

Introduction to HDR
Photography
with
Brian McPhee

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A method of combining image data from multiple or single digital images to create one photograph with remarkable detail, within the highlights and shadows of the subject.

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Which in turn gave HDR a negative feeling with a lot of photographers and viewers.



A typical grunge look photograph processed in Aurora HDR

But HDR does not necessarily need the grunge look.

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Beautiful clear, full colour images can be produced when processed in HDR software.



Photo processed in Photomatix Pro 5, with 5 images at +1 exposure aperture stop each.

You are on vacation and take a photo of an interesting barn interior.



You download your images and get this.



You download your images and get this.

It is not exactly what you remember seeing with your eyes.

What you remember seeing is more like this





An HDR image



Why our camera doesn't see like our eyes





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That is why your vacation image you remember seeing is not what your camera gave you.

Methods of taking HDR photos

Methods of taking HDR photos

In camera HDR photo.

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In camera HDR photo.

Single shot raw image, processed with HDR software.

Methods of taking HDR photos

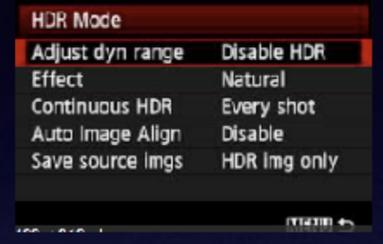
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Multiple 3,5,7...images Raw or Jpeg processed with HDR software.

IN-CAMERA HDR PHOTO

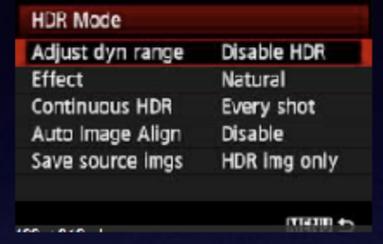




IN-CAMERA HDR PHOTO

Some cameras, especially newer models, offer an HDR mode that will process your image to HDR right in the camera. The HDR mode will work differently depending on your camera, but generally it will automatically bracket multiple exposures, blend them together in the camera, and save the result as a separate image. This can be an easy way to get started with HDR if your camera offers this mode, but it's not always the best option. Some cameras only save the finished HDR image as a JPG rather than as a RAW file, and discard the bracketed exposures. The HDR mode can be a nice way to get started, but depending on your camera it may restrict your options for processing the image. In most cases you will get the best results, and the most flexibility, by processing the image yourself, with software specialized in HDR images.





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It may be a nice image but you have zero control over the result.

Single camera raw image, processed in HDR software

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Also there has been misinformation, using the term "Single Image HDR". This is known as pseudo-HDR. You can't get HDR from a single SDR, standard dynamic range photo. It's like having a "single speaker stereo", the digital information just isn't there. You can apply a tone-mapped effect to a single image for a grungy feel. It's pseudo HDR, but not to be confused with true HDR.

Multiple 3,5,7...images Raw or Jpeg processed in HDR software

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Cameras are limited to the amount of image detail they can record when the sensor is exposed to light. Whether you're using auto settings or taking images manually, using skilfully tuned settings, your goal is trying to take advantage of the available light to maximize the detail in the final image. The problem is, when you are shooting in heavy shadows and bright lights, you are forced into losing detail in one range or the other.

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A skilled photographer can tune their exposure to achieve great detail in shadows or highlights or choose the middle of the road exposure solution, and lose some detail at both ends of the image. Lots of detail in the shadows can give you thin, washed out highlights, while good detail in those same highlight areas will result in all shadows immediately jumping to a solid, dark black.

Shoot Raw if possible



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If your camera supports shooting in raw mode, use it. A raw image contains all the data captured by the sensor and hasn't been compressed by the camera into a jpeg permanently losing some of your data.



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Don't get me wrong you can absolutely create HDR photos from JPEG originals, but you won't have the same flexibility as raw files.



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Take your images

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You make three or more bracketed exposures in Aperture Priority as quickly and steadily as possible.

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It's that simple.

Lets process 5 hand held images in 3 popular software programs

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-2.0



-1.0



0.0



+1.0



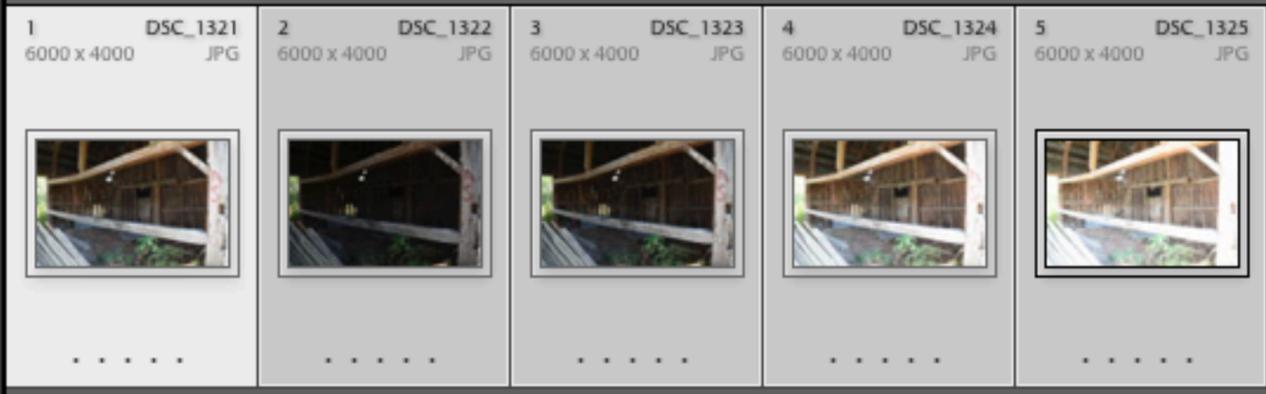
+2.0

Lightroom 6 or CC
HDR with
5 images at +1.0EV each

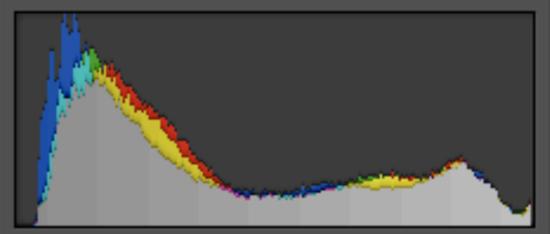
Library Filter:

Text Attribute Metadata None

Filters Off



Histogram



ISO 100 18 mm f/4.0 1/45 sec

5 0 0 0

Quick Develop

Saved Preset Default Settings

Crop Ratio Original

Treatment Color

White Balance As Shot

Temperature

Tint

Tone Control Auto Tone

Exposure

Clarity

Vibrance

Reset All

Keywording

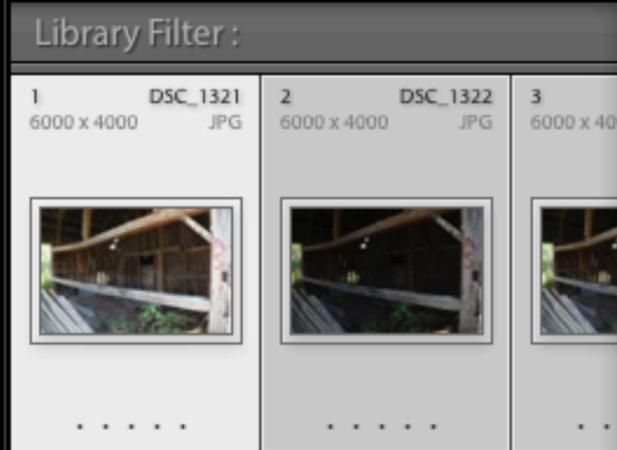
Keyword Tags Enter Keywords

Sync Metadata

Sync Settings

Adobe Lightroom 6

Library | Develop | Map | Book | Slideshow | Print | Web



- Add to Quick Collection and Next ⌘B
- Open in Loupe ↩
- Show in Finder ⌘R
- Go to Folder in Library
- Lock to Second Window ⌘⇧↩
- Edit In ▶
- Photo Merge ▶**
 - HDR ^⌘H
 - Panorama ^⌘M
- Stacking ▶
- People ▶
- Create Virtual Copies ⌘'
- Set Copy as Master
- Rotate Left (CCW) ⌘[
- Rotate Right (CW) ⌘]
- Flip Horizontal
- Flip Vertical
- Set Flag ▶
- Set Rating ▶
- Set Color Label ▶
- Auto Advance
- Set Keyword ▶
- Change Keywords... ⌘⇧K
- Develop Settings ▶
- Remove Photos... ⌘X
- Remove and Trash Photos... ⌘⇧⌘X
- Delete Rejected Photos... ⌘X



Histogram ▼

ISO 100 18 mm f/4.0 1/45 sec

Quick Develop ▼

Saved Preset: Default Settings ▼

Crop Ratio: Original ▼

Treatment: Color ▼

White Balance: As Shot ▼

Temperature: <<< < > >>>

Tint: <<< < > >>>

Tone Control: Auto Tone ◀

Exposure: <<< < > >>>

Clarity: <<< < > >>>

Vibrance: <<< < > >>>

Reset All

Keywording ▼

Keyword Tags: Enter Keywords ▼

Sync Metadata Sync Settings

HDR Merge Preview

Adobe Lightroom 6

Library Filter :



HDR Options

- Auto Align
- Auto Tone

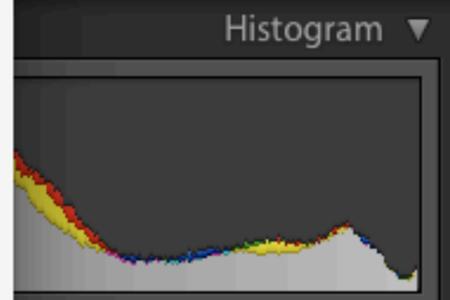
Deghost Amount

- None
- Low
- Medium
- High

- Show Deghost Overlay

Cancel

Merge



18 mm f / 4.0 1/45 sec

Quick Develop

Default Settings

Ratio Original

Treatment Color

Balance As Shot

Temperature <<< < > >>>

Tint <<< < > >>>

Control Auto Tone

Exposure <<< < > >>>

Clarity <<< < > >>>

Contrast <<< < > >>>

Reset All

Keywording



Sort: Added Order

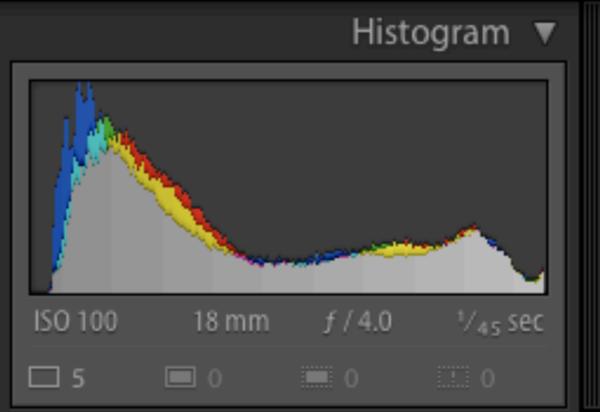
Thumbnails

Sync Metadata Sync Settings

Creating HDR

Library | Develop | Map | Book | Slideshow | Print | Web

Library Filter: Text Attribute Metadata None Filters Off



Quick Develop

Saved Preset: Default Settings

Crop Ratio: Original

Treatment: Color

White Balance: As Shot

Temperature: <<< < > >>>

Tint: <<< < > >>>

Tone Control: Auto Tone

Exposure: <<< < > >>>

Clarity: <<< < > >>>

Vibrance: <<< < > >>>

Reset All

Keywording

Keyword Tags: Enter Keywords

Adobe Lightroom 6

Library | Develop | Map | Book | Slideshow | Print | Web

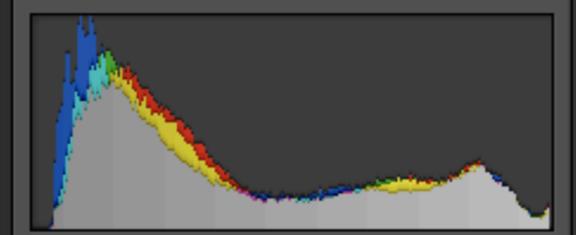
Library Filter :

Text Attribute Metadata None

Filters Off



Histogram



ISO 100 18 mm f / 4.0 1/45 sec

Quick Develop

Quick Develop settings:

- Saved Preset: Default Settings
- Crop Ratio: Original
- Treatment: Color
- White Balance: As Shot
- Temperature: [Left Arrow] [Right Arrow]
- Tint: [Left Arrow] [Right Arrow]
- Tone Control: Auto Tone
- Exposure: [Left Arrow] [Right Arrow]
- Clarity: [Left Arrow] [Right Arrow]
- Vibrance: [Left Arrow] [Right Arrow]
- Reset All

Keywording

Keyword Tags Enter Keywords

Sync Metadata Sync Settings

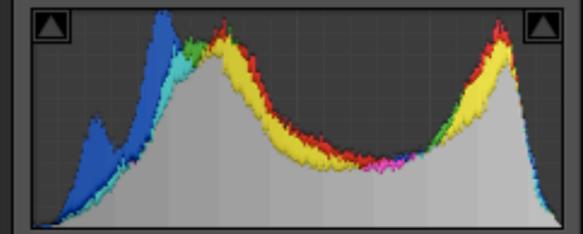
Grid view icons: [Grid] [Compare] [Web] [Web 2] [Web 3] [Web 4] [Web 5] [Web 6] [Web 7] [Web 8] [Web 9] [Web 10]

Sort: Added Order

Thumbnails [Slider]



Histogram



ISO 100 18 mm f / 4.0 1/180 sec

Original Photo



Basic

Treatment: Color | Black & White

WB: As Shot

Temp 5,000

Tint +10

Tone Auto

Exposure +1.00

Contrast 0

Highlights -100

Shadows +70

Whites +15

Blacks -15

Presence

Clarity 0

Vibrance 0

Saturation 0

Previous Reset

Soft Proofing



2.5sec



5sec



10sec



20sec



30sec



2.5sec



5sec



10sec



20sec



30sec

5 images taken with manual settings on a tripod with remote at F10



2.5sec



5sec



10sec



20sec



30sec

5 images taken with manual settings on a tripod with remote at F10

Processed in Lightroom 6 and manual adjustment of brightness and tones .



2.5sec



5sec



10sec



20sec



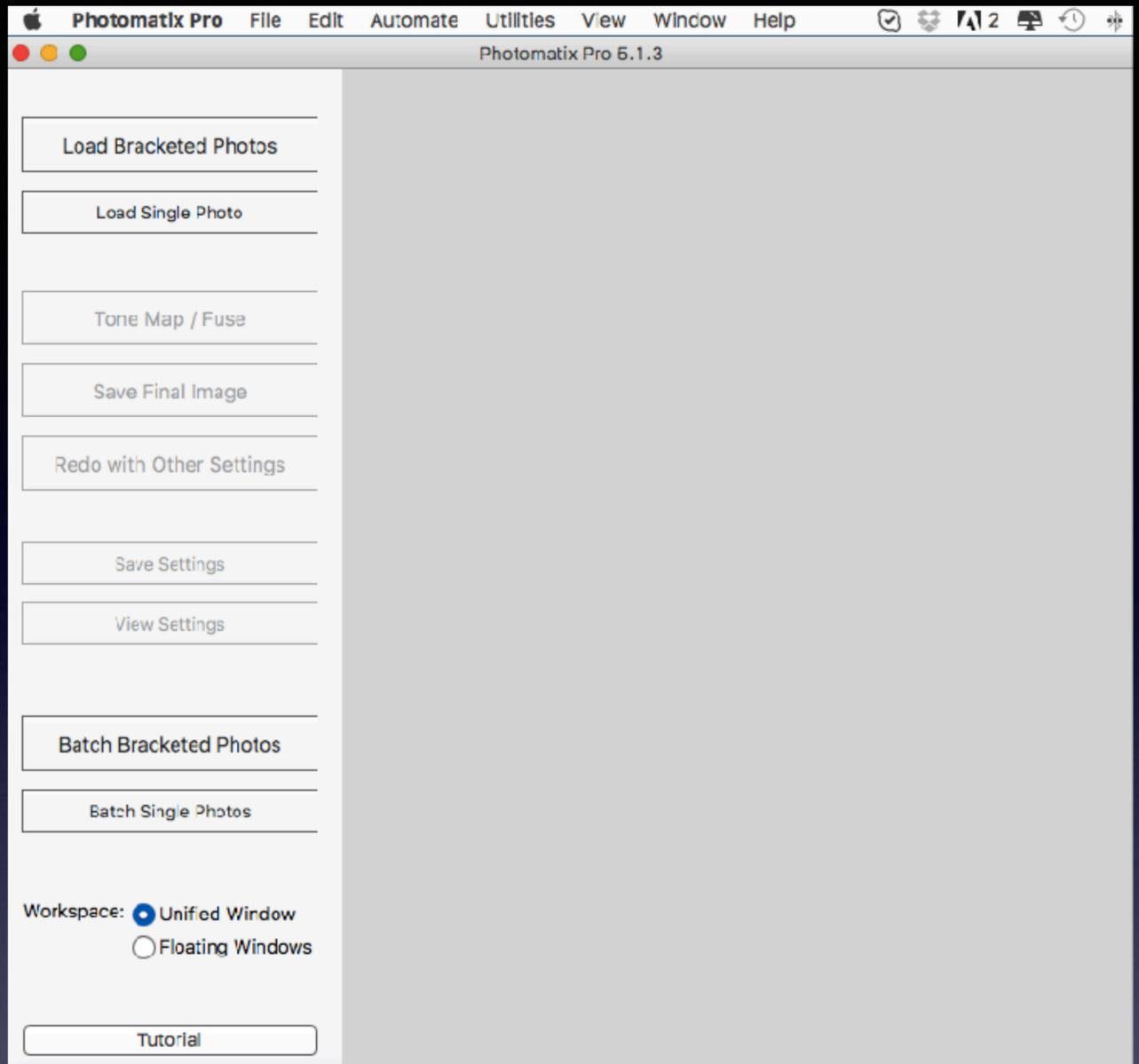
30sec

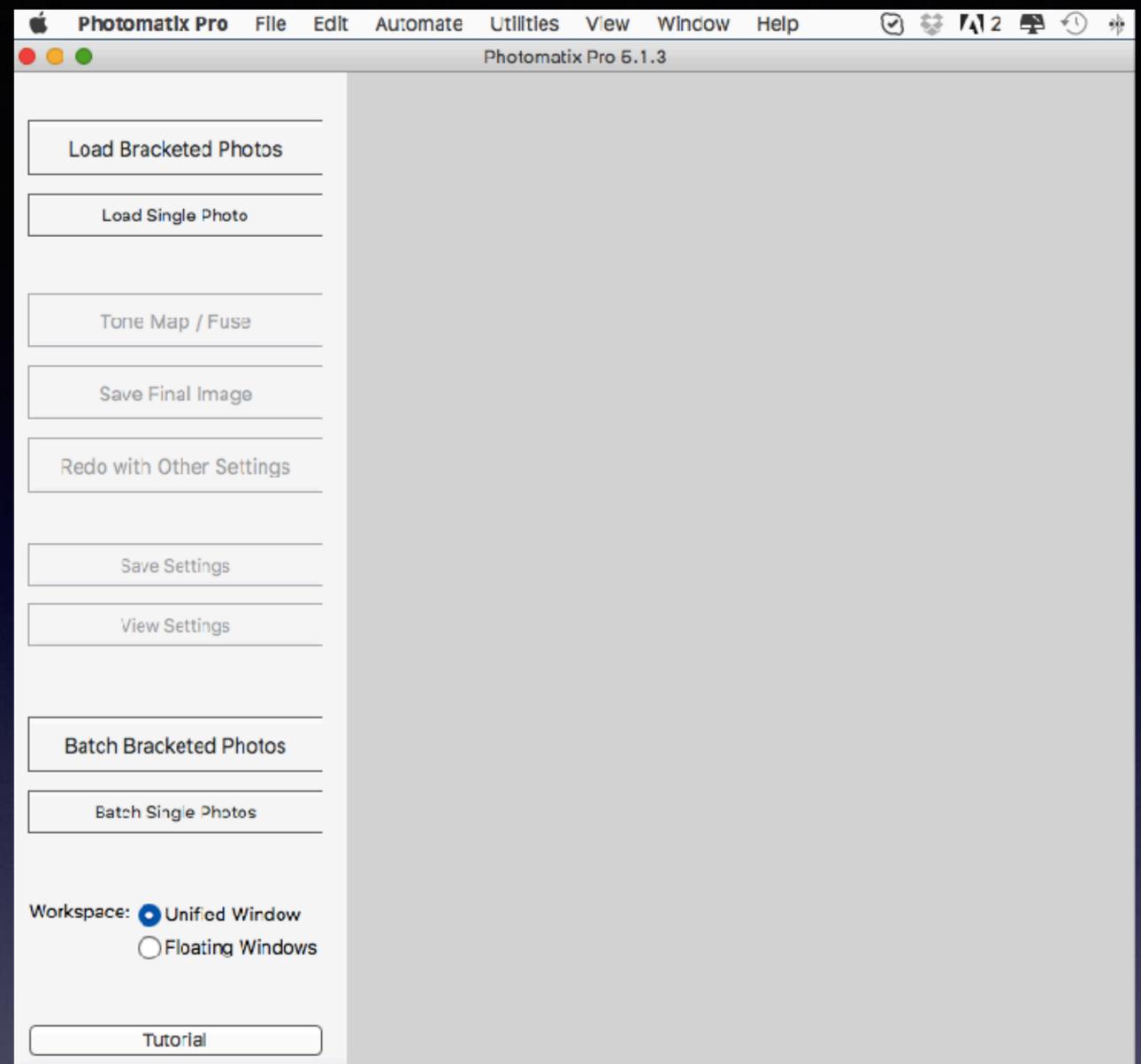
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Processed in Lightroom 6 and manual adjustment of brightness and tones .



Photomatix Pro 5 HDR with
5 images at +1.0EV each





-2.0



-1.0



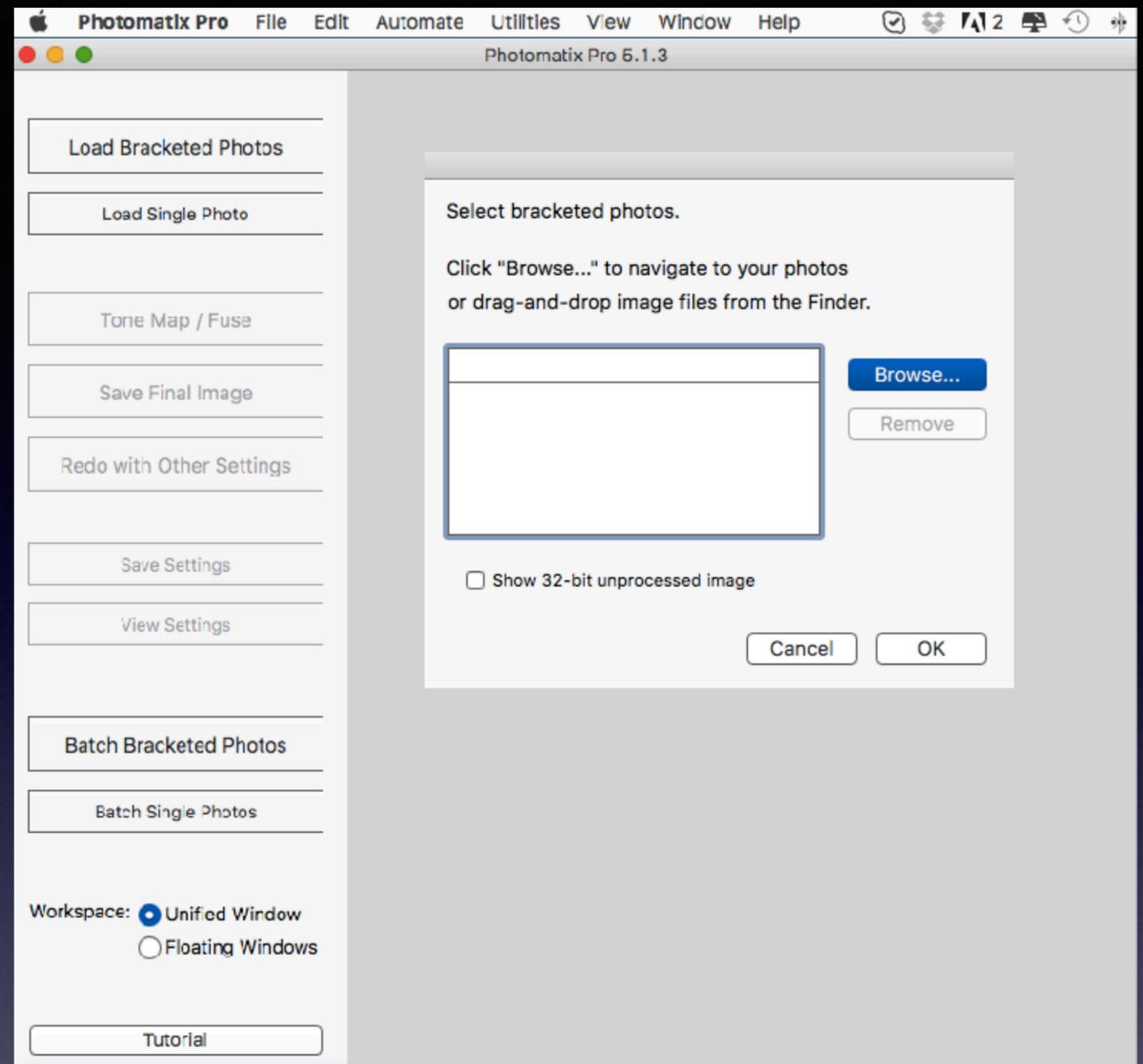
0.0



+1.0



+2.0



-2.0



-1.0



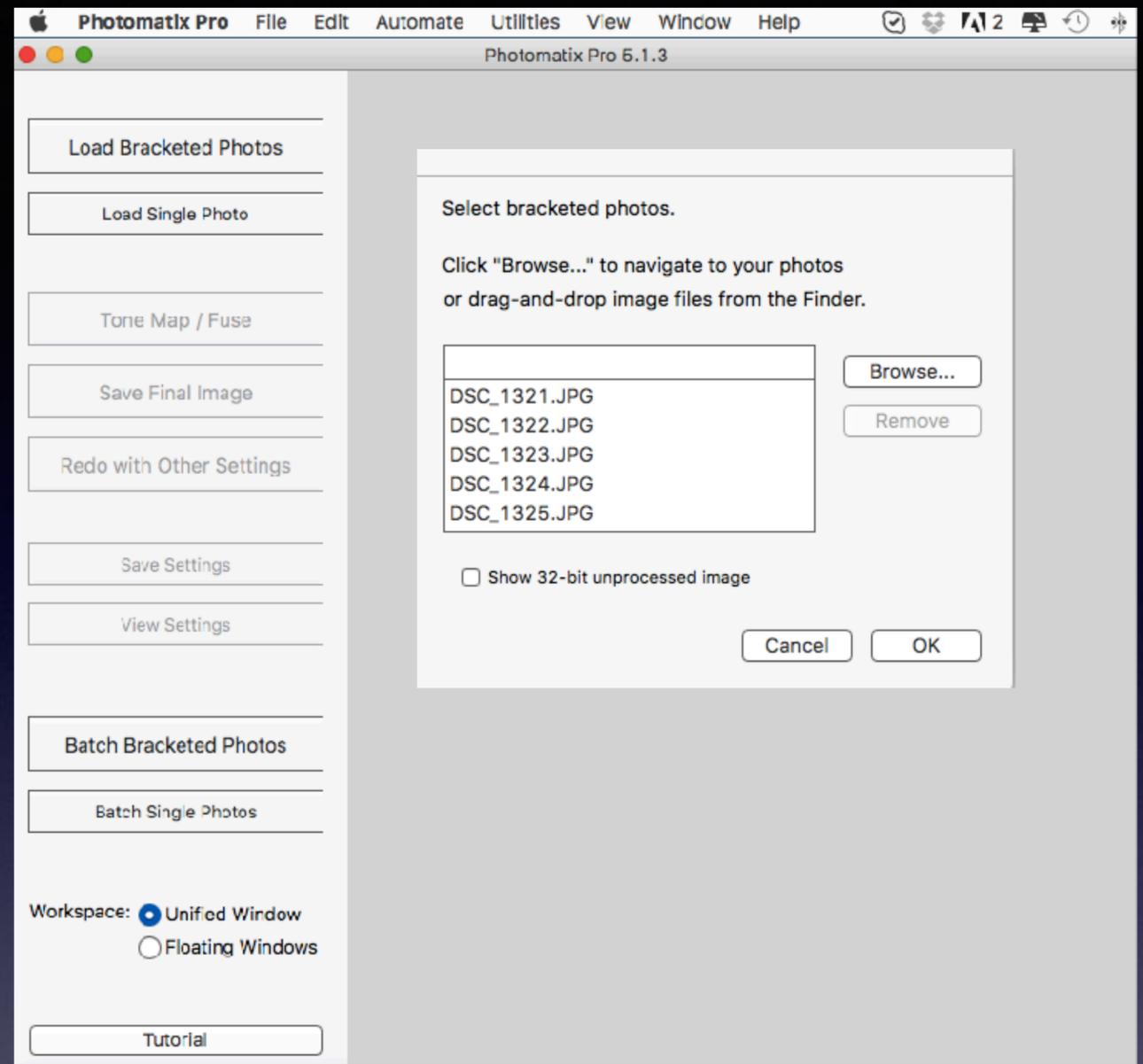
0.0



+1.0



+2.0



-2.0



-1.0



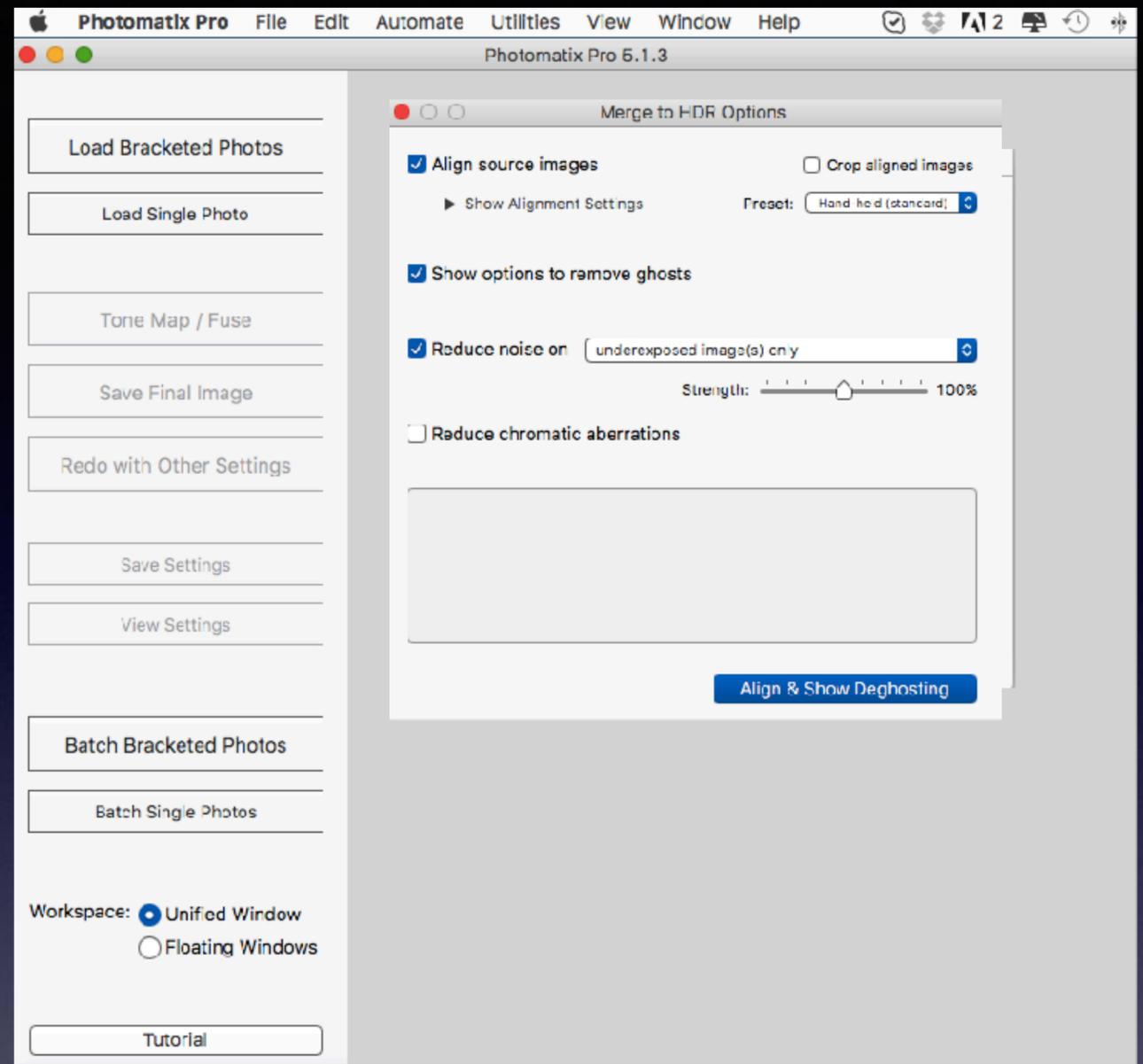
0.0



+1.0



+2.0



-2.0



-1.0



0.0



+1.0



+2.0

Process: Tone Mapping
 Exposure Fusion

Scaling: 100%

Fit



Preview

Selection Mode

Method: Details Enhancer

Strength 90

Color Saturation 46

Tone Compression 6.0

Detail Contrast 8.0

Lighting Adjustments Medium

Natural Surreal

Lighting Effects Natural + Surreal +

Show More Options

Show Advanced Options

Method Defaults

Preset: Enhanced

Apply



Realistic



Balanced



Photographic



Natural



Enhanced



Enhanced 2



Built-In My Presets



1/3sec



1/2sec



1sec



2.5sec



5sec



10sec



20sec



1/3sec



1/2sec



1sec



2.5sec



5sec



10sec



20sec

All taken manual on a tripod with remote, at F11



1/3sec



1/2sec



1sec



2.5sec



5sec



10sec



20sec

All taken manual on a tripod with remote, at F11

Processed in Photomatix adjusting tone and a little creative work on the background



1/3sec



1/2sec



1sec



2.5sec



5sec



10sec



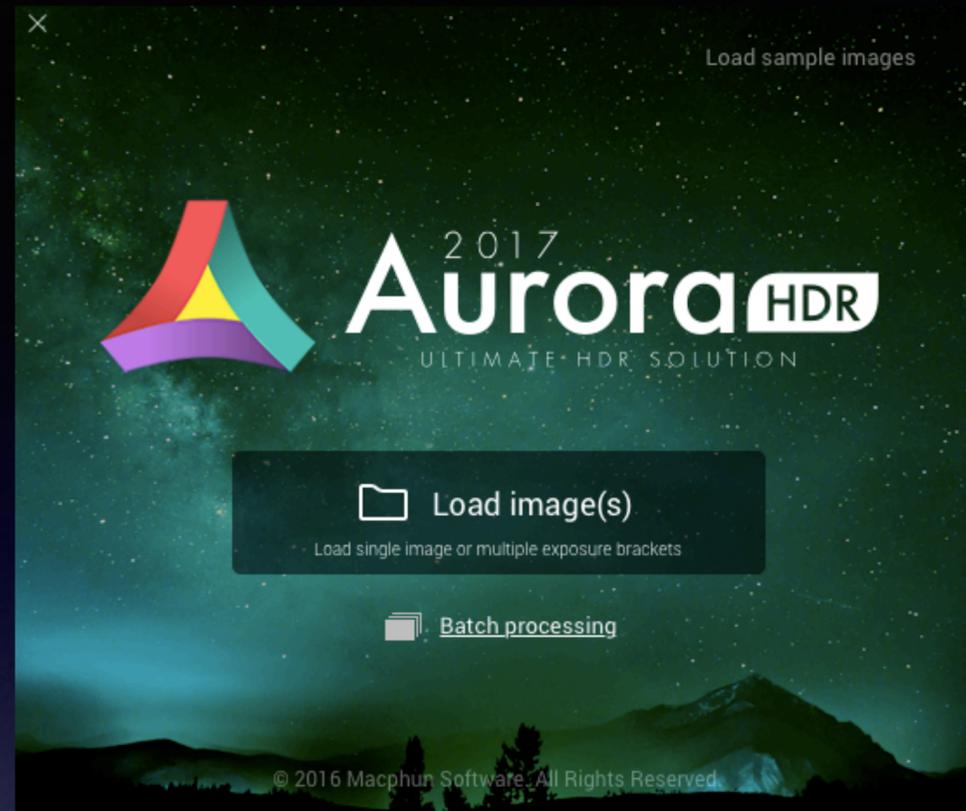
20sec

All taken manual on a tripod with remote, at F11

Processed in Photomatix adjusting tone and a little creative work on the background



Aurora HDR Pro with
5 images at +1.0EV each



-2.0



-1.0



0.0



+1.0



+2.0



HDR image will be made from this



EV -2.0



EV -1.0



EV 0.0



EV +1.0



EV +2.0

Alignment

Additional Settings

Cancel

Create HDR

EV -2.0...0.0...+2.0 5 images ISO 100 18mm f/4 Zoom: 12%



Layers + - Normal Opacity 100% Original Image

Tools

HDR Tone Mapping

- HDR Look 0
- Exposure 0
- Contrast 0
- Smart Tone 0
- Highlights 0
- Shadows 0
- Whites 0
- Blacks 0

Presets +



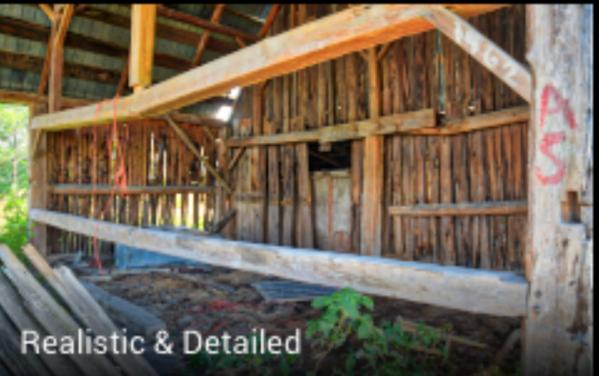
Foggy Morning



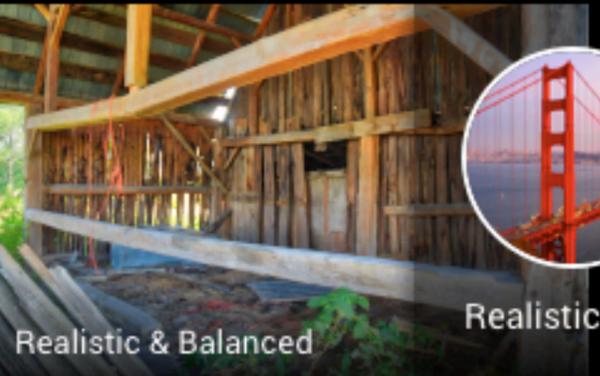
Happy Day



New Emotions



Realistic & Detailed



Realistic & Balanced



Realistic HDR



1/6400sec



1/1320sec



1/1600sec



1/800sec



1/400sec



1/6400sec



1/1320sec



1/1600sec



1/800sec



1/400sec

All images taken 5 bracketed exposures hand held at F6.3



1/6400sec



1/1320sec



1/1600sec



1/800sec



1/400sec

All images taken 5 bracketed exposures hand held at F6.3

Processed in Aurora and using fixed presets.



1/6400sec



1/1320sec



1/1600sec



1/800sec



1/400sec

All images taken 5 bracketed exposures hand held at F6.3

Processed in Aurora and using fixed presets.



Here are a few HDR images from Aurora HDR examples

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YOU MUST EITHER LOVE OR HATE HDR

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Because HDR can be such a polarizing topic, it often feels like you have to either love it or hate it. Some photographers are viewed as “HDR photographers” rather than just photographers. You don’t need to have a strong love or hate for HDR. Be open to using HDR when it’s appropriate and you will find that it can improve the quality of your photos even if you lean toward a more conservative use. And don’t feel like you have to force every photo into being HDR..

20 HDR Software Programs

Aurora HDR 2017

EasyHDR 3

Photomatix Pro 5

HDR Projects 5

Oloneo HDR

SNS-HDR

Machinery HDR

Dynamic-Photo HDR

HDR Darkroom 3

HDR Expose 3

Nik HDR Efex Pro

Luminance HDR

PaintShop Pro

Picturenaut 3

Fusion

FDR Tools

Adobe Lighroom CC

Canon DPP 4.0

Photoshop CC

PhotoStudio Express 3

Questions?