



HDR PHOTOGRAPHY

Advanced Post Processing Presentation

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WHAT IS HDR?

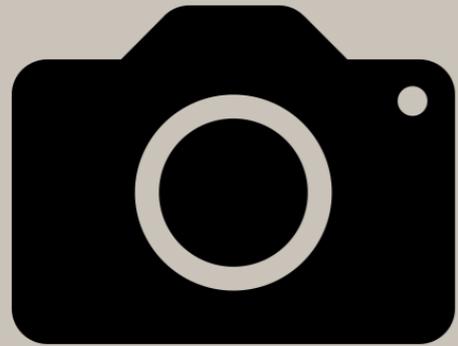
- High Dynamic Range - HDR
 - It is a technique and process used in photography to reproduce a greater dynamic range of luminosity than is possible with a single digital image or photographic techniques.
 - Provides enhanced detail in hi lights and shadows when viewed on lower range media such as monitors and prints
 - More closely matches the dynamic range of our eye than what can be achieved with a single exposure. Newer cameras are approaching the range of the human eye
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YOUR EYE AS A CAMERA



- Resolution around 130 MP
 - Aperture of f 3.2
 - You own 2!
 - Able to resolve detail equivalent to ~21 f-stops from hi-lights to shadows
 - In low light, convert to B&W to enhance sensitivity
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YOUR CAMERA



- At best, about a 13 - 15 f-stop range of sensitivity for the best cameras on the market today
 - Hi-lights and shadows reveal less detail than the eye can see (assuming a mid-point exposure)
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HOW DOES HDR TECHNIQUE WORK?

- We expand the 13 - 15 f-stop range of a camera by blending a number of images taken at + and - exposures using post-processing software
 - A +/- 2ev will improve dynamic range by 4 stops
 - The software uses the + exposure to capture the detail in the shadows and the - exposure captures the detail in hi-lights
 - The blending process, creates an image that can be displayed on a lower dynamic range media such as a print or a digital screen revealing the detail in both hi-lights and shadows thus giving us a finished image with the detail range we saw with our human eye.
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WHAT DO YOU NEED?

- HDR Software/Apps
 - Multiple Exposures of the Scene you wish to capture with EV {- / 0 / +} images
 - Maybe a tripod but several Apps will align hand held images (use fast burst mode)
 - A camera that will automatically capture brackets at constant aperture makes it easy
 - Capturing in RAW is beneficial using most HDR Apps
 - Reasonable computer processing power to run the Apps
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POPULAR HDR APPS

- Your phone may have a built in HDR processor
 - Lightroom
 - Photoshop
 - Aurora HDR (legacy app)
 - Luminar Neo with HDR Extension HDR Merge
 - Photomatix
 - Affinity Photo Tone Mapping Persona
 - Nik HDR Efex Pro 2 (Nik Collection 5)
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YOUR PHONE

- Depends on what vintage and operating system
 - HDR is enabled through a settings selection
 - You have no control of the HDR merge process and the output is usually jpg quality
 - In high dynamic range situations may produce a better result than a single photo
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LIGHTROOM CLASSIC

- Available to everyone with a subscription (\$10/mo)
 - Merges multiple exposures into a single HDR image in a DNG file
 - Does alignment of hand held exposures
 - Does “auto de-ghosting” if there is some movement
 - Works good if you are looking to just expand dynamic range and use the adjustments available in the Develop Module
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PHOTOSHOP

- Has an automated HDR merge feature
 - More of a manual process after you get the photos merged
 - No experience so can't comment
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AURORA HDR

- Standalone HDR app (no longer available as standalone)
 - Lots of pre-set “looks” that can be fine tuned
 - Able to use layers to selectively apply HDR effects to the photo using brushes, luminosity etc.
 - Outputs a TIFF file
 - Handles alignment and de-ghosting
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■ Luminar Neo with HDR Extension HDR Merge

- A subscription for Luminar Neo plus the extension pack (\$120/yr or \$450 to own)
 - The current Luminar Neo / HDR extension is not a full featured as the old Aurora 2019 program
 - May not be compatible with new camera formats as quickly as Adobe
 - Then, there is always that Russian missile....
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PHOTOMATIX PRO

- This is the one of the longest lasting HDR programs on the market (\$100)
 - Works as a Plug-in with Lightroom
 - Provides a wide variety of “looks” including a lot of realistic outputs
 - Has been continually updated
 - You can get a DNG output
 - Their niche is Real Estate Photography
 - Some learning curve to get proficient at the interface
 - Can produce noisy output in some scenes or “looks”
 - Aggressive processing can be unrealistic
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AFFINITY PHOTO TONE MAPPING PERSONA

- This is included in the Affinity Photo 2 software, a “Photoshop Alternative” (\$70)
 - Reported to have a good range of output options from realistic to “stylized”
 - May lag a bit on new camera compatibility
 - Have not test driven it.
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■ Nik HDR Efex Pro 2 (Nik Collection 5)

- One of the eight Lightroom/Photoshop plug-ins contained in the DxO Nik Collection (\$150)
 - Has a reasonable set of controls and a wide range of presets to create images
 - Easy to use interface
 - The original free Nik Collection is still floating around on the internet but I am not sure if it runs on the current Adobe versions.
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My First HDR Image 2012



Way over-cooked!!

EXAMPLE OF HDR BLEND

The image shows a screenshot of the Adobe Lightroom library grid view. The main area displays a photograph of a desert landscape featuring a prominent Joshua tree on the left and large, rounded boulders on the right. The sky is clear and blue. The right-hand panel is open to the 'Histogram' tab, showing a multi-colored histogram with a peak in the shadows and a secondary peak in the highlights. Below the histogram, technical camera data is displayed: ISO 100, 24 mm, f / 8.0, and 1/125 sec. A 'Original Photo' checkbox is present. Below the histogram are icons for crop, straighten, compare, compare before/after, and web gallery. The main adjustment panel is visible, showing sliders for Temp (5,150), Tint (+10), Tone (Auto), Exposure (0.00), Contrast (0), Highlights (0), Shadows (0), Whites (0), Blacks (0), Presence (Texture, Clarity, Dehaze all at 0), Vibrance (0), and Saturation (0). The bottom of the interface includes a toolbar with crop, compare, and other icons, a star rating system, color selection tools, and a 'Soft Proofing' checkbox. At the bottom right of the adjustment panel are 'Previous' and 'Reset' buttons.

Normal Exposure out of Camera

The image shows a screenshot of the Adobe Lightroom library grid view. The main area displays a photograph of a desert landscape featuring a prominent Joshua tree on the left and large, light-colored boulders on the right. A bright red mask is applied to the upper portion of the image, covering the sky and the top of the rocks. The right-hand panel is open to the 'Histogram' tab, showing a histogram with a peak in the highlights. Below the histogram, technical camera data is displayed: ISO 100, 24 mm, f / 8.0, and 1/30 sec. The 'Original Photo' checkbox is checked. The adjustment panel below the histogram shows the following settings:

- Temp: 5,150
- Tint: +10
- Tone: Auto
- Exposure: 0.00
- Contrast: 0
- Highlights: 0
- Shadows: 0
- Whites: 0
- Blacks: 0
- Presence: Texture 0, Clarity 0, Dehaze 0
- Vibrance: 0
- Saturation: 0

The bottom of the interface shows the grid view toolbar with icons for compare, before/after, web gallery, print, compare web gallery, and print web gallery. The 'Soft Proofing' checkbox is checked. The bottom right corner of the interface has 'Previous' and 'Reset' buttons.

+2ev Exposure

ISO 100 24 mm f / 8.0 1/500 sec

Original Photo

Temp 5,150
Tint +10

Tone Auto
Exposure 0.00
Contrast 0

Highlights 0
Shadows 0
Whites 0
Blacks 0

Presence
Texture 0
Clarity 0
Dehaze 0

Vibrance 0
Saturation 0

Effects
Tone Curve
HSL/Color
Detail
Color Grading
Lens Corrections
Calibration

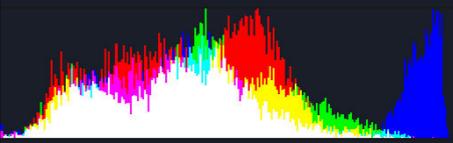
Previous Reset

Soft Proofing

-2ev Exposure

24% - + [Eye] [Grid] [Undo] [Redo] [Crop] [Layers] [Settings] Cancel Apply

7896 x 5275 px | 32-bit
EV -2.0...0.0...+2.0 | 3 img | ISO 100 | 24mm | f/8



LAYERS ▾ - +
Normal ▾ Opacity: 100% ▾ [Settings]
2023-03-03 16-12-15 Josh... [Eraser]

FILTERS ▾ [Reset] [Reset All]

▼ HDR Basic

White Balance [Pencil] As Shot ▾
Temperature [Slider] 0
Tint [Slider] 0

Exposure [Slider] 0.00
Contrast [Slider] 0

Smart Tone [Slider] -60

Highlights [Slider] 0
Shadows [Slider] 0
Whites [Slider] 0
Blacks [Slider] 0

▼ Color

Saturation [Slider] 10
Vibrance [Slider] 20
Color Contrast [Slider] 20

▼ HDR Enhance

HDR Clarity
Amount [Slider] 0

HDR Smart Structure
Amount [Slider] 20

Save as Aurora HDR Look...

LANDSCAPE Collections ^

Realistic Landscape Enhanced Landscape Bright Landscape ★ Warm Landscape ★ Cool Landscape Better Sunrise Better Skies

Merged HDR Image in Aurora

The image displays the Adobe Lightroom interface with a photograph of a desert landscape. The photo shows a large Joshua tree on the left, a dirt path leading through the desert, and large, rounded boulders on the right. The sky is clear and blue. The interface includes a histogram in the top right corner, technical data (ISO 100, 24 mm, f/8.0, 1/125 sec), and various adjustment sliders for color, tone, and presence. The bottom of the interface shows a grid of icons and a 'Soft Proofing' option.

ISO 100 24 mm f / 8.0 1/125 sec

Original Photo

Temp 0
Tint 0

Tone Auto

Exposure 0.00
Contrast 0

Highlights -14
Shadows 0
Whites +30
Blacks 0

Presence

Texture 0
Clarity 0
Dehaze 0

Vibrance 0
Saturation 0

Effects
Tone Curve
HSL/Color
Detail
Color Grading
Lens Corrections
Calibration

Previous Reset

RA YY ★★★★★ Soft Proofing

HDR Blend Using Aurora 2019 Back in Lightroom

The screenshot shows the Adobe Lightroom interface. The main image is a landscape photograph of a desert scene with a prominent Joshua tree on the left and large, rounded boulders on the right. The sky is clear and blue. The right-hand panel contains the Histogram and various adjustment sliders. The Histogram shows a distribution of tones across the color spectrum. Below the Histogram, the camera settings are displayed: ISO 100, 24 mm, f / 8.0, and 1/125 sec. The 'Original Photo' checkbox is checked. The 'WB' (White Balance) is set to 'As Shot'. The 'Temp' slider is at 5,150 and the 'Tint' slider is at +10. The 'Tone' section includes sliders for Exposure (0.00), Contrast (0), Highlights (-78), Shadows (+88), Whites (+40), and Blacks (-16). The 'Presence' section includes sliders for Texture (0), Clarity (0), and Dehaze (0). The 'Vibrance' slider is at +23 and the 'Saturation' slider is at +8. The 'Effects' section is currently empty. The 'Tone Curve', 'HSL/Color', 'Detail', 'Color Grading', 'Lens Corrections', and 'Calibration' sections are also visible. The bottom of the interface shows the 'Previous' and 'Reset' buttons.

Section	Parameter	Value
WB	Temp	5,150
	Tint	+10
Tone	Exposure	0.00
	Contrast	0
	Highlights	-78
	Shadows	+88
	Whites	+40
	Blacks	-16
Presence	Texture	0
	Clarity	0
	Dehaze	0
Vibrance	Vibrance	+23
	Saturation	+8

Processed 0 ev in Lightroom

QUESTIONS?
