texture blending for creative versatility

- Detail enhancement to increase drama in images

- Extensive color and toning controls for vibrant color combinations

- Batch processing that auto-detects brackets

- Modern user interface design makes for a comfortable, understandable experience

- Built-in sharing supports popular photo communities and social networks

- RAW, JPG, TIFF and other popular filetype support for the greatest flexibility

- Workflow tailored to any style with support for using as a standalone app or as a plugin to popular host applications
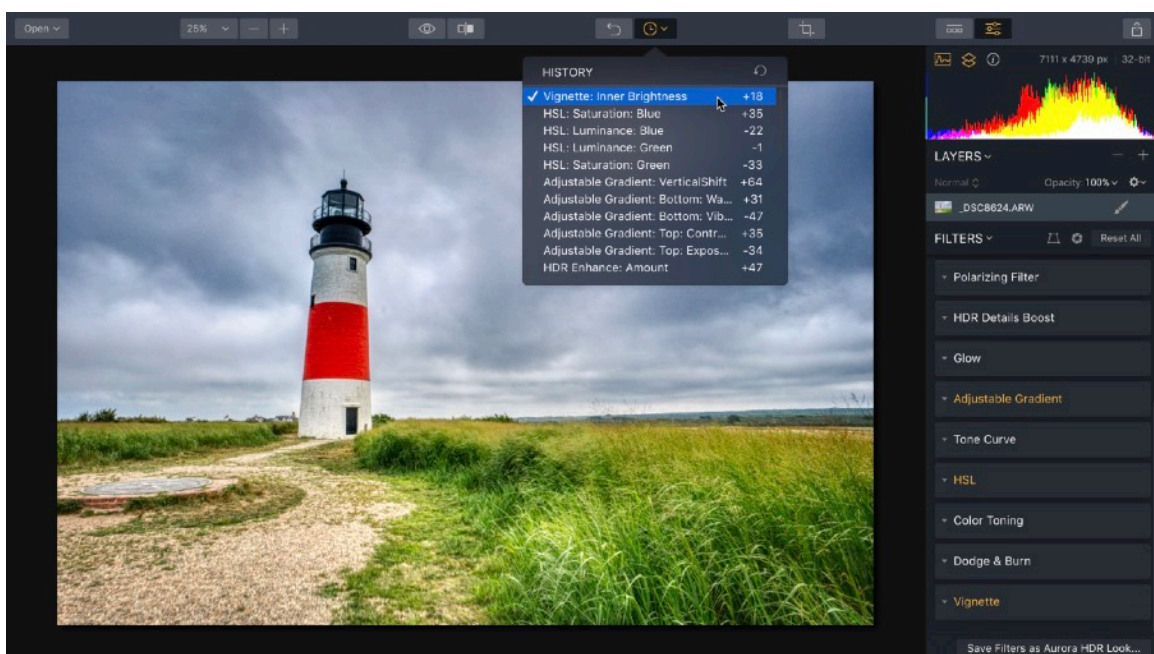

Image by Richard Harrington

Key New & Improved Features of Aurora HDR 2019

There are several new features as well as improvements in Aurora HDR 2019 to help you create fantastic images in less time.

User Interface / Performance

- **NEW**: Tone-mapping technology for bracketed images with the Quantum HDR Engine
- **NEW**: Tone-mapping technology for single images with the Quantum HDR Engine

Editing

- **NEW**: HDR Smart Structure for realistic and artifact-free structure
- **NEW**: All new Aurora HDR Looks to enhance and stylize images
- **NEW**: LUT Mapping filter for creative color and tone adjustments
- **NEW**: Eleven integrated LUTs to use with the LUT Mapping filter
- **IMPROVED**: HDR Details Boost filter that allows for high-resolution tuning while adjusting
- **IMPROVED**: Adjustable Gradient filter with new controls for Shadows and Highlights

Open / Plugin / Export

- **NEW**: Photoshop plugins support
- **NEW**: Photolemur plugin support
- **NEW**: Plugins menu for both Mac® and Windows® users

Installing and Activating Aurora HDR 2019

There are a few ways to install Aurora HDR on your computer. The method you choose will depend upon how you purchased Aurora HDR.

If Bought Directly from Skylum

If you purchased the software from our website, you'll need to download and install your software. Follow these steps.

Install for Mac

1. Click the download link in your activation email (sent after purchase).
2. Locate the installer in your Downloads folder.
3. Double-click **Aurora_HDR_2019.dmg** to open the installer.

4. Drag the application into your Applications folder.
5. Choose **Go > Applications** to navigate to your Applications folder.
6. Locate the **Aurora HDR 2019** application and double-click to launch.
7. Enter the email address you used while purchasing the software and your activation key (from your activation email) to complete installation and registration.
8. Click **Activate** to launch the application.

If you ever lose your activation key, provide our support team with your email address and they can restore the activation code for you. You can also look up your products and keys at https://skylum.com/support.

Install for PC

1. Click the download link in your activation email (sent after purchase).
2. Locate the installer in your Downloads folder. You may need to unzip the installer before running it.
3. Double-click **Aurora_Win_Setup.exe** to launch the installer application and begin the installation process.
4. Choose an installation location or use the default path.
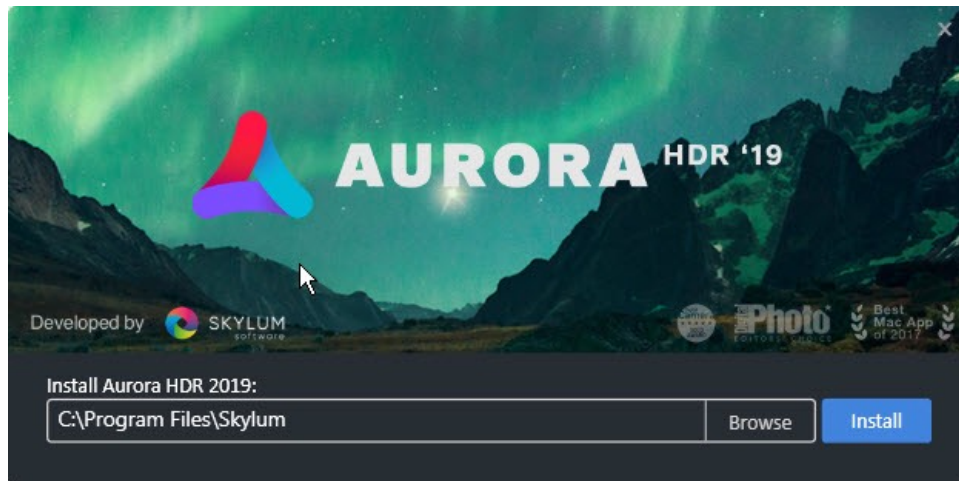

5. Click **Install** to start the installer. You may need to grant the installer permission to proceed.
6. When the installer is complete, leave the checkbox marked for Run Aurora HDR 2019 and click **Finish**.
7. Review and agree to the License Agreement.
8. Enter the email address you used while purchasing the software and your activation key to complete installation and registration. The application is now ready to use.

If you ever lose your activation key, provide our support team with your email address and they can restore the activation code for you. You can also look up your products and keys at https://skylum.com/support.

If Bought from the Mac App Store

Mac users may also choose to purchase Aurora HDR 2019 from the Mac App store. If you have done so, please follow these steps.

1. Launch the Mac App Store.
2. In the Search field type Aurora HDR.
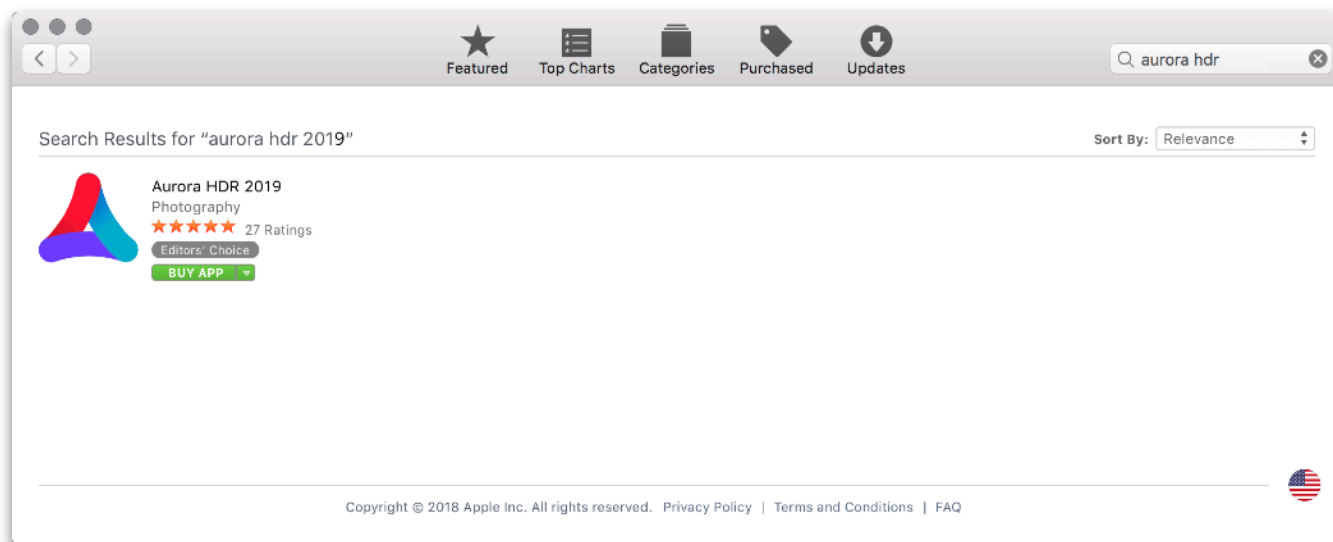
3. Locate Aurora HDR 2019 and click the **BUY APP** button.
4. The Mac App Store may ask you to verify your Apple ID and password.
5. Aurora HDR is downloaded to your Applications folder.
6. In the Finder, choose **Go > Applications** (Shift+Command+A) and locate the Aurora HDR application.
7. Double-click the **Aurora HDR 2019** app to launch and use the application.

If you ever delete the Aurora HDR 2019 application from your computer, you can re-download it from the Mac App Store.

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NOTE

The Mac App Store version of Aurora HDR 2019 doesn't offer the ability to be used as a plugin. To get a version that can, please contact support@skylum.com. Just provide proof of purchase and they will give you a version that can be used as a plugin.

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System Requirements for Mac OS and Windows®

Aurora HDR 2019 Mac

- MacBook®, MacBook Air®, MacBook Pro®, iMac®, iMac Pro®, Mac Pro®, Mac mini®
- Processor Intel® 64-bit Core™ 2 Duo or better
- Memory 8 GB RAM or more
- macOS® High Sierra 10.13, Sierra 10.12.6, El Capitan 10.11.5, Yosemite 10.10.5
- Hard disk 2 GB free space, SSD for best performance
- Display 1280x768 resolution or better
- You can check your system specifications and hardware by choosing > **About this Mac**

Aurora HDR 2019 Windows

- Windows®-based PC with mouse or similar input device
- Open GL 3.3 or later compatible Graphics Cards
- Processor Intel® Core™ i5 or better
- Memory 8 GB RAM or more
- Microsoft Windows® 7, Windows® 8.1, Windows® 10 (only x64-bit OS)
- Hard disk 2 GB free space, SSD for best performance
- Display 1280x768 resolution or better
- You can check your system specifications by opening **Settings** and clicking **About**
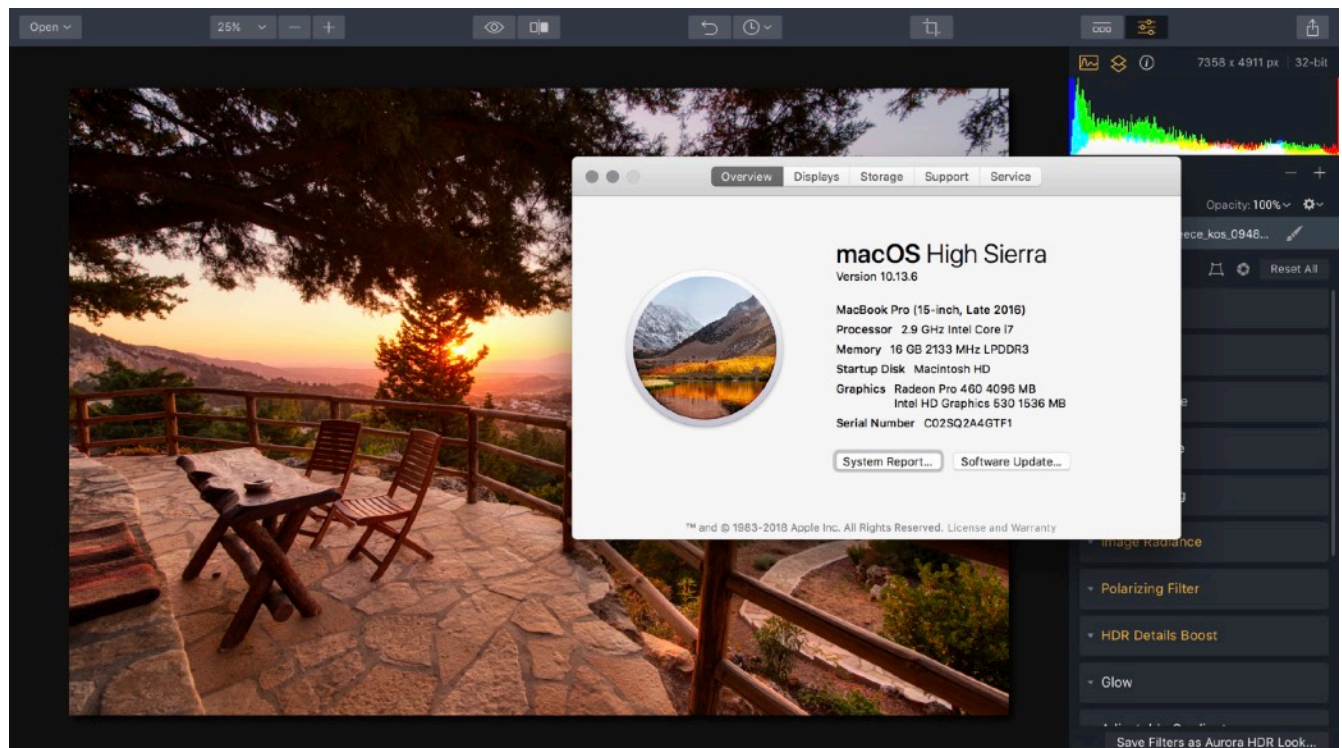

Image by Dima Sytnik

Installing Aurora HDR 2019 as a Plugin

While Aurora HDR is a full featured stand-alone application, some users also choose to install and run it as a plugin for other popular photo editing software. Whether you download it from the Mac App Store or choose to install it as a plugin at a later time, you can easily do so.

1. Make sure Aurora HDR is open.

2. On a Mac, simply choose **Aurora HDR 2019 > Install Plugins...** On a PC choose **File > Install Plugins....**

3. A new dialog box appears to show you which supported host applications are currently installed on your computer.

The host applications supported by Aurora HDR 2019 are:

- Adobe Photoshop®
- Adobe Photoshop Lightroom® Classic CC
- Adobe Photoshop Elements® (Mac-only)
- Apple Aperture® (Mac-only)

4. Click the **Install/Uninstall** button for the apps in which you'd like Aurora HDR 2019 to run.

5. When finished, click **Done** to close the installer window.

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TIP

For Mac-users, (though it's not listed in the plugin dialog box), Aurora HDR can operate as an editing extension in Photos for Mac. This will allow you to use it on your computer as an additional editor within the Photos for Mac application.

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NOTE

For best results, quit the host application, (such as Photoshop) before you install the plugin. You may be prompted to enter your Administrator password to complete the installation.

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Using Aurora HDR 2019 with Adobe Photoshop / Adobe Photoshop Elements

Aurora HDR is a powerful addition to Adobe Photoshop and Photoshop Elements. To apply Aurora HDR as a filter, follow these steps:

1. Make sure Adobe Photoshop or Adobe Photoshop Elements is open.

2. Open an image you'd like to enhance.

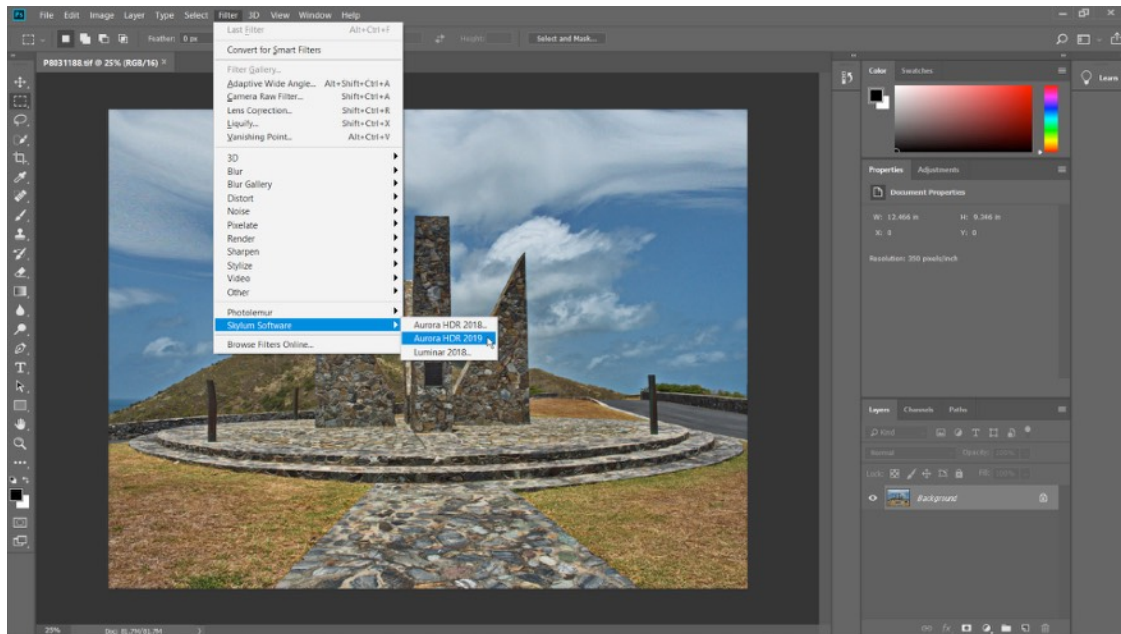3. Choose **Filter > Skylum Software > Aurora HDR 2019...**

Image by Richard Harrington

4. A new dialog box appears to indicate that Aurora HDR is running.

5. Click the **Create HDR** button to process the image in Aurora HDR 2019.

6. Make any edits or adjustments as needed in Aurora HDR. You can use Aurora HDR Looks to speed up your editing workflow.

7. When done, click the **Apply** button to send the adjusted image back to Photoshop.

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NOTE

Aurora HDR 2019 can operate as a Smart Filter in Photoshop. If you designate a Photoshop layer as a Smart Filter, then launch the Aurora HDR 2019 plugin as normal to make edits. When you return to Photoshop you can always double-click on the layer and return to Aurora HDR 2019 with all edits intact.

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Using Aurora HDR 2019 with Adobe Lightroom Classic CC

Images in Adobe Photoshop Lightroom Classic CC can be easily handed off for editing in Aurora HDR 2019. To transfer a file from Lightroom Classic CC to Aurora HDR 2019, follow these steps:

1. Make sure Adobe Photoshop Lightroom Classic CC is open.

2. Choose your image(s) in Lightroom Classic CC from the Develop module that you want to work on in Aurora HDR 2019.

3. Choose **File > Export with Preset** and choose from one of two options.

   • **Open Source Files.** This option sends a 16-bit TIFF file from Lightroom to Aurora HDR 2019 and removes any adjustments that were applied in Lightroom first.

   • **Edit a Copy with Lightroom adjustments.** This option sends a 16-bit TIFF file from Lightroom to Aurora HDR 2019 and includes any adjustments that were made in Lightroom to the transferred file.

4. A new dialog box appears to indicate that Aurora HDR 2019 is running.
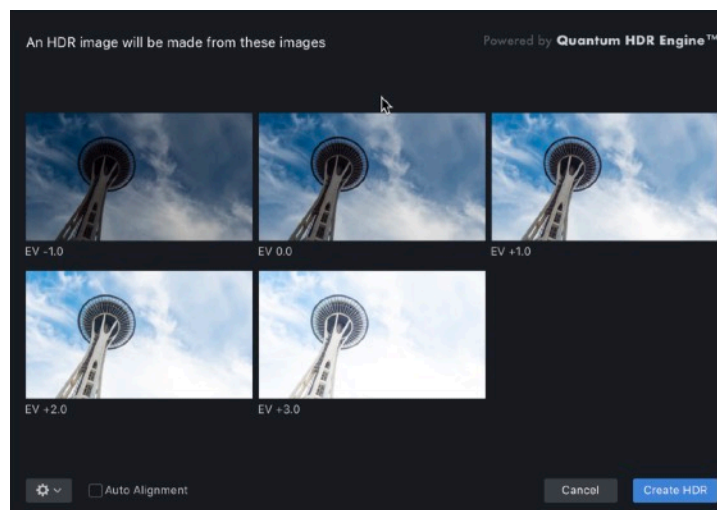
Images by Richard Harrington

5. Click the **Create HDR** button to process the image in Aurora HDR 2019.

6. Make any edits or adjustments as needed in Aurora HDR 2019. You can use Aurora HDR Looks to speed up your editing workflow.

7. When done, click the **Apply** button to send the adjusted image back to Lightroom. A new file is added to your Library and stacked with the original.

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NOTE

If you want to apply Aurora HDR to a single image, you can also access it from the Photo > Edit In > Aurora HDR 2019… menu item. The processed image will be returned to your library.

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Using Aurora HDR 2019 with Apple Aperture

Working with Aurora HDR 2019 through Aperture is very similar to the way it interacts with Lightroom. To transfer a file from Aperture to Aurora HDR 2019, follow these steps:

1. Make sure Apple Aperture is open.

2. Choose your image(s) in Aperture from the Library that you want to work on with Aurora HDR 2019.

3. Choose **Photos > Edit with Plug-in > Aurora HDR 2019...** or right-click the Image and select **Edit with Plug-in > Aurora HDR 2019....**

4. A new dialog box appears to indicate that Aurora HDR 2019 is running.
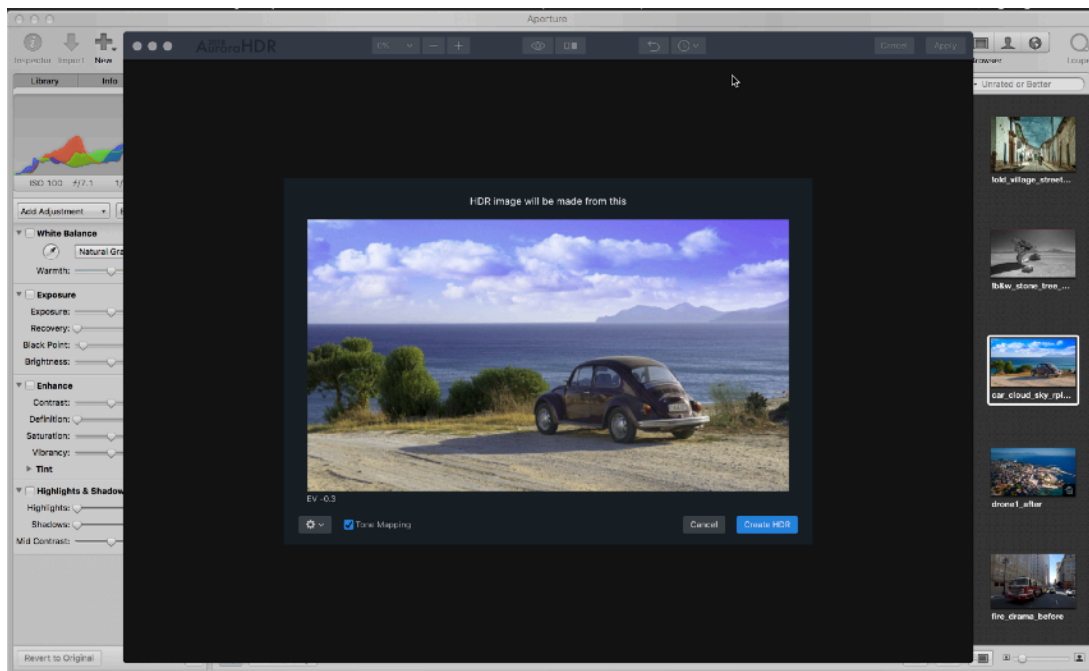
5. Click the **Create HDR** button to process the image in Aurora HDR 2019.

6. Make any edits or adjustments as needed in Aurora HDR 2019. You can use Aurora HDR Looks to speed up your editing workflow.

7. When done, click the **Apply** button to send the adjusted image back to Aperture. A new file is added to your Library and stacked with the original.

Using Aurora HDR 2019 as a Photos for Mac Extension

If the version of the macOS Ⓡ system on your Mac is newer than 10.11, you can use Aurora HDR 2019 as an extension to Photos for Mac Ⓡ. Here's how to activate the extension.

1. Choose > **System Preferences.**
2. Choose **Extensions**.
3. Choose **Photos Editing**.
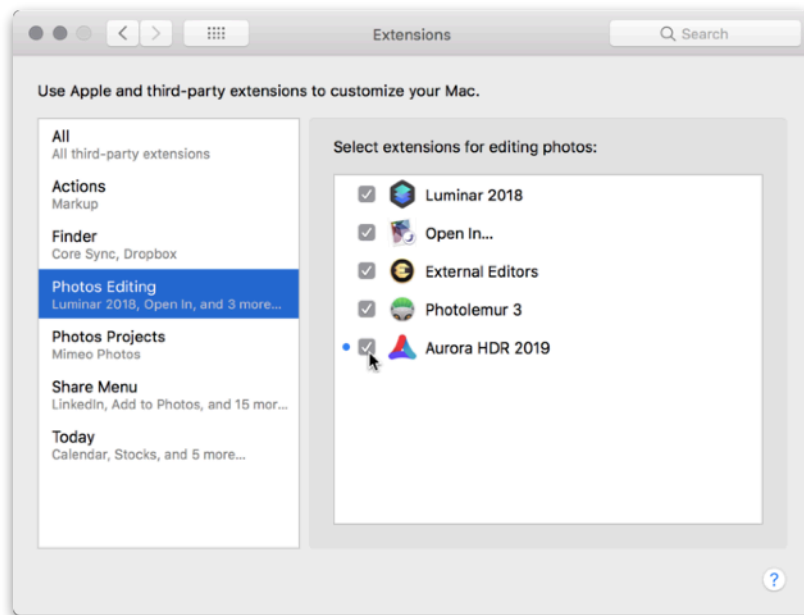
4. Select the extensions that you'd like to use.
5. Launch Photos for Mac from your Applications folder.
6. Choose an image to edit in your Photos library.
7. Click the **Edit Photo** button.
8. Click the **Extensions** button and choose Aurora HDR 2019.
9. Make any edits or adjustments as needed in Aurora HDR 2019. Use Aurora HDR Looks to speed up your editing workflow.
10. When done, click the **Save Changes** button to send the adjusted image back to Photos for Mac.

Starting with Aurora HDR 2019

Aurora HDR 2019 offers many easy-to use as well as powerful controls to adjust and improve your image. The first step of course is opening one or more images within the application.

Aurora HDR 2019 can open a series of the same images shot with different exposures. A series of images with different exposures are commonly known as HDR brackets. Aurora HDR 2019 supports any practical number of images in a bracket. In addition, all versions can open just a single image which is great for enhancing the dynamic range in your photo (especially for raw photos).

How to Open a Single Photo

There are several ways to open images based on your personal preference. Each of these four methods generates the same outcome, so choose the one that works best for you.

1.   First, launch Aurora HDR 2019.

2.   You can now open a supported file format using any of these methods:

   •   At the startup screen, click the **Open Image** button to navigate to and open a file.

   •   Choose **File > Open…** to navigate to and open a file.

   •   To open an image you recently edited, choose **File > Open Recent.**

   •   You can also drag a photo directly onto the Aurora HDR 2019 application in the Mac OS Dock or Windows Taskbar.

3.   A preview of your photo opens in a new dialog box where you may want to make a few selections.
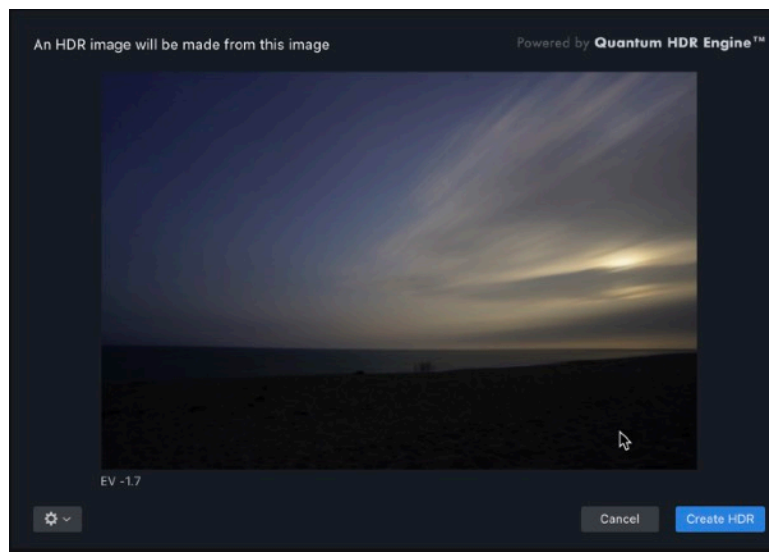
4.   Click the **Settings** icon (gear) to choose from two options that can affect the opened file.

   •   **Color Denoise** Turn this option on to remove lowlight color noise when merging brackets. This option is visible only when opening a raw file. It will also increase the processing time for the image due to the noise removal process.

- **Chromatic Aberration Removal** Use this option to remove the purple or green fringe that can appear along the edges of an image (especially in areas of high contrast or backlight).

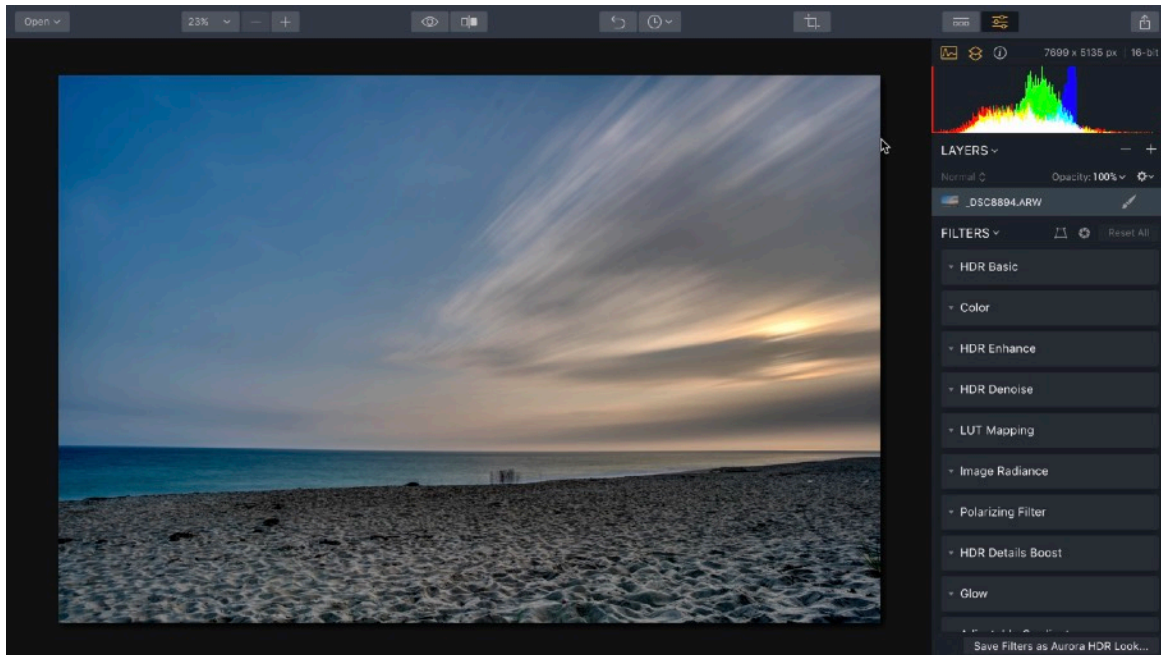5. Click **Create HDR** to open the file and begin editing.

Image by Richard Harrington

Supported File Types

Aurora HDR 2019 is designed to open a wide range of file formats. This ensures compatibility with most cameras as well as common graphic file formats. Supported file types include:

GRAPHIC FORMATS

- PNG
- JPEG
- JPEG-2000
- TIFF (8-bit and 16-bit)
- PSD
- HEIC (Mac-only)

POPULAR RAW FORMATS

- .CR2
- .NEF
- .ORF
- .RAF
- .ERF
- .ARW
- .RW2
- .DNG
- .PEF
- and more

The Purpose of Bracketed Photos

In order to capture all the details in a scene, many photographers turn to bracketing. When using the bracketing option on a camera, (or manually adjusting exposure), the photographer will capture two or more shots.

The most common number of exposures taken is three, in which a base exposure is used and then an under- and overexposed image are acquired to preserve the highlights and shadows. However, any combination of exposures can be used to properly portray the scene. The wider the dynamic range of the scene, the higher the number of exposures needed. If the light source is directly in the frame, you may need as many as seven exposures.

Typically, these multiple exposures are taken from a tripod to ensure that there is no movement between each exposure. However, some users do shoot handheld and rely upon the Alignment option in Aurora HDR 2019 to help them align the images. When you select multiple images in a bracketed set, you will see a preview window with the images you plan to process as well as additional details about those images.
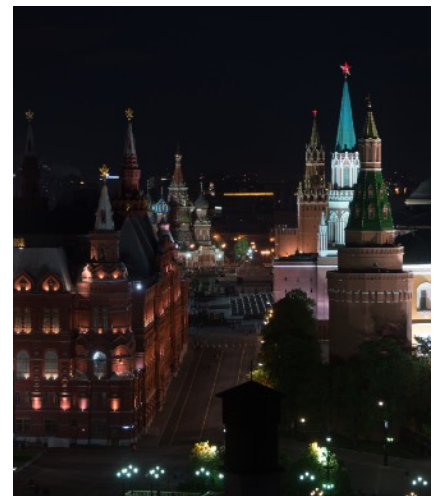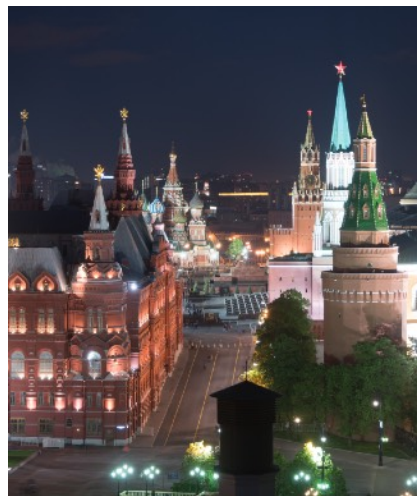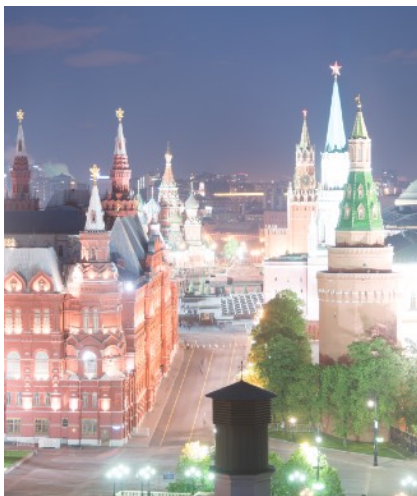
Images by Trey Ratcliff

The image on the left was captured two stops over-exposed (EV +2.0) to preserve details in the darker areas of the image. The middle photo is the base exposure as calculated by the camera. The image on the right was captured two stops under-exposed (EV -2.0) to preserve details in the brighter areas of the image.

Creating the Merged HDR Image

When you have a series of bracketed photos, you can choose to merge them together for a photo with significantly more dynamic range. The Open dialog box allows you to open your own images, (and also includes a set of sample photos). You can also choose to open a folder of images for Batch Processing. (More on this later.)

1. First, launch Aurora HDR 2019.
2. You can now open a supported file format using any of these methods.
   - At the startup screen, click the **Open Image** button.
   - Choose **File > Open…** to navigate to multiple files, select them, and open them.
   - You can also drag a series of photos directly onto the Aurora HDR 2019 application in the Mac OS Dock or Windows Taskbar.
3. Your photos open in a new window where you'll need to make a few selections.
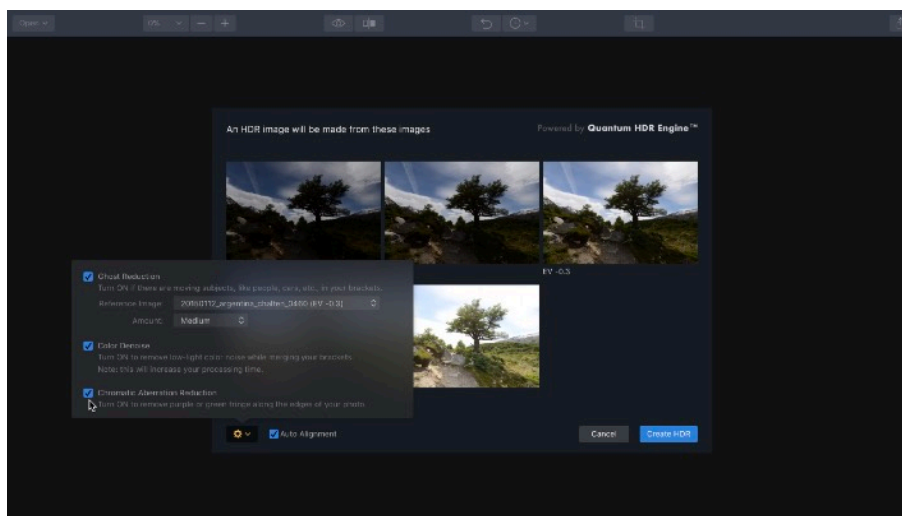4. Click the Settings icon (gear) to choose from three options that affect the opened file.

Image by Dima Sytnik

   - **Ghost Reduction** Ghosting is caused by subject movement, (such as clouds blowing, trees swaying, or people moving). If there is a long time delay between your brackets, you may notice areas of high movement appear to have multiple copies of image details that overlap. This option can remove these repeated details from your final photo.
   - **Color Denoise** Turn this option on to remove lowlight color noise when merging brackets. This option is only visible if opening a raw file. It will also increase the processing time for the image due to the noise removal process.
   - **Chromatic Aberration Removal** Use this option to remove purple or green fringe that can appear along the edges of an image (especially in areas of high contrast or backlight).
5. Use the **Auto Alignment** option if shooting handheld or if you think that there might be slight camera movement between each shot.
6. When ready, click **Create HDR** to merge the brackets together.

Ghost Reduction

If there are moving objects in your HDR brackets – tree leaves, flags, people, etc. – the resulting image can look a bit unusual after the HDR merge process. The moving object may appear as a translucent "ghost." This is simply because the image information is different in each HDR bracket image, (i.e., something has moved through the frame of the photo).

Image by Richard Harrington

*The image on the left was merged without the **Ghost Reduction** option. In areas of high-movement, (such as the nets blowing in the wind), parts of the photo look unusual. Ghost Reduction will increase processing time but should be considered for photos with lots of wind or long delays between brackets such as low-light shooting.*

To minimize this problem, click the **Additional Settings** button which will reveal a pop-over panel for enabling Ghost Reduction. This feature will let you choose a reference image from the bracket. The software will then analyze each of the exposures and compare it to the reference image before merging them into a single HDR image. The result is that any object that changed positions between exposures will be replaced with a static object whose position is selected from one of the images in the bracket.
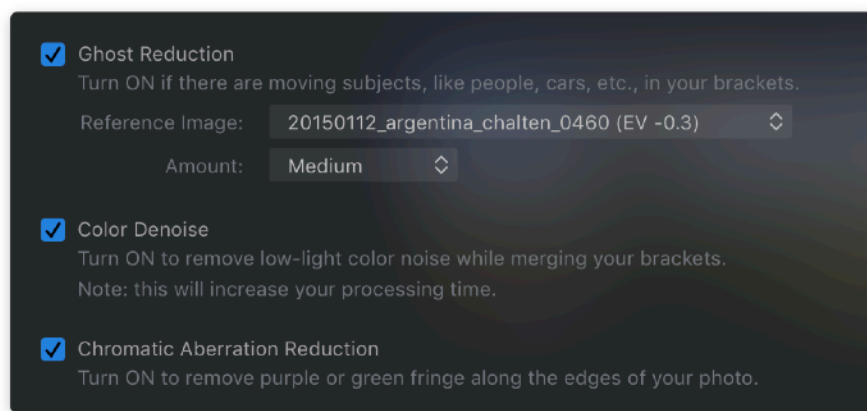
Color Denoise

This feature reduces low-light noise found in color or "chrominance" pixels during the merging process for RAW files. Access this by clicking on the **Additional Settings** button which will reveal a pop-over panel for enabling Color Denoise. There are no additional controls provided when using this option. This option will increase the processing time of your image.

Chromatic Aberration Removal

This feature analyzes the merged HDR image and minimizes any chromatic aberrations which have been detected. These are typically characterized by a slight red or purplish glow along the edges of stark contrasting areas in the image. These optical aberrations, however slight, are always present on any photo and may reduce picture quality. If you think that your image may include red or purple halos, click the **Additional Settings** button which will reveal a pop-over panel for enabling Chromatic Aberrations Reduction. This option will increase the processing time of your image.

Auto Alignment

If the photos in an HDR bracket set were taken by hand (e.g., without a tripod), they may differ slightly in alignment. If the Alignment option is checked, the application automatically aligns all the images before merging them into a single HDR image. Aurora HDR 2019 makes it easy to use images from an HDR bracket series, even those shot without a tripod.
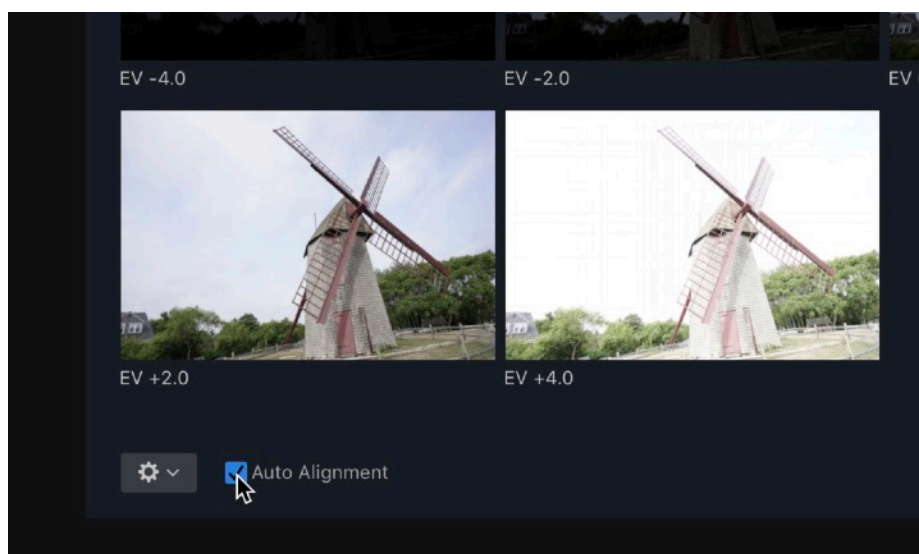
Images by Richard Harrington

If you open an image from an HDR bracket without Alignment, and it is slightly blurred, simply open it again with the **Auto Alignment** option enabled.

ATTENTION!

Each of these three options can slow down the creation of your HDR image because they require significant computing resources to analyze the images. In the case of Ghost Reduction, it is also worth noting that this feature may not always work as expected while attempting to obtain a single static image from a series of moving images. Keep this option off and use it only when you need to fix apparent problems with ghosting.

User Interface Overview

Working with Aurora HDR 2019, you'll access controls from three primary areas. The **Top Toolbar** contains general-purpose and frequently used functions of the software. The **Side Panel** is located to the right of the main image display; all adjustment tools, layers and the histogram can be found here. You can also save time with the **Aurora HDR Looks Panel** which offers one-click Aurora HDR Looks at the bottom of the screen.
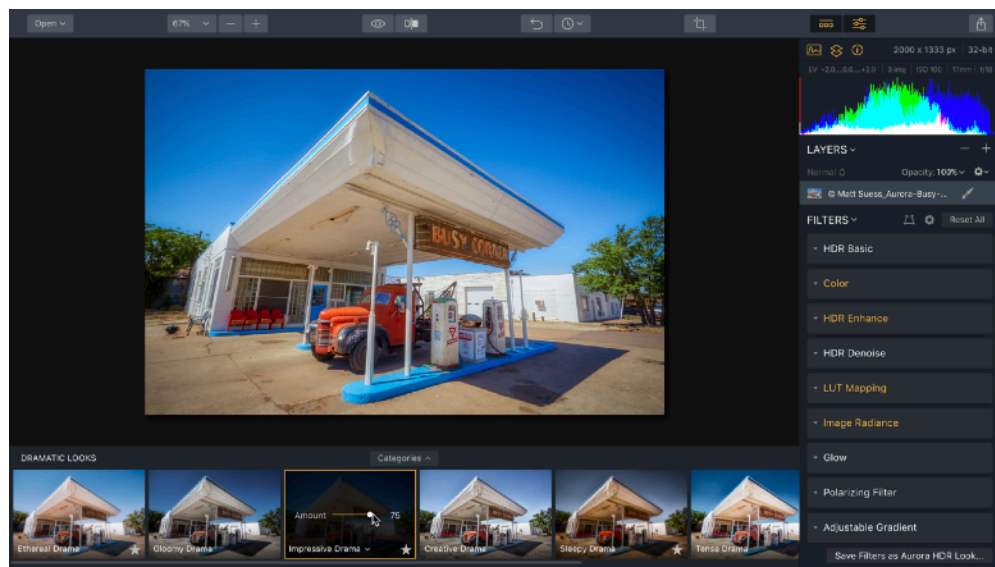

Image by Matt Suess

Top Toolbar

As you work with an image, the top toolbar contains many commands that you'll frequently use. These are grouped logically for easier use.

Open Images / Batch Processing Button

The first button is a drop-down menu that controls how files are opened. You can choose to open files to process one image or bracket set, or choose the Batch option to process multiple images using similar settings. Click and hold down the button to choose between two options.

- **Open –** This choice is used to load new images for processing. The shortcut keys are Cmd+O (Mac) or Ctrl+O (PC).

- **Batch Processing –** The second option opens up the Batch Processing dialog box. This is a way to process multiple images at one time. The shortcut is Cmd+B (Mac) or Ctrl+B (PC).

Zoom Buttons

These next three buttons are used for changing your view of the image size in the canvas. If you view from left to right, the buttons are the following.

- **Zoom Level –** Choose from several preset zoom levels or select Fit to Screen to see the entire image at once.

- **Zoom Out –** This option reduces the view size of the displayed image. The shortcut keys are Cmd+- (minus) (Mac) or Ctrl+- (minus) (PC). You can see the current zoom level at the bottom of the canvas.

- **Zoom In** – This option increases the view size of the displayed image. The shortcut keys are Cmd+= (equals sign). (Mac) or Ctrl+= (equals sign) (PC).

TIP

You can also use keyboard shortcuts to control the display of an image on-screen. To view an image at its original size, press Cmd+1 (Mac) or Ctrl+1 (PC). This sets the image to a 100% magnification showing the pixels in actual size. To see the entire image in the canvas at once, try the Fit to Screen command. Press Cmd+0 (Mac) or Ctrl+0 (PC) to automatically scale a photo to fit the canvas.

Comparison Buttons

These buttons allow you to compare your enhanced image with the original default image, so you can easily compare how your enhancements change the original image.

- **Quick Preview** – The eyeball icon can quickly toggle between the original image and the current version. Another way to see this change is to use the keyboard shortcut \ (backslash). This allows you to quickly compare the current image with the original. This is the fastest and most convenient mode of comparison.

- **Compare Button** – This button activates a comparison where the image is divided by a vertical strip or "curtain". The original image (Before) is displayed on the left, and the current result (After) is on the right. This vertical strip can be dragged left or right, so you can view the differences in the picture. Another way to see this view is to use the keyboard shortcut ; (semicolon).

Undo / History Buttons

The next two buttons control the Undo command as well as let you view an image's history. These two buttons give you complete control over reverting to an earlier state of an image.

- **Undo** – The Undo Button (left arrow) cancels the last action (for example, changing the slider). You can hold down the **Option/Alt** key and click the **Undo** button to revert an image to its original state.

- **History Panel** – The History panel will quickly become an essential part of your workflow. It's here that Aurora HDR 2019 keeps a list of what you have done to the image since you opened it. There are multiple undos which provide an easy way to go back in time.

  Simply click an earlier History State to revert the photo back to that state.. History states are also saved with an image when you store it in the native Aurora HDR 2019 (.**mpaur2**) file format. This allows for a nondestructive editing workflow and let's you revert to an earlier version of the image. Saving the history with your document preserves future editing and undos, but can increase the file size.
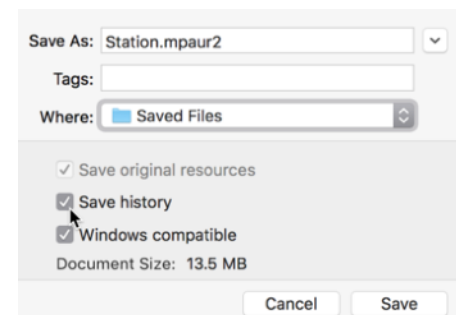
Crop Button

The next button activates the crop tool. This makes it easy to change the composition of your image as well as a viewer's perception of an image. You can choose to tighten the area of interest which allows you to de-emphasize (or even eliminate) parts of a photo and improve the image by better framing the subject. An additional benefit is that the crop tool can also be used to align (straighten) the horizon in an image it is not horizontal. We'll discuss cropping again in a later chapter.

View Aurora HDR Looks Panel/Side Panel Buttons

The next two buttons affect which controls are visible. You can choose to hide options like the Preset Panel and Side Panel to make a larger preview image.

• **Show/Hide Aurora HDR Looks Panel –** The Preset Panel on the bottom of the Aurora HDR 2019 workspace is where you'll find all of your Aurora HDR Looks. These include those created by the Aurora HDR 2019 team as well as your own custom Aurora HDR Looks. To hide the **Preset** Panel, just click the button to toggle visibility or press the **Tab** key to hide both the **Side** and **Aurora HDR Looks** Panels.

• **Show/Hide Side Panel –** The Side Panel on the right side of the Aurora HDR 2019 workspace is where you'll find the Histogram, Layers, and Filters controls. This area is a fixed width and is always displayed on the right. To hide the Side Panel, just click the button to toggle visibility or press the Tab key to hide both the Side and Preset Panels.

Share/Export Button

The last button in the top Toolbar is used to export an image from the application and save it as a graphic file. The same image can also be shared with other editing software from Skylum (and others) or shared via email.

Side Panel

The **Side panel** gives you access to three important sets of controls. The **Histogram** is a useful tool for judging exposure and details. **Layers** lets you work with multiple objects to create a composite image or to isolate effects or textures to their own place. The **Filters** section gives you precise control over each filter applied to a layer.
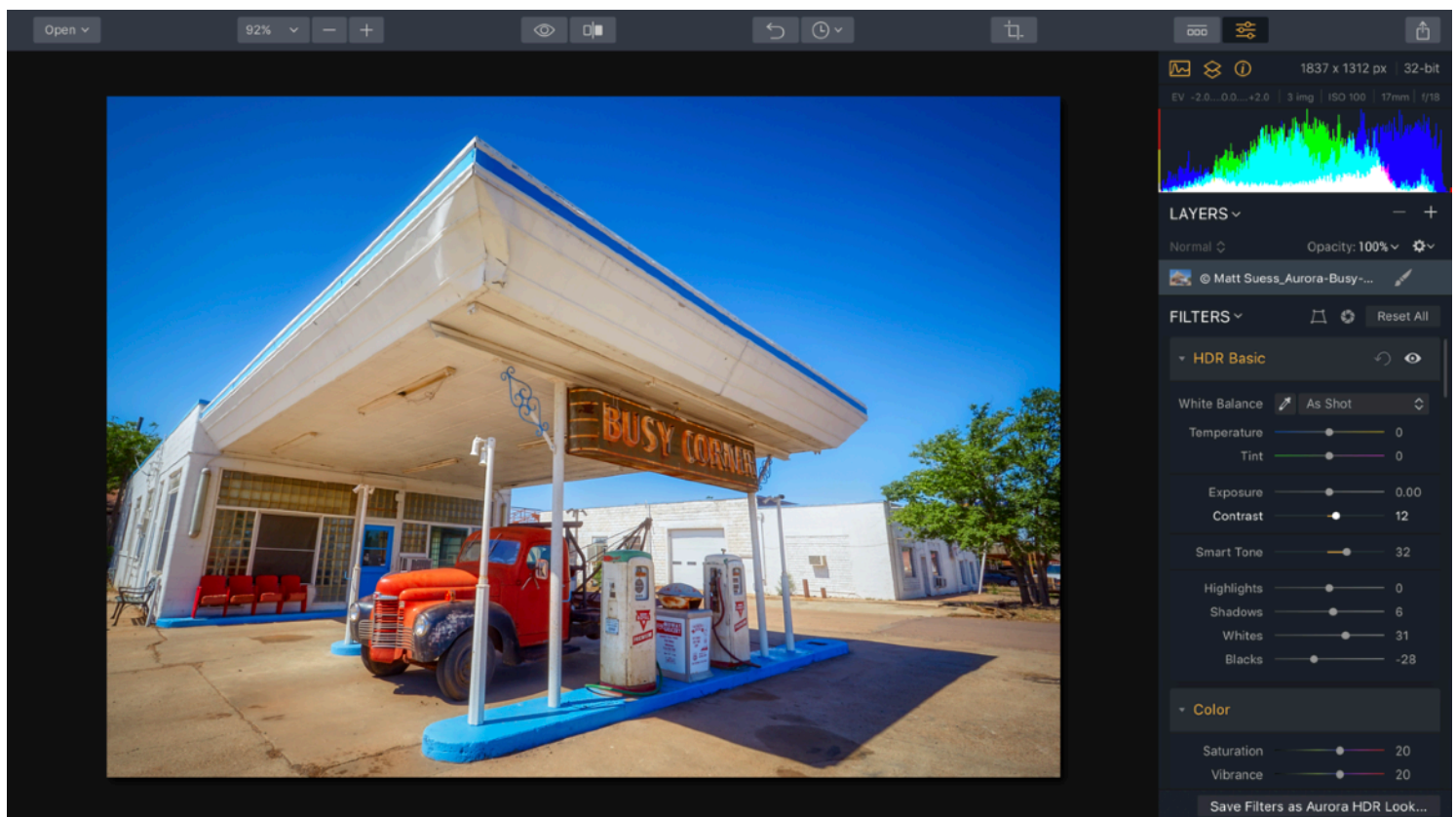

Histogram /Layers / Info Buttons

At the top of the side panel are three buttons that provide advanced controls over your images. If you are just getting started with Aurora HDR 2019, you might leave these three options inactive. However, as you grow more comfortable with editing tasks or are looking for maximum flexibility and control, be sure to explore them.

HISTOGRAM

While color correcting or adjusting exposure, the histogram can be a great help. A histogram is a graphical representation of the tonal values of your image. This graph illustrates how the pixels in the image are distributed across brightness levels. In other words, it shows the amount of tones of a particular brightness found in your photograph, ranging from black (0% brightness) to white (100% brightness). Ideally, well balanced images will have tonal values across the entire range of the histogram.
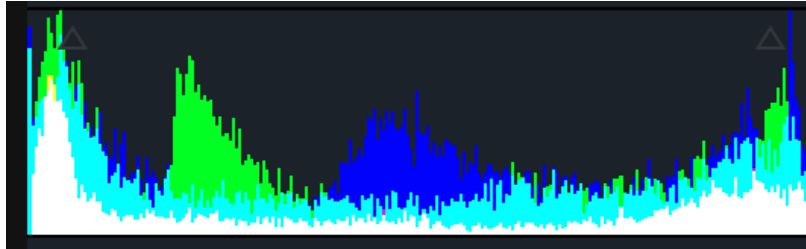

To read a histogram, start at the left edge, which shows the shadow regions. The middle shows the midtones (where most adjustments to an image are made), and to the right are the highlights.

The histogram is able to displays Red, Green and Blue channels separately or by default shows all of them at once. Click on the Histogram to switch between seeing a composite Histogram or just viewing details about the Red, Green, and Blue channels (which can be useful for spotting tint issues and color casts). You can also see a grayscale average for luminance.

Additionally, clicking the two small triangles in the upper left and upper right corners will show cold and hot pixels respectively. These are pixels that have shifted or exposed to become absolutely black or white pixels. This is generally undesirable as it causes a loss of detail.
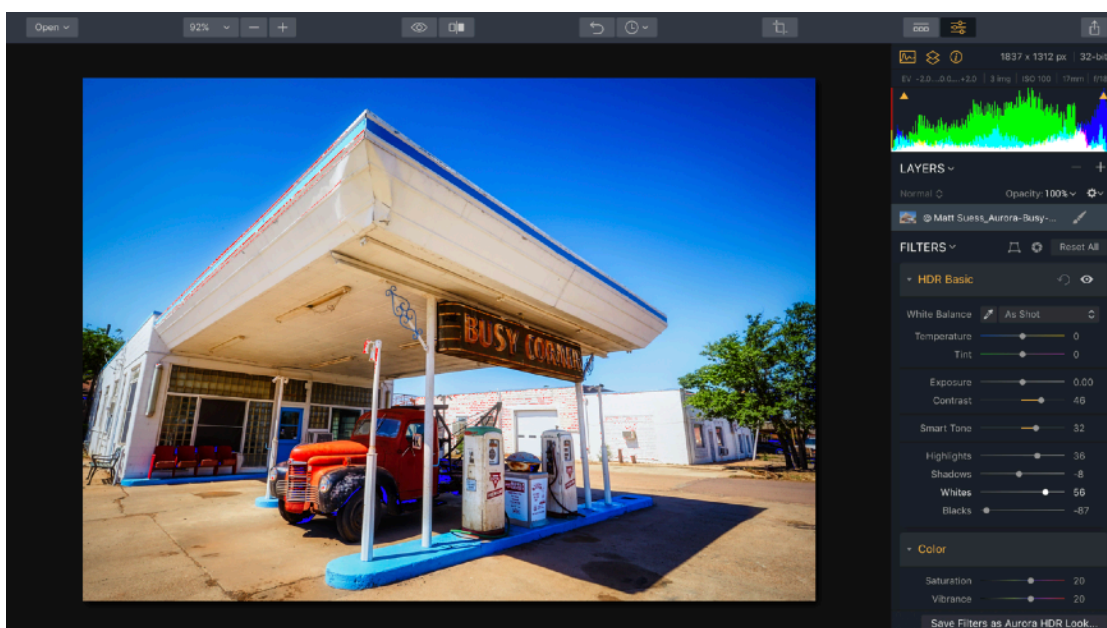
- **Cold Pixels –** To enable or disable the display mode of absolutely black pixels, click the triangle on the left and the histogram is clipped on the left side. Absolutely black pixels will be displayed in bright blue in the image. Cold pixels (in blue) indicate areas where black has achieved maximum concentration (a zero value).

- **Hot Pixels –** Clicking the triangle on the upper right will show where your image is completely white, where the histogram is clipped on the right side. Absolutely white pixels are displayed in red.

In both cases this can be problematic (especially for printing) as there is too much ink coverage for cold pixels and no details at all in the hot pixels. These indicators are a sign that you should adjust the exposure of the image. You may want to leave the Histogram panel open as you work, because it is an easy way to learn to read the graphical details of a digital image.

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NOTE

The use of the HDR Basic filter is an excellent way to take control of the Black and White points as well as the Shadows and Highlights of an image. We'll explore filters more in later chapters. Pressing the J key will also toggle the clipping indicators On or Off if you want to see the pixels underneath.

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LAYERS

Layers are a powerful way to "build up" your images with different enhancements and use of blending modes and masks on each layer. Using layers, you can apply corrections or enhancements on different layers and experiment until you achieve exactly the look you'd like for your image.

- **To create a new layer,** click the **+** button in the Layers Toolbar header. A small pop-up menu will appear giving you the option of creating a layer using one of three options.

  - Use an **Adjustment Layer** to create a layer to which you can apply a Look or any other adjustment in the Filters panel.

  - The **Add New Image** option will show a standard Open File dialog, allowing you to create a new layer with a texture file or another image that you've chosen.

  - Use the **Add New Original Image** option to place a copy of the merged HDR image onto the layer. This can be useful for masking in areas or blending two copies of an image together.

- **To remove the layer**, select the layer and click **–** in the **Layers** Toolbar.
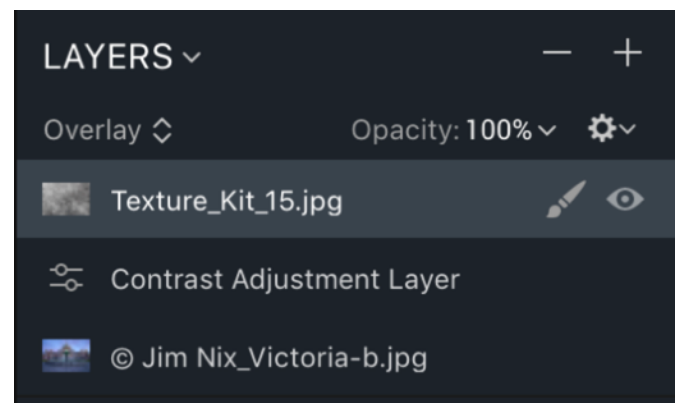
- **To change the blending mode of the layer**, set the Layer Blending mode in the drop-down list, (under the word Layers) or in the fly-out menu indicated by the Gear icon (underneath the + icon). You cannot set the blending mode for the first layer because it is not mixed with anything - it is the baseline image. See more on blending modes in the chapter *"Working with Layers."*

- **Layer Transparency Setting** Click the drop-down menu with percentages near the word Opacity. Drag the slider to customize the opacity for the selected layer. Opacity controls how opaque a layer is (and is the opposite of transparency).

- **Access Advanced Settings and Functions of a Layer.** Click on the **Gear icon** (below the + icon). A context menu appears with additional features to apply to the layer.

- **Change the Order of Layers.** All layers (except the first) are movable. Click and drag a layer to move it to a new location. Changing the stacking order of layers can affect the order of operations, (how images are developed) which can change its appearance.

- **Show / Hide the Layer.** Click the **Visibility** (eyeball) icon on the left side of a layer to toggle it between visible and hidden.

You'll learn more about layers in the chapter "Working with Layers."

INFO

The Info Bar provides basic information about the file and can help you better understand your HDR image, as well as the zoom percentage. This information is divided into several sections and displays the following information (from left to right):
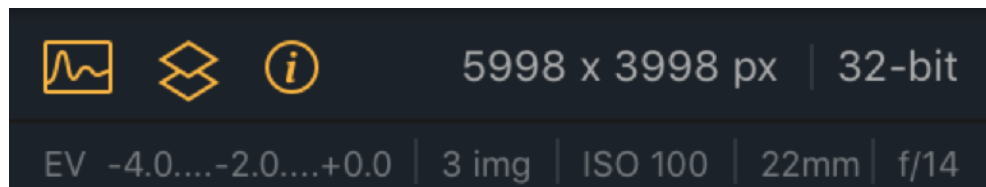
- **Resolution** The current resolution of the image in pixels.

- **Bit Depth** Aurora HDR 2019 operates in 32-bit per pixel mode to provide the highest image quality when working with bracketed sets. Single images are opened in 16-bit mode.

- **Exposure Value** The indicator of the current HDR dynamic range. This indicator shows the exposure value ("EV") of the darkest bracket, then the EV of the middle bracket and finally the EV of the brightest bracket, each separated by an ellipses.

- **Bracket Count** The number of images used for the assembly of the HDR.

- **ISO** The ISO setting used for the images when captured.

- **Focal Length** The focal length of the lens used when shooting.

- **Aperture** The f-stop used on the lens when the images were captured by the camera.

Transform & Lens Correction

Aurora HDR 2019 offers powerful corrections to adjust the shape of your photo. There are many reasons why an image can show distortion including the type of lens used and the position of the camera versus the subject. Compensating for these issues makes it easier to quickly straighten images and remove distractions caused by perspective issues or camera position.
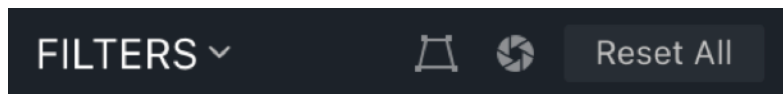
- **Transform Tool** You can easily scale, rotate and shift your image to better fit your vision. This gives you full control over the position of your photo or any texture layer.

- **Lens Correction Tool** The Lens Correction tool easily fixes all kinds of lens distortion, from barrel and pincushion to chromatic aberration and vignetting. This can help compensate or totally remove the visual artifacts caused by your lens.

You'll learn more about the Transform and Lens Correction adjustments in the chapter *"Crop & Transform a Photo."*

Filters

Filters are how you can adjust the exposure, color, contrast, and style of your image in Aurora HDR 2019. The proper use of filters can significantly improve your image. Each filter is designed to solve specific problems or enhance an image in a particular way. The Filters section of the Side panel contains 15 control groups which allow you to achieve the best possible image results. Each of the groups contain sliders and controls related to the filter.


Image by Jim Nix

Aurora HDR 2019 contains the following filters:

- **HDR Basic –** General settings related to the Tone Mapping and compression of the image for the original image layer
- **Color –** Color settings such as saturation, temperature and tint
- **HDR Enhance –** Adjusts the clarity, structure and micro-contrast of the image, leading to a more "crisp" result
- **HDR Denoise –** Reduces noise and artifacts in the image created by the HDR image merge process, as well as making the overall image smoother
- **LUT Mapping –** A Lookup Table (LUT) allows you to apply preset color recipes to aesthetically adjust your image or to apply technical color calibration.
- **Image Radiance –** Provides for an overall "dreamy" look to your image by softening image luminescence, and increasing contrast & saturation
- **Polarizing Filter –** Provides more color depth and cuts atmospheric haze, resulting in richer, bluer skies
- **HDR Detail Boost –** Increases image detail globally or in highlights and shadows.
- **Glow –** Provides a glow effect to the image, primarily in highlights
- **Adjustable Gradient –** Permits separate adjustments of exposure, shadows, highlights, contrast and vibrance in the upper and lower areas of the image.
- **Tone Curve –** Represents the tonal range of the image along a diagonal line which can be adjusted by clicking and dragging May be adjusted globally or by RGB channels
- **HSL –** Adjusts the hue, saturation and luminance of a particular color channel
- **Color Toning –** Shadows and highlights color tinting for stylized visual effects.
- **Dodge & Burn –** Selectively lighten or darken areas of your image with brush strokes.
- **Vignette –** Provides a vignette effect for finishing images to a professional level

You'll learn more about each filter in the chapter "Using Filters."

Aurora HDR Looks Panel

The Aurora HDR Looks panel contains all of the one-click Aurora HDR Looks available in Aurora HDR 2019. These Aurora HDR Looks can be applied to any open image or to a new Adjustment layer. To apply a Look, simply click on its thumbnail. To adjust the intensity of an effect, use the Amount slider to lower the Opacity of the adjustment. We'll explore Aurora HDR Looks in depth in the next chapter.
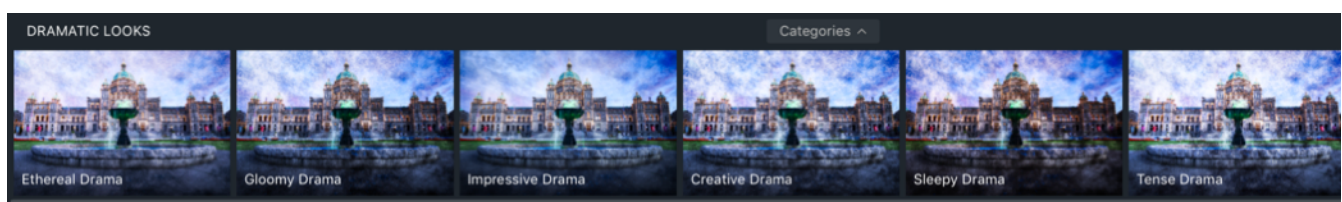
Working with Aurora HDR Looks

Aurora HDR Looks allow you to make instant changes to your HDR image with one click of a button. Each Aurora HDR Look is made up of all the saved filters as well as the settings used for each of those filters. A different Aurora HDR Look can be applied to each layer, which can make for some creative results!

Applying an Aurora HDR Look

In order to save time when developing your image, you'll find an extensive collection of Aurora HDR Looks. Professional photographers from around the world have helped us to create a comprehensive group of Aurora HDR Looks that give your images amazing enhancements in a single click.

To apply an Aurora HDR Look:

1. Make sure an image is open in Aurora HDR 2019.

2. If the **Aurora HDR Looks Panel** isn't visible, click its button in the top toolbar. The Aurora HDR Looks Panel will open at the bottom edge of the screen. You can click the **Aurora HDR Looks Panel** button in the top toolbar to toggle between displaying and hiding the filmstrip bar at the bottom of the window.

3. Examine the Aurora HDR Looks available by exploring their thumbnails at the bottom of the page. Each offers a live preview of what the image would look like with the Preset applied.

4. Click on an Aurora HDR Look thumbnail to apply it. All the settings of the current Aurora HDR Look are immediately applied to the image. A gold frame highlights the current Aurora HDR Look.

5. You can quickly switch Aurora HDR Looks by clicking on a new thumbnail. To view all the Aurora HDR Looks in a given category, simply use the arrow keys on your keyboard or the horizontal scrollbar located at the bottom of the Aurora 2019 window.

6. If you hover your mouse over an. Aurora HDR Look, an **Amount** slider is revealed with the default set at 100% opacity. By dragging the Amount slider located within the Aurora HDR Look name, you can lower the intensity of the effect on your image.

7. Click the Star icon on a Look thumbnail to add it to your **Favorites** list for easy access.

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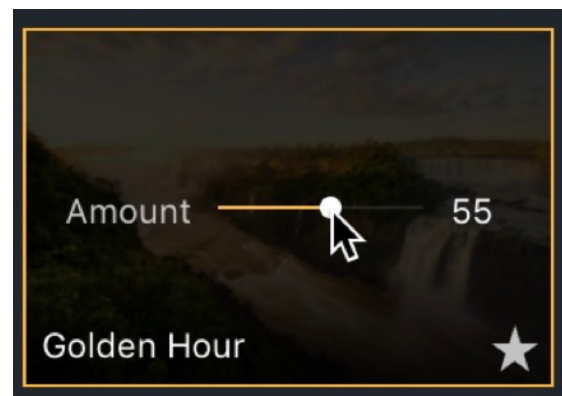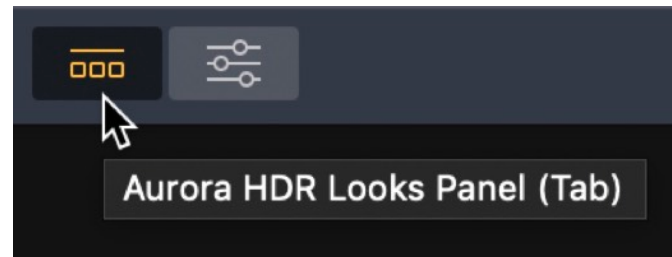
TIP

*If you want to apply an Aurora HDR Look to a new adjustment layer, click the **New Overlay Look** button in the upper-right corner of the. Aurora HDR Looks panel. This applies the Aurora HDR Look to a new adjustment layer. This makes it easy to mask the layer, adjust its opacity, or change blending modes. This is a useful way to use one Aurora HDR Look on part of the image, (such as the sky) and another on the rest, (such as the ground). Be sure to read more about masking and blending modes for greater control.*

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Loading Additional Aurora HDR Looks

There are many Aurora HDR Looks included with Aurora HDR 2019. To make it easy to manage these Aurora HDR Looks, you'll find that they are organized into several groups and categories.
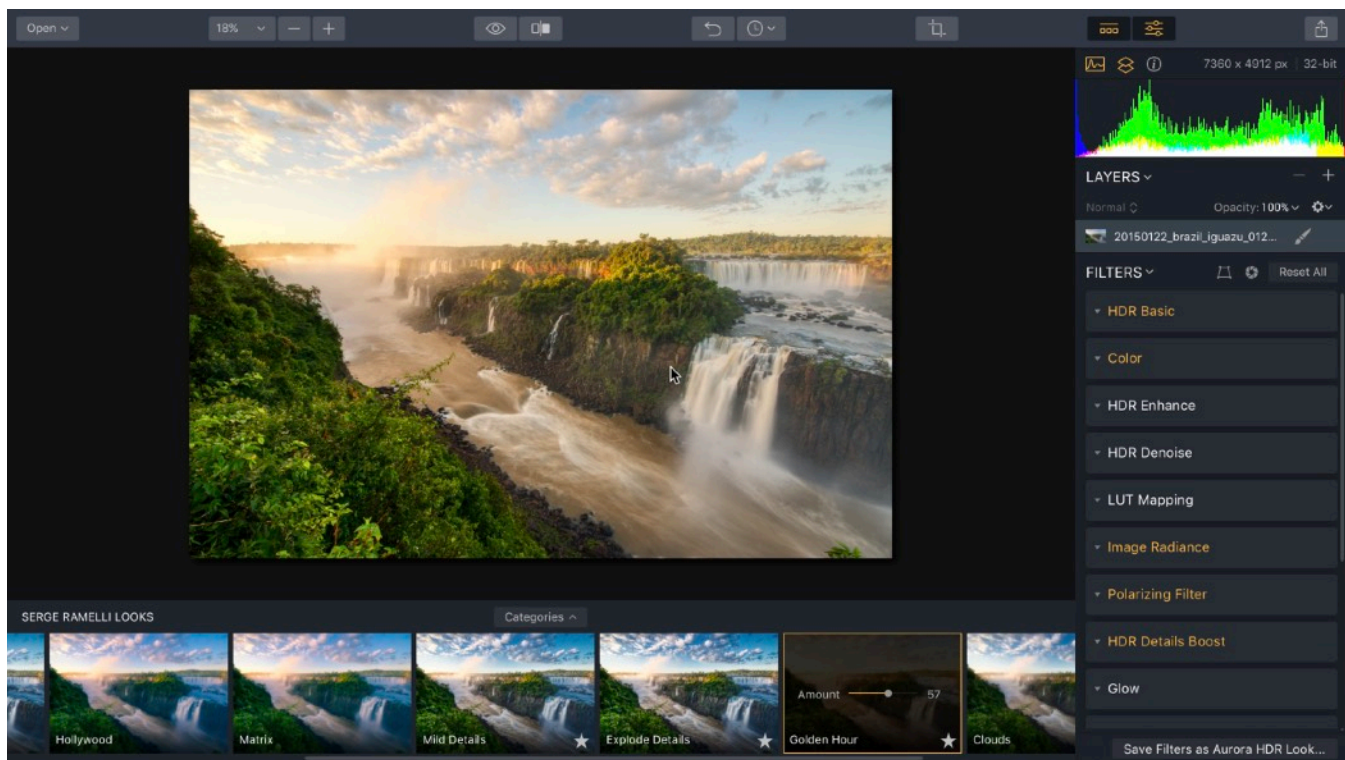

Image by Dima Sytnik

Choosing a Group

Looks are organized into three major groups. To view these options, click the **Categories** menu at the top edge of the Looks Panel. You'll now see several groups (as well as categories) to choose from, including:

- **All Aurora HDR Looks** shows you both Aurora HDR Looks created by the Skylum team as well as any that you've saved or imported. These are listed in alphabetical order.

- **Favorite Aurora HDR Looks** are the Aurora HDR Looks that you tagged with a star. (Just click the hollow star on each thumbnail. Use these Aurora HDR Looks to create a consistent edit across a series of images or to keep a shortlist of your favorite adjustments. To remove an Aurora HDR Look from the favorite's list, click the star again.
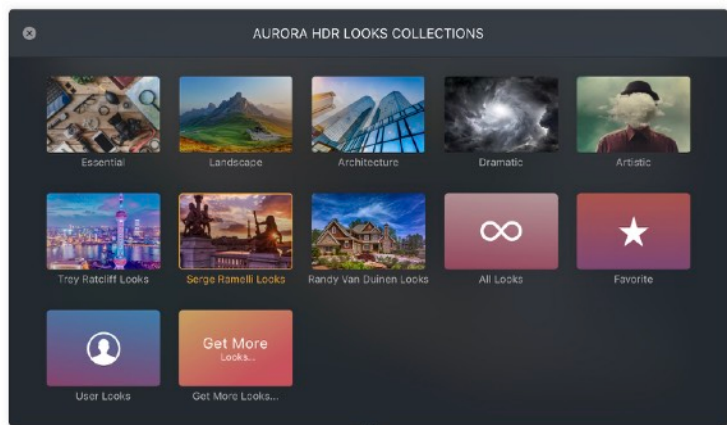
Choosing a Category

Presets are also organized into categories to help sort them by style. These categories include Aurora HDR Looks created by Skylum and professional photographers. To view by category, click the **Collections** menu at the top of the Aurora HDR Looks panel. You'll now see several collections to choose from including:

- **Essentials** – versatile, built-in Aurora HDR Looks suitable for all kinds of images

- **Landscape** – suitable for nature and landscape images

- **Architecture** – suitable for architecture, cities, and urban landscapes

- **Dramatic** – a set of creative Aurora HDR Looks for stylized photos

- **Artistic** – a collection of creative Aurora HDR Looks to stylize your photos

- **Trey Ratcliff Looks** – signature Aurora HDR Looks by Trey Ratcliff

- **Serge Ramelli Looks** – signature Aurora HDR Looks by Serge Ramelli

- **Randy Van Duinen Looks –** professional Aurora HDR Looks for architectural photography

Customizing Aurora HDR Looks

Remember, an Aurora HDR Look is merely a starting point. Different photographers will desire different visual styles. Plus, an Aurora HDR Look may work great on some photos, but need a little tweaking for others. Once you select an Aurora HDR Look, you have the ability in the Side Panel to use Filters controls to modify that Aurora HDR Look to fit your specific image.
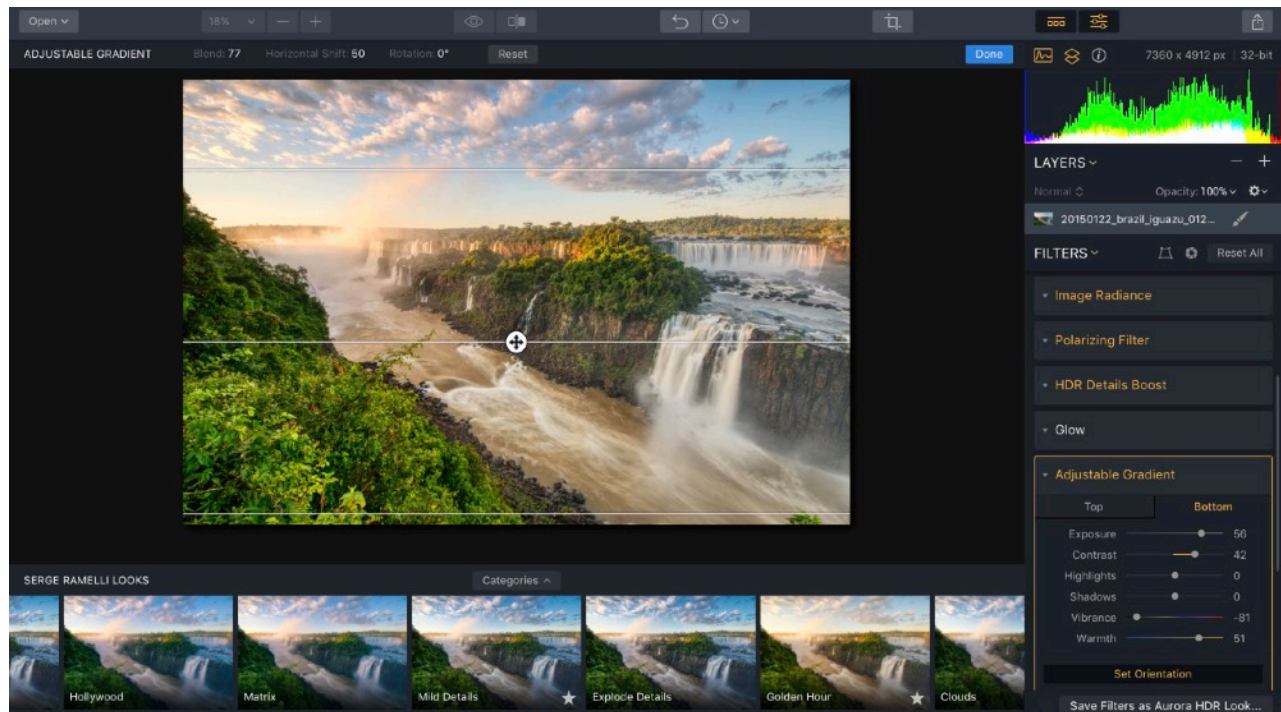
## Saving Custom Aurora HDR Looks

As you adjust Aurora HDR Looks or build your own recipes from scratch, you may find a particular combination that you like. Custom Aurora HDR Looks can function as the jumping off point for your own look and style. An Aurora HDR Look can store a lot of control in an easy, one-click effect.

1. Adjust an existing Aurora HDR Look or add your own effects to an image.

2. Click the **Save Filters as Aurora HDR Look** button at the bottom-right of the Filters controls.

3. A dialog will pop-up at the top of the window asking you to name your Look. Give it a descriptive name to help you remember what situations a Look is useful for.Click the **Create New Aurora HDR Look** button to store the Aurora HDR Look. Once you've added the Look, it will appear in the **User Aurora HDR Looks** group.
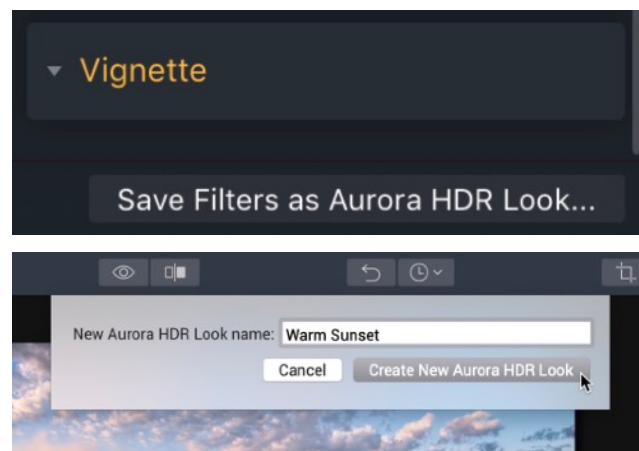
Modifying Custom Looks

There are additional features for user Looks that are not available for built-in Looks. To access the menu for a user Look, click the small triangle next to a Look's name while hovering over the Look's thumbnail image.
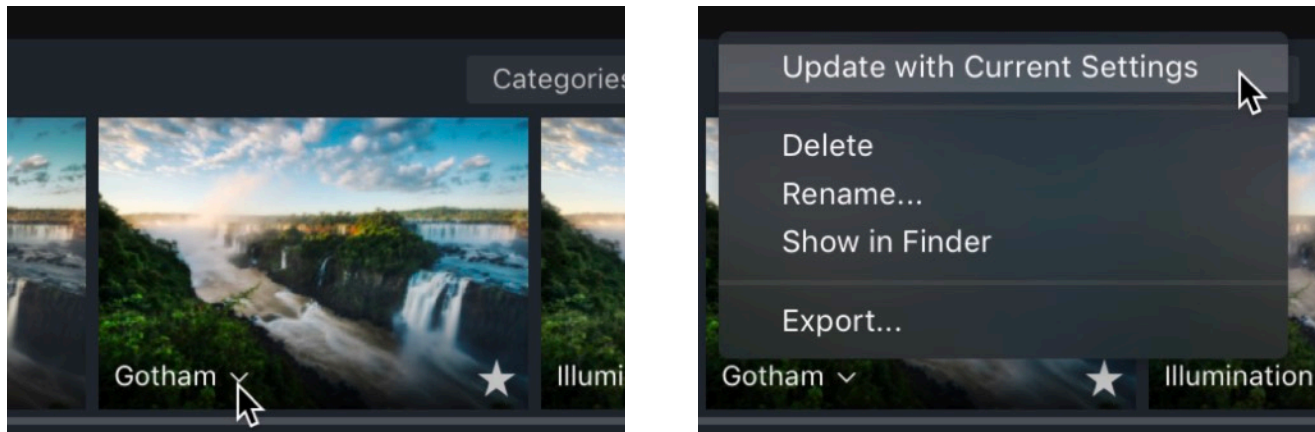
- **Update with Current Settings –** Overwrites or re-saves the Aurora HDR Look using the current state of the sliders in the Filters controls.

- **Delete –** Deletes the current user Aurora HDR Look.

- **Rename –** Renames the current Aurora HDR Look.

- **Show in Finder –** Opens a Finder (Mac) or File Explorer (PC) window for the currently selected Aurora HDR Look file. This allows you to copy the Aurora HDR Look and pass it on to someone else.

- **Export –** Saves the current Aurora HDR Look file to a location of your choice.
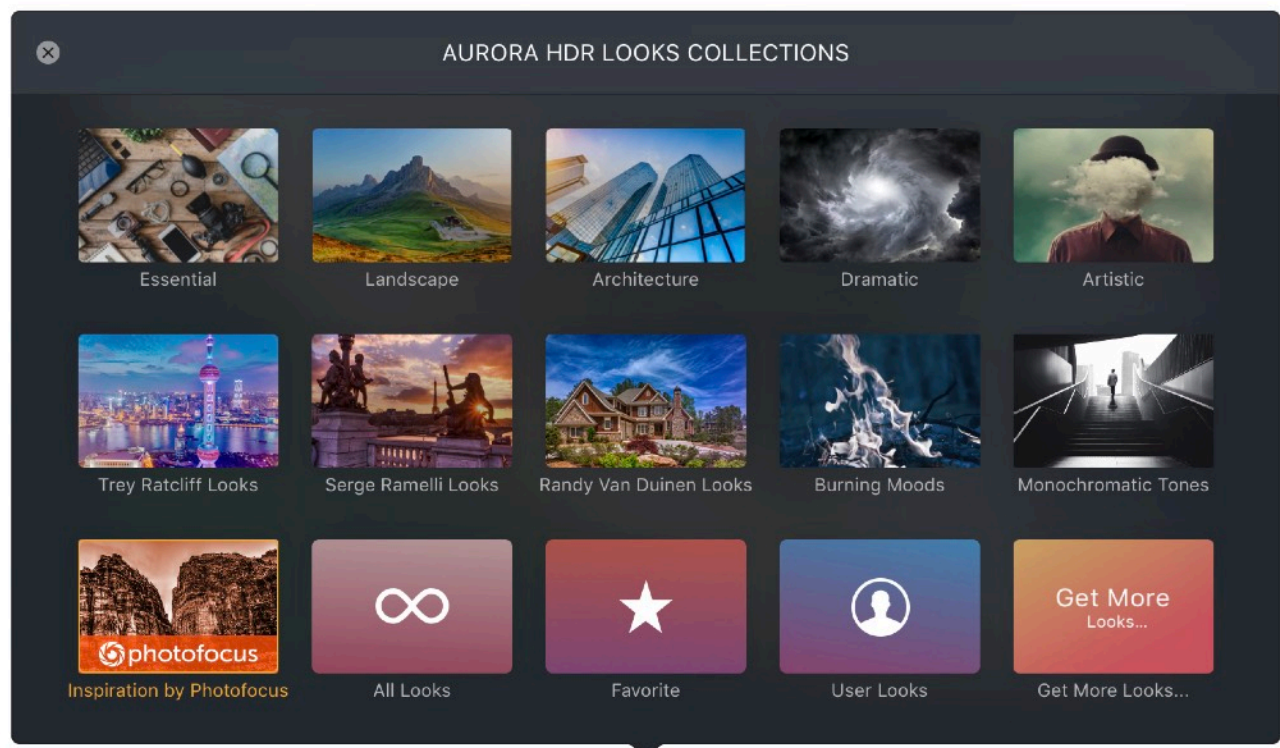
Sharing a Custom Look

Any Aurora HDR Looks you make can be shared with other users, manually backed up to a new location, or copied to a new computer. You can freely export your own Aurora HDR Looks and import another person's Looks into your application.

1. To view any Custom Aurora HDR Looks simply chose **File > Show Aurora HDR Looks Folder…**. Aurora HDR 2019 Looks have the file extension **.maup**.

2. Select the Aurora HDR Looks you want to share, then send them to fellow Aurora HDR 2019 users.

3. To copy Aurora HDR Looks on another machine, just choose **File > Show Presets Folder…** on the other computer.

4. Simply drag the new Aurora HDR Looks into your Aurora HDR Looks Folder. All Aurora HDR Looks in this folder should appear in the Custom category and the All Looks category.

5. For best results, restart Aurora HDR 2019 to load all the new Aurora HDR Looks.

NOTE

*You can take precise control over your Custom Aurora HDR Looks with the **File>Show Looks Folder...** command.*

- *To export, you can simply copy files from this folder.*
- *To import, just copy the files into the new Aurora HDR Looks folder.*
- *To delete an Aurora HDR Look, you can simply delete the Aurora HDR Look file in the folder.*

Adding a Custom Looks Pack

Occasionally Skylum or other professional photographers will release a collection of Aurora HDR Looks, called "Packs".

When you import a Custom Looks Pack, it will create a new category in the Presets category window, and display any associated Aurora HDR Looks therein.

To add a Custom Looks Pack, select the menu item **File > Import Aurora HDR Looks Pack**. An Open dialog box is displayed, allowing you to choose the Aurora HDR Looks Pack you wish to add.

Using Filters

Filters are how you can adjust the exposure, color, contrast, and style of your image in Aurora HDR 2019. The proper use of filters can significantly improve your image. Each filter is designed to solve specific problems or enhance an image in a particular way. Each major adjustment tool in Aurora HDR 2019 is contained within a "control group" generally consisting of a header with the name of the tool, along with a set of sliders or other controls related to this tool.
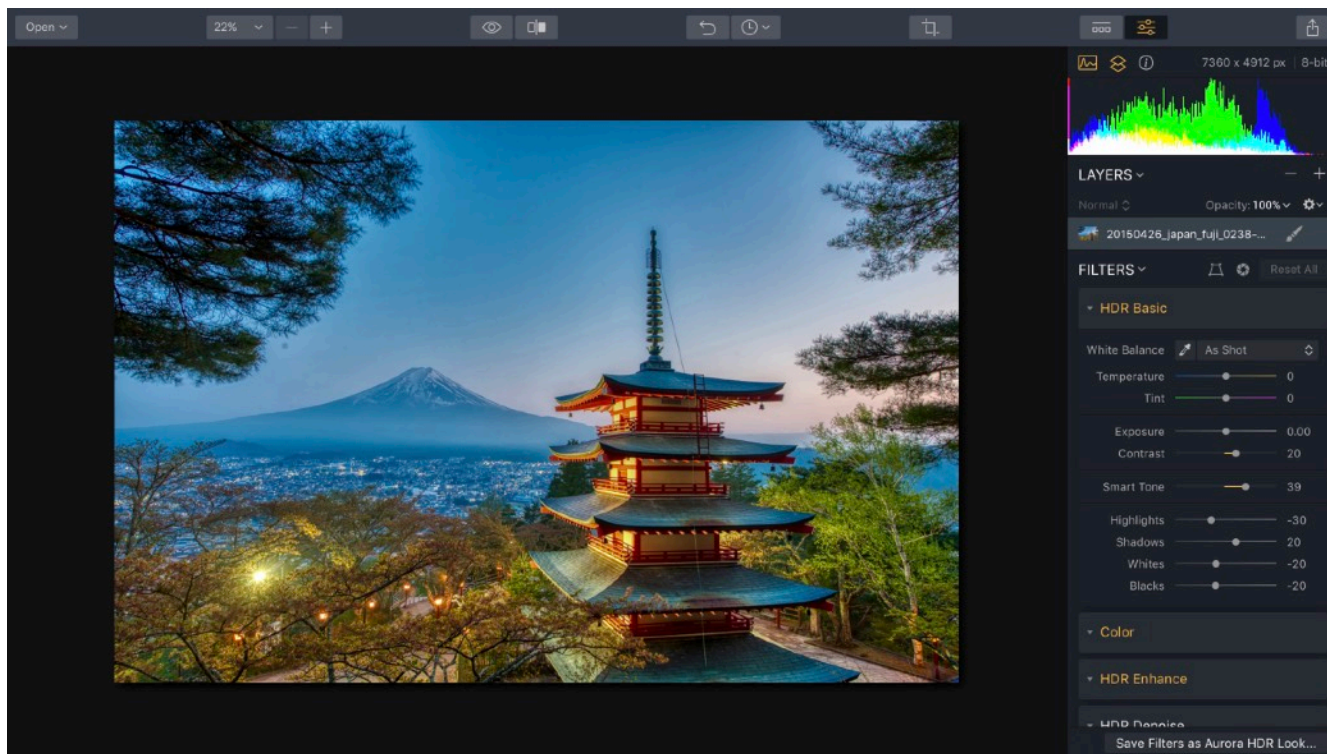

Image by Dima Sytnik

An Overview Of Filters

To help you get the most from Aurora HDR 2019's filters, you'll find a detailed guide below that explains the major features of each. You may notice that certain Filters have parts that perform similarly.

Common controls with every filter include the following:

- Clicking on the header, (the section name) hides and reveals this section.

- When hovering over a name, clicking the reset arrow restores all the sliders to their default state. To cancel this action, you can choose **Edit > Undo**.

- When hovering over a name, clicking on the visibility icon, (eyeball) enables or disables the tool, allowing you to view the image with or without the effect of this tool.

HDR Basic

This tool gives you the control to adjust the Tone Mapping process. Tone mapping or "compression" converts a wide dynamic range image into one with a more narrow range that can be displayed on a computer monitor. It's a great place to start your HDR journey.
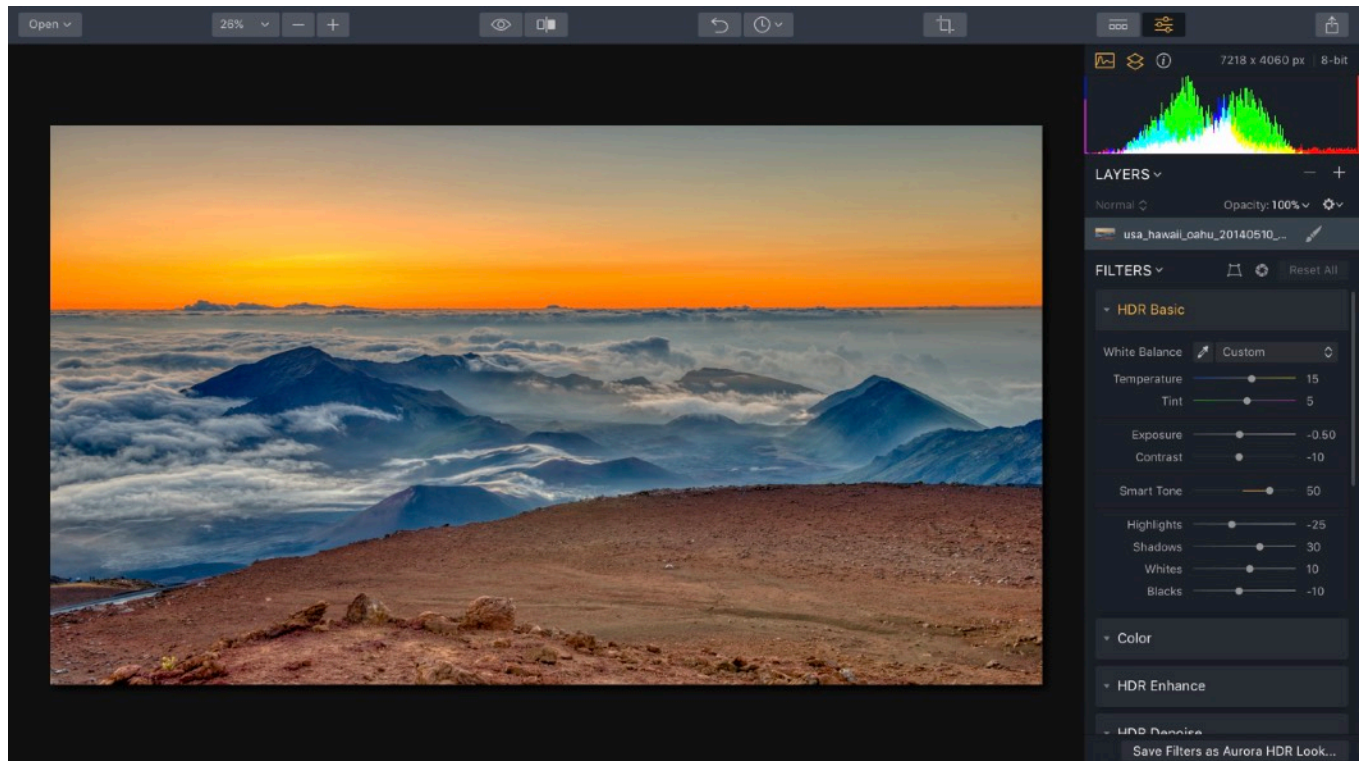

Image by Dima Sytnik

- **White Balance –** Use the White Balance preset list to choose from a variety of looks that are similar to a camera's white balance menu.

- **Temperature –** Use this slider to warm or cool a shot. This adjustment essentially adds Cyan or Yellow to an image to change its color temperature.

- **Tint –** This adjusts the amount of Green or Magenta that is added to a shot. It is useful for removing color casts from an image.

- **Exposure –** Adjusts the global luminance of the image. Moving this slider to the left results in a darker image (reduction of exposure value). Moving this slider to the right results in a brighter image (increase of exposure value).

- **Contrast –** Adjusts the contrast of the image. Contrast is the difference in luminance or color that makes one object in an image distinguishable from another. Practically speaking, contrast is determined by the difference in the color and brightness of an object in relation to other objects within the same field of view.

- **Smart Tone –** This slider adjusts the overall brightness of an image properly. When moved to the right, the image becomes more vivid, but it does not apply when the bright areas become as white, as the ordinary exposure. And when you move the slider to the left, the image becomes darker but there are no completely black areas. This is a very powerful and balanced image brightness tool.

- **Highlights –** Adjusts the brightness of the brightest areas of the image. Moving the slider to the right cause very bright areas to become brighter, while moving the slider to the left, makes them darker.

- **Shadows –** Adjusts the brightness level of the darkest areas of the image. Moving the slider to the right will cause such areas to become brighter and additional details to appear. When moved to the left, such areas become darker, and the number of shadowy areas in the image generally increases.

- **Whites –** Adjusts the white point of the histogram and white tones in the image. When moved to the right, the brightest tones will become brighter while the histogram stretches to the right. Moving the slider to the left will cause white tones in the image to become darker and the histogram to compress to the left.

- **Blacks –** Sets the black point of the histogram or black tones in the image. After moving the slider to the right, black tones become brighter and the histogram compresses to the right. Moving the slider to the left, blacks become darker and the histogram stretches to the left.

A recommended workflow is to start with a light touch using Exposure and Contrast, then Smart Tone. Then proceed to setting Shadows and Highlights and finally, fine tune the contrast of the image using the Whites and Blacks sliders.

Color

The Color section gives you complete control over colors and color saturation of the image. There are three useful controls that each affect the colors of your image in a different way, Be sure to experiment with each.
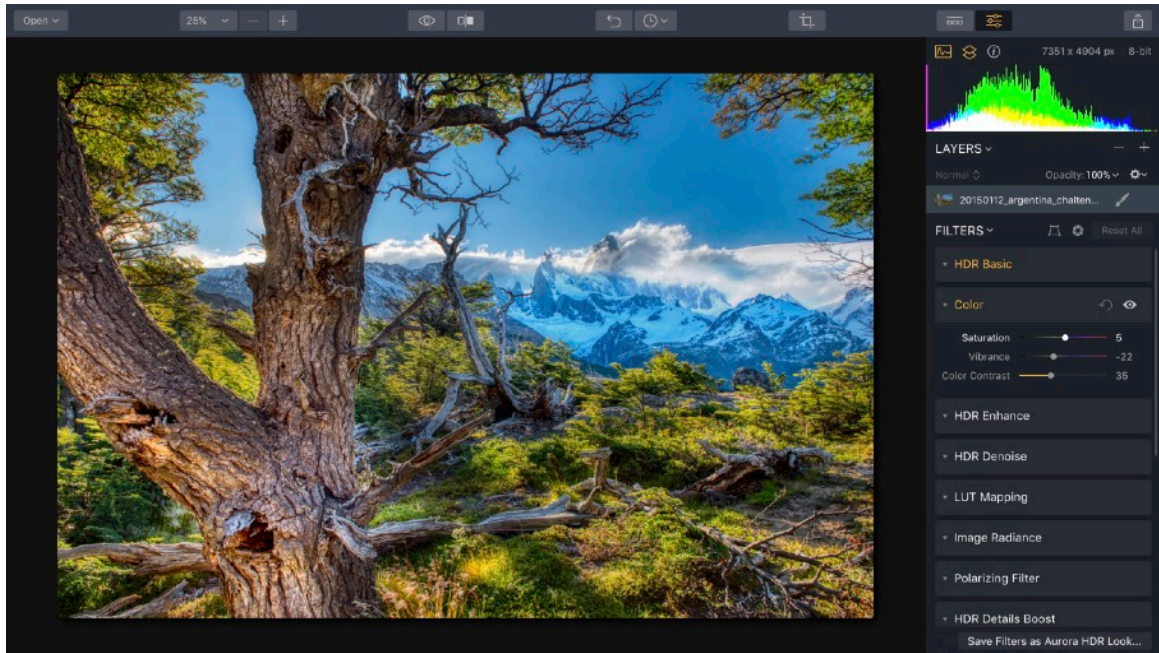

Image by Dima Sytnik

- **Saturation –** Adjust the color saturation of the image. This is a standard slider, similar to many other applications. Moving the slider to the right will cause the colors in the image to become more saturated, while moving the slider to the left will cause the picture to become black and white.

- **Vibrance –** This slider is a "Smart Saturation" control. In general, its effect is similar to Saturation with the difference that it increases less vibrant colors stronger and has a weaker effect on more vibrant colors. This allows you to obtain more realistic and less saturated colors in your picture. This slider can be used in conjunction with the Saturation slider to enhance secondary colors.

- **Color Contrast –** Enhances the color contrast in the image. Color contrast specifically refers to contrast that is created between differences based on colors (vs. luminance). The more you use the slider, the more contrast between primary and secondary colors.

TIP

Vibrance can be used in conjunction with Saturation to make secondary colors pop a little more. Application of Color Contrast is also recommended to obtain realistic contrast and color saturation of the picture. This slider is very helpful, especially if the color temperature is incorrect – make any corrections here at the very start of editing, before further image adjustment is applied.

HDR Enhance

This tool allows adjustment of image detail and clarity. Using this tool you can get a classic HDR effect with great detail or get a smoother picture with less detail. This is the main tool to increase micro-contrast of the image and visualize more details.
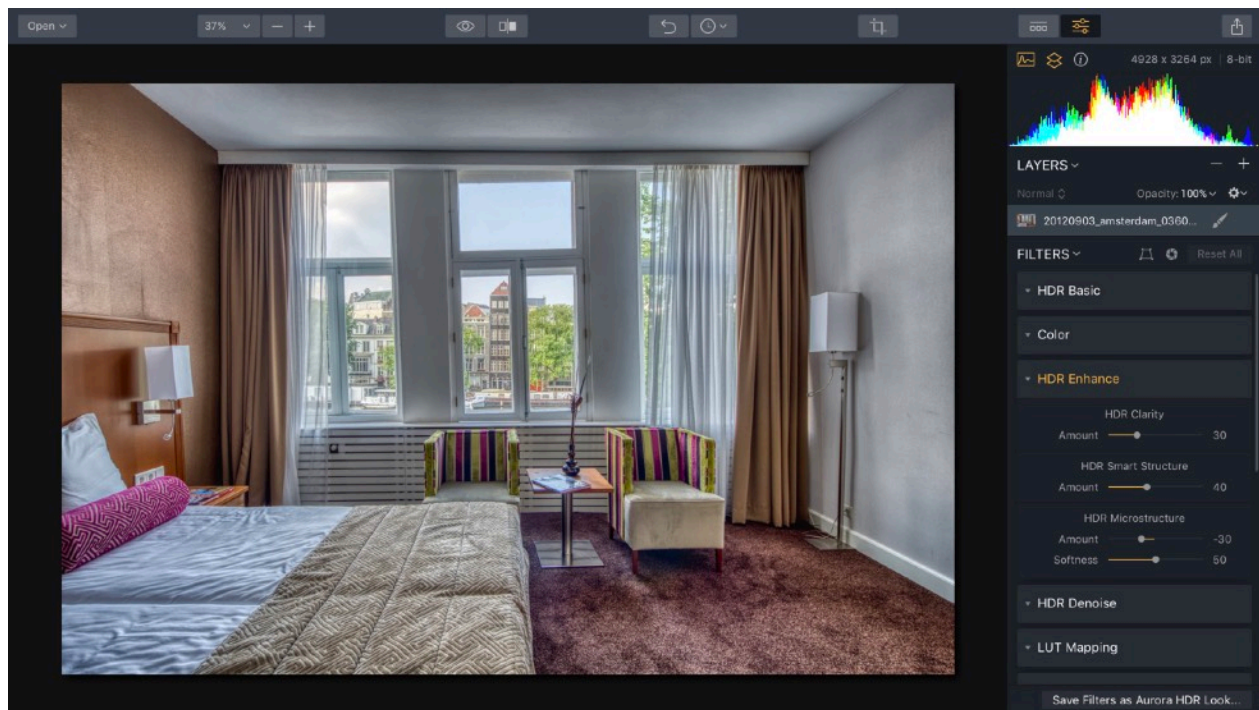

Image by Dima Sytnik

HDR Clarity Section

The HDR Clarity slider is a single slider that adjusts a variety of controls including lighting effects and detail. It offers a special ability to configure balanced image brightness without getting completely white or completely black areas. This has the effect of making the image less realistic and more classically the look a lot of people associate with HDR.

HDR Smart Structure Section

Increases image detail by revealing the structure and texture of the surfaces in the image. This enhances the image and hidden details appear. This slider adjusts the overall display of details. Moving the slider to the right will accentuate details and make the image more unrealistic.

HDR Microstructure Section

This section amplifies micro-detail within the image. These are small details that form the surface of any object in the image. They can further enhance details of the image and provide a more vivid artistic HDR effect, however it can also make the image very noisy.

- **Amount –** Increases micro-details and contrast
- **Softness –** Affects the general "softness" and realism of the photo. Moving the slider to the left will cause the image to become very finely detailed and unrealistic.

HDR Denoise

This tool slightly blurs the image and,reduces the amount of noise and any image artifacts caused by merging multiple exposures together. However, special algorithms also attempt to preserve edge detail if possible. It can also be used to reduce the amount of noise which may have been caused by increasing detail within the HDR Structure section.
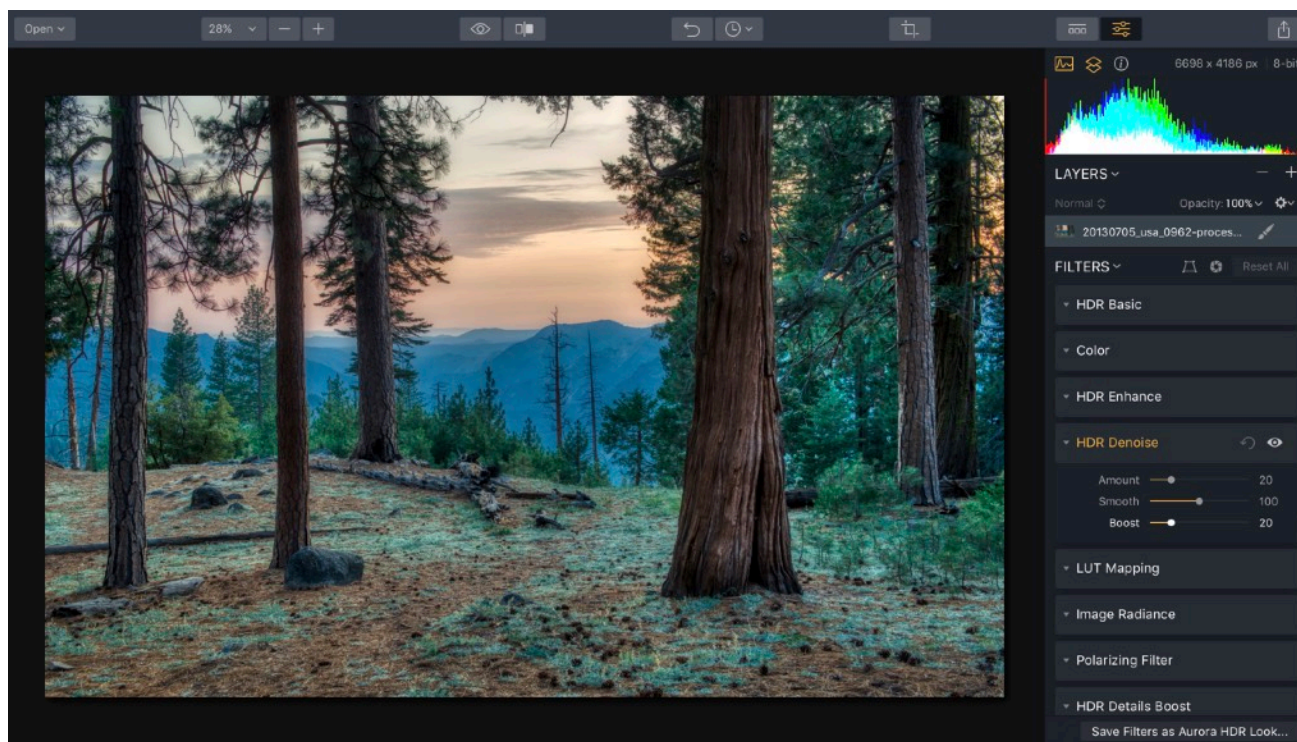

Image by Dima Sytnik

- **Amount –** The strength of reduction of small noise in the image Moving the slider to the right will increase noise reduction. Note: the Amount slider must be moved above 0 to notice results.

- **Smooth –** This slider allows you to make the image more blurred which has the effect of creating a less detailed or noisy image.

- **Boost –** Adjusts the overall display of noise When the slider is moved to the right, allows the full effect of the de-noise control to be shown.

NOTE

It's helpful to apply this tool not to the entire image, but locally: Create a layer in which you'll apply the effect. Then using a mask, brush only the area where the effect should be applied. For example, if the noise is very noticeable in the sky, use a mask to apply the effect to the sky. This effect should never be applied to the entire image – otherwise too much detail will be lost.

LUT Mapping

Use professional lookup tables to change the appearance of your photo quickly. Choose from film stocks, black and white looks, and create color grades to unlock a new style in seconds. You'll find several built-in styles in the pop-up list, you can also load your own lookup tables in **.cube, .3dl,** or **.look** format.
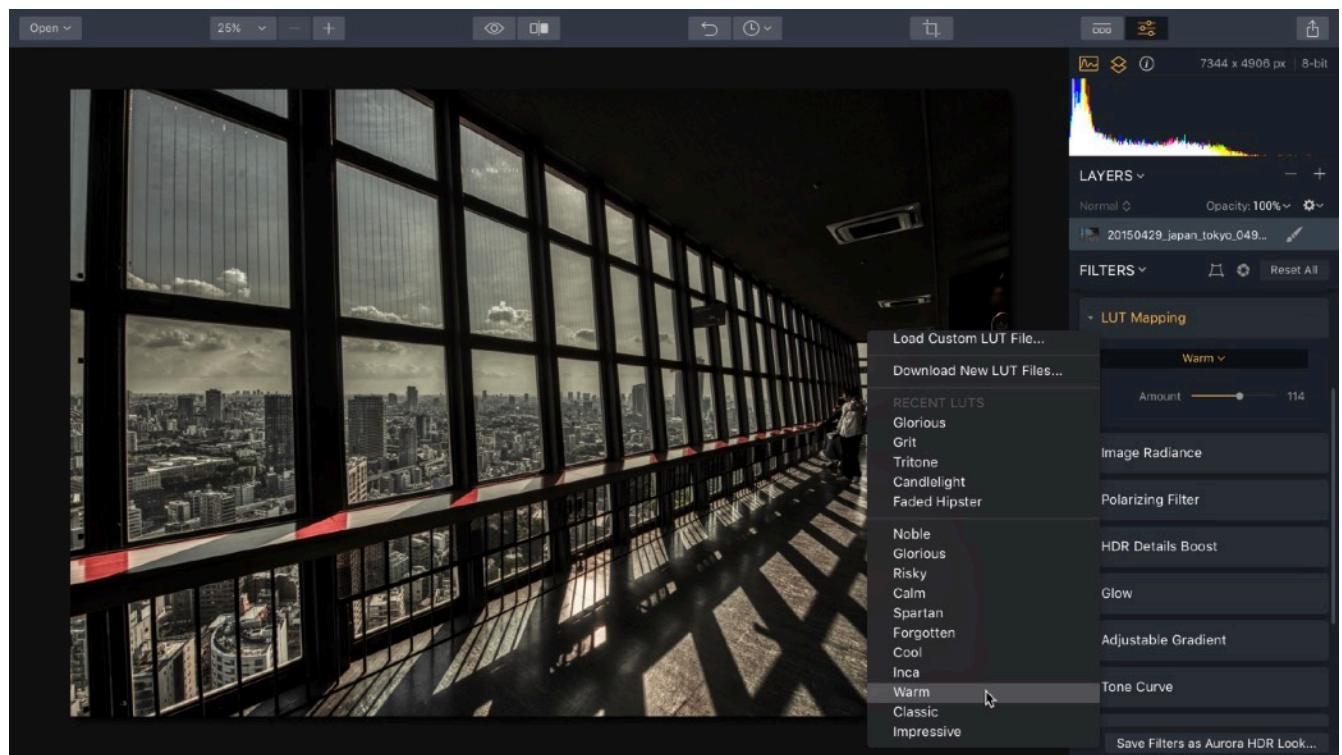

Image by Dima Sytnik

- **Amount –** This lets you reduce or increase the intensity of the Lookup Table.

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Note

If you choose a custom LUT it will automatically be stored with your saved Aurora HDR file or embedded into any custom Look that you create.

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Image Radiance

This tool provides a soft glow effect to the image, adding more vibrant colors with an increased global contrast. Moderate use of Image Radiance can give you more interesting, entertaining or "dreamy" images.

Image by Dima Sytnik

- **Amount –** Effect strength For a moderate effect and a more realistic image, keep the values in the Amount to +40. If the Amount value is 0, then the effect is not applied. Move the slider to the right to increase the Amount.
- **Smoothness –** Controls the softness of the effect
- **Brightness –** Controls the brightness of the effect
- **Shadows –** Controls how the affect modifies darker areas of the image A higher value will brighten dark areas.
- **Vividness –** A useful way to adjust the color saturation of the effect applied to the image
- **Warmth –** Adjusts the hue of the effect towards the warm end of the scale

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TIP

At a low setting, this effect will give the image more contrast and can increase color in the image. Use the Vividness slider for better control.

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Polarizing Filter

On a camera, a polarizing filter can provide more color depth and cuts atmospheric haze, resulting in richer, bluer skies. The same holds true for the **Polarizing Filter** in Aurora HDR 2019.   The effect will produce deeper blue skies and more contrast in clouds. With a light touch of this filter, almost any landscape image can be improved.

Image by Dima Sytnik

- • **Amount –** Effect strength. If the Amount value is 0, then the effect is not applied. Move the slider to the right to increase Amount.

NOTE

It is not recommended to use this tool on night photos or images without sky in them. Most often, keeping the effect intensity under +50 will yield the best results.

HDR Details Boost

This filter allows you to control the details of the image, making it more clear and sharp, or vice versa, softer. This tool is useful for improving the overall quality of the image as well as increasing the quality of the images used in high resolution, such as for printing. Increasing the sharpness can also compensate for any lower quality optics used to make the captured image.

Innovative technologies allow the HDR Details Boost adjustment to improve image sharpness without increasing digital noise or creating unnatural ghosting or halos in the image. This is a very powerful tool to improve the quality of images.

Image by Dima Sytnik

- **Small –** This sets the sharpness of fine details. At 0, the effect is not applied. Moving the slider to the right will intensify the clarity of small details, while moving it to the left, will wash out the fine details.

- **Medium –** This sets medium-sized parts sharpness. At 0, the effect is not applied. Moving the slider to the right increases the sharpness, while moving the slider to the left - decreases it.

- **Large –** This sets the sharpness of global contours of the objects in the image. At 0, the effect is not applied. Moving the slider to the right increases the sharpness, while moving it to the left – decreases sharpness

- **Protection –** This slider will protect fine details from being negatively adjusted.

- **Masking –** is a separate slider. This slider controls the zone of detail amplification. When moving the slider to the left, the number of zones increases and the image becomes more detailed. When moving it to the right, the number of granularity zones is reduced. Optimal masking comes from a setting in the range between 30 and 70.

NOTE

A moderate increase in Small and Medium has positive impact on the sharpness and quality of any image. There is often no need to demonstrate all details in the image.

In bright areas, such as the sky and light clouds, unnecessary detail will reduce realism. The dark areas often need more detail. Therefore, it is always better to strengthen details in the shadows vs. lights.

TIP

Should you desire an image that is soft, you can achieve that effect by moving the Detail sliders to the left. By default all sliders are at 0 and at that setting have no effect. The effect is only visible after moving sliders to the left or right.

Glow

The Glow tool adds auras to the picture. The effect finds the brightest areas of an image and adds bright halos to it, adding the effect of shine. This effect can be used to give the photo a "romantic" look or create a fog effect. This effect works on night photos to accentuate glowing halos around light sources such as street or building lights.
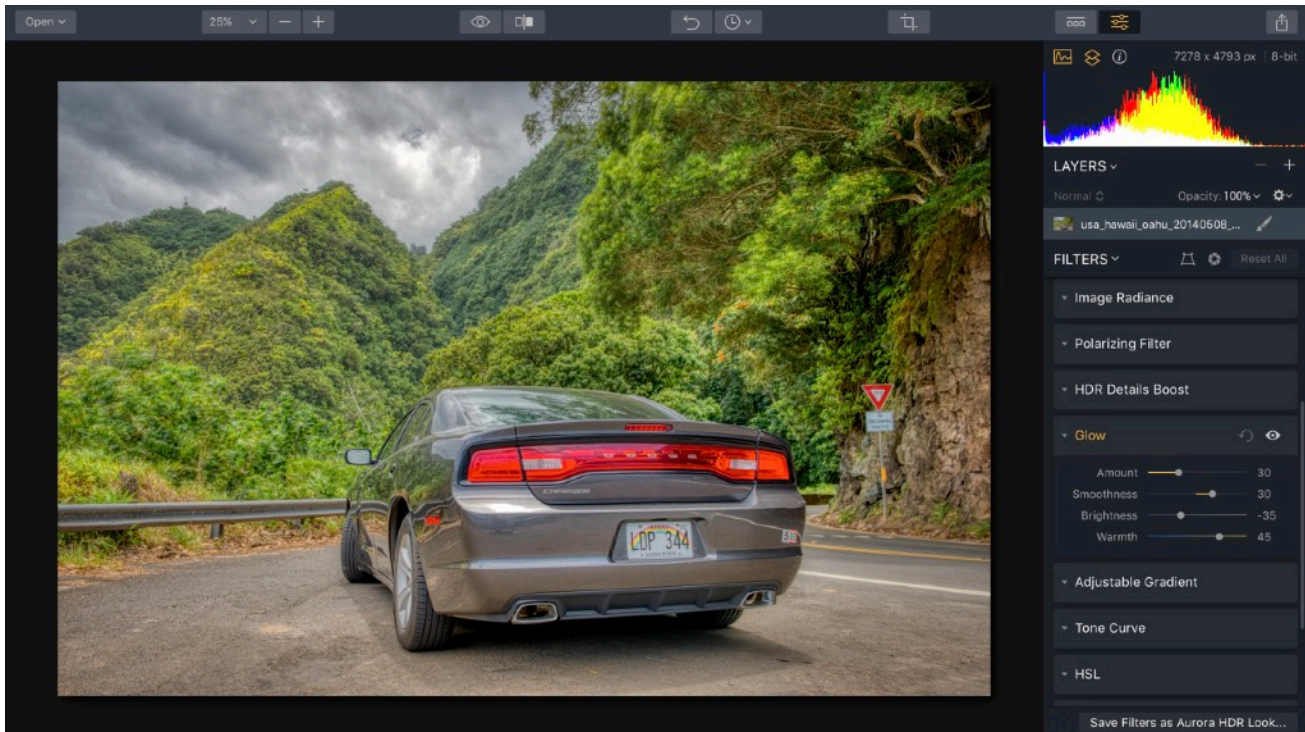

Image by Dima Sytnik

- **Amount –** Sliding this control to the right increases the strength of the glow around areas of high brightness.

- **Smoothness –** This slider controls the size of halos around bright areas. Moving the slider to the right increases the size of the halos.

- **Brightness –** This slider analyzes the image and determines where halos will be created, letting you choose the areas of brightness that should be lightened up. Moving the slider to the left ensures areas of maximum brightness will be selected. This locates the glow just around the brightest areas. Moving the slider to the right will include darker areas to apply glow. Moving it all the way to a value of 100 will light up the entire image.

- **Warmth –** By default, a neutral white color is used for the glow in the middle of a halo. This slider allows you to select a specific hue for the glow using the cool-to-warm spectrum shown on the slider.

NOTE

This effect can be a powerful tool for creative photo processing. When you move the Brightness slider to 100 and increase Amount, you get a misty or foggy effect in the picture. By increasing the Amount, detail in bright areas is not lost, but rather highlighted.

Adjustable Gradient

This tool is a simulation of an analog filter which can specify different levels of brightness in the picture vertically - the Graduated Neutral Density Filter. This effect is widely used in landscape or architectural photography using a distinct horizon. The effect flexibly and separately controls brightness and other aspects at the top and bottom of the image.

This enables you, for example, to lower the brightness of the sky and raise the brightness of the foreground. Thus, your image can be significantly improved without resorting to creating layers and masking.
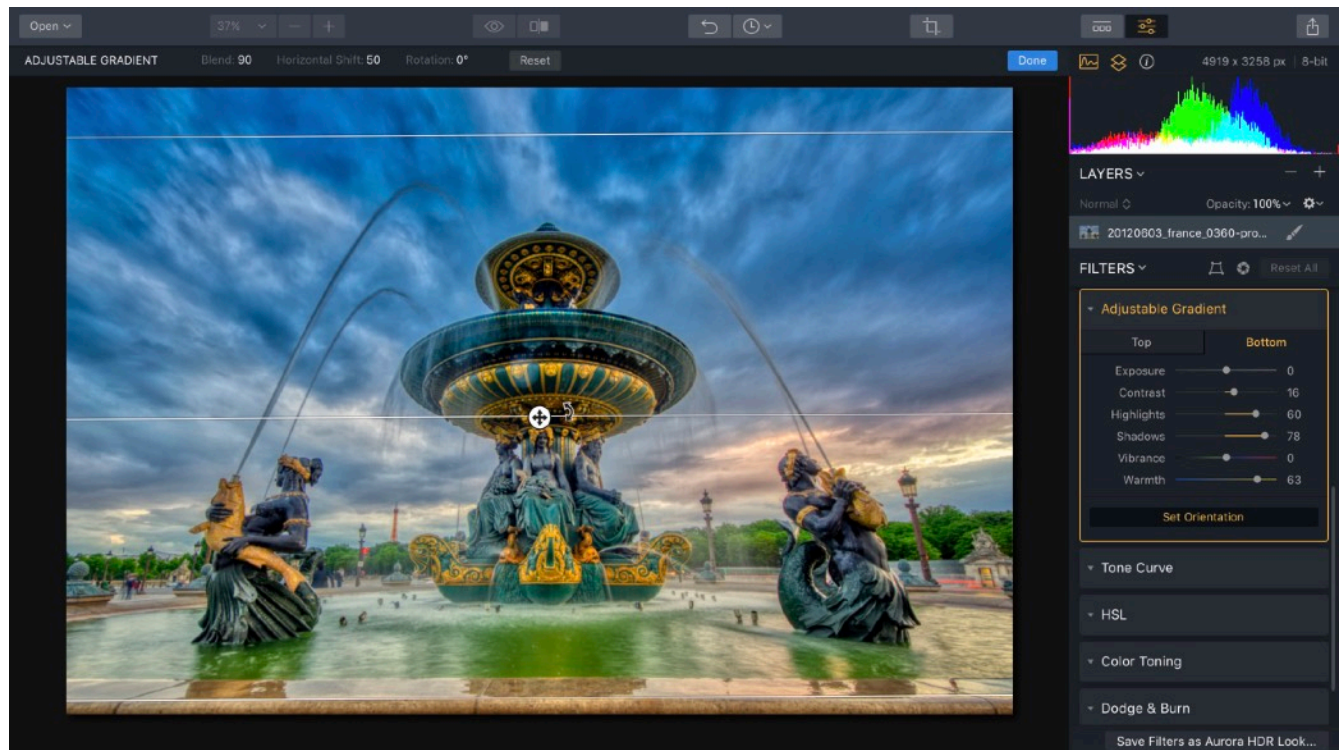
Image by Dima Sytnik

Note: *The explanation of the controls are the same for Top & Bottom sections of this panel.*

- **Set Orientation –** On a Mac, click this button to interactively drag the position of the filter.

    - Drag the **Move** arrows to position the Transition Zone.

    - Place your cursor next to the **Move** tool and it changes to allow for **Rotation** of the Transition Zone.

    - Expand or contract the **Blend** handles to adjust the rate of transition from top to bottom. Expand the bars to increase the Blend value, making the transition between the values of Top to Bottom wider. Decrease the spread to decrease the blend value creating a sharp transition between Top and Bottom.

    - On Windows, use sliders to control the orientation of the Gradient.

- **Exposure –** This controls the brightness of the image. Moving the slider to the left will make it darker and to the right brighter.

- **Contrast –** This adjusts the contrast of the image. Contrast is the difference in luminance or color that makes objects in an image distinguishable from another.

- **Highlights –** This refines the brighter regions of an image with a targeted adjustment to lighten or darken with gentle blending.

- **Shadows –** This slider targets the darker areas of an image with a targeted adjustment to lighten or darken with a smooth transition.

- **Vibrance –** This slider makes less vibrant colors stronger and has a weaker effect on more vibrant colors. This allows you to achieve more realistic and avoid oversaturated colors in the image.

- **Warmth –** This adjusts the hue of the effect towards the warm end of the scale.

NOTE

*This tool is best suited for landscape shooting with a strong horizon line. With it, you can lower the brightness of the sky at the top, and then, using the **Set Orientation** button or sliders to position the strip of brightness transition between heaven and earth approximately at the level of the horizon.*

Tone Curve

One of the most powerful tools for adjusting tones to brighten, darken, add contrast and shift colors. Curves can usually be applied to all channels together in an image, or to each channel individually. Curves can help you manually fine-tune the brightness and contrast of the image.

Users will either use Curves a lot or they won't use it at all. The Curves interface is a bit complex and allows for up to 10 control points. This can significantly open up more options when adjusting color and exposure. The primary advantage of Curves is that you have precise control over which points get mapped for tonal adjustment.

Image by Dima Sytnik

- **Tabs –** You can make a curve adjustment to all channels equally or to an individual channel, (such as to blue, to emphasize the sky). Just click on the **White** dot for a global adjustment or use the **Red**, **Green**, and **Blue** dot to adjust the corresponding channel.

- **Sliders –** At the bottom there are sliders that let you adjust the black and white points of the histogram, (the leftmost and rightmost sliders), as well as the middle bend of the curve (the central slider).

- **Points –** You can add up to 10 control points. Drag up, to add contrast to an area and down to lighten the area. Multiple points can be employed for contrast adjustments based on tonal range.

TIP

Many, many articles are available on the Internet for information on using this tool. Generally moving a slider down will darken that channel and moving it up will lighten the channel. Experiment and have fun!

HSL (Hue, Saturation, Luminance)

This tool allows for separate adjustment of the hue, saturation and brightness of the main colors in the image. There are three tabs present in the **Color Filter** panel. Each tab contains sliders for Red, Orange, Yellow, Green, Aqua, Blue, Purple, and Magenta values.
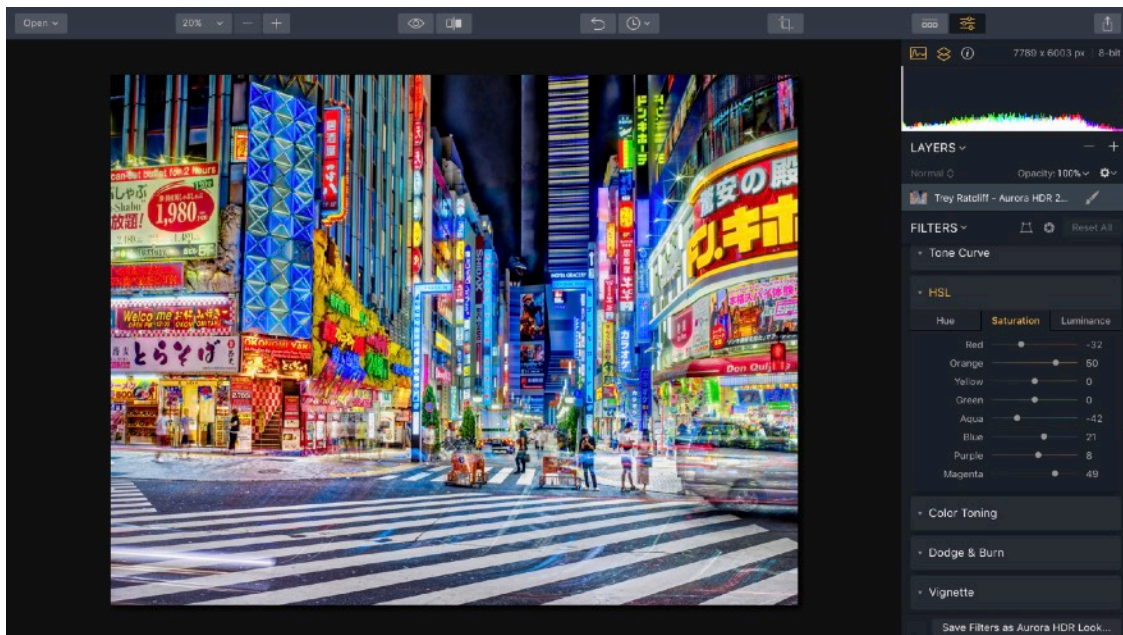

Image by Trey Ratcliff

- **Hue –** A set of sliders to adjust the hue or basic color shades of your image Sliding the control further to the right results in a more intense hue.

- **Saturation –** A set of sliders to adjust color saturation Sliding the control further to the right results in a more intense color. Of course, moving to the left removes color to the point where -100 will make the image appear black and white.

- **Luminance –** A set of sliders to adjust the brightness of the colors. Sliding the control further to the right results in a brighter color within the image. The further to the left, the darker the image.

NOTE

This is a powerful tool for fine-tuning colors in the image as well as a means for creative image processing. It is found in several other popular photo apps such as Adobe Lightroom.

Examples of using this tool:

- *When the sky is mostly blue in the photo. Lowering the brightness of blue colors in the image can darken and deepen the blue of the sky.*
- *Reducing the tone for some colors (move the slider to the right in Saturation tab), and leaving it for the other can create a dramatic effect on the selective color in photos.*
- *Raising the yellow color (move the slider to the right) can significantly improve the color saturation of autumn foliage in images.*

Color Toning

This tool affects the color toning of images. The color shade in the Highlights area is for the light areas in the image and the Shadows area color shade is for the dark areas. The effect can significantly increase the visual appeal of images, and is often used for creative artwork or to simulate analog photography techniques (e.g., a vintage look).

Image by Dima Sytnik

- **Amount –** Controls the overall intensity of the filter

Highlights Section

Highlights set the color for the bright colors in the image.

- **Hue –** Move the slider to target the corresponding hue that you want to modify.

- **Saturation –** This slider lets you choose the saturation level of the Highlights color shade. If the value of saturation = 0, white is used and toning is not noticeable. Therefore, to use color, you must choose both Hue and Saturation.

Shadows Section

Shadows sets the color for the dark tones in the image.

- **Hue –** Move the slider to target the corresponding hue that you want to modify.

- **Saturation –** This slider lets you choose the saturation level of the Shadows color shade. If the value of saturation = 0, white is used and toning is not noticeable. Therefore, to use color, you must choose both Tint and Saturation.

General Control

- **Balance –** Sets the balance between light and dark tones. If you move the slider to the right, more tones are considered bright and therefore the color chosen for the bright areas (Highlights) are emphasized in the photo. Move to the left and more tones are considered dark and the color chosen for dark tones (Shadows) are emphasized in the photo. Thus it is possible to balance what color is used to tone the image.

NOTE

The best results are achieved if you use colors opposite to the bright and dark areas, for example: yellow and blue, green and purple.
Use warm tones for light colors and cool ones for the shadows. Only light or only dark areas of the image can be toned. To avoid toning of certain areas, simply set Shadows or Highlights saturation parameter to 0. The color is not applied.

Dodge & Burn

Dodge & Burn tools are known as toning tools. They allow for finer control over lightening or darkening an image. These tools simulate traditional techniques used by photographers. In the darkroom, the photographer would modulate the amount of light on a particular area of a print.

Image by Trey Ratcliff
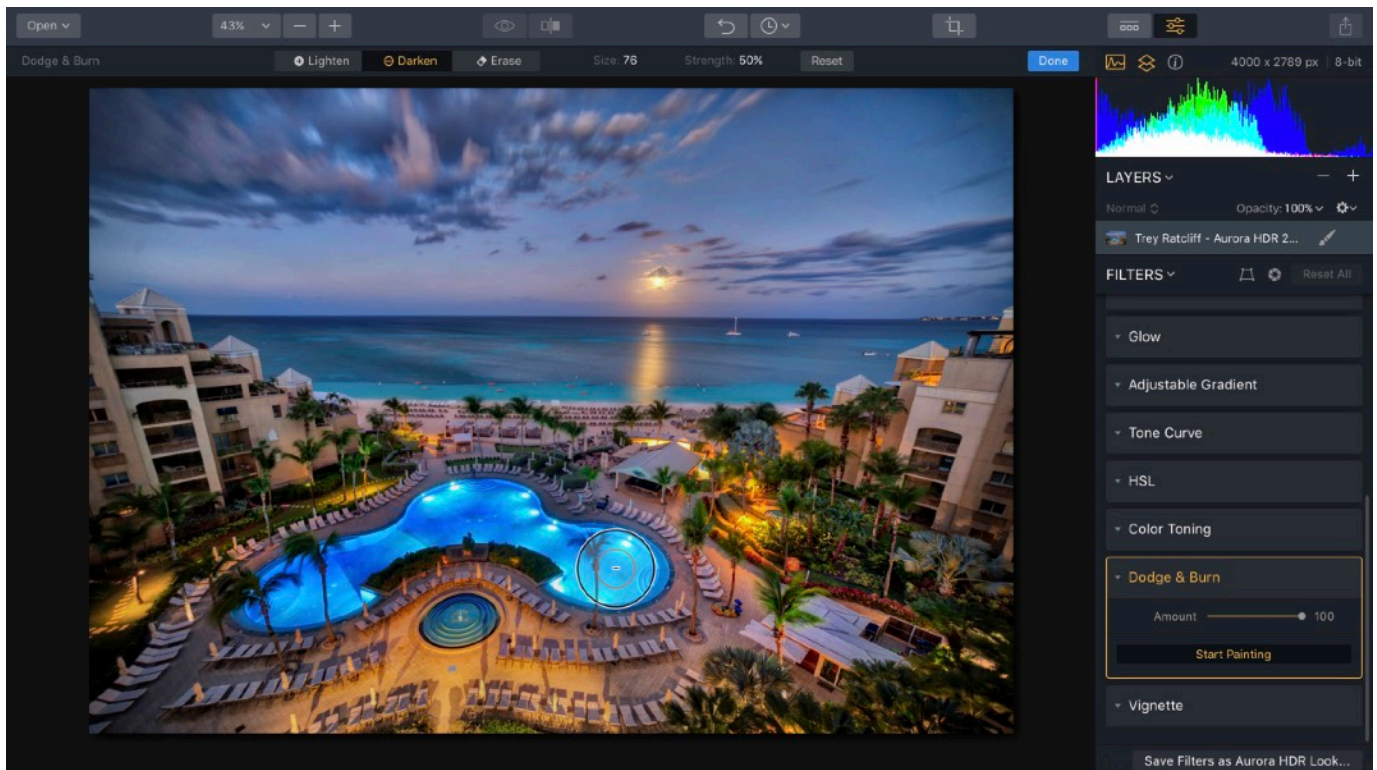
1. Click **Dodge and Burn**, to expand the Dodge & Burn section in the Filters list.

2. Click the **Start Painting** button to open up your canvas.

3. Choose either the **Lighten** or **Darken** tools in the top toolbar to select the desired brush.

4. Use the **Size** slider in the Toolbar to control how large the brush is.

5. Use the **Strength** slider to control its impact.

6. If you get an accidental stroke, the **Erase** tool can be used to remove it.

7. Click **Reset** if you need to start over.

8. Click **Done** to apply the adjustment.

9. Use the **Amount** slider in the filter control group to further refine the global intensity of the filter and blend it back into the original image.

The image on the left is the tone mapped file before applying the Dodge & Burn effect. Using the brush tools, areas like the pool and sky were selectively darkened (Burn) while other areas like the foreground were lightened (Dodge).

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NOTE

This tool is meant to be used creatively and by feeling. It is more about the look and result than specific numbers and slider settings. Feel free to experiment as you can always adjust the mask of the Dodge & Burn effect as well as its overall opacity.

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TIP

Double-clicking on any slider name resets the value to the default. In most cases, double-clicking returns it to 0.

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TIP

If you press and hold the Option key and click on a slider value in the sidebar, moving the cursor to the left and right will allow you to set the values of the slider with higher accuracy. Slider sensitivity becomes higher than with normal movement. This allows you to fine-tune by smaller numeric values.

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Vignette

A Vignette darkens or lightens the edges of your image. This is quite an old technique to emphasize the accents on photos. The effect typically leaves the central area unaffected while the edges are shaded or lightened. Aurora HDR goes further by letting you place the center point of the vignette anywhere in the image you like.
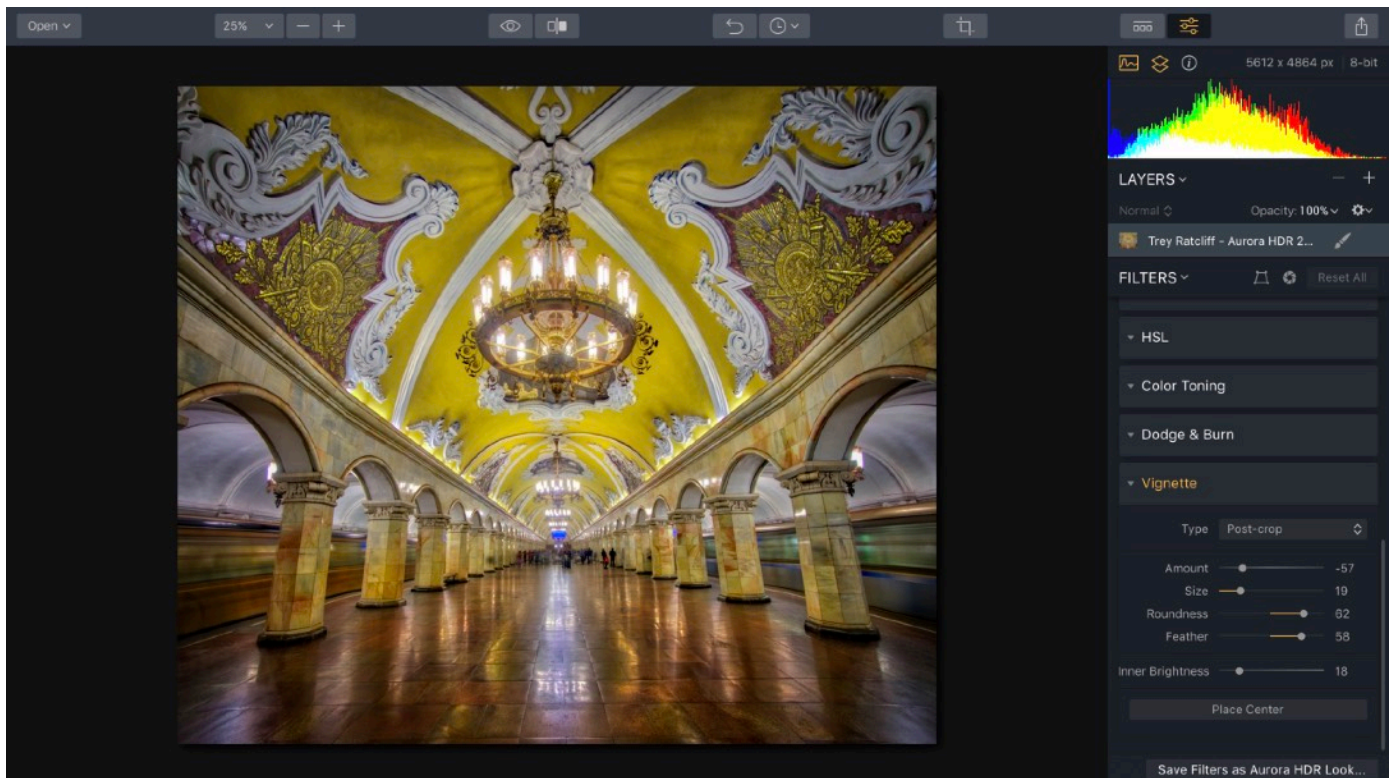
Image by Trey Ratcliff

- **Type** You can choose to calculate if the vignette should respect cropping of the photo or use its original borders.
- **Amount** Strengthens the darkening around the edges of photos In position 0, the effect is not applied. Move the slider to the left side of the picture to give more shading to the edges, or move the slider to right to brighten the edges.
- **Size** Determines the size of the obscured area Moving the slider to the left will increase the area of darkening. Moving the slider to the right will reduce the area of darkening.
- **Roundness** This slider changes the shape of the shaded area.
- **Feather** This slider sets the smoothness of the transition between the areas of shading.
- **Inner Brightness** This slider increases the brightness in the central region which is not affected by shading. It allows you to create a contrast effect.

- **Place Center Button** This control adjusts the center of the effect. By default, the center of shadowing effect is in the center of the image.
  With this button you can shift the focus from the center of the image to any other place.

  Click the button **Place center** to turn the cursor into a "target sight." Then click anywhere in the image to set the new center of your shading effect.

  This control is not yet available on Windows.

TIP

This tool allows you to highlight key points in the photo, making it more interesting. Slight edge shading always encourages the viewer's eye to consider the lighter central part of the photo. You can also move the center to focus attention on objects that are not in the middle of the picture. For a realistic picture, don't lower the Amount below -50. As a rule, use this effect only with darker shading. Highlights are rarely used except for some vintage looks.

The image on the left has no vignette applied. The image on the right uses an off-center vignette to draw attention to the hanging chandelier.

Working with Layers

Each layer can contain discrete elements of your project. Layers can contain photos, textures, or adjustments. There are lots of ways to create and manage layers, but it all comes back to having an organized design. Be sure to double-click on the name of each layer and give it a clear, descriptive name to make your workflow easier.

Using Layers

Let's explore using Layers. To make sure Layers are visible, do the following:

1. Launch Aurora HDR 2019 and open an image.

2. If Layers aren't visible, click the **Side Panel** button in the top toolbar to open the panel. You can also press the **Tab** key to open the Side Panel if it's hidden.
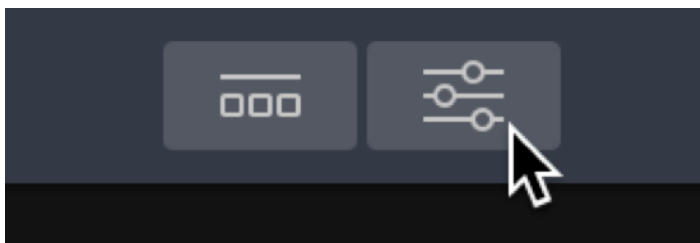
3. If Layers still aren't seen, click the **Layers** button in the Side Panel to view Layers.

4. Review the Layers group. When you first open an image, it's named based on the source file. This base layer can have filters applied directly to it or you can add more layers above it. Each new layer uses the previous layer below as it's starting point. In other words, each layer imposes the result of it's processing on the previous layer.
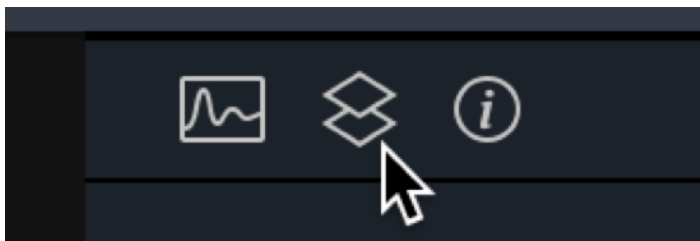
5. To add another layer, click the **+** button at the top of the Layers controls. You can add an:

   • Adjustment Layer

   • New Image Layer

   • New Original Image Layer

Using the Add New Image Layer Command

The Add Image command is a useful way to add one image on top of another in an Aurora HDR 2019 image project. There are many possible reasons to do this, including design and technical. In this chapter we'll explore two uses of this effect.

Loading a Texture Layer

The use of texture layers is quite a useful way to stylize an image. You can use the **Add Image** command to place a texture above a photo.

1. Click the **+** symbol at the top of the Layers panel and choose **Add New Image Layer....**
2. Navigate to a texture image on your hard drive and click the **Open** button to add the file to your document. The layer is automatically named with the file name of the selected file.
3. To scale the texture, right-click on its thumbnail and choose **Image Mapping**.
4. Select one of the three mapping options. You can **Fit** the image to the width or height, use **Scale to Fit** to enlarge the image to fit the screen, or use **Fill** to distort the image to fill the screen.
5. Click the **Blend** menu to change the Blending mode for the Texture layer.
6. Drag the **Opacity** slider to refine the blending of the two layers.

Image by Richard Harrington

As you adjust the blend mode and opacity of the texture layer, it will create many different creative effects. Each mode will have a different impact on your image based on the type and opacity you choose. Adding a texture to your image can dramatically change the look and feel of your work, plus, you may want to use a brush to apply the texture to only specific areas of your image.

NOTE

Textures are not stored in Aurora HDR 2019. These files are located wherever you've saved them for usage. For easy access, we recommend keeping all of your textures in a consistent place on your hard disk.

TIP

__Single View Mode__, accessed from the View menu, displays adjustment controls for only the selected tool in the Tools Sidebar. With this viewing option, all the tools, except the current one, are closed. Click on a different tool and the current one will be closed and the new one opened. In this mode, only one control is visible at a time, cleaning up the sidebar interface significantly. This command is not yet available on Windows.

Adding a Watermark or Logo

A logo or watermark is an excellent way to brand an image before you post it to the Internet or make a print. You can use the **Add Image** command to place a watermark or logo to a photo.

1. Click the **+** symbol at the top of the Layers panel and choose **Add New Image Layer....**

2. Navigate to a logo or watermark on your hard drive and click the **Open** button to add the file to your document. The layer is automatically named with the filename of the selected file.

3. To scale the texture, right-click on its thumbnail and choose **Image Mapping**.

4. To prevent unwanted distortion of the watermark or logo, choose **Fit**.

5. If the logo is over a white background, set its blending mode to **Multiply** to blend the background. If the logo is over black, set its blending mode to **Screen.**

6. To scale the watermark, click the **Transform Tool**.

7. Use the **Scale and Rotate** properties to size the logo.

8. Use the **X Offset** and **Y Offset** to position the logo.
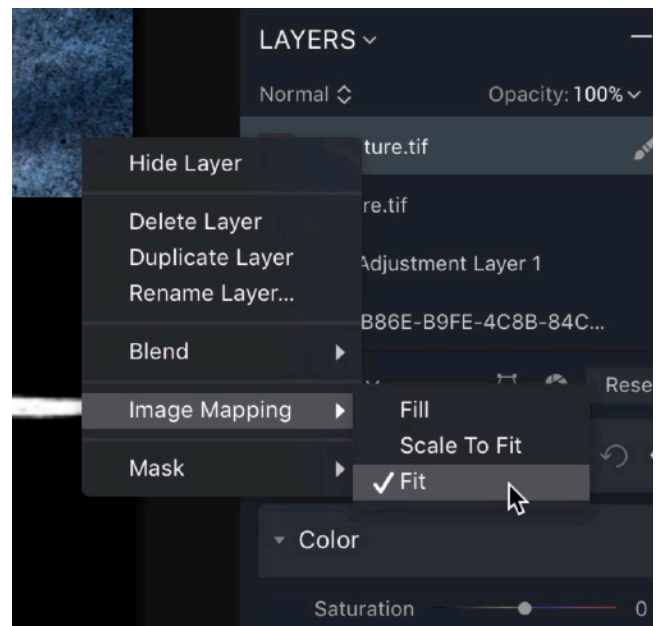
Using an Adjustment Layer

Aurora HDR 2019 offers a special type of layer that makes it easy to precisely edit your photos. An adjustment layer can hold all of the filters available to you for a second instance. You can disable any of the filters that you do not want to use. This is a really flexible way to work with your photos as it means you can easily control advanced options for filters such as their opacity, or blending modes. Adjustment layers give you the most flexibility when editing a photo.

Here's how to work with Adjustment Layers.

1. Open an image within Aurora HDR 2019.

2. If hidden, open the **Layers** panel.

3. At the top of the **Filters** section click the **+** button.

4. Choose the item **Add New Adjustment Layer**.

5. To make things easier, be sure to give the new adjustment layer a descriptive name. You can right-click on the layer and choose **Rename** to do this. Type in a new name and then press the **Enter** or **Return** key.

6. The new layer contains access to all of the filters. Adjust any of them to modify to taste.

7. Disable any filters you do not want to use by clicking their visibility icon (eyeball).

8. Use advanced controls to refine the look of the filter such as the layer's **Blending Mode** or **Opacity** and opacity settings. Continue to add additional effects as needed to their own adjustment layers.

9. As needed, you can turn layers on or off to alter the image's appearance. You can also drag adjustment layers up or down in the layer stack to generate new effects.
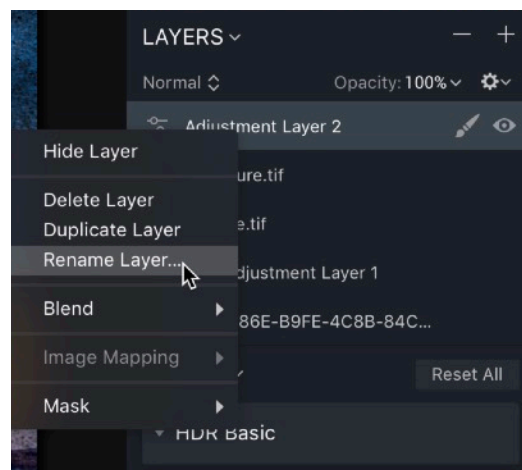
Using Blending Modes with Layers

A blending mode compares the content of two layers and enacts changes based upon the content of both. You can choose from 14 different blending modes using the pop-up menu at the top of the Layers controls. Understanding blending modes requires a bit of science. To start, let's establish three key terms.

- **Base color –** The original color in the image

- **Blend color –** The color being applied by the top layer or adjustment layer.

- **Result color –** The color resulting from the blend

To adjust a layer's Blending Mode:

1. Open a photo within Aurora HDR 2019.

2. In the **Layers** controls, click the **+** button and choose the **Add New Image Layer option** or **Add New Adjustment Layer**. A new layer is added to your project.

3. For the top layer, click the **Blend** pop-up menu in the **Layers** control area.

4. Choose from one of the 14 available blending modes.

5. Experiment with the Blending Mode and Opacity settings to create new looks.
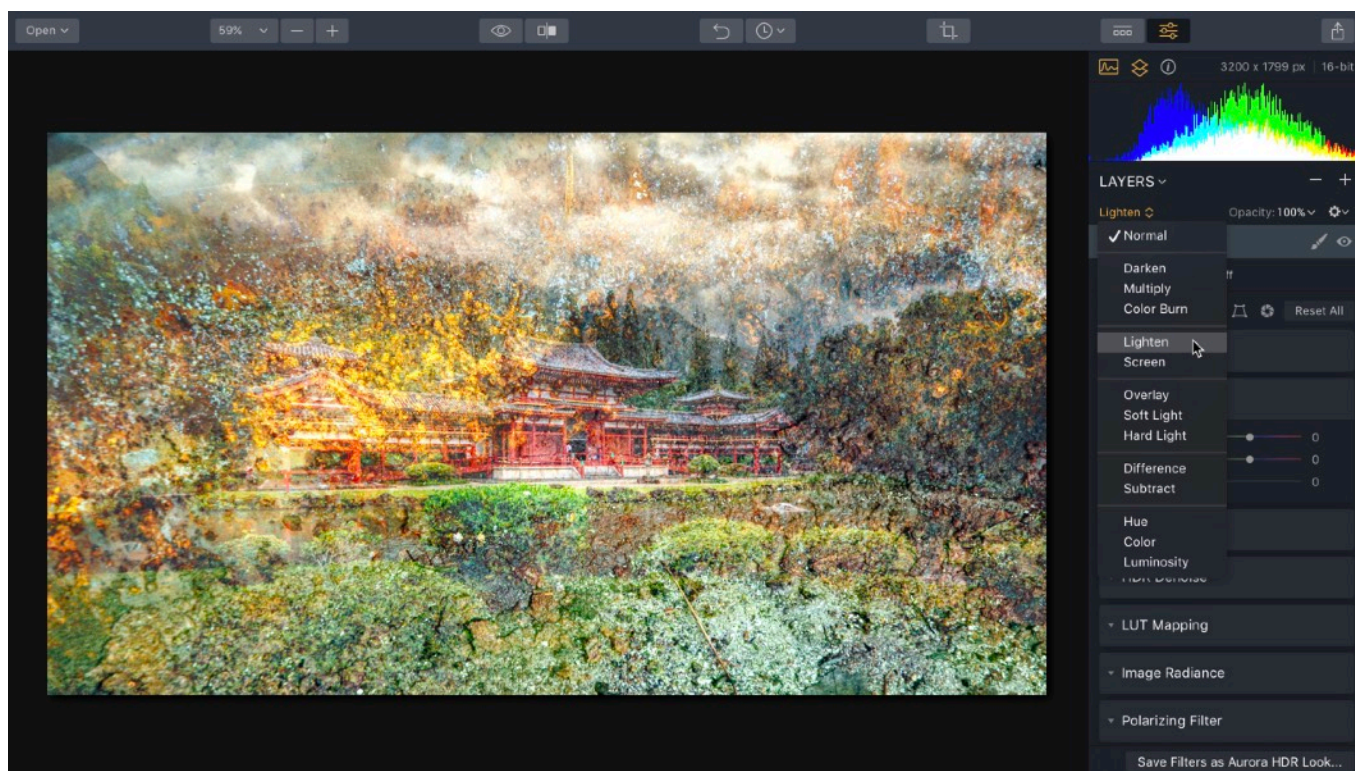
Image by Dima Sytnik

Normal

The default mode performs no additional change to the way layer contents interact.

Darken

Pixels lighter than the blend layer are replaced, darker ones are not.

Multiply

This is similar to drawing strokes on the image with markers. The colors of the top layer are blended with the image.

Color Burn

Evaluates each channel; darkens base by increasing contrast.

Lighten

Evaluates each channel; it then uses base or blend color (whichever is lighter).

Screen

Uses a lighter color. It is useful for "knocking" black out of a layer.

Overlay

Overlays existing pixels while preserving highlights and shadows of base.

Soft Light

This effect is similar to shining a diffused spotlight onto the image.

Hard Light

This effect is similar to shining a harsh spotlight onto the image.

Difference

Evaluates each channel and subtracts or inverts depending on brightness.

Subtract

Looks at the color in each channel and subtracts the blend from the base.
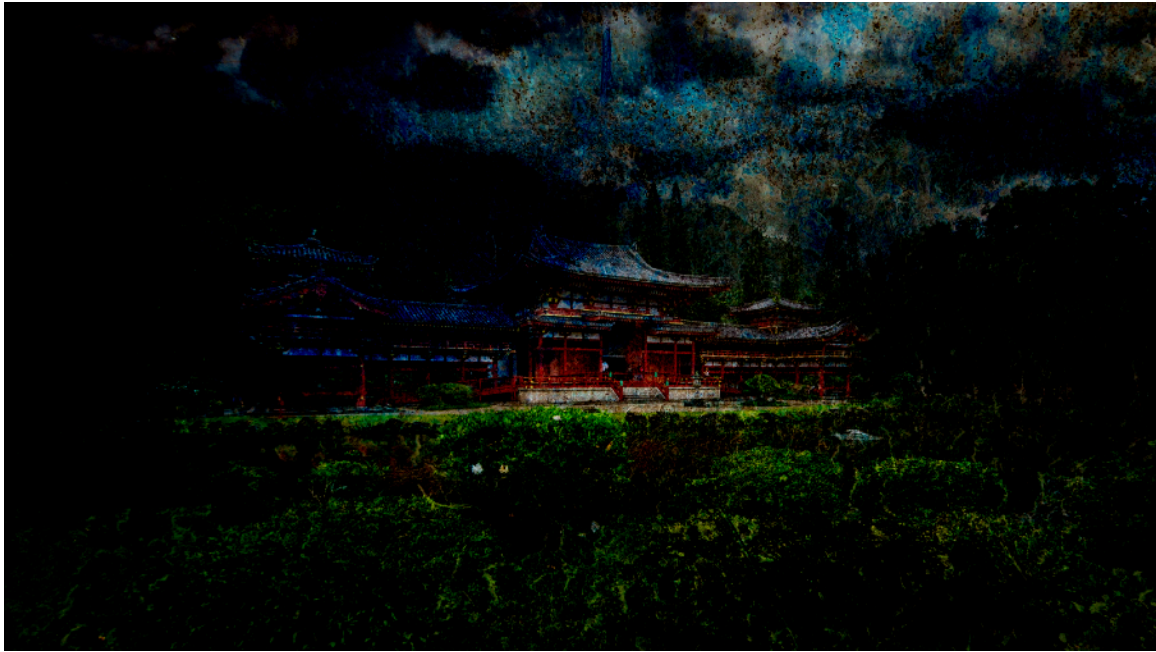
Hue

Uses the luminance and saturation of the base and the hue of the blend.

Color

Preserves gray levels. It's very useful for coloring and tinting.

Luminosity

Has the inverse effect of Color mode.
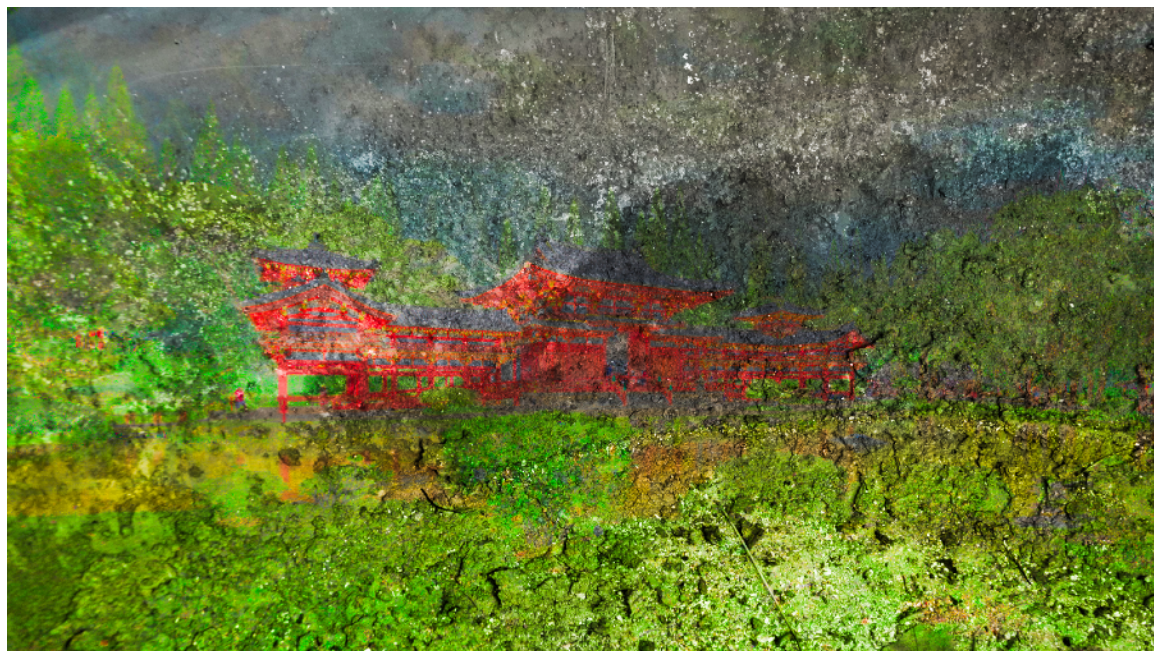
Working with Masks

The use of masks allows you to hide or obscure parts of an image. Masks are useful to combine the contents or results of one layer with your primary image. Layer Masks allow you to use powerful painting tools to selectively enhance your images. The more you work with combining multiple images and editing specific areas, the more you'll use masks.

Image by Richard Harrington

Creating a Layer Mask

If you'd like to use a mask on a layer, the first step is to add one. Any layer (even the base) can have a mask. Masking the base layer blends the HDR photo with the original tone-mapped image. Masking additional layers blends with the images below.

To add a mask:

1. Open a photo or bracket series within Aurora HDR 2019.

2. Select the desired layer. By default, layers and adjustment layers have no mask.

3. Click the **Edit Mask** icon. A new menu opens below. There are four different masking modes to choose from that we'll explore in this chapter. The toolbar contains several controls which we'll explore next.
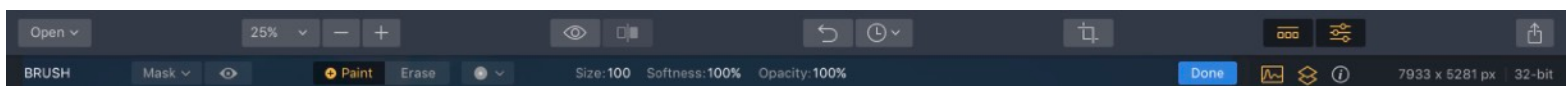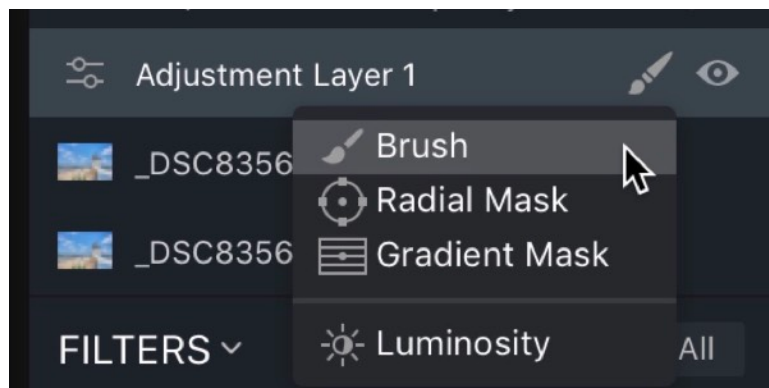
Painting and Erasing Masks

Once you've started editing a mask, you can add or subtract using a variety of tools. Remember, to edit a mask, click the **Edit Mask** button to the right of a layer's name and choose a tool to use.

- **Brush –** Use a paintbrush to add or subtract from your mask.

- **Radial Mask –** Creates an elliptical shape to blend between affected and unaffected areas

- **Gradient Mask –** Creates a linear blend between affected and unaffected areas

- **Luminosity** Creates a blended mask based on the light and dark areas of a scene Try the Mask menu's **Invert** command to reverse the mask.

Once you've chosen one of the four tools, a new toolbar appears so you can customize the results. Let's explore each control.

Global Mask Controls

The first two controls affect a mask's properties globally.

MASK MENU.

Clicking this opens a contextual menu with additional options for working with the layer.

- **Fill –** This option attaches a mask filled with white that reveals all details of the filter. Use the **Brush** tool to paint with black and subtract from the mask.

- **Invert –** Inverts any mask that you've created so that its opacity and transparency values are reversed

- **Clear Button –** This option hides the results of the filter entirely. Use the paintbrush or gradient tools to add details back to the image.

- **Copy –** Copies the current mask to the clipboard To use this, create a new layer and paste it into the new layer.

- **Paste –** Pastes the current mask stored on the clipboard for use on another layer

- **Show Mask –** Makes the mask visible as a rubylith (red) overlay

- **Density –** Controls the transparency of pixels outside a mask so that the overallmask fades into the background better

- **Feather –** Blurs the edges of a mask to more naturally fade the mask adjustments into the image

VISIBILITY ICON (EYEBALL)

This controls the visibility of the mask. It makes it easy to view the mask as a rubylith (red) overlay. You may also continue drawing while the layer mask is shown, for even more precision.
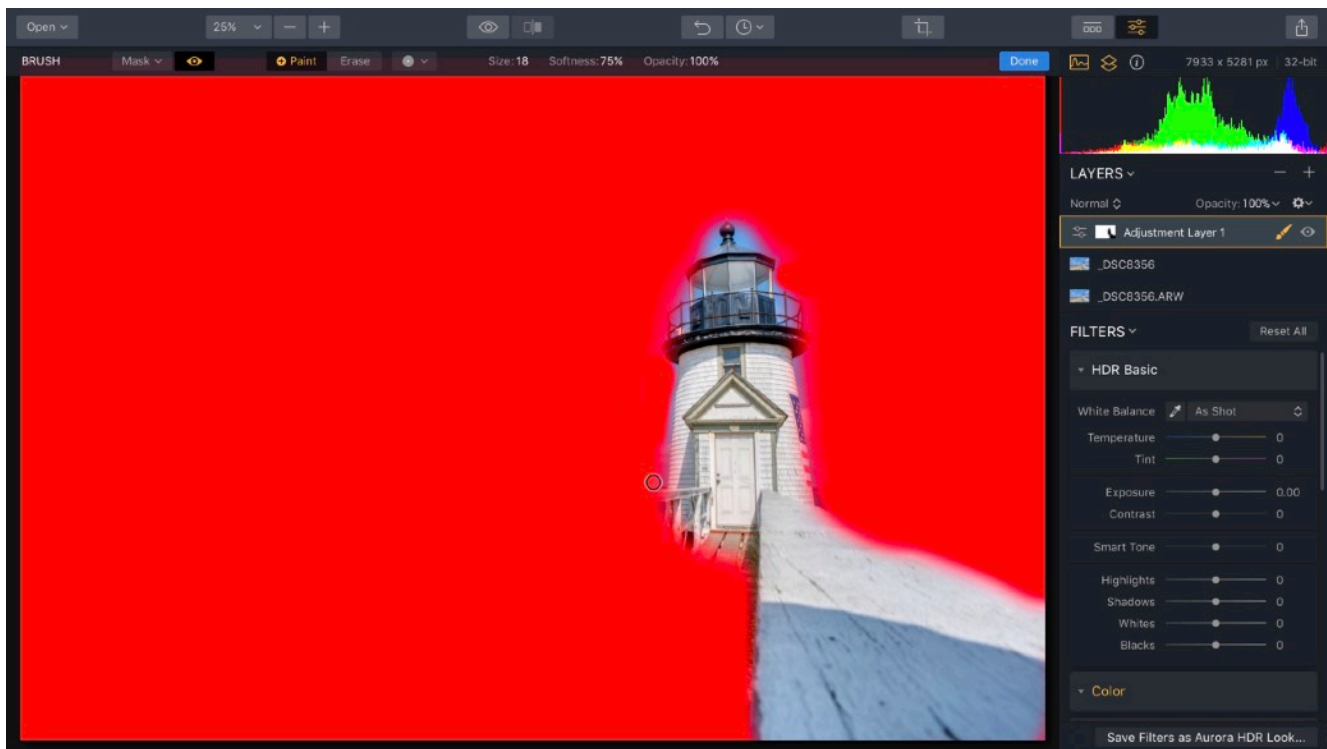

Using a Brush Mask

The first type of mask is created by using a brush. Once you've chosen **Brush** from the pop-up list, you'll see additional useful controls.

The Brush can be used in either **Paint** mode or **Erase** mode to add to or subtract from areas of the mask. Clicking the **Paint** option will add white areas to the mask. The white areas will preserve the current layer. Brushing with Erase mode is handy for "trimming" overspray of the mask and makes your selection more accurate.

To control a brush, click the **Brush Settings** dropdown menu, (it's next to the Erase option). In this window, you can configure paintbrush settings such as Size, Opacity and Softness. If you have a Pen Tablet attached, you can also configure Pen Pressure, Radius and Opacity levels.

Here's how to use the Masking Brush tool.

1. Open an image or bracket series in Aurora HDR 2019.

2. Click the **Add Layer** button (+ symbol) or choose **Layers > Add New Adjustment Layer**. Let's add an obvious effect so that its easy to view.
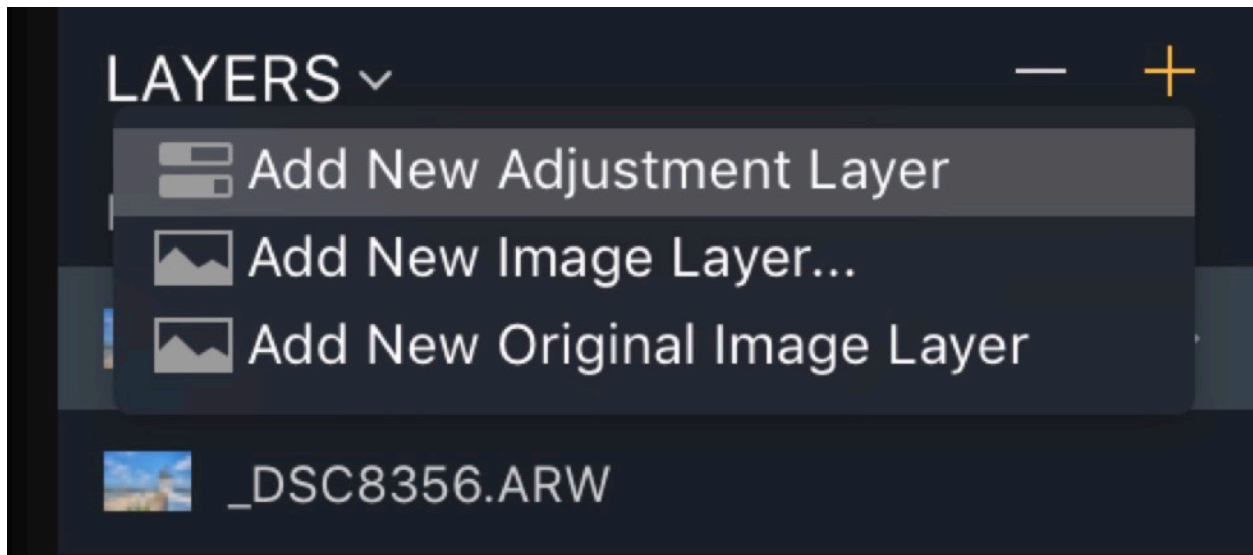

3. On the adjustment layer, apply the **Warm Landscape** Look for the **Landscape** category.

4. Create a Layer mask by clicking the **Mask** button and choose the **Brush** option.
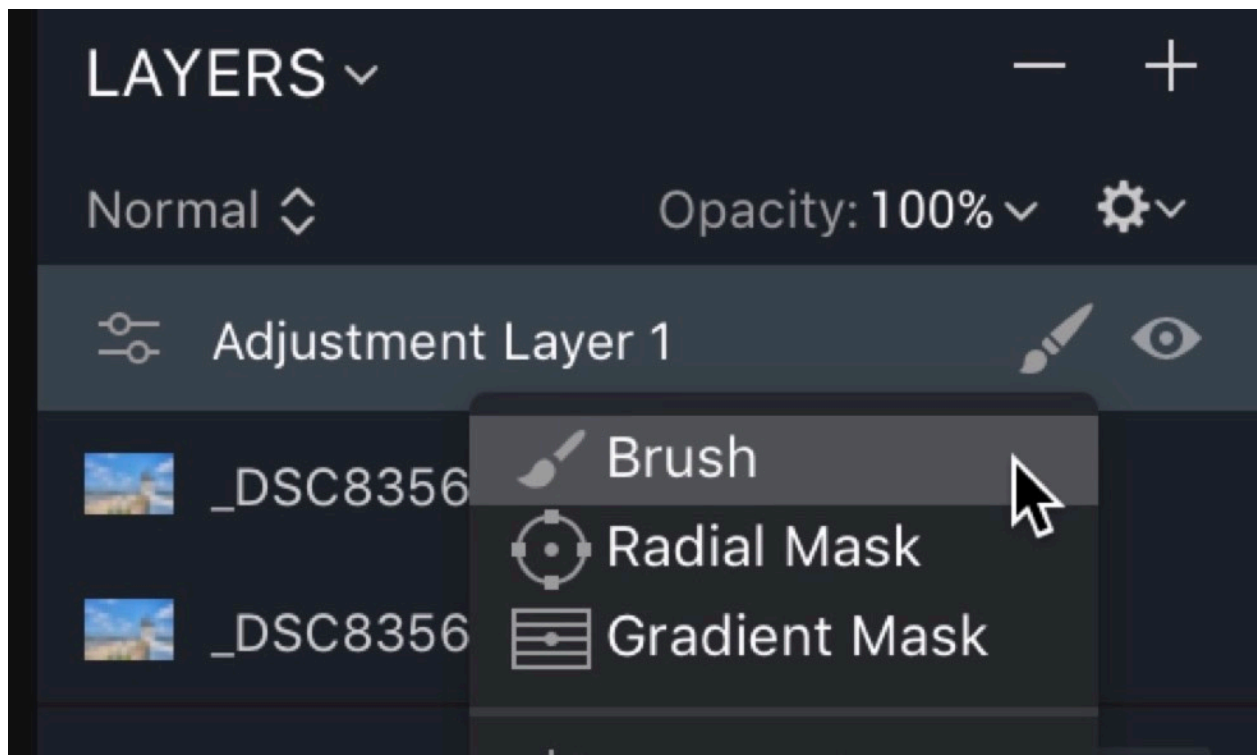
You now have two options to decide how the initial mask is created.
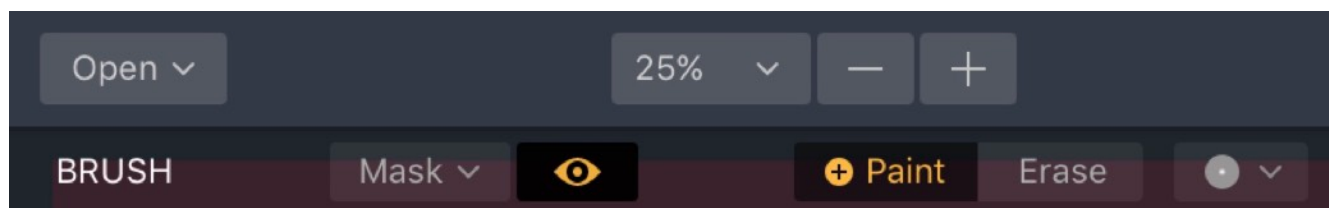
- **Paint –** Clicking with the **Paint** tool fills the mask with black (hiding all of its results). As you paint and add strokes they are added in white. This method allows you to brush and add the results of the Adjustment layer selectively.

- **Erase** – Clicking with the **Erase** tool fills the mask with white showing all of its results. As you paint and add strokes they are added in black. This method allows you to brush and subtract the results of the Adjustment layer selectively. The erased areas will show through to the image below.

5. Click the **Visibility** icon (eyeball) to view the mask.

6. Brush with the **Erase** tool to subtract the results to the layer selectively.
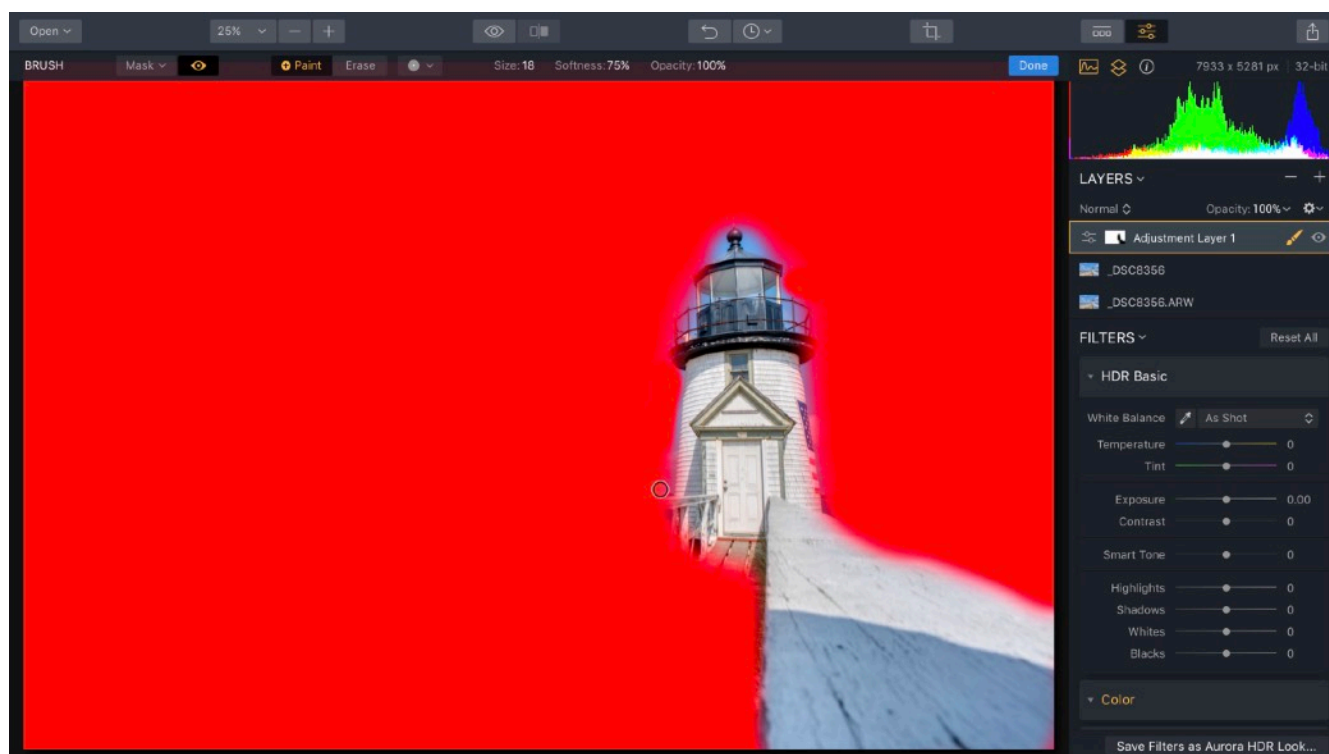
7. Continue painting the mask to get the desired results. Use the toolbar at the top of the window to control the behavior of the Masking Brush tool. Click the **Brush** drop-down menu to control the shape and dynamics of the brush.

- **Size –** Controls the diameter of the brush You can also use the keyboard shortcuts **[** and **]** to make the brush smaller or larger.

- **Softness –** Controls how much blending there is between the center of the brush and its edges This can create a more gradual blend on any mask. You can also use the keyboard shortcuts **Shift + [** or **]** to make the brush harder or softer.

- **Opacity –** This controls the overall opacity of the brush. A brush at 100% has full impact. A brush set to 50% will add or subtract half of its strength.

- **Presets** – In the center of the grid there are various preset brushes for quick selection.

- **Pen Pressure –** If you have a Pen Tablet attached, you can also configure **Pen Pressure**, **Radius** and **Opacity** levels. This allows you to draw on the tablet and have the force applied to the pen transferred to the size and density of the brush.

8. Click and paint on the canvas to modify the selected mask layer or adjustment layer.

9. Toggle the mask visibility off by clicking the **Visibility** icon (eyeball) on the toolbar.

10. To refine the mask even more, click the **Gear** icon then select **Density** and **Feathering** for the mask. This can control how the mask is applied and helps blend results.

- **Density –** Controls the transparency of pixels outside of a mask so that the overall mask fades into the background better.

- **Feather –** Blurs the edges of a mask to more naturally fade the mask adjustments into the image.
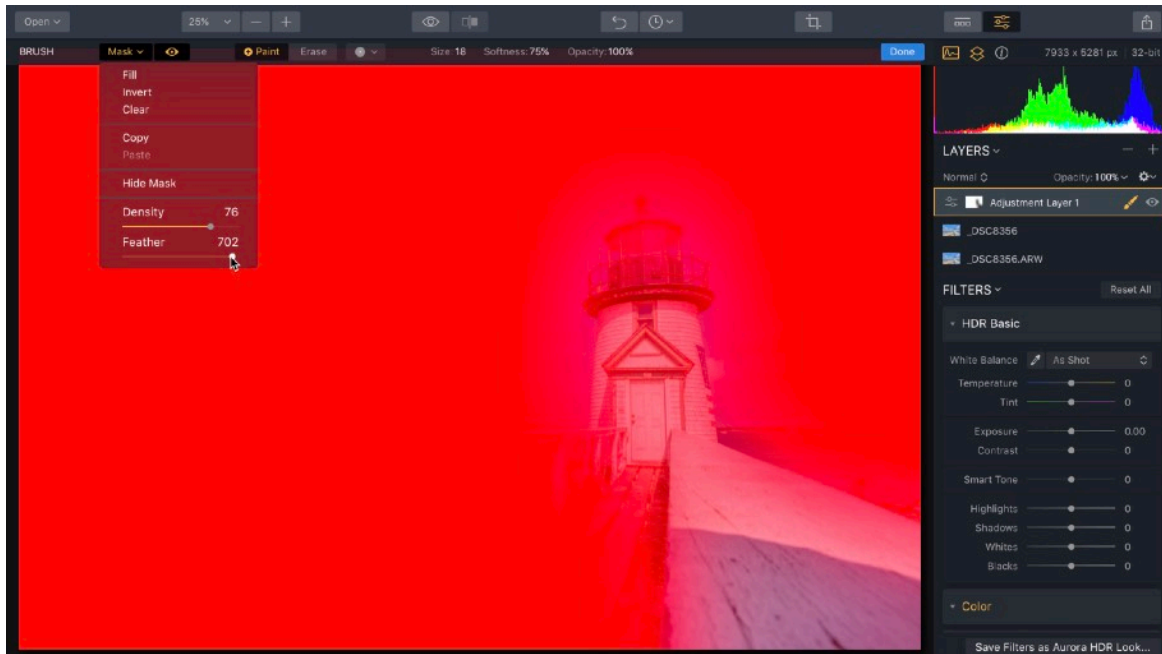
11. If you choose to remove a mask, right-click on the **Mask** icon in the **Layers** panel and choose **Clear** to remove it.

12. Refine the **Opacity** of the Adjustment Layer as needed to get the desired effect.
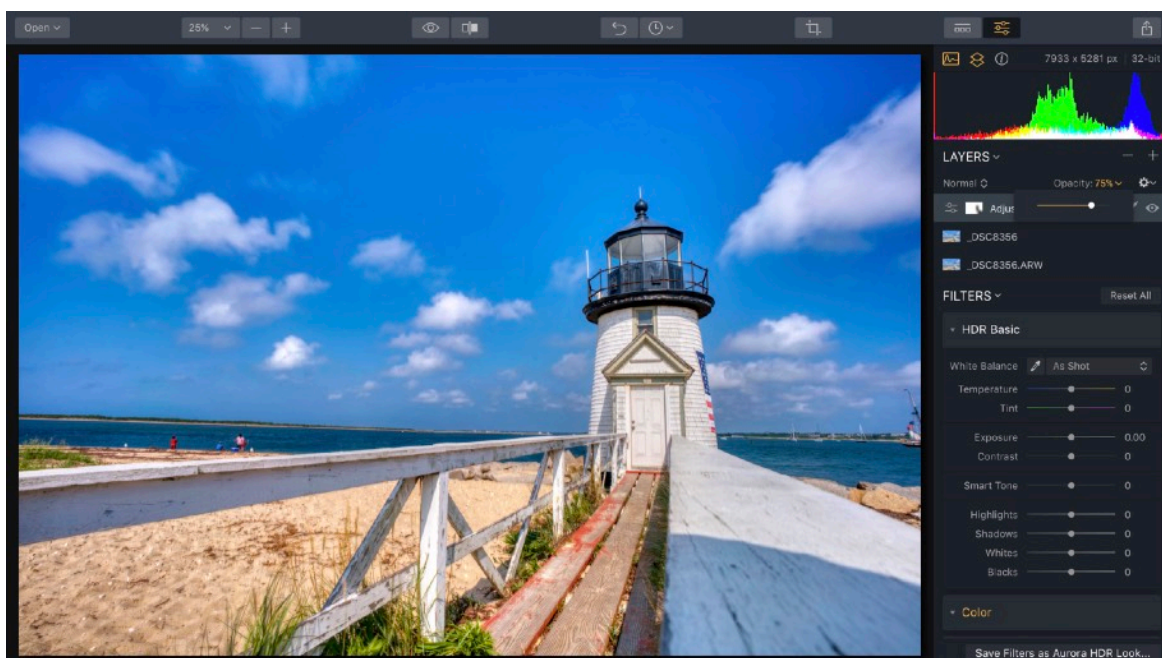
Using a Radial Mask

A Radial Gradient Mask is a quick, easy way to highlight the sun, a face or anything else on your photo. You can create an ellipse or circular shape that makes its easy to create a gradual blend between two states. It can also be used with an image layer to add ramping transparency. For an adjustment layer, it's useful to create a blend between the modified and original state.

Here's how to use the Radial Mask tool:

1. Create a Layer or Adjustment Layer mask as previously discussed in this chapter.

2. Click the **Edit Mask** button on the layer.

3. Select the **Radial Mask** option from the **Tools** dropdown.

4. Click and drag to create a circular gradient.

5. Click the **Visibility** button in the top toolbar to make it easier to visualize the gradient.
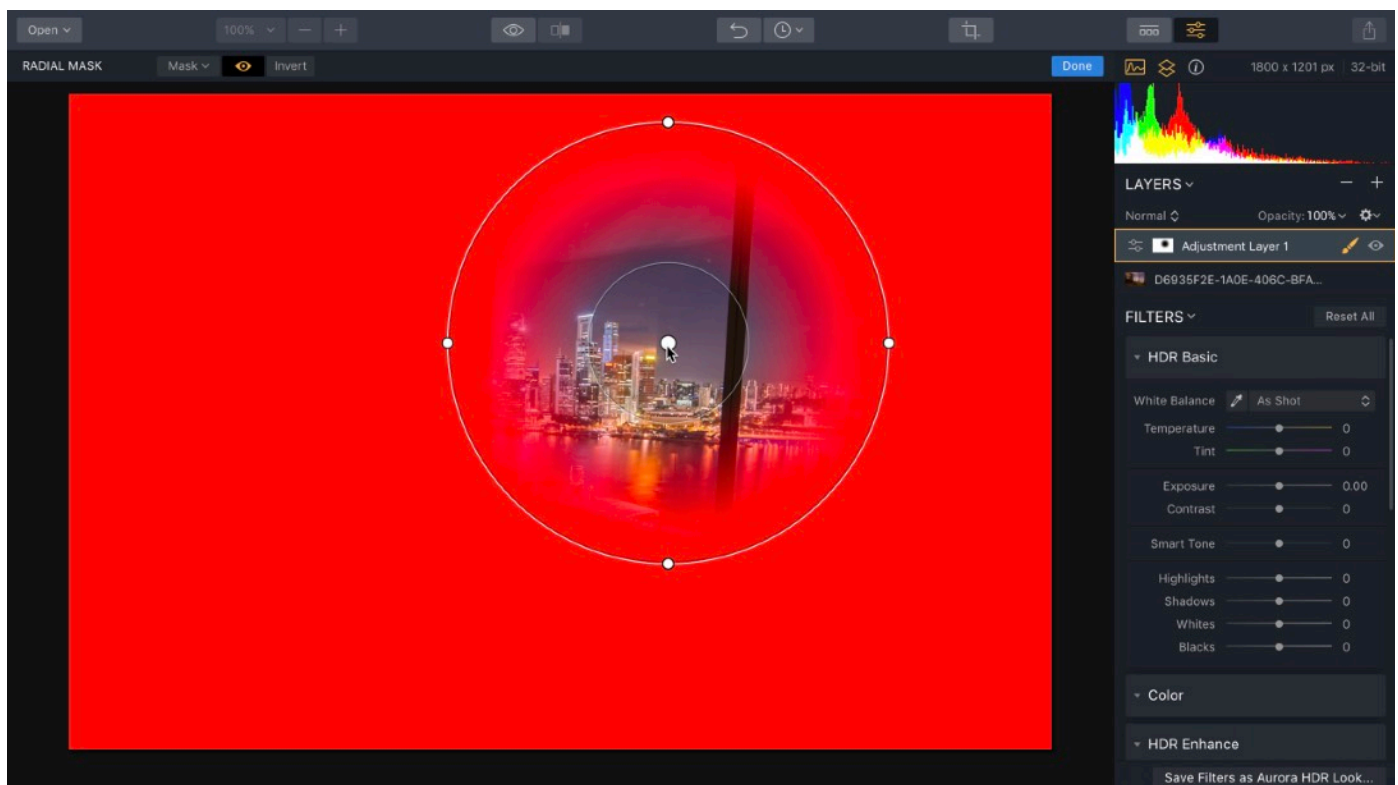
6. The tool offers simple controls to refine the gradient.

   • Drag the middle of the gradient, (the dot) to place its center.

   • Drag the inside circle's radius to affect the size of the gradient.

   • Drag the outside circle's radius to affect the feathering of the gradient.

   • Drag a handle on the outside circle to adjust the aspect ratio to create an ellipse shape.

   • Drag outside the outer circle to rotate the gradient mask.

7. You can change the mode of the mask if you need to change how a mask is applied by clicking the **Invert** button. By default, the Radial Gradient mask that is created will "protect" the center of the circle/oval and any enhancements will be applied outside of the inner circle. Click this button to invert the mask so that effects will be applied to the inner circle.

8. When satisfied with the mask, click the **Done** button.

9. If using an Adjustment Layer, adjust the Filter controls as needed. The mask will control how its results are applied. If using an image layer, you can control the opacity and blending mode of the layer.
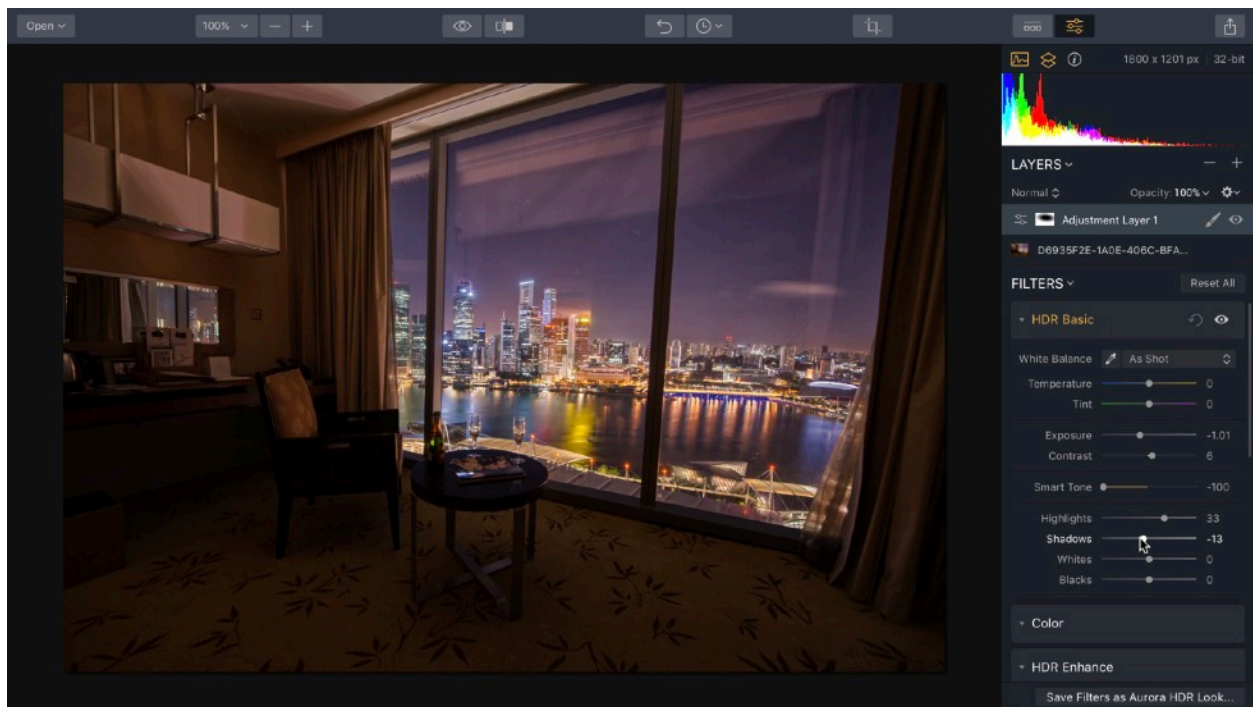
Image by Dima Sytnik

Using a Gradient Mask

The Gradient Mask Tool is useful for creating a gradual blend between two states. It can be used with an image layer to add ramping transparency. For an Adjustment Layer, it's useful to create a blend between the modified and original state. The Gradient Mask is a favorite tool of landscape photographers that allows you to adjust images smoothly with effects only applied to the gradient.

Here's how to use the Gradient Mask tool:

1. Create a Layer or Adjustment Layer mask as previously discussed in this chapter.

2. Click the **Edit Mask** button on the layer.

3. Select the **Gradient Mask** option from the drop-down.

4. Click the **Visibility** button in the top toolbar to make it easier to visualize the gradient.

5. Click and drag to create a linear gradient.

6. The tool offers simple controls to refine the gradient.
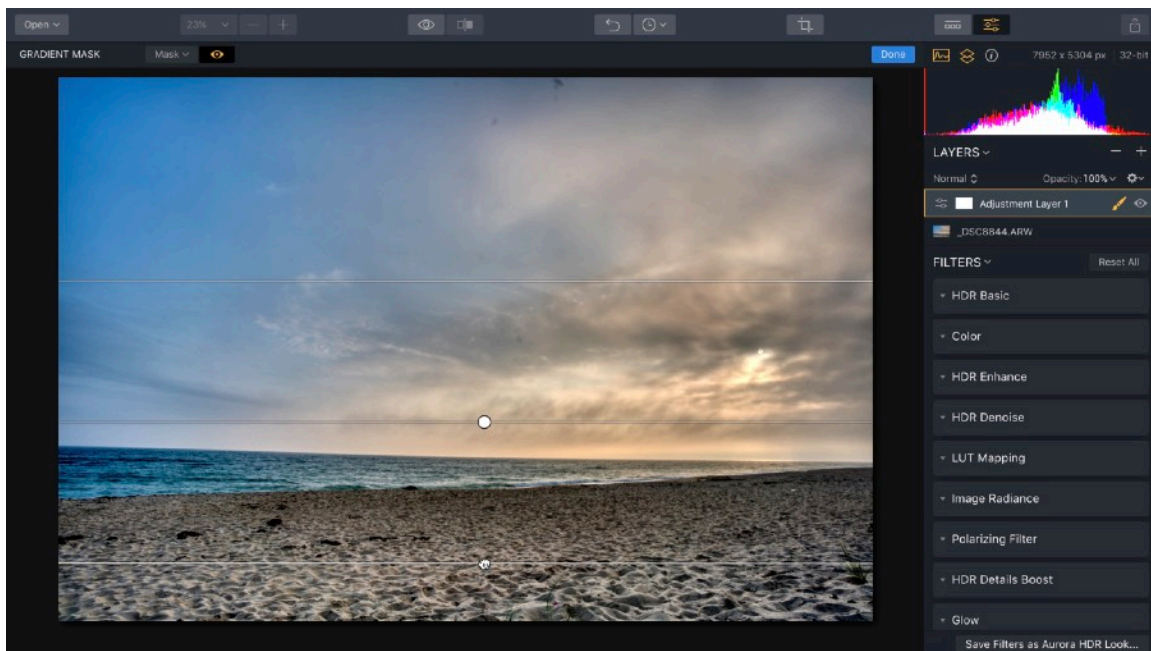
Image by Richard Harrington

- Drag the top bar or bottom bar to expand or contract the gradient.

- Drag the middle dot to position the gradient.

- Drag the bottom bar to move the end of the gradient

- Click and drag just outside the centerpoint to rotate the gradient mask.

- Drag a handle on the outside circle to adjust the aspect ratio to create an ellipse shape.

- Drag outside the outer circle to rotate the gradient mask.
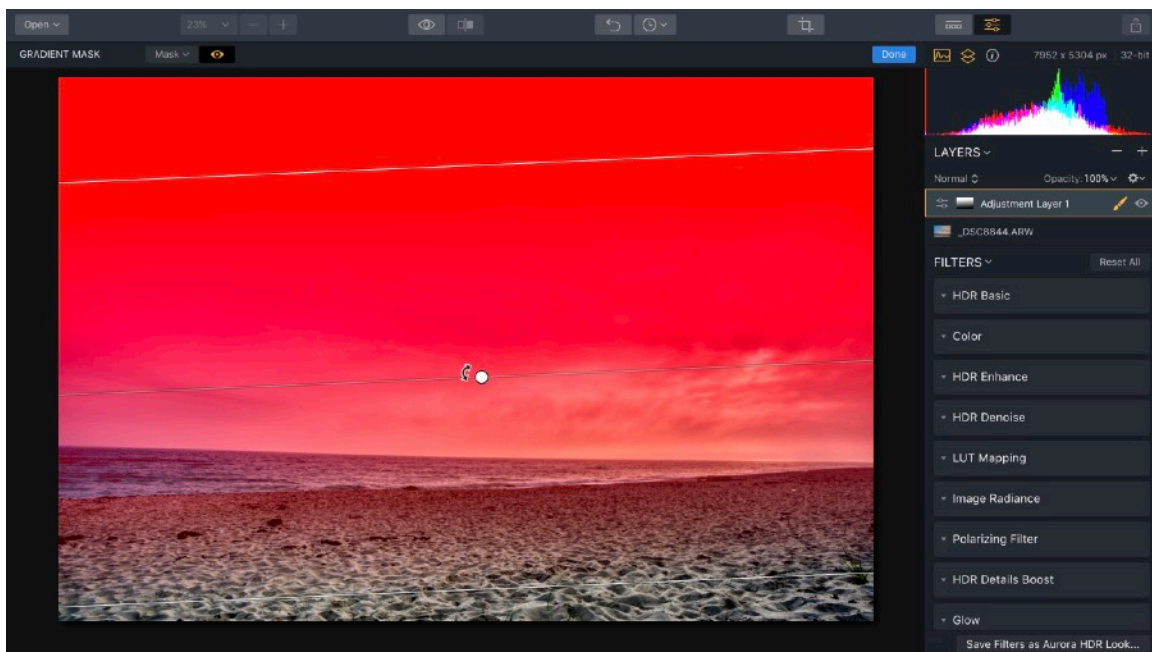
7. When satisfied with the mask, click the **Done** button.
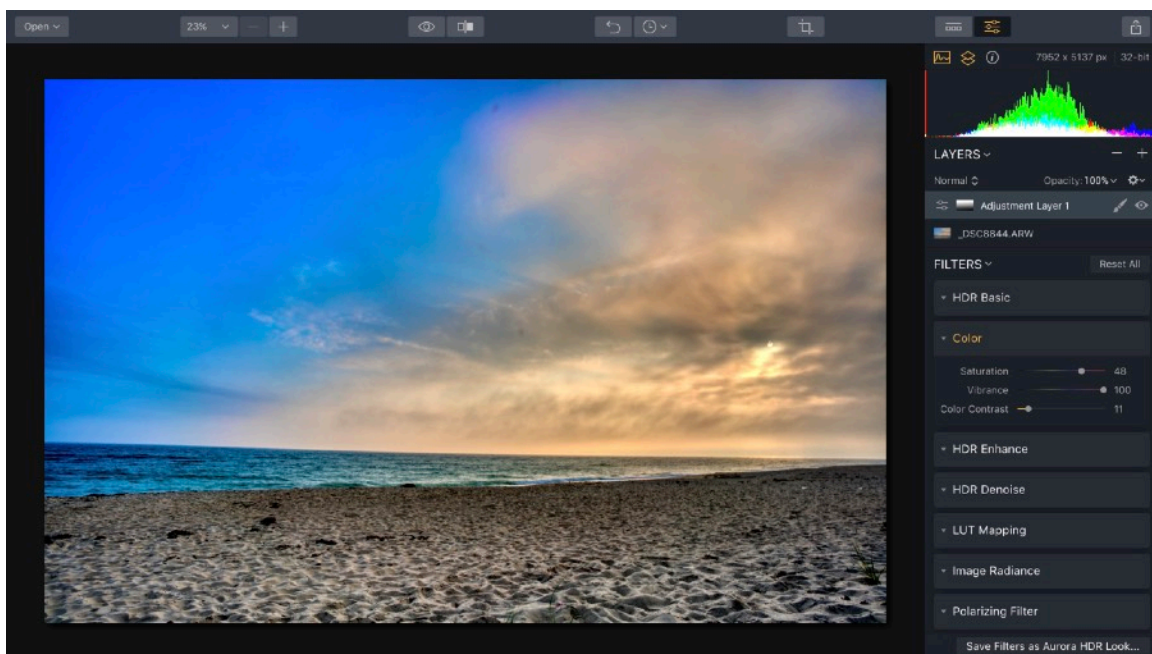
8. If using an Adjustment Layer, adjust the Filter controls as needed. The mask will control how its results are applied. If using an image layer, you can control the opacity and blending mode of the layer.

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TIP

*You can edit the results of a **Gradient** mask by clicking the **Edit Mask** button. This lets you add or subtract from the mask using the **Brush** tool for greater control over the mask.*

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Luminosity Masks

A Luminosity Mask is a fast and easy way to create a new mask based on the brightness of image pixels. When selected, the command will fill the active layer with a mask based on the brightness of image pixels. The transparency for the layer is directly related to the brightness of the pixels.

This command works very well to mask an overlaid image such as a cloud or texture layer. You can also mask a copy of a layer to enhance only part of an image. For example, if the sky and clouds are bright, you can create an exact mask for that area of the image only and then enhance them.

Here's how to create a Luminosity Mask:

1. Open a photo or bracket series within Aurora HDR 2019.

2. In the **Layers** controls click the **+** button and choose the **Add New Image Layer** option. In this example a texture layer was added.
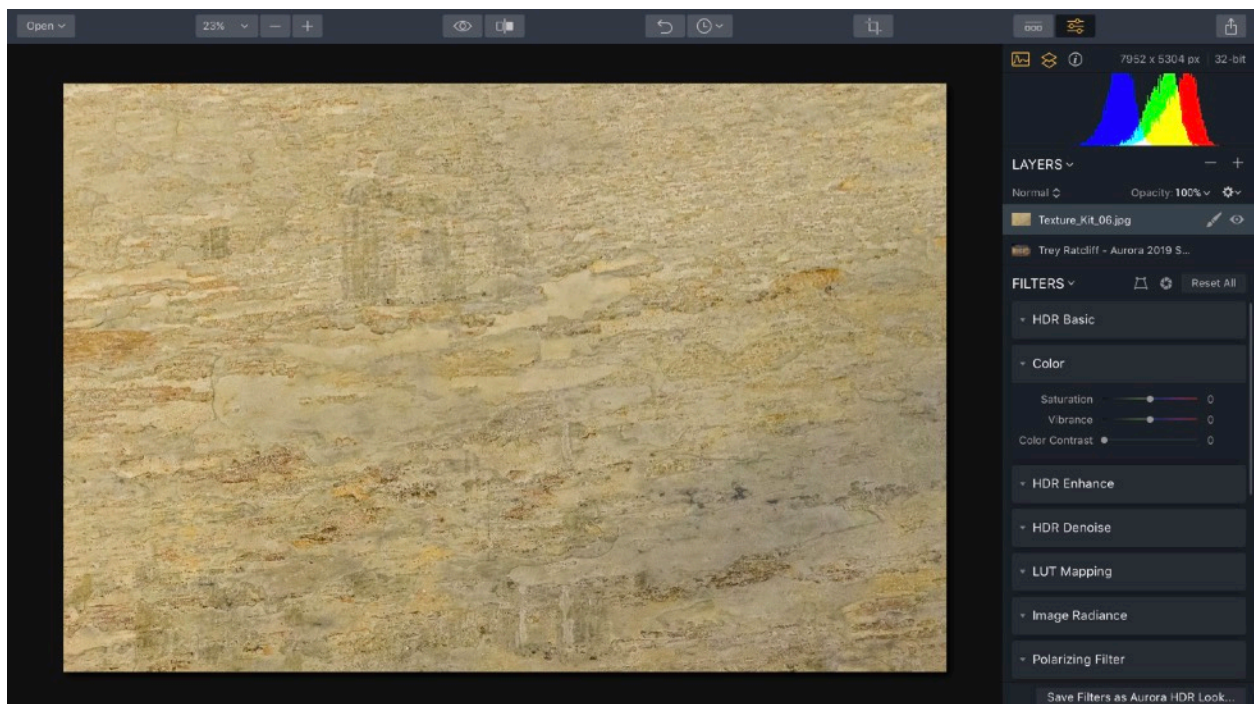
3. For the desired layer, click on on the **Edit Mask** button and choose **Luminosity**.

A new mask is created based upon the brightness values of the image.

4. If the mask is showing unwanted areas, you can right-click on the layer's name and choose **Mask > Invert**.

5. You can also re-run the **Create Luminosity Mask** command multiple times to generate different masks each time.
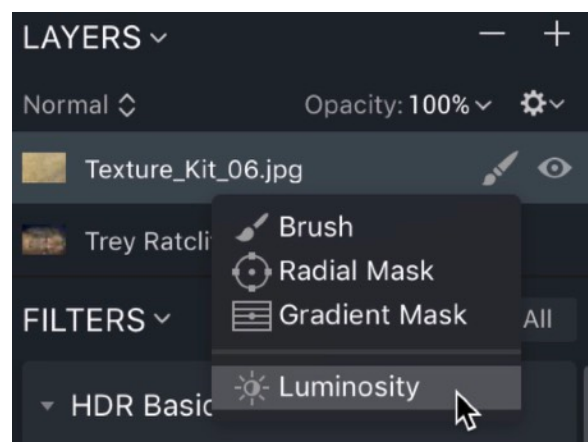
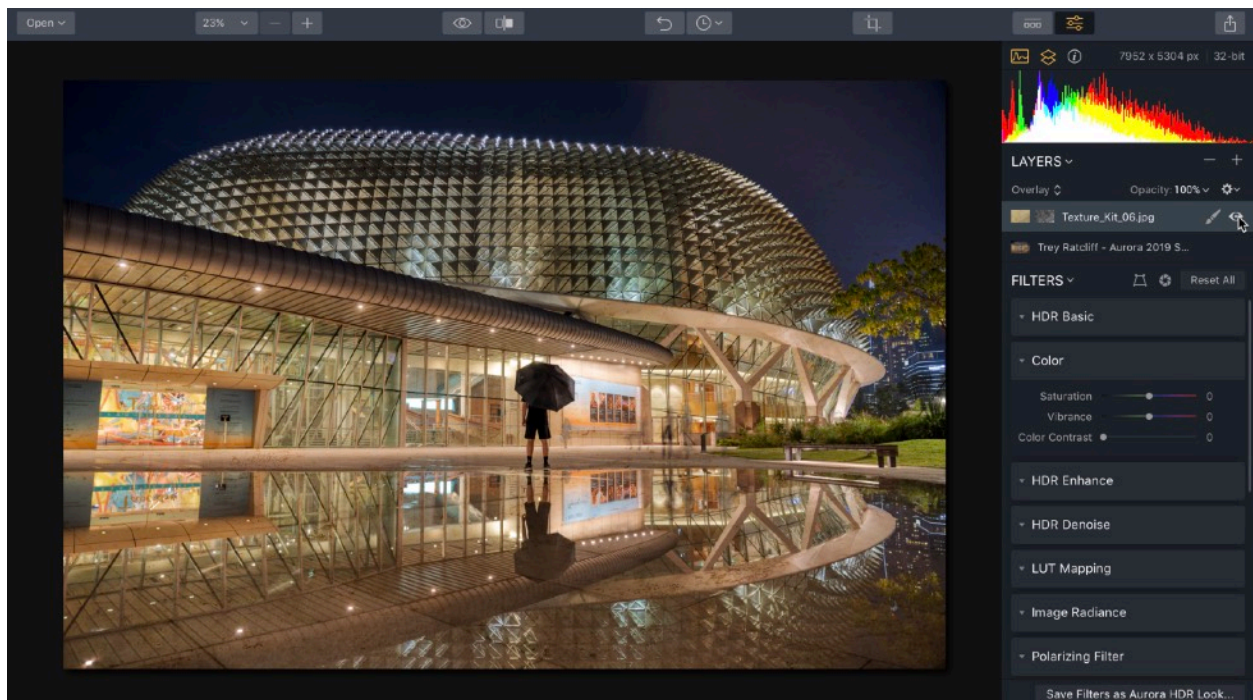6. Use the layer's blending mode and opacity sliders to blend the layer to taste.

Image by Trey Ratcliff

Masking Options

Here are some extra techniques you can use when masking a layer or adjustment layer.

- While masking or erasing, right-clicking the mouse causes a context window of parameter settings for the brush and includes additional controls for pen pressure sensitivity.

- For handy reference, in the **Layers** panel on the upper right side of the Side Panel, you'll see a thumbnail image of the current mask.

- To quickly switch between Paint and Erase modes, use the shortcut key **X**.

- To quickly change the **Diameter** of the brush, use the shortcut keys **[** and **]**. This is very convenient and greatly speeds up brush work.

- To quickly change the **Softness** of the brush, use the shortcut keys **Shift + [** and **Shift +]**.

- If you hold down the space bar in Painting mode you can switch to a Move Image mode. This is very convenient when zoomed in for detailed brush strokes.

Crop & Transform a Photo

Directly out of a camera, your digital photos will likely not be sized to the exact dimensions you need. Between different shaped screens, web pages, social networks, and prints, it's common to change the shape and size of an image. Inside of Aurora HDR 2019 you have options such as cropping which changes the shape of a photo, and transforming which scales the image inside the canvas. You can use these choices individually or in combination to achieve the desired results. Additionally, a photo can be transformed to counteract lens issues.

Cropping a Photo

With the Crop tool you can change a viewer's perception of an image. You can choose to tighten the area of interest, which allows you to de-emphasize (or even eliminate) parts of a photo and improve the image by better framing the subject. An additional benefit is that the Crop tool can also be used to align (straighten) the horizon in an image.

1. Open an image that needs cropping or straightening.

2. Switch to **Crop** tool by click the **Scissors** button in the top toolbar or press the **C** key. After pressing this button, the application enters Crop Tool Mode.
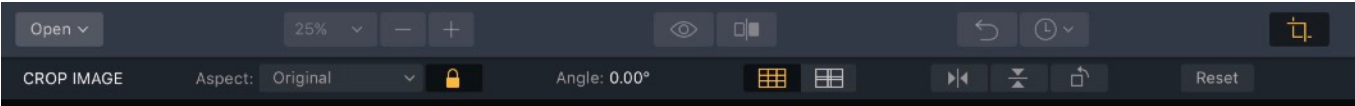

3. Examine the top Info Bar which displays all functions for cropping an image.

4. Choose a ratio from the **Aspect** drop-down menu.

- **Free –** Create a custom shape by dragging to taste.

- **Original –** Preserves the original shape of the photo but allows you to crop more tightly to remove details from the edges

- **Transposed –** The original dimensions are reversed for the crop.

- **16:10 –** A ratio that matches many computer displays

- **16:9 –** A ratio used by televisions, many electronic devices and presentations

- **11:8.5 –** A common size for documents.

- **7:5 –** A rectangular image that's common for many photo sizes

- **5:4 –** A nearly square image that's common for many photo sizes

- **4:3 –** A rectangular image that's common for many photo sizes

- **3:2 –** A rectangular image that's common for many photo sizes

- **1:1** – A square shaped image

- **2:3, 3:4, 4:4 5:7, 8.5:11, 9X16, and 10:16 –** Presets that match the standard print and screen ratios, but with their values transposed

- **Facebook Cover –** A useful size for a page banner on Facebook™
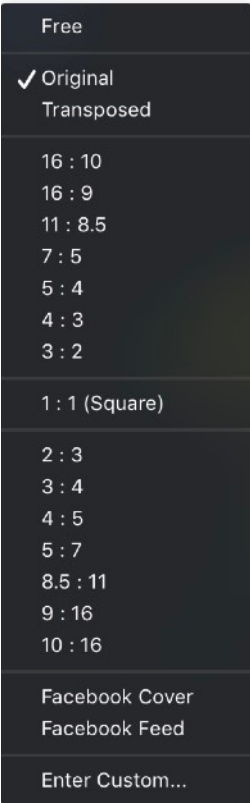
- **Facebook Feed** – A common size for an image post to Facebook
- **Enter Custom… –** Offers the ability to choose a specific aspect ratio

5. Choose a ratio overlay to help with cropping.

- **Rule of Thirds –** This is an over-used standard for cropping. The four intersecting points are considered the best place to put a subject. Many feel that following these guides makes an image appear better.
- **Phi Grid –** The phi grid is similar to the rule-of-thirds grid. The differences are that the parallel lines are closer to each other and to the center of the frame, and the nine boxes are not all the same size. This grid can better accommodate the Golden Ratio. Many landscape photographers feel that this is a better guide for composition than the rule of thirds.
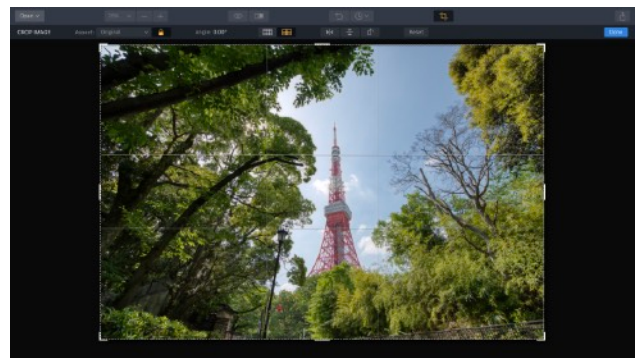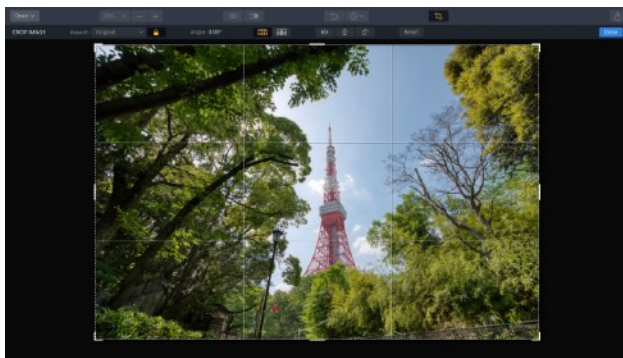
*The **Rule of Thirds** overlay on the left is the default overlay when cropping. The **Phi Grid** on the right is an alternative overlay to help when cropping.*

6. Drag any of the corners or resize handles to modify the cropping rectangle.

7. To **Move** the image inside the crop, just click inside the image crop area and drag to reposition the image "behind" the cropping rectangle.

8. To **Rotate** an image, you can click on the Angle readout to reveal a drop-down slider for adjusting the angle of the image up to 45 degrees in either direction. You can also click and drag just outside a corner to rotate. A grid overlay appears to help you with accurate cropping.

9. When happy with the cropping, click the **Done** button. To cancel this action click **Cancel**.
If you do not like the result, you can easily undo the cropping by clicking the **Undo** button. Hence cropping is a safe operation that can be easily undone.
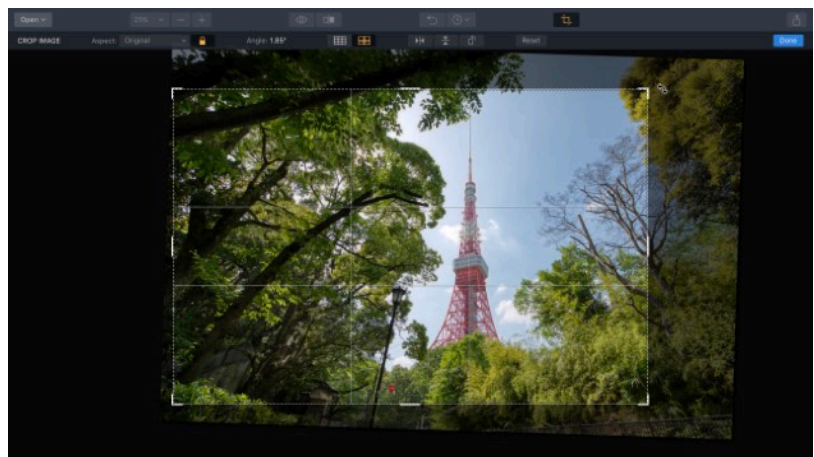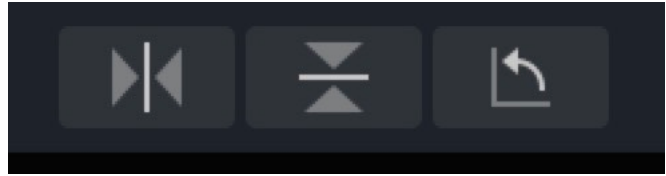

Image by Dima Sytnik

Additional Options When Cropping

Inside the Crop tool, you'll find a few other useful commands.

- Click the **Flip** button to reverse the left and right sides of the image.

- Click the **Flop** button to reverses the top and bottom parts of an image.

- Click the **Rotate** button to turn the canvas in 90˚ increments.

Transforming a Layer

Once you've merged brackets, opened a photo, or added a new layer to a document, it's easy to transform it. With the **Transform** tool there are many options available for changing the position, rotation, and scale of a layer.

1. Open a photo or merge a series of brackets to create a new image.

2. While on the base or initial layer, click the **Transform** button near the top of the Filters controls.
The image can now be transformed.

3. Adjust any of the following properties as needed to transform the image:
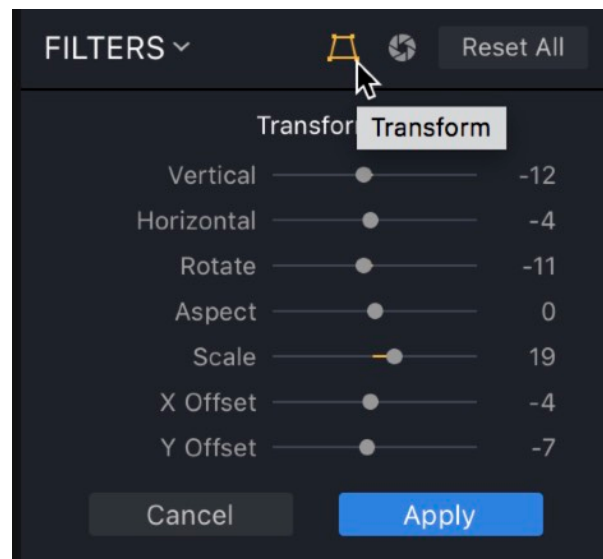
- **Vertical –** This tilts the image by rotating it on the X-axis. This tilts the image forwards or backwards and can help compensate for an image with any keystoning problems. This type of problem causes vertical lines to appear skewed and is often caused by the camera shooting from an angle by rotating on the Y-axis. This angles the image from side to side and solves the problems caused by shooting at an angle above or below in relation to the subject.

- **Horizontal –** This adjustment tilts the image on the Y-axis. It can help compensate for perspective issues caused by shooting off-angle from your subject.

- **Rotate –** Rotates the entire canvas on the Z-axis and can be useful for straightening a crooked photo.

- **Aspect –** This command changes the aspect ratio of a photo. Dragging the slider will expand the height or the width while contracting the opposite direction for the second value.

- **Scale –** Use the Scale command to effectively crop the transformed photo. This is a useful way to hide gaps after transforming a photo.
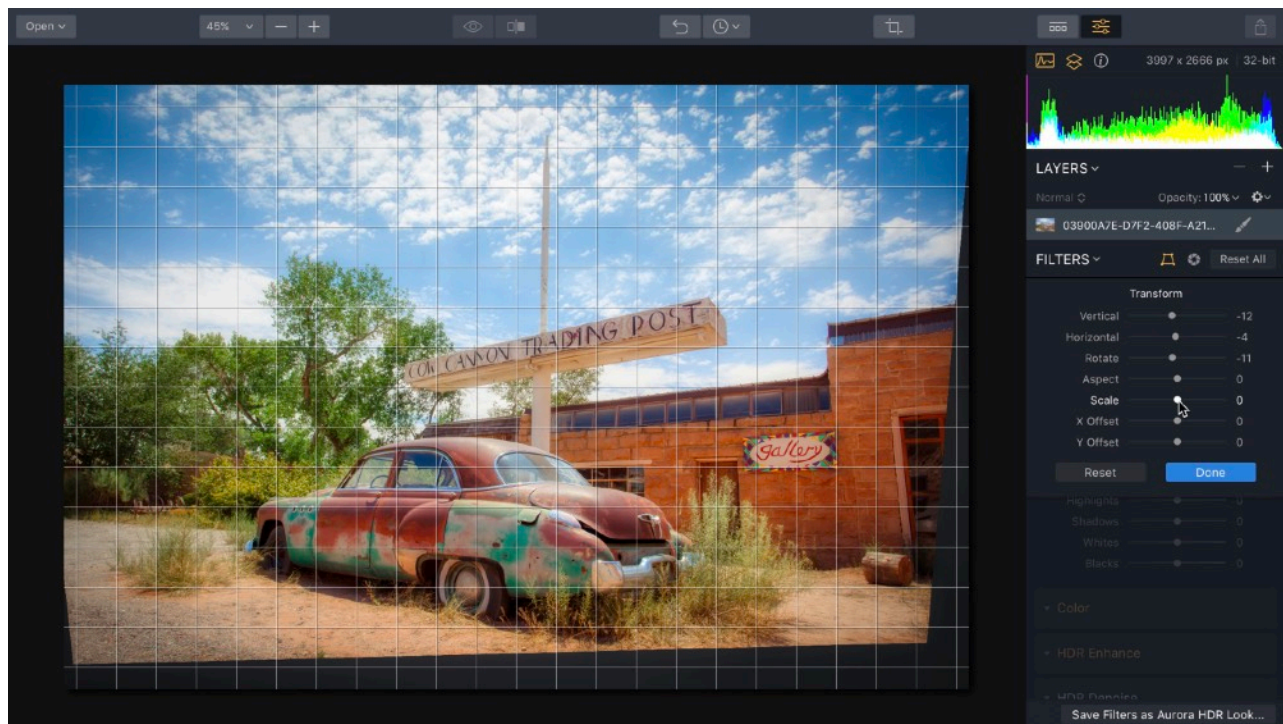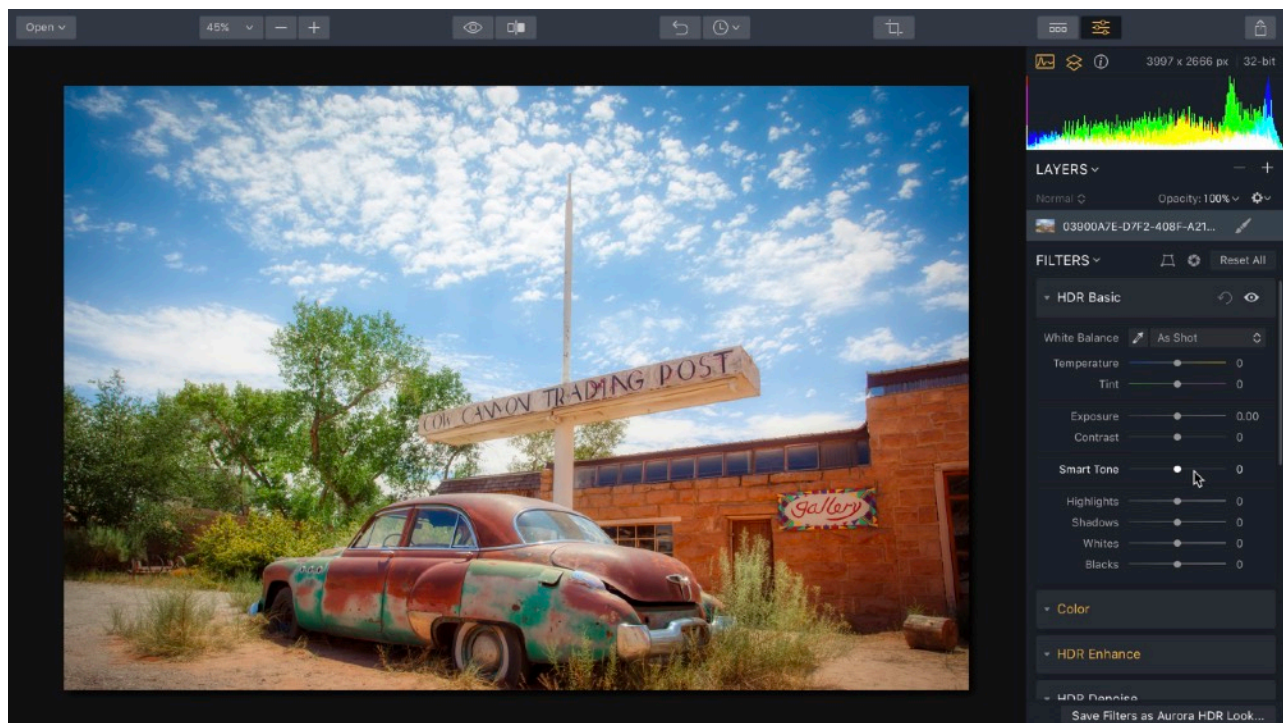
Image by Matt Suess

- **X Offset** This shifts the transformed image left or right.
- **Y Offset** This shifts the transformed image up or down.

4. When finished, click the **Done** button to use the Transform settings.

Applying Lens Correction to a Layer

The new Lens Correction command easily fixes all kinds of lens distortion, from barrel and pincushion to chromatic aberration and vignetting. This is a useful way to compensate for flaws caused by the lens.

1. Open a photo or merge a series of brackets to create a new image.

2. Click the **Lens Correction** button near the top of the Filters controls.
   The image can now be corrected. Any filters applied will be temporarily disabled while in Transform mode.
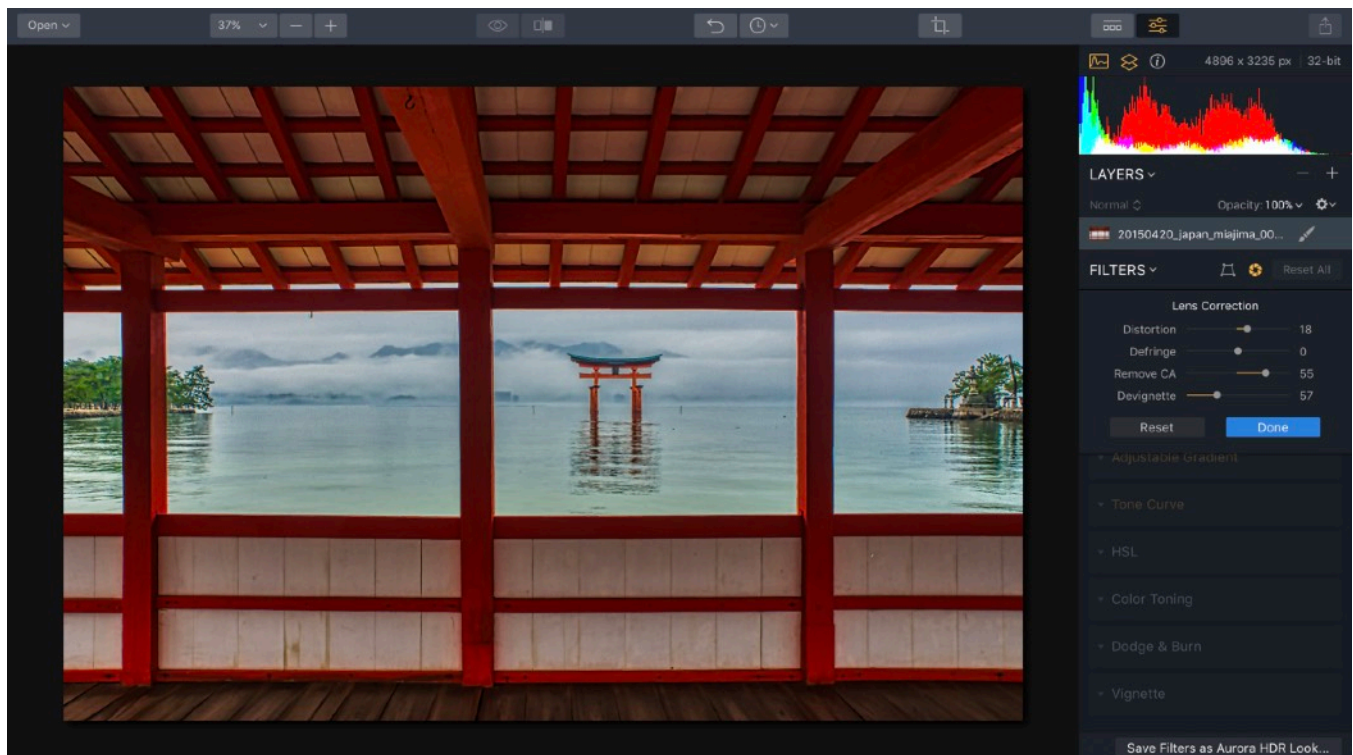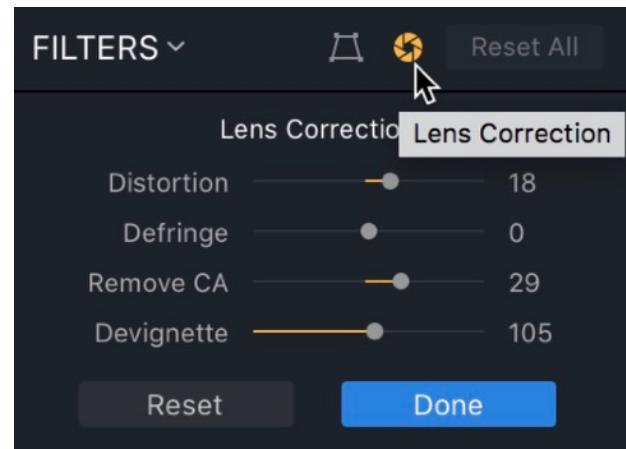

Image by Dima Sytnik

3. Adjust any of the following properties as needed to transform the image:

   • **Distortion –** Drag to the left to increase the barrel shape of the lens. Drag to the left to pinch and compensate for wider angle lenses. You may need to crop the layer or use the **Scale** command in the **Transform** controls to compensate for gaps at the edges.

Image by William Been

The image on the left shows distortion from a wide-angle lens. On the right, some of the unwanted curvature has been corrected.

- **Defringe –** This option is useful to remove fringe colors along edges. This can occur along detailed edges in a subject, especially where there's a sharp change in color values.

- **Remove CA (Chromatic Aberration) –** Chromatic aberration is another type of color fringing. It often happens on telephoto lenses and in areas of high contrast. It tends to show up as magenta or green edges.

- **Devignette –** Removes any darkening at the edges of an image caused by the lens itself. This is a corrective command, not a stylizing command. If you want an artistic vignette, use the Vignette filter.

Image by Laurie Rubin

The image on the left shows darkening along the outer edges caused by the lens. The image on the right has had its edges lightened with the Devignette command. If you want a stylistic vignette, use the Vignette filter.

Saving and Exporting Files

As you work with digital images, at some point you'll reach a point where saving a file is a good idea. It might be an in-progress save to capture work to date as you edit a photo. Perhaps it's to prepare a file for printing or sharing on the Internet. Or maybe you'd like to export to social media. Aurora HDR 2019 offers many different options for saving and exporting images to meet your needs.

Saving a Native Aurora HDR File for Future Edits

As you design using layers, filters, and masks, then it's a good idea to capture that work from time-to-time. To make this easy, Aurora HDR 2019 offers a native file format, the Aurora HDR 2019 project file, (its file extension is .**mpaur2**).

1. To save your work in progress, press **Cmd+S / Ctrl+S** on your keyboard or choose **File > Save….**
    A new dialog box opens.

2. Choose a new location to store the saved file on your hard drive, an attached disk, or using a Cloud storage provider.

3. Give the file a descriptive name.
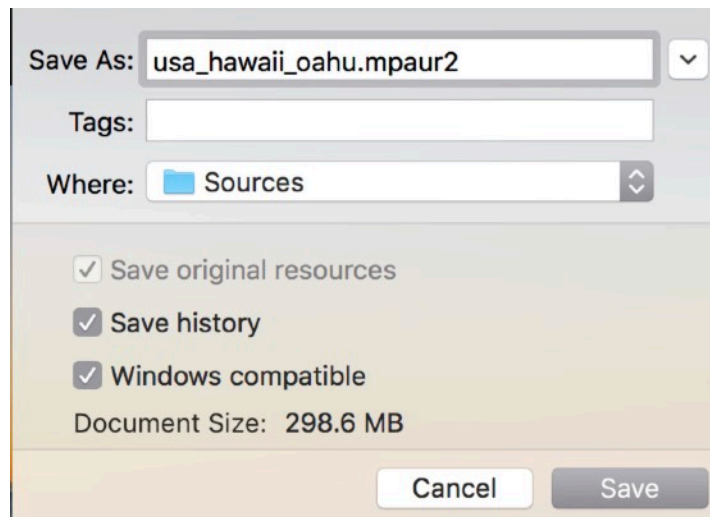
4. Choose **Save original resources to Document** if you want to include the information from the brackets or source files.

5. Choose **Save history** if you'd like to include the ability to undo edits that you've made.

6. Choose the **Windows compatible** option on a Mac to ensure cross-platform compatibility.

7. When finished, click **Save** to write the file to disk.
    Your work is saved in its current state so that you can later continue from the same point. The file is saved in the proprietary Aurora HDR 2019 file format and cannot be opened with another application. For other software to use images created using Aurora HDR 2019, you'll need to **Export** the file (see below).

Exporting Images

While saving a native Aurora HDR 2019 file is important, you may also need to export multiple files for other tasks. Maybe it's to post online, to drop into a presentation, or to collaborate with others. When you export a file, you can save in a variety of file formats including JPG, TIFF, PNG and even PSD.

Saving an Image File

You can also save image files from your Aurora HDR 2019 project. These files are broadly compatible with many other applications. To create a new graphic file:

1. It is suggested that you first save a native Aurora HDR 2019 project first using the **File > Save** command.

2. To create a new graphic file choose **File > Export…** or click the **Export** button in the upper right of the interface. A new dialog box opens.

3. Choose a new location to store the saved file on your hard drive, an attached disk, or using a cloud storage provider.

4. Select from the following optional items:

   - **Sharpen –** Choose whether you want to sharpen the exported file. This can increase details in the edges of the image and overcome some of the compression artifacts of formats like JPEG.

   - **Resize –** You can choose to export at the original size, or to enter a new dimension for the image to fit its long side or short side.

   - **Color space –** You can choose from 3 color spaces for output. **sRGB** is the narrowest color gamut, but most compatible with the web. **Adobe RGB** is a common color space used in computer graphics and many software applications. **ProPhoto RGB** provides the widest gamut and supports the broadest range of colors. ProPhoto RGB is the only color space that can contain all the colors captured in a raw format photo.

   - **Format –** Choose from eight different file formats. Some options like TIFF and JPEG may offer additional settings for control over compression and bit depth.

5. Give the file a descriptive name and click the **Save** button to write to disk.
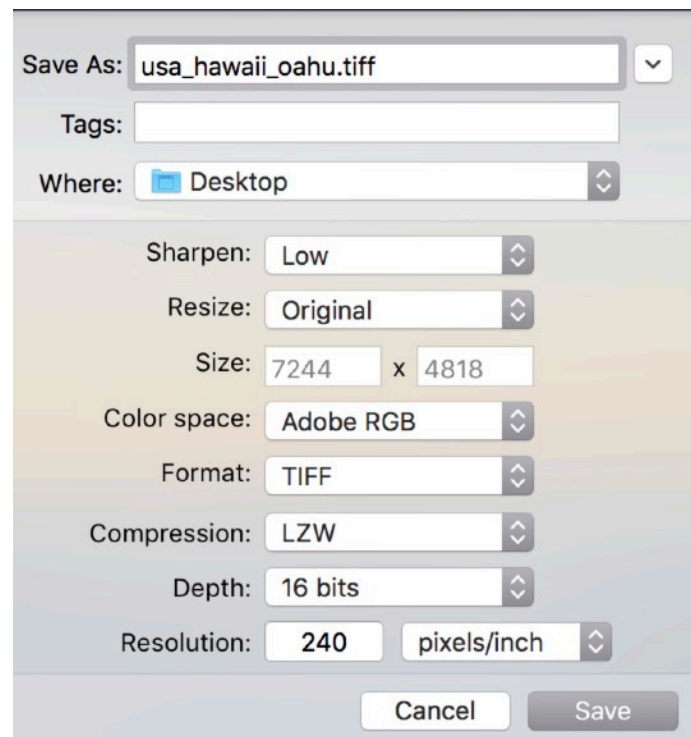
Supported File Formats

The following types of file can be created in Aurora HDR 2019.

- **JPEG (.jpg) –** The Joint Photographic Experts Group (JPEG) format is most often used to display continuous-tone images (such as photos) on the Internet. Most digital cameras use JPEG because it provides excellent compression; the maximum setting provides comparable image quality to much larger file formats like TIFF. Occasionally, the print industry (especially newspapers) will use JPEGs. JPEG is a lossy compression, which means that some data is discarded during compression of the image. JPEG should not be used as an archive or production file format. You should generally only save JPEG files once, because re-saving continues to discard data and lower image quality. If you have acquired an image as a JPEG in your camera, be sure to save the edited document as a native Aurora HDR 2019 file.

- **PNG (.png) –** The Portable Network Graphics format provides lossless compression. It is increasingly common on the Internet, as most web browsers support it. The PNG format was created to be a patent-free alternative to GIF. Its major advantage is the PNG-24 file, which allows for 24-bit images (8 bits per channel) and embedded transparency. It is technically superior to GIF.

- **TIFF (.tif) –** The Tagged-Image File Format is one of the most common and flexible formats available. It is widely used to exchange files between applications and computer platforms, and has a long legacy of compatibility. Additionally, TIFF is one of the formats to work in a bit depth of 8 or 16 bits per channel.

- **JPEG-2000 (.jp2) –** The JPEG-2000 format is an update released in the year 2000 from the Joint Photographic Experts Group committee. Its intent was to replace the original JPEG format. It uses a newer wavelet-based method of image compression which is more efficient.

- **Photoshop (.psd) –** The Photoshop format is a common format used in the computer graphics industry. Skylum cannot write a layered file, but can export a file that can be opened by Adobe Photoshop and other software packages which support the format.

- **PDF (.pdf) –** The Portable Document Format (PDF) is a file format invented by Adobe and was intended to be an extension of PostScript. A PDF can be viewed on virtually every operating system and portable media player or phone. The PDF is an open standard, which means that the computer industry is able to create applications that can read or write PDFs without paying Adobe additional fees. This openness led to the quick adoption of PDF, and it is utilized online extensively.

Open an Image in Other Applications

Aurora HDR 2019 can easily exchange files with other applications. Depending on your operating system and which applications you have installed, you may see different choices.
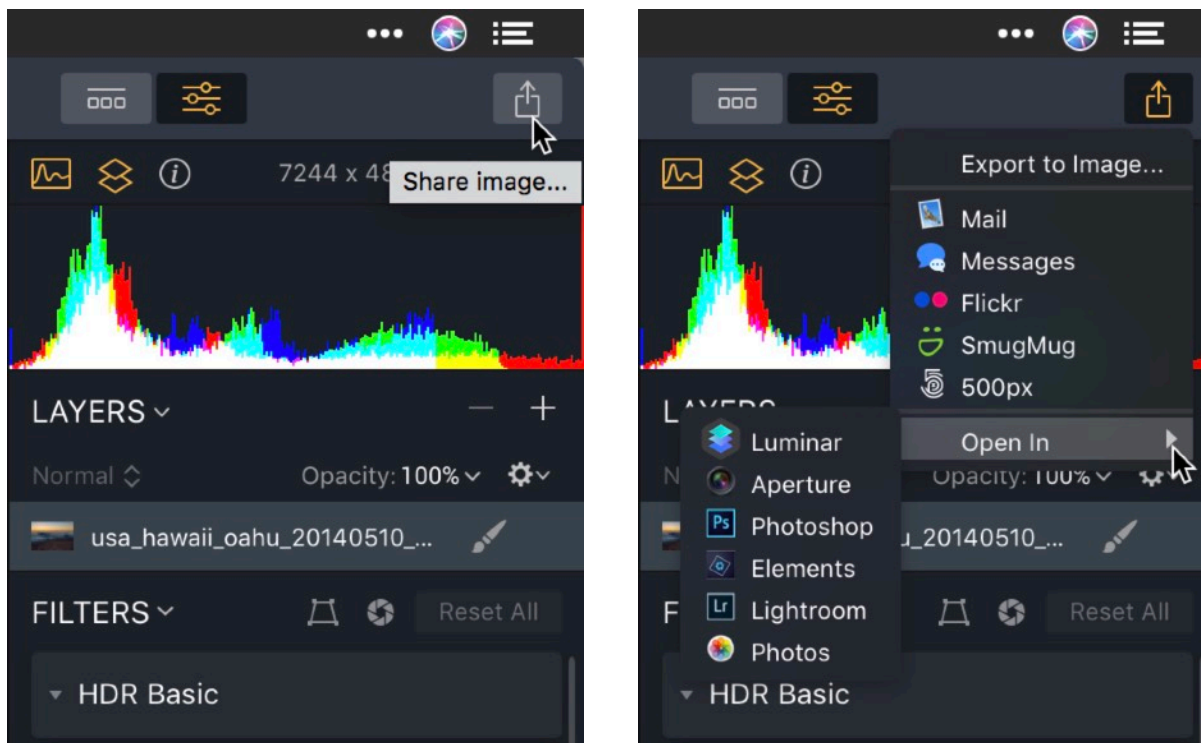

Image by Dima Sytnik

- **Luminar** – The most powerful and easy-to-use photo editor

- **Aperture –** Apple's photo editing application for professionals

- **Photoshop –** Adobe's editor for editing images with layers

- **Elements –** Photoshop Elements is an editing tool designed for consumers from Adobe.

- **Lightroom –** A photo organizer and basic editor from Adobe

- **Photos –** Photos for Mac is a photo organizer for Mac that also syncs with iOS.
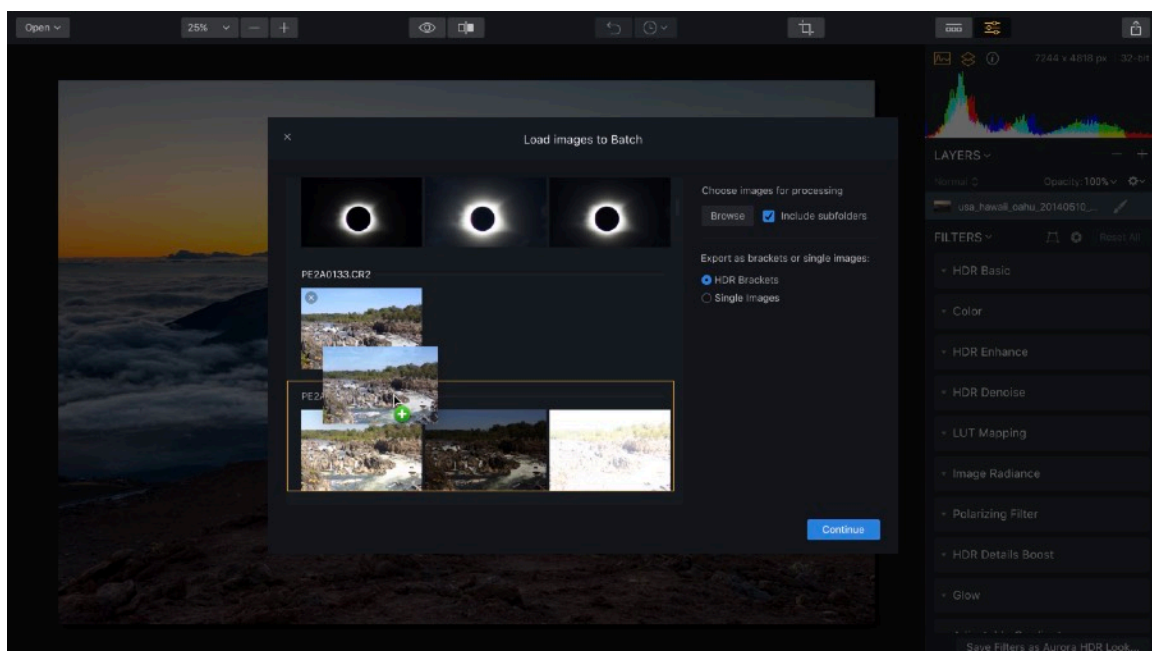
Batch Processing Files

Batch Processing is a powerful way to open, edit and save many images at once, saving time and effort. The tool is ideal for working on single images as well as many sets of bracketed exposures. Aurora HDR 2019 will automatically group brackets based on EXIF data stored in each image including exposure settings, aperture settings, ISO levels, lens data and time shot.

Getting Started with Batch Processing

To begin a Batch Processing session, either access it from the initial Open Aurora HDR 2019 dialog box, or… once the application has started, from **File > Batch Processing…** You can also access it by clicking the **Open** button in the top toolbar and choosing **Batch Process**.

1. **Load the Brackets.** You can drag files or folders containing files into the new window to load them. You can also click the **Browse** button in the upper right corner to bring up the Open file dialog box. If the **Include Subfolders** option is on, and you've added folders, then Aurora HDR 2019 will search for all the images in every subfolder of the added folders. Give the application a little time to analyze the images.

2. **Choose a develop method.** Images can be processed as single images, or as HDR Brackets. To switch the image processing type, you have to press the appropriate button at the bottom in the middle of the window.

    • **HDR Brackets** mode is set by default, which will automatically sort and group exposure brackets and process them accordingly.

    • If **Single Images** mode is selected, all the images will be treated as independent files and processed separately.
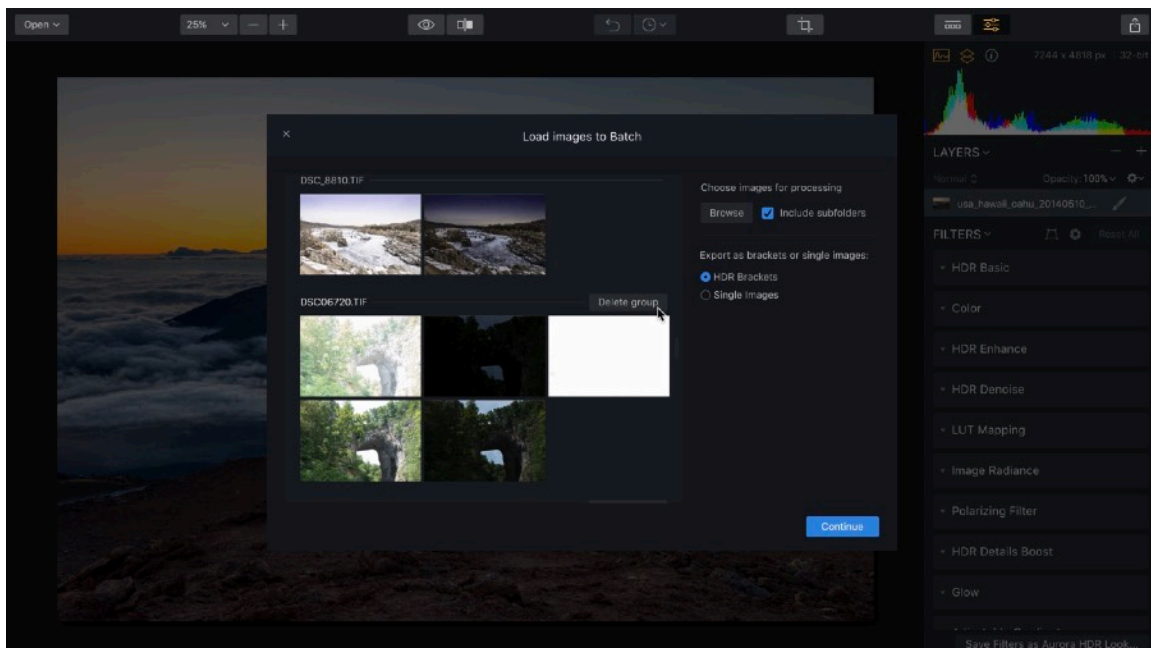
3. Drag any photos that are not properly grouped to the images you'd like to merge them with.

4. If an image should not be processed, you can click the **X** in the upper left corner to remove it from the Batch window.
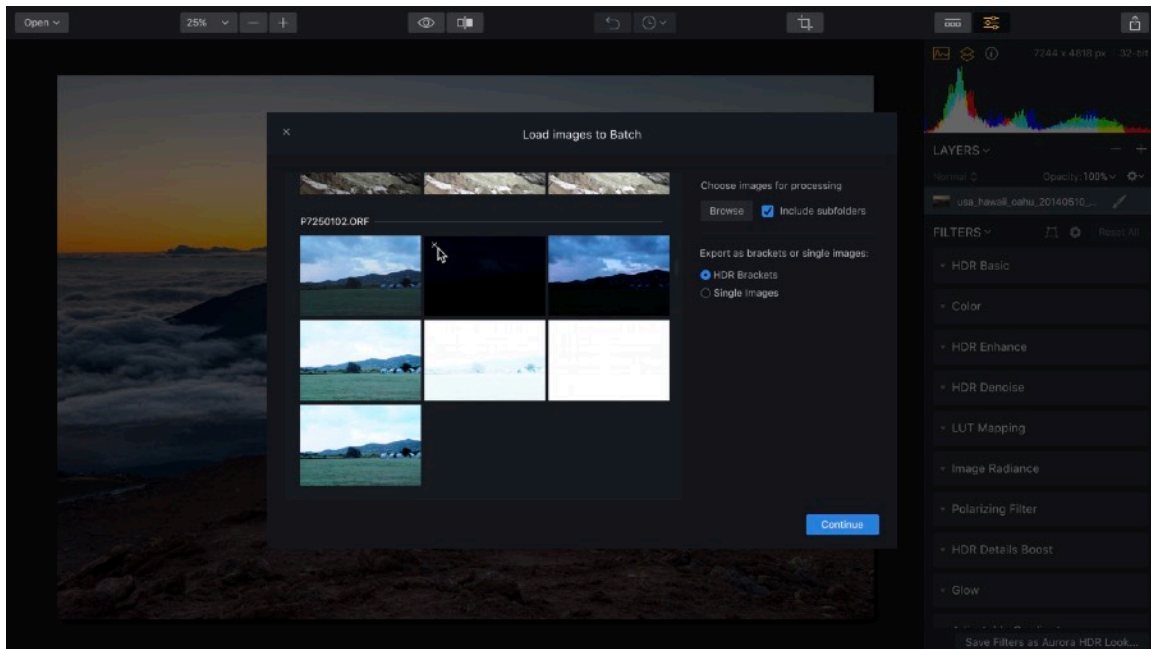
5. If you want to remove a group of images from the Batch window, just click the **Delete Group** button.


6. After the images you wish to process have been loaded and grouped, press the **Continue** button to reveal options and settings for Batch Processing.

Batch Processing Settings

The Batch Processing feature is very versatile and contains many options that you can conveniently apply to a large set of images. Moving top to bottom, here are the options you have available:

Default Settings

- **Aurora HDR Looks –** The dropdown menu at the top lets you pick both the group and individual Aurora HDR Look to apply to your image.

- **Save to –** This option lets you choose where processed files will be saved. You can save them in their current location or browse to select another folder. When you've made a choice, the file "path" will be displayed.
  Note: Because it is possible to overwrite your original files, it is good practice to save your batch-processed files in a new folder separate from the original files.
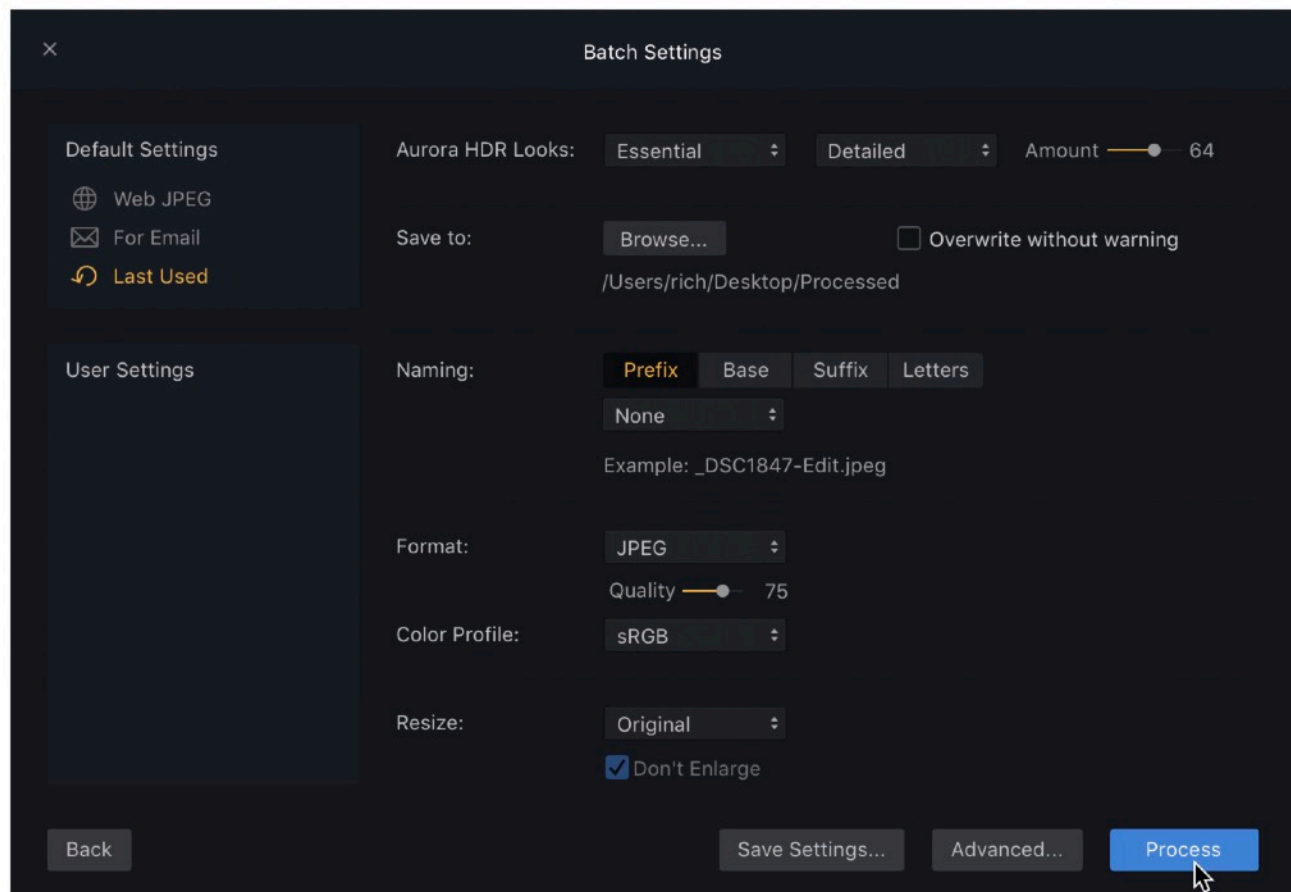
- **Naming –** Aurora HDR 2019 has very flexible file naming options. You can add a prefix and suffix, choose from a variety of base names and even select the case of the letters. This gives you tremendous flexibility to organize your files as part of the batch processing operation.

- **Format –** Choose the way types of files are created.   You can create JPEG, PNG, TIFF, PDF, JPEG-2000 or PSD files during batch processing.

- **Color Profile –** This controls how the colors are interpreted. Options include: sRGB, Adobe RGB, and ProPhoto RGB

- **Resize –** Easily choose a dimension for the new files

Advanced Settings

If you need even more precise, be sure to try out the **Advanced Settings**. Just click the **Advanced** button at the bottom of the Batch Settings window.
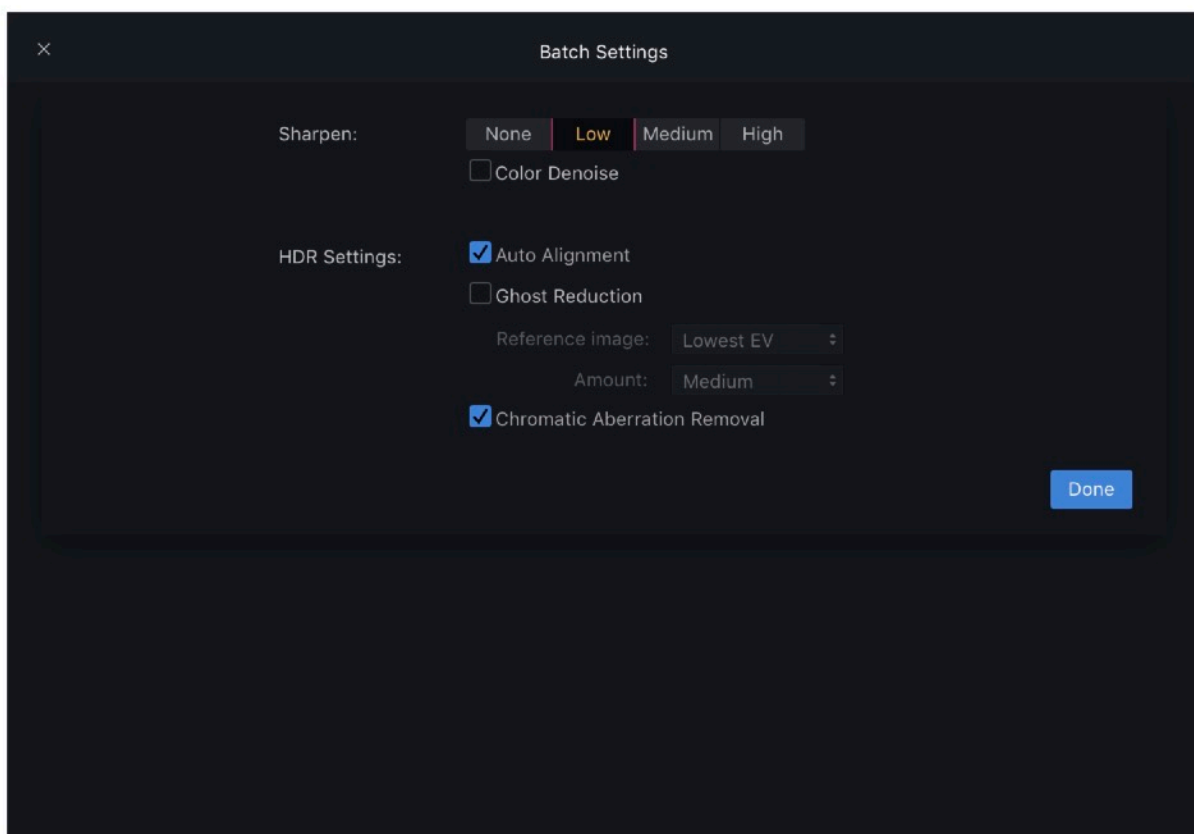
- **Sharpen –** Enhances edge detail in the photos when merging
- **Color Denoise –** Helps remove unwanted color noise in the image
- **HDR Settings –** The options presented here mimic the HDR Merge dialog of the main Aurora HDR 2019 software. These include advanced options for alignment, ghost reduction, and chromatic aberration cleanup. Select the settings desired by clicking the appropriate checkboxes.

Click **Done** to store the Advanced Settings.

Running the Batch

After selecting your desired Batch Processing options, click the **Process** button in the lower right of the window to begin the operation. This will display a processing window showing progress.

- To return to the **Image Selection** window to select different images prior to beginning a Batch Processing operation, click the **Back** button in the lower left of the window.

- To save your configuration for a future job, click the **Save Settings** button.

- To cancel Batch Processing altogether, click the **X** in the upper-left corner of the window or click the **Cancel** button in the lower-right.
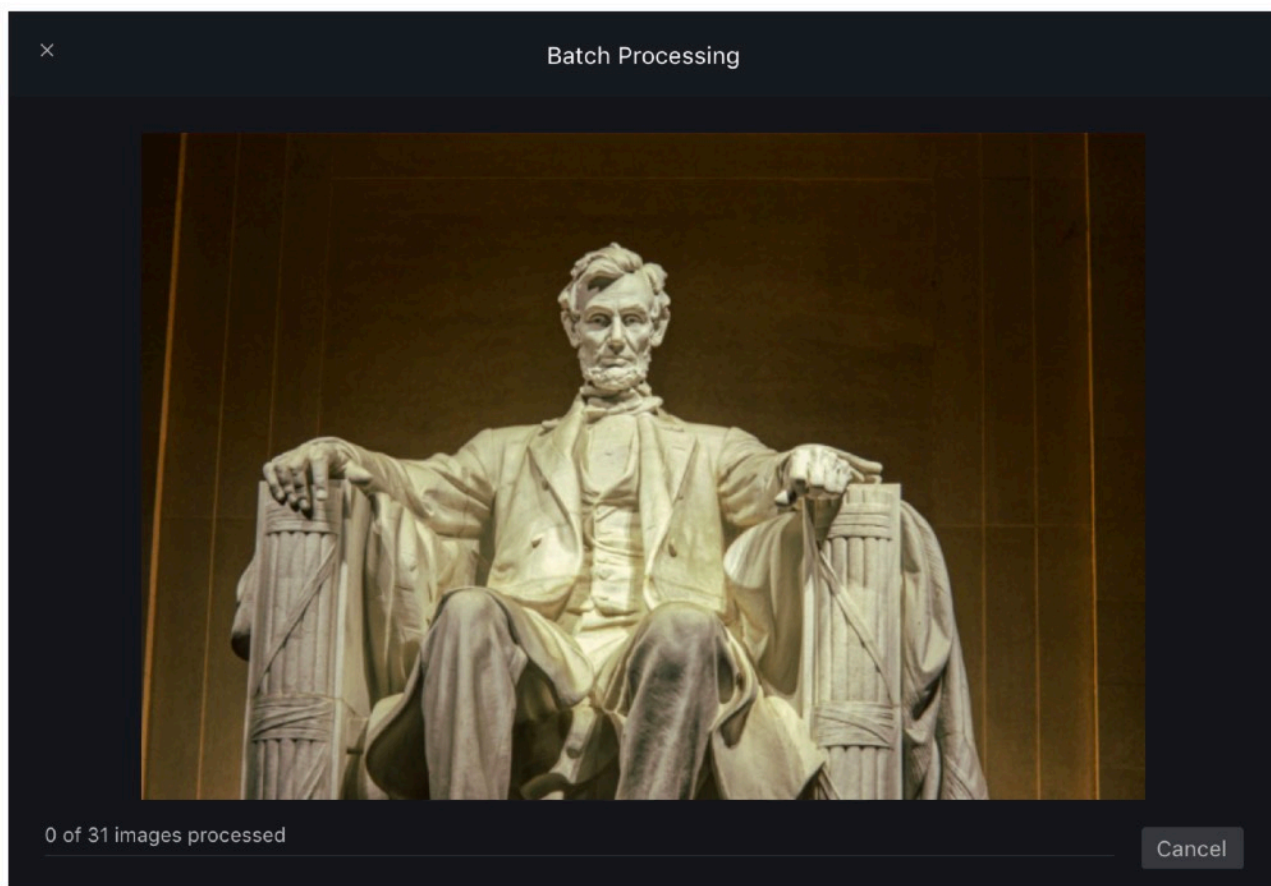

Image by Richard Harrington

Keyboard Shortcuts

General Shortcuts

- **F –** View the current image full-size on the screen. Return to the application by pressing any button.

- **\ –** Activates before/after comparison. When the key is pressed, the original image will be shown. The original image can be either the original tone-mapped result or a middle image in a bracket series. The last option is set by default. To change this option, simply go to the **View > Compare With** fly-out menu. Releasing the key will reveal the enhanced image.

- **; –** Activates a side-by-side comparison mode where the original image is on the left side and the edited result will be on the right side. To exit the mode press the **;** button again.

- **Tab –** Show/hide the Preset panel at the bottom of the window.

- **C –** Enter the Crop tool

- **B –** Activates the Brush Mask tool

- **G –** Activates the Gradient Mask tool

- **R –** Activates the Radial Mask Tool

- **J –** Show/hide the display of "hot" and "cold" pixels. These are completely black and white pixels on an image.

- **Cmd + B / Ctrl + B –** Opens Batch Processing mode

- **Shift + Cmd + E / Shift + Ctrl +E –** - Export to a file

- **Shift + Cmd + F / Shift + Ctrl + F –** Show current edited file in Finder/Explorer

Mask Editing Shortcuts

- **[–** Decrease the brush radius

- **] –** Increases the brush radius

- **Shift + [–** Decreases the brush softness

- **Shift +] –** Increases the brush softness

- **X –** Switches between Paint and Erase modes

- **Cmd + I / Ctrl + I –** Inverts the layer mask

- **/ –** Show current layer mask in the form of red transparent image imposition

- **Spacebar –** Pans the image in the painting mode when zoomed in

Keeping Aurora HDR 2019 Up to Date

Aurora HDR 2019 has a handy automatic update feature to address updates, new features, enhancements and bug fixes. To ensure you've got the latest release, open the software and choose the **Aurora HDR 2019 > Check for Updates** (Mac) or **Help > Check for Updates** (PC).

This will launch the Skylum update service and automatically grab any updates you need. Follow any prompts relating to installation and/or restarting the software. You may also need to input your Administrator Password and update the Plug-ins for your other applications.
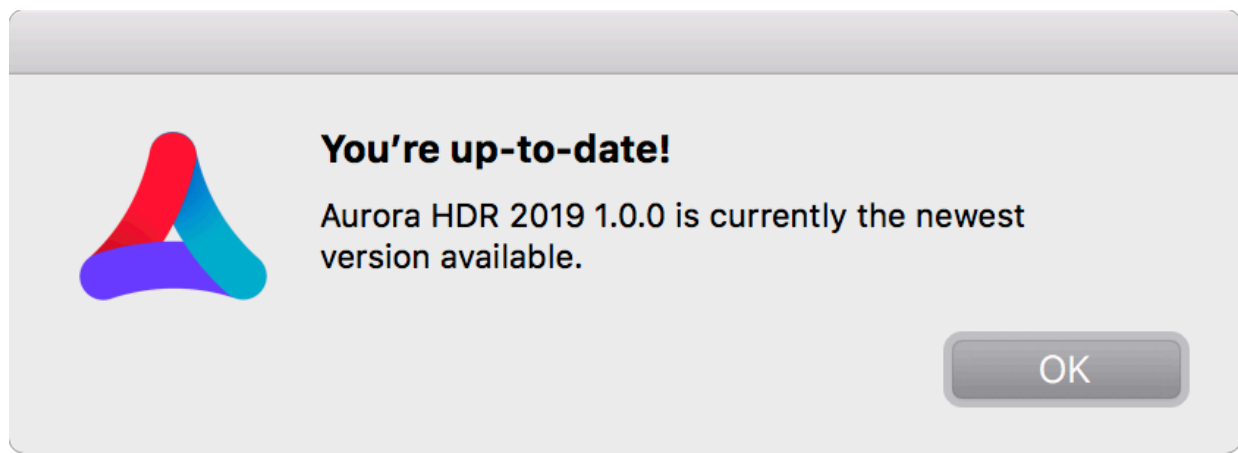
Thank you.

If you have questions, contact Aurora HDR 24/7 support at support@skylum.com.

You can also visit our support community forum at http://bit.ly/skylum_community.