



The Newsletter of E.J. Peiker - Nature and Travel Photography

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Welcome to the 20th year of the newsletter from E.J. Peiker, Nature & Travel Photography and www.EJPhoto.com. In this quarterly publication, I share with fellow photographers my photographic experiences, photo equipment reviews, photography tips, processing tips, and industry news. I also inform subscribers about upcoming workshops and products that I offer. All content is copyrighted by E.J. Peiker and may not be reproduced but it is permitted to forward this newsletter in its entirety only. If you would like to be added to the mailing list, unsubscribe, or access back issues, please visit: <http://www.ejphoto.com/newsletter.htm>



Iceland (a7R III, 24-70mm)

Personal Message and Update

Before we get into photography related topics in this newsletter, I wanted to thank the dozens of subscribers for all of their well wishes after reading about my bike accident and the injuries I sustained in the last newsletter. They meant a lot and put a smile on my face in a dark time. Three months later I am doing much better. All of the muscle and soft tissue damage have healed completely and I am back to being able to walk, although with a bit of a limp that will likely not go away completely until my follow-up surgery in about a year. I've invested in some high quality hiking poles to help get around uneven terrain but find that they limit me more than I would like. My doctors say that the healing is going very well. I am very happy that I am back to cycling and am now averaging about 60 miles a day, split evenly between an indoor smart trainer bike and normal outdoor riding. The irony is that biking is the only activity that is completely pain free.

On the business front, things are of course not back to normal and I am still unable to conduct group workshops until the whole vaccination process in the US is much farther along but I will start to take reservations for private 1 on 1 sessions with people that have been fully vaccinated and have had their second dose of Pfizer or Moderna or the single shot of the Johnson and Johnson vaccine at least 15 days earlier – we will still follow enhanced safety protocols though since vaccines are not 100% effective and it is not yet certain whether a vaccinated person is capable of spreading the virus. I have received the first dose and am scheduled to get the second dose about a week after this newsletter ships. Currently my first confirmed foreign travel is in October although there is a slight chance that I may take one trip in June. I hope my readers are also able to start getting out more and to travel again very soon. In the meantime, I have transitioned my photographic income from largely private workshop based to working with a company that does large murals for malls, medical centers, public buildings, etc. While the sales volume for this sort of thing is relatively low, the payout per picture is much better than photos for publishing and editorial uses.



Marina Bay – Singapore (a7R3, 24-70mm)

Huge Gear Sale

I have added many excellent items to my huge sale including a flawless Sony a7R III 42 megapixel camera with L-bracket. Also, after nearly two years with very little use of my Nikon gear, I have decided to sell it all. This includes three camera bodies, several lenses, including the hard to get Nikon 500 f/5.6 PF lens, as well as a number of others (some already sold). All of the gear is in excellent to like new condition. Additionally I have many filters, and accessories for sale. All sales are within the USA to USA addresses only. Prices include ground shipping and I am not charging extra to cover PayPal fees – the price you see is what you pay, no hidden fees. See the full and up to date listing here:

https://ejphoto.com/gear_for_sale_page.htm

New Year, New Camera - Fujifilm GFX 100S

I began shooting landscapes using Medium Format gear back in 2013. My first foray was on a Phase One sponsored trip to the beautiful Dolomites in Northern Italy. During this trip I was given the use of a Phase One 60 megapixel 645 medium format camera along with access to Phase One/Schneider Kreuznach's full line of lenses for a week. I also had my 36 megapixel Nikon D800E with me, which, at the time, was the very best and highest resolution full frame 135 format camera on the market. I was blown away by the acuity and, especially, the amount of detail rendered in far away areas of the photograph but wasn't as enthusiastic about the handling, glitchiness, essentially useless AF, and general systems on the Phase One camera body of the time which was based on the Mamiya 645 camera from the 1990s and was called the Phase One 645DF+. The long exposure characteristics of the 60mp CCD based sensor left a lot to be desired and ISO values above 100 got noisy very fast. I wrote a whole article on the pros and cons and also included comparisons to the Nikon D800E – the article can be read here: <https://ejphoto.com/Quack%20PDF/Medium%20Format.pdf>

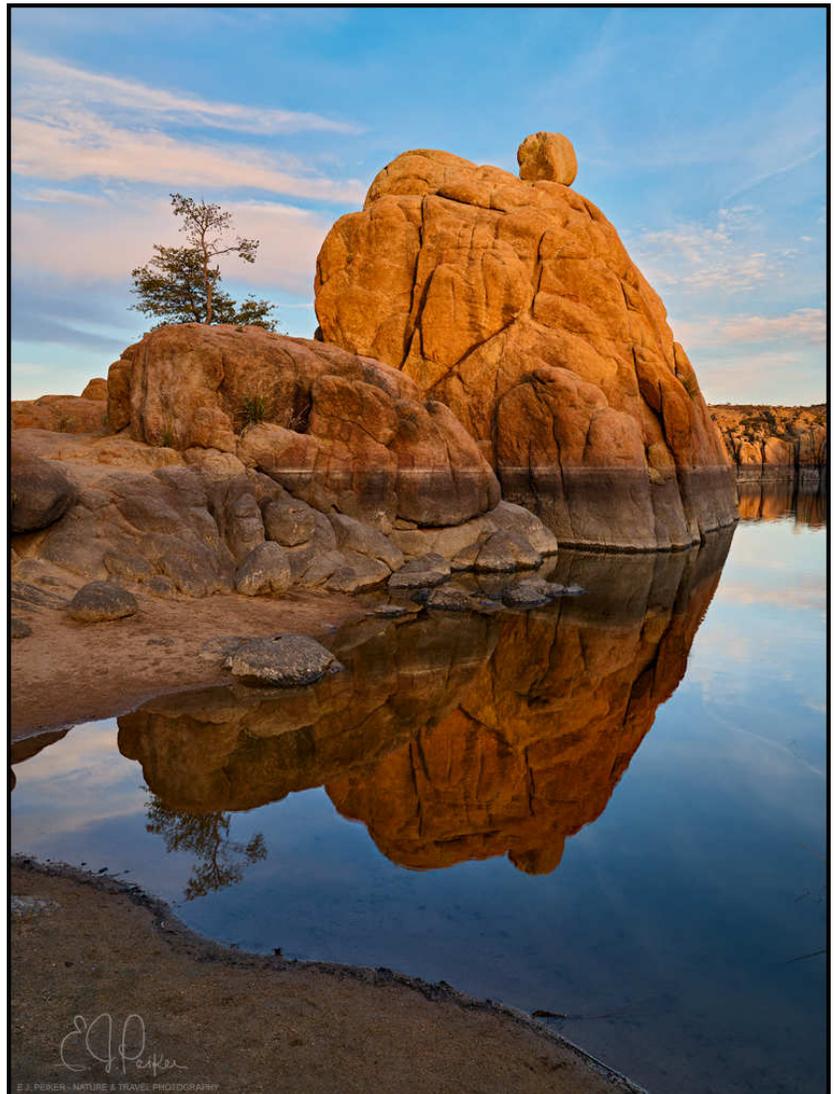
My conclusion in that article: “For me and my photography, the Phase One system makes sense for my landscape photography as I am seeing detail, depth and a three dimensionality I have not ever experienced before in photography. However I have not yet made the investment. I will re-evaluate the system once Phase One comes out with a new, more modern camera body and may help finance it with selling some (but not all) of my 35mm equipment. They tell me “it is coming...”

I did not make the jump to medium format at that time. A few months later I had another opportunity to shoot with the Phase One system on Scotland's Isle of Skye. Again I was blown away with the image quality but not thrilled with the shooting experience and I said to myself, “when they do come out with a camera body designed in this century, I may need to make the leap.”

Two years later, Phase One did introduce their XF camera body along with a CMOS based 100 megapixel back and an upgraded line of Schneider Kreuznach lenses. This was exciting news and I immediately jumped onto a Phase One Digital Artist Series shoot in Western Australia's Kimberley region to test it out. While the new body was a major improvement over the



previous and the lenses were also superior to the previous Phase One gear, it was brutally heavy. Both camera and lenses were significantly heavier, although better constructed, than their predecessors. But the image quality....!!! It was insanely good and the switch to Sony CMOS sensors also facilitated higher ISO's than 35 to 100 without losing significant image quality. Overall I was so impressed that I immediately went on a second trip to Ireland with Phase One where I purchased the XF camera body, The IQ3-100mp CMOS back and several lenses at a very significant discount. All the gear arrived at my home a couple of weeks later and I shot most of my less physically demanding landscapes with this gear. Unfortunately, the weight of the system precluded me from using it for international travel or anything where I had to hike more than a few miles. A couple of years after "switching" to Phase One gear, I suffered a shoulder injury that precluded me from carrying such heavy gear which took over a year to resolve and the weight of the gear was partially to blame for the injury. I ultimately decided to sell the system as I simply wasn't able to use it. While this was going on, Fujifilm introduced their cropped medium format 50 megapixel sensor camera and some very good lenses. An equivalent set-up to the Phase set-up from the standpoint of lens coverage weighed and cost about half of the Phase Gear; but I also got only half the pixels, although I retained the much preferred 645 or 4:3 aspect ratio. On my 135 cameras such as the Nikon and Sony products, I often crop to 4:3 or 5:4 which loses a lot of pixels. Even my travel kit that I use today - the 61mp Sony a7R4, when cropped to 4:3 is "just" a 50mp camera; so I have the same pixel resolution but those pixels are physically smaller and the image quality, while very very good, is not as good as the 50 megapixels in the Fuji GFX 50S. Despite giving up a whopping 50 megapixels to the Phase One system, the Fuji GFX camera runs circles around the Phase for usability as its interface and features are similar to the APS-C Fujifilm X-T3. It is basically a full featured modern mirrorless camera with a larger sensor. That means all of the features that smaller format camera users take for granted, like movable AF points, different color spaces, programmability, picture profiles, video, etc is all available and it works in the same way smaller cameras like a Fuji X or Sony Alpha camera does. Smaller cameras that are more for the general market have to have more ease of use features than a purely high end professional client niche camera that no casual user would ever own has to have. Cameras like the Phase One are first and foremost designed to be used in a studio environment, often tethered. It must be said that in the last couple of years, Phase One upgraded their digital backs to the IQ4 line including a 150 megapixel model which have many more features and some unique and innovative ones that keep it at the pinnacle of super high end



photography. This does not solve the weight and size problem at all nor the single central point AF limitation. It does however add some really useful features like exposure averaging which can negate the need for ND filters. This is a feature I wish other camera manufacturers would adopt.



In September 2018, Fujifilm announced the GFX 100, based on Sony's state-of-the-art technology 102mp 44x33mm sensor (compared to 36x24mm for 135 format full frame cameras – a 68% increase in sensor area). Finally, I thought, I was going to get the insane distant subject acuity back that I had with the Phase One XF-IQ3-100 set-up. Assuming the GFX 100 would be similar to the GFX 50S in size and human interface, I immediately put my name on a pre-order list from a small niche Medium Format retailer long before you could pre-order from the major camera retailers like B&H, Adorama or Amazon. As the camera's design began to materialize though, I had to cancel this pre-order because the camera body simply was not going to work for me. It was large and heavy like a Canon 1Dx or Nikon D5 - exactly the opposite of what I needed. The whole point was to use medium format with less size and weight than the Phase One gear and this was taking a big step back towards it. In the meantime I continued to shoot landscapes with both the Sony a7R4 (usually cropped a bit as I generally don't like the 3:2 aspect ratio for landscapes) and the Fuji GFX 50S. My Sony found most of its landscape specific work in other countries due to airline carry-on rules outside of North America. Unless I anticipated long hikes, I used the GFX 50S in the USA. I did have a short foray into the GFX 50R rangefinder style as a backup to the GFX 50S but, ultimately, I sold it as I simply hated using that camera. It is just not for a left-eye shooter and it lacked of some features of the GFX 50S that I did not want to give up.

In the meantime, more and more of my work is for super large reproduction. Even though for general viewing distances for that type of reproduction size, a lower resolution camera can upscale just fine, many of the buyers in this market and agencies representing them do not buy this argument and pixel peep the

files so more pixels and less up-rezzing is better if you want to make the sale. My 100 megapixel images from the Phase Gear are always plenty good enough even for a 10 foot wide print, the 61 and 50 megapixel photos only have about a 70% hit rate of having enough detail for this market and it goes down dramatically from there with a 24 megapixel image only being suitable if the image did not have a lot of detail to begin with like a foggy scene or one with lots of larger solid colored objects. Given this new business, when Fujifilm announced the GFX 100S, I ordered in the first minute of pre-order availability. I took delivery of the camera about a week before publishing this newsletter and immediately started putting it through its paces for several hours a day.

The GFX 100S is basically a small GFX 100 with better ergonomics and dramatically less size and weight. Here is a comparison of a GFX 100, Nikon D6, and GFX 100S (courtesy of camerasize.com):



Despite a 70% larger sensor than the D6 with 5 times the pixels, the GFX 100S is dramatically smaller than the 20 megapixel full frame Nikon flagship and the equivalent sensored GFX 100. The weight is also much lower than either.

Perhaps a fairer comparison is to compare the GFX 100S to the two premiere landscape photography 35mm cameras currently on the market, the Nikon D850, and the Sony a7R IV:



The GFX 100S is still smaller than the D850 and somewhat larger than the a7R4. In fact the size difference between the a7R4 and GFX 100S scales almost exactly with the larger sensor.

And just for fun, here is the Phase One XF compared to the GFX 100S:



This doesn't tell the whole story as the Phase camera is more than twice as thick due to the mirror box, optical pentaprism and the sensor module, not to mention the huge weight savings:



As stated, I took delivery of the new camera just a week before this newsletter. I'm not going to go through a detailed rundown of the specs as that is easy to get online but the highlight is that it is a 102 megapixel camera that weighs just 900 grams or right around 2lb which is nearly a pound less than the GFX 100 while incorporating exactly the same sensor as the \$4000 more expensive camera as well as the same image processor and a better IBIS system. Virtually all of the other specs are the same or better. There are a few exceptions such as the lack of an integrated vertical grip which can hold an extra battery and a lower resolution EVF. Unlike its older big brother, the GFX 100S EVF is not removable and exchangeable where it is on the GFX 100. This also means that it is not possible to use the Fuji angle

finder attachment on the GFX 100S. The GFX 100 also uses a physically larger battery where the GFX 100S incorporates the same battery as is used in the much smaller APS-C based X-T4. Surprisingly though, the smaller battery used in the 100S has slightly higher capacity than the larger battery in the 100 but, of course, the 100 can use two of these batteries where you can only put one in the 100S body. In my short use of the camera, battery capacity for still photography (I don't shoot video with this camera) is not an issue at all and under normal landscape photography use conditions, I should be able to get 400-600 frames per battery charge. While this may seem low for wildlife shooters, it is plenty for landscape shooters. The battery can be charged while in camera via a USB cable and the camera is fully useable while being charged with a USB cable or charging battery like what we use to charge our phones on the road. Overall workmanship, button placement, button quality and tactile feel is actually better than on the 100 although the rear AF button could be a little less flush for easier use with heavy gloves. Overall, the GFX 100S feels like a more refined product than Fujifilm's previous medium format cameras in the hand.



The on-screen user interface of the GFX 100S is identical to all other Fujifilm mirrorless cameras. The menu system is not great and finding things in the heavily nested menu is not always straight forward. But of course, once you learn it, it is fine. You can add items to MY MENU so that the things you use are easily found. There is also a Q button which brings up a screen of up to 16 camera functions in icon form that are quickly accessible and work well with touch control. The items that appear on the Q menu are programmable and customizable to your needs. Bizarrely, the Q menu is touch controllable but the regular menus including the user configurable My Menu is not touch controllable. While many will lament the loss of the traditional throwback to the film days controls of the GFX 50S (and XT series) which still had separate ISO and shutter speed physical dials, the 100S places these functions on the front and rear

control dials like most other DSLR and mirrorless cameras. The button layout is much better on the 100S with no weird placements like the top of the sensor box on the 50S. There are numerous buttons on the GFX 100S that are all customizable to the photographer's needs and desires. Initially I thought I was going to miss the rear D-pad of the 50S more than I actually do. On the GFX 50S, the D-pad directional buttons could be programmed similar to the function buttons and I programmed these identically to my Sony D-pad allowing the physical interface to be almost the same between the two camera brands that I use most often. In practice, however, this has not been an issue. I do, however, prefer navigating the menu system with a D-pad rather than a joystick. Too often with joystick control where you move the joystick in the direction you need to go and then you push in on it to make a selection, when you push down on it you also move it slightly and thereby select the next menu item rather than the one you wanted. I had the same issue with the GFX 50R which also had no D-pad. Fuji has now brought to market four different medium format cameras and every single one of them has completely different physical button and control layouts. It's time to settle on something and the GFX 100S is the best of the bunch. But, please enable the touchscreen for menu navigation. Once you get the camera set-up to your liking, shooting is pure Fuji with everything falling into place nicely and the camera is a pleasure to use.



Some, but not all, of my biggest complaints about the Fuji system have been addressed in the GFX 100S. A truly annoying thing that has been fixed is that when you hit the menu button, it now goes back to where you were in the menu the last time you hit the menu button. On the GFX 50 models, it always went to the top level of My Menu even when you weren't last in My Menu. In an already somewhat convoluted menu structure, this made for a lot of extra work. This simple change alone makes the menu system much easier to use. AF performance is also dramatically improved with the on sensor Phase Detection Autofocus (PDAF) that is built into the 102 megapixel Sony 44x33 sensor. Gone are the days of the high/low game that a contrast detect AF (CDAF) system uses to zero in on focus. Focus is fast

and on the mark, unlike any other medium format camera on the market (regardless of cost), except the GFX 100 which shares the same AF system. Even action photography is now possible; not anywhere near the capability of a sports oriented DSLR or action oriented mirrorless camera like the Sony a9 or new a1, but it is certainly capable of photographing predictable moving objects with no problem at all.

You are still not able to shoot without selecting a Film Simulation mode. A linear option or non-simulation mode makes for a much more accurate rendering of what the RAW file actually looks like in the viewfinder and LCD which means that the highlight warning blinkies are not influenced by a film simulation mode which can often lead to unintended underexposure of the RAW file; thereby, giving away a bit of dynamic range. One other strange quirk with the GFX cameras since their beginning is that extended ISOs, including the sometimes useful ISO 50 are not available in Electronic Shutter mode. But, since this sensor is largely ISO invariant, overexposing ISO 100 by one stop effectively gives you what an extended ISO 50 would give you but often camera manufacturers build in a little highlight roll-off to compensate for this. ISO 50 is available with Electronic First Curtain Shutter though but one has to remember that this is the case.

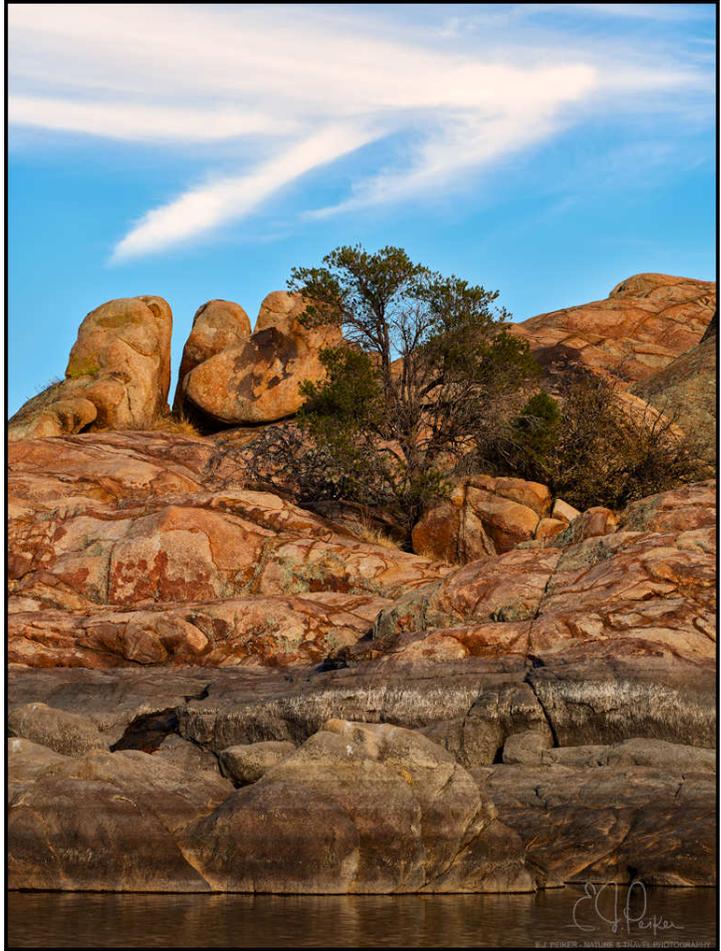


Image quality on the GFX 100S is out of this world with detail I have only seen on the larger 100 and 150 megapixel sensors used by cameras costing many times as much from Hasselblad and Phase One. The distant detail and acuity that I had lost when I had to sell my Phase One Gear is back but with all of the features and options of a modern full frame camera. I used the sharpest lens I have ever owned for my testing, the Fujifilm GFX 250mm f/4 and the detail I am picking up on my test scene is incredible (see film simulation article below). I am seeing things in the files that I never even knew were on the test subjects. Of course a lot of that is due to the lenses as well but it is a testament to Fuji to have had the foresight to design lenses that far out-resolved the sensors of the time.

I took the camera to a beautiful spot in central Arizona for some late day granite formation photographs in a picturesque lake (see pictures accompanying this article). As stated above, the image quality and detail rendering capability of this camera, with Fujifilms outstanding quality GFX lenses, is superb and that is the bottom line for a camera like this. The GFX 100S is a tool for the photographer that wants to maximize image quality beyond all other aspects of photography; it is not for the fast action photographer, the sports photographer or the high frame per second photographer. It is for someone that cares primarily about the resolution, dynamic range, color and the total maximization of every pixel's capability. When changing lenses I realized that Fuji has not yet learned what Canon pioneered and Sony copied – the shutter is wide open when the camera is off making it susceptible to dust on the sensor during lens changes. While the automatic sensor cleaning on start-up and shut-down of the

camera is effective, this extra layer of protection is a very nice thing to have, especially in those moments where you forget to shut-down the camera prior to a lens change (something you should always do – in theory) resulting in no cleaning cycle between the lens changes. Memo to ALL mirrorless camera manufacturers, have the shutter close when the camera is powered down! I also learned that despite a similar EVF to the GFX 50S, the color settings to get the EVF to provide a relatively good match to reality are very different. I found a setting of +5 to render tones most accurately. I learned that this camera is very blue sensitive and it is easy to push the blue channel a bit over the edge when shooting this camera in the Sunny White Balance setting. I found a custom white balance setting of 5800 to be a more accurate daylight sunny setting and it also did not fool you into thinking you were overexposing the blue channel. (Note that I prefer to not use auto white balance and utilize a specific white balance setting for consistency of color in panorama sequences and from shot to shot). One last item that I learned after the sun had set is that the autofocus system gives up much sooner in twilight than something like the very latest Sony a1/a7/a9 cameras. Fujifilm does not specify the minimum Ev that the AF should work at, or at least they make it too difficult for me to find, but I would estimate that it is good down to about -2 or -3 Ev opposed to the -5 Ev in the latest Sony and Canon offerings. Since the sensor in the GFX 100S is from the same technology node as the Sony a7r4, I can only hope that Fuji will improve low light AF in future firmware updates. Please don't get me wrong, the AF works very well but is more similar to an a7R3 than the latest generation of Sony cameras.

Overall I am thrilled with the Fujifilm GFX 100S in the short time I have had it and look forward to using it a lot in the coming months and years. In my opinion it is the most user friendly and best overall performing medium format camera on the market. Resolution is only bested by a camera that costs 5 times as much and is significantly less user friendly for field work. My biggest question now is whether to keep the somewhat larger GFX 50S as a backup or get a second GFX 100S (gulp). For those that prefer the rangefinder style camera like the GFX 50R, there are some credible rumors that such a camera is coming with the 102 megapixel sensor.

Guide to Fuji Film Simulation Modes

The arrival of the Fujifilm GFX 100S has many landscape photographers contemplating the switch to medium format. The allure of 102 million very high quality pixels is high among photographers wishing to make big prints or in the business of selling very large reproductions. As such, I have been fielding many questions since I have now been a medium format shooter for 7 years and a Fujifilm medium format shooter for 3 years. The most common question is about Fuji's much touted film simulations.

Fuji includes profiles that replicate many of their most popular films over the decades into the camera. Up-front, it must be noted that these profiles apply, in-camera, only to JPEG files. RAW files are just that, RAW data unadorned with these curves. However the RAW file photos are tagged in the metadata with whatever film simulation you chose which will allow a RAW converter to then apply these film simulations during the RAW file processing part of your workflow. The most common Fujifilm simulation aware RAW converter is Capture One Pro or Capture One Fuji. With Capture One, not only can you apply the tagged film simulation that you shot the photo with to the RAW file, you can actually change it to any of the others, although the results are often subtly different when done in post versus in camera. I personally do not use the film simulations, preferring to fine tune whatever look I want for the photograph using the vast array of processing tools available in Capture One but if you like Velvia, Provia, Astia, or even Black and White films like Acros, and many more, these looks are available. Let's take a look at a single photograph taken with all of the different film modes:

The first image is the RAW file with all settings in the Capture One RAW converter zeroed out – it basically contains all of the information that is in the RAW file with nothing done to the image other than what Phase One, the company that markets Capture One, has baked into the camera's profile. I could have displayed the linear file which doesn't even have the camera profile applied to it but that would defeat the purpose of this article

Fuji Astia – Astia is a relatively low contrast, low saturation slide film that gives a softer muted look. Good for portraiture and anywhere where color saturation needs to stay in check.

Fuji Provia – A middle of the road saturation and contrast slide film with natural colors. One of the very best general purpose slide films ever made.

Fuji Velvia – A highly saturated and very contrasty slide film that was popular with landscape shooters. It traded dynamic range for color saturation. You can see the blacks blocking up in the image to the right.

Classic Chrome – In between Astia and Provia for saturation and contrast – it gives accurate colors but softened and toned down



Pro Negative High – A wide dynamic range print film with slightly enhanced contrast. It is a good film for portraiture.

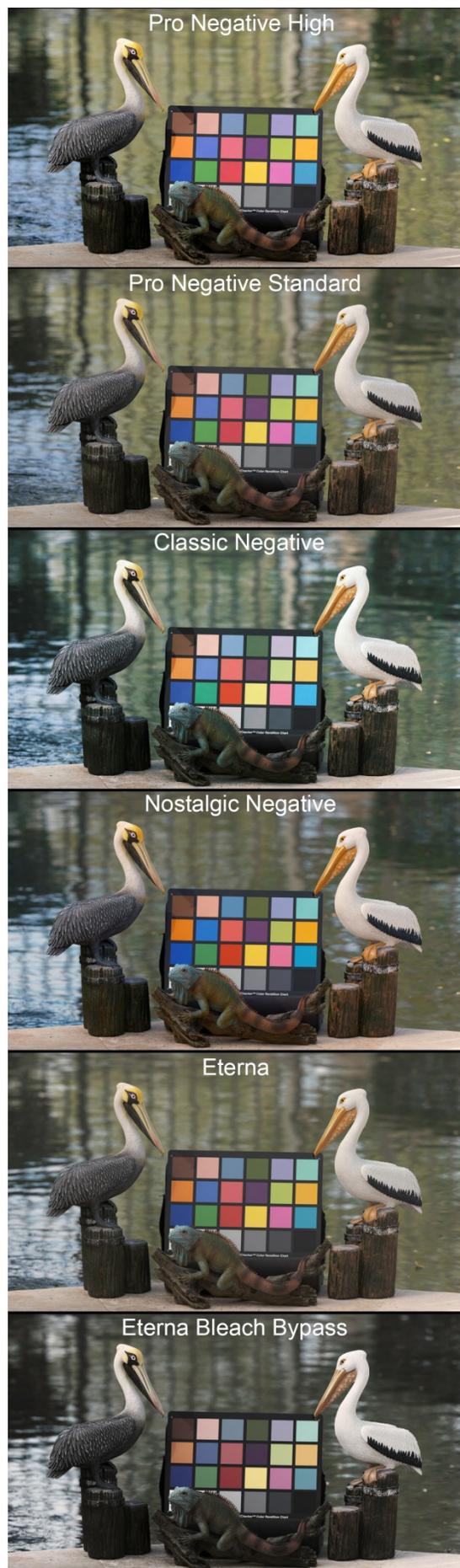
Pro Negative Standard – A very neutral and unbiased color negative film with a lower contrast level than Pro Neg High.

Classic Negative – A harder tonality and cooler colored but more saturated look.

Nostalgic Negative – Highlights are warmed as if looking through an amber filter like an 81B and shadows are a bit brighter than normal

Eterna – A cinema film emulsion that tones down highlights and gives great shadow response – most closely resembles the RAW file – recommended for RAW only shooters to insure your exposure decisions based on histograms and blinkies are the most accurate.

Eterna Bleach Bypass – Very low saturation, very high contrast cinema emulsion for an aged or post Armageddon/nuclear winter look.



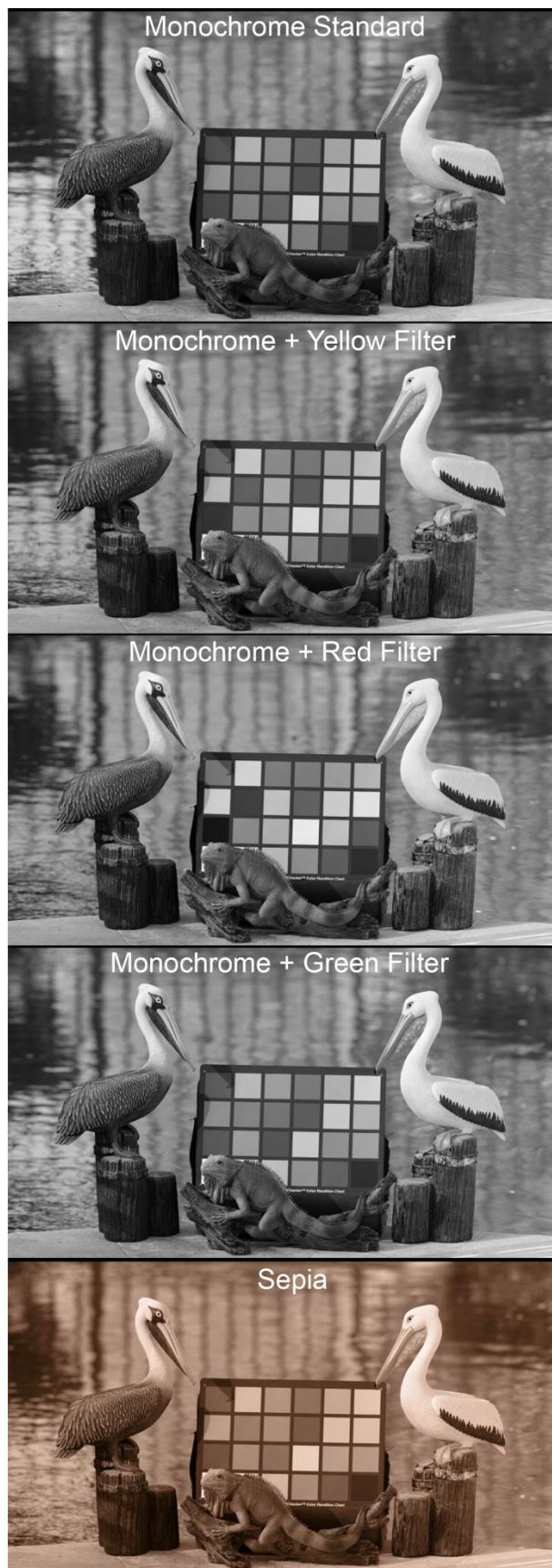
Monochrome Standard – a very unbiased medium contrast black and white simulation

Monochrome + Yellow Filter – biases the color response as if a yellow filter were on the lens – this has the effect of brightening any color with a yellow component and darkening colors with a blue component – good for increasing contrast in a cloudy sky and taking a blue sky from a light gray to a middle gray.

Monochrome + Red Filter - biases the color response as if a red filter were on the lens – this has the effect of brightening any color with a red component and darkening colors with a blue/cyan component – good for dramatically increasing contrast in a cloudy sky and taking a blue sky from a light gray to a dark gray.

Monochrome + Green Filter – biases the color response as if a green filter were on the lens – this has the effect of brightening any color with a green component. This is not usually used in nature photography but can be useful in studio black and white portraiture.

Sepia – flat color response but tints the entire image in Sepia. This is often used to invoke nostalgia to an era long gone or to produce an old photo or aged look.

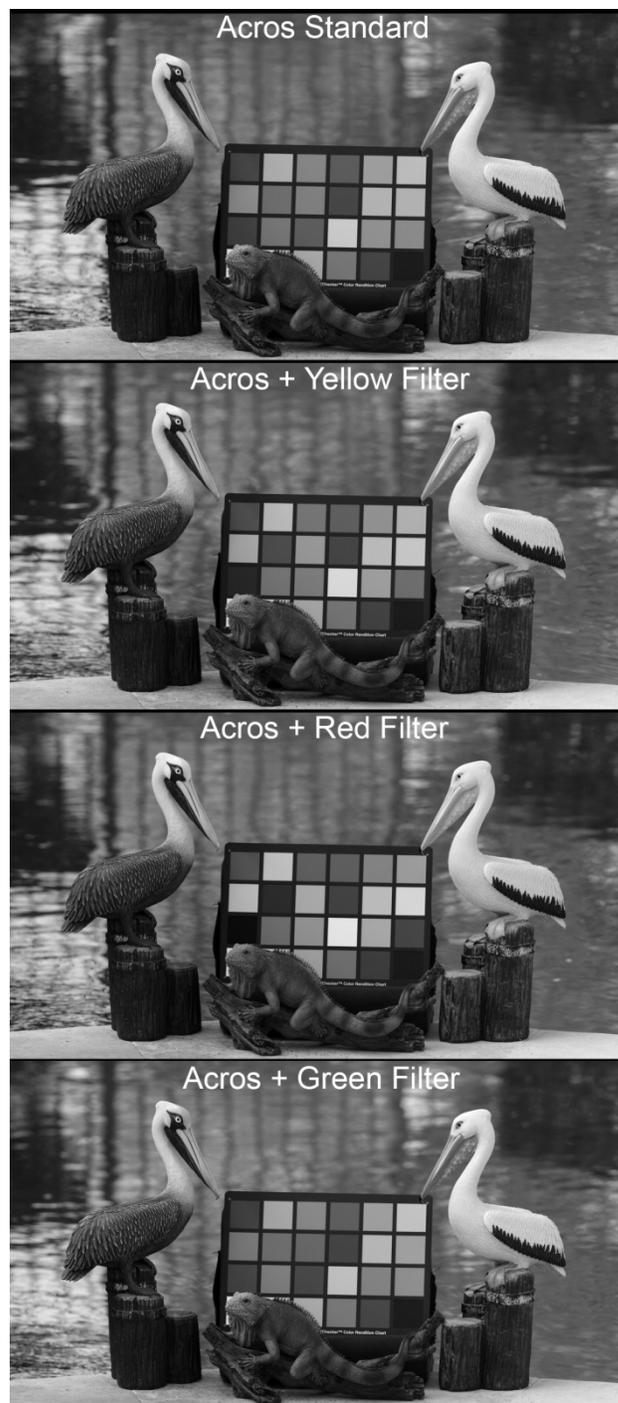


Acros – A super fine grained highly accurate response black and white film – widely regarded as the very best Fuji Black and White film with pleasing contrast and very good dynamic range

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Fuji continues to add film simulation modes. This is up-to-date as of March 2021. As stated earlier, these simulations only get applied to a JPEG file so you must be shooting either in a JPG mode or a RAW+JPG mode. If you are shooting in RAW only, you will see the Film Simulations applied in the viewfinder and on the rear LCD but the images will only be recorded in color; however, some RAW converters allow you to apply a reasonably accurate simulation of the Fuji Film Simulations prior to RAW conversion. My recommendation if you chose to use the Film Simulations is to record in JPEG Super Fine + RAW. That way you have the highest possible resolution JPEG file with the film simulation

applied as well as an original RAW file that you can process any way you want, in color or Black and White.

One of the reasons for going through this exercise is to determine which film simulation is best to select by RAW only shooters to get the most accurate representation of when the highlights start clipping in the RAW file in the viewfinder. Unfortunately, turning them off completely is not possible such as Nikon's Flat picture style. Before Eterna was added to film simulations, photographers that practice the "Expose to the Right" (or ETTR) method to maximize dynamic range often used Pro Neg Standard and then reduced the contrast and saturation by a couple of points to help make exposure decisions. While this is still a good way to do it, selecting Eterna is even more accurate. For a RAW file that is exposed to the far right of the histogram as possible without clipping, using the Eterna simulation and increasing the exposure until blinkies are just starting to show up is usually very accurate.

The Sony Alpha 1

Within just a couple of days of the Fujifilm GFX 100S, another groundbreaking camera announcement was made. Sony introduced their spectacularly speced Sony a1 flagship camera. The camera's goal, announced in time for the Tokyo Olympics, is to merge and enhance the capabilities of its previous top of the line action model, the a9 II with its top of the line high resolution model, the a7R IV, while providing the motion picture capabilities of the a7S series into a single, do it all 50 megapixel model with 8K video capability that does not overheat the camera. As of this writing, the camera is just starting to ship. This is not a user review but just an overview and my take based on what we know about the camera and what I learned from those that I have communicated with that have actually used the camera. One thing to be very careful with is the many online reviews made by YouTubers that rushed to get a video out and then got things wrong due to lack of understanding of how to set the camera up to maximize performance. My suggestion is to watch Australian Sony ambassador Mark Galer's videos for definitive information on how to set-up and use Sony cameras and pretty much ignore everyone else when it comes to actual camera set-up and deep understanding. Here's a link to his channel:

<https://www.youtube.com/c/AlphaCreativeSkills/videos>

From my research and conversations with photographers that have used the cameras whose opinions I trust and respect, I have concluded that this will likely become my wildlife photography camera body and backup to my Sony a7R4 for travel and landscape shoots where I cannot use medium format due to size and weight limitations. Here are some of the pros and cons as I see them:

Pros:

1. Solves three of my five biggest issues with Sony cameras – it finally has lossless compressed RAW files, its menus have been revamped to be more user friendly, and menus are now accessible while the images are clearing from the buffer.
2. Insane frame rate of 30 FPS with many Sony lenses (as long as continuous AF is set to Release mode and compressed RAW is selected) and still very high frame rates with older Sony lenses and most third party lenses.
3. 50 megapixel full frame files and 22 megapixel APS-C (Super 35) files with better high ISO noise characteristics than the a7R4 producing exceptional dynamic range – 15 stops of engineering dynamic range or about 13 stops of real world photography dynamic range.
4. Exceptional autofocus including a new bird AF mode that tracks an eye if it can and the AI understands what a bird is and will focus on that if it cannot track an eye.
5. Rolling shutter has been largely eliminated allowing fully electronic shutter even in action photography without the strange distortion one can get on slower scanning cameras.

6. The adoption of CFexpress (Type A) cards for much faster write and read times and much faster buffer clearing than SD cards. Both slots are full speed and will take either CFexpress or SD cards.
7. A super high resolution 9.4 million dot EVF that is getting closer to optical viewfinder quality with a very high refresh rate that essentially eliminates lag time. It has nearly double the resolution EVF compared to any other camera on the market and 3x the resolution of the majority of cameras on the market. The EVF has an incredible 0.9x magnification which will give you a view almost as large as most medium format cameras.
8. The a1 steps-up flash sync speeds to 1/400 sec with mechanical shutter and for the first time allows flash sync in fully electronic shutter mode at 1/200 sec.
9. Sony cameras have had a reputation of not being very resistant to sensor dirt since the sensor is totally exposed during lens changes. The a1 has solved this, following Canon's lead of closing the shutter whenever the camera is off thereby making it easy to change lenses without getting dirt on the sensor.
10. For those that want to shoot high resolution video, this camera shoots 8K video without the overheating that other small bodied cameras suffer from.

Cons:

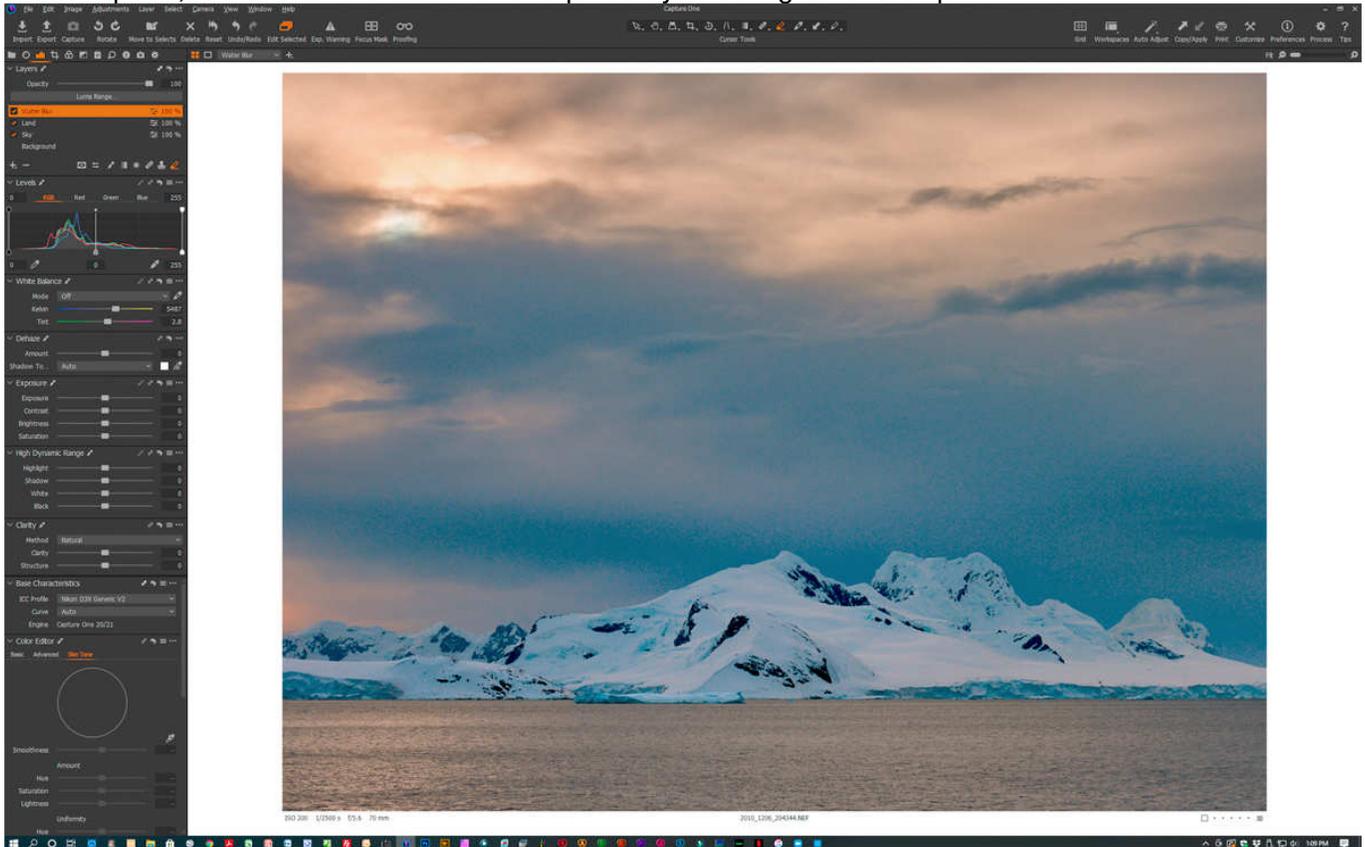
1. The price, at \$6500 this is a serious investment for a do it all camera.
2. The rear LCD is very low resolution 1.44 million dot unit, which, for this caliber of camera and pricepoint is very much sub-par. It is still just the simple flip up/flip down type screen that does not articulate up and down when shooting verticals.
3. Bird eye-AF is not as good as Canon's however when it can't find an eye, its bird tracking algorithms are faster than Canon's. Sony has committed to working on improving this
4. Pixel-shift, while an interesting feature that allows you to take 200 megapixel photos is still essentially unusable on anything but an absolute zero movement of anything situation. If you aren't on a concrete slab indoors with zero airflow using a heavy tripod and a completely, and I mean absolutely 100% motionless, it will give you weird uncorrectable artifacts. There are others (mainly Olympus) that has actually figured out how to correct for this movement in minor motion situations.
5. One of the features still missing from the Sony feature set that is automated focus stacking (sometimes called focus bracketing) – Sony is now the only company that does not offer this in its higher end products.
6. Another missing feature that I loved about the Nikon cameras like the D850 is various aspect ratios in RAW. Sony just gives you APS-C which is the same aspect ratio as full frame and 16x9. I really like being able to shoot a square or a 4x5 and have the RAW files write out that way. This isn't a huge deal but something that Sony cameras lack compared to some competitor's cameras.
7. Slower maximum frame rates with third party lenses and some older Sony lenses, but the slowest is still 15 FPS so it really isn't an issue.
8. Not expressly a shortcoming of the a1, but rather of the infrastructure around the a1, is that the only company shipping CFexpress Type A cards at the time of this writing is Sony. As such they are insanely expensive. Prices of these cards will come down substantially as competition comes into the market but early adopters that want the full performance that the camera is capable of will pay a very large premium for media cards.

The Alpha 1 or a1 is a very serious, ultra high end full frame mirrorless camera with relatively few compromises. It is the only camera on the market, in my view, that is optimized for action, wildlife, studio, and landscape photography simultaneously. It is a single camera that really can do it all (as long as you don't need rapid focus stacking). At the time of this writing, it is easily the most advanced camera on the market.

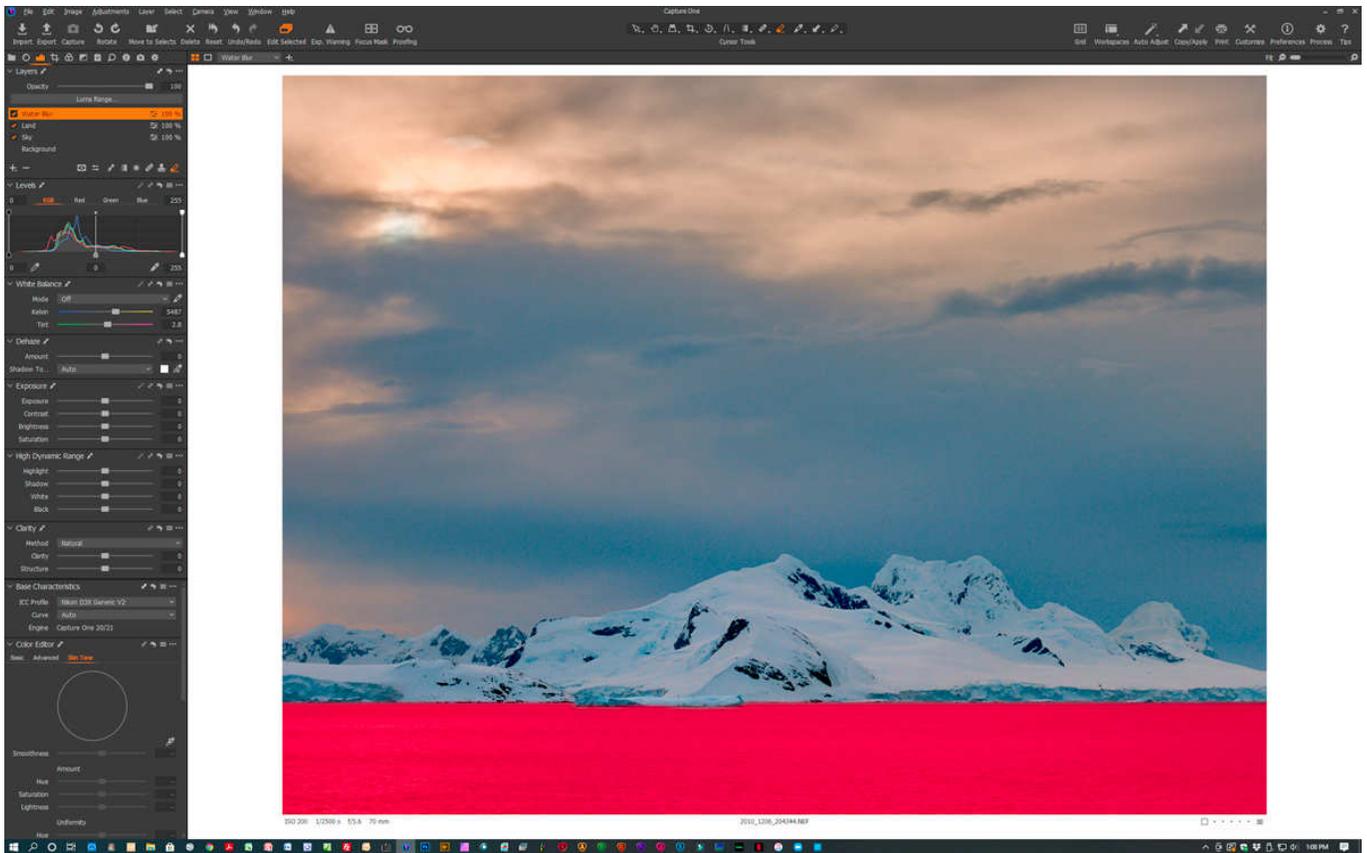
Adding Blur in Capture One

One of the most common questions I get from people first starting out with Capture One and especially those coming from Adobe products is “How do I blur a part of the image in Capture One?” While there is no blur slider in C1, a combination of several tools can usually get you the blur that you need. It must be said that most Adobe users do their blurring in Photoshop which can be done after processing the file and doing the RAW conversion in Capture One. However, some prefer an all C1 workflow so here is a method of blurring that you can use. It involves the use of a layer mask for the area that you wish to blur and then using a combination of the Clarity, Structure, Dehaze, and possibly white balance and color tools.

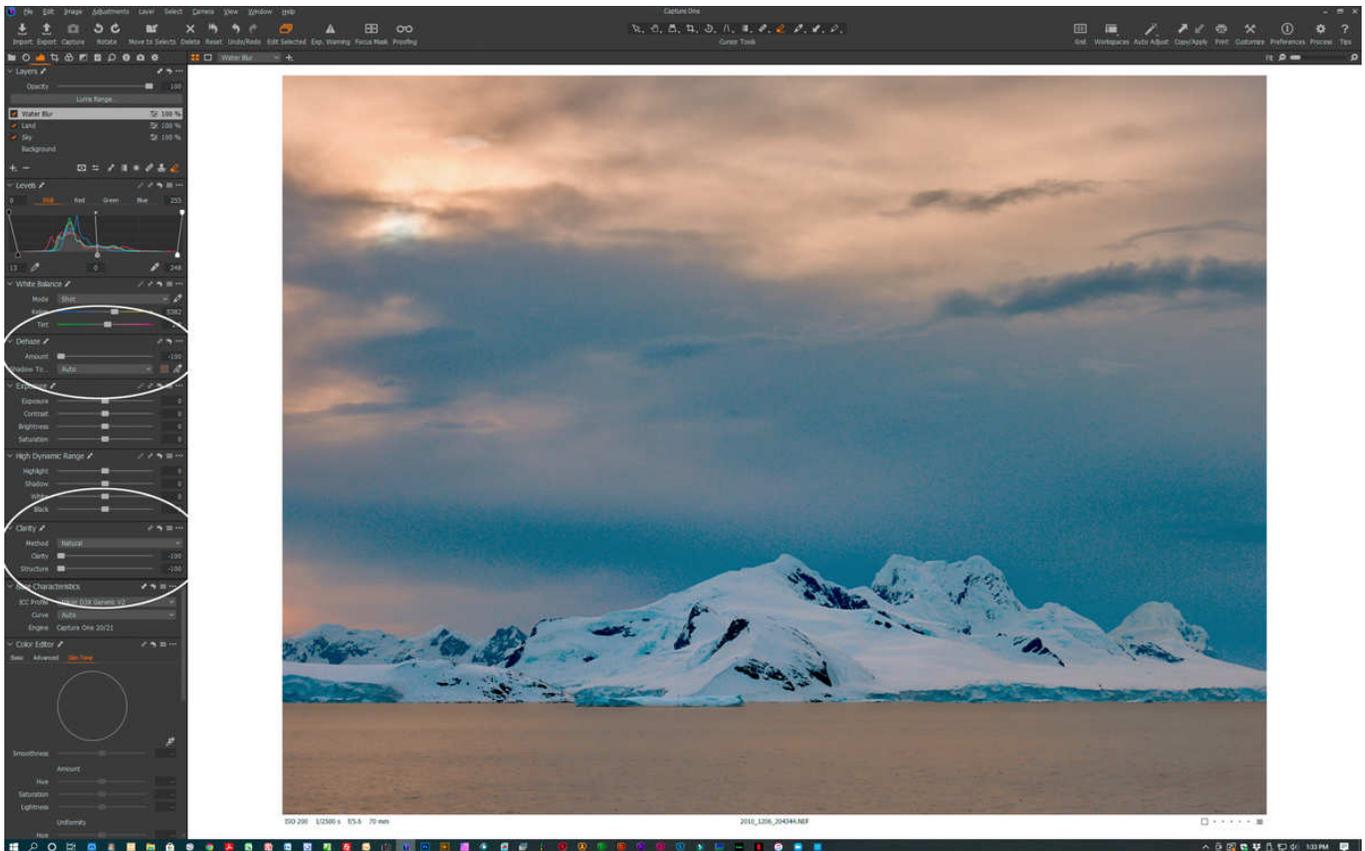
Starting with this image taken in Antarctica where I wish to blur the water as if it were taken with a slower shutter speed, rather than the faster one required by shooting off of a ship:



I have already done my processing of the sky and the land in their respective layers and have now created a mask for just the water. You can either draw in the mask by hand but in this case, with a relatively straight line edge between the water and land, I used the gradient mask tool and then rasterized it and erased it in any area where it intruded into the land resulting in a selection of the water only:



For illustration purposes I have blurred the water to a bit of an extreme here but as you can see from the controls, I have taken Dehaze to -100, in effect adding a bunch of “haze” and have also reduced clarity and structure to -100. Often you will have to do a bit of color correction which can be done either with the color editor or with a slight tweak to white balance and/or Hue as I have done here:



As you can see, this has basically blurred out all of the ripples in the water. As I've said, this example may be a bit over the top for blurring effect; it was chosen purely to illustrate the procedure. You can vary the three sliders, Dehaze, Clarity and Structure to your desire. If you need even more blurring, it is as simple as duplicating the layer mask and doing the same process again.

My "Perfect" Filter

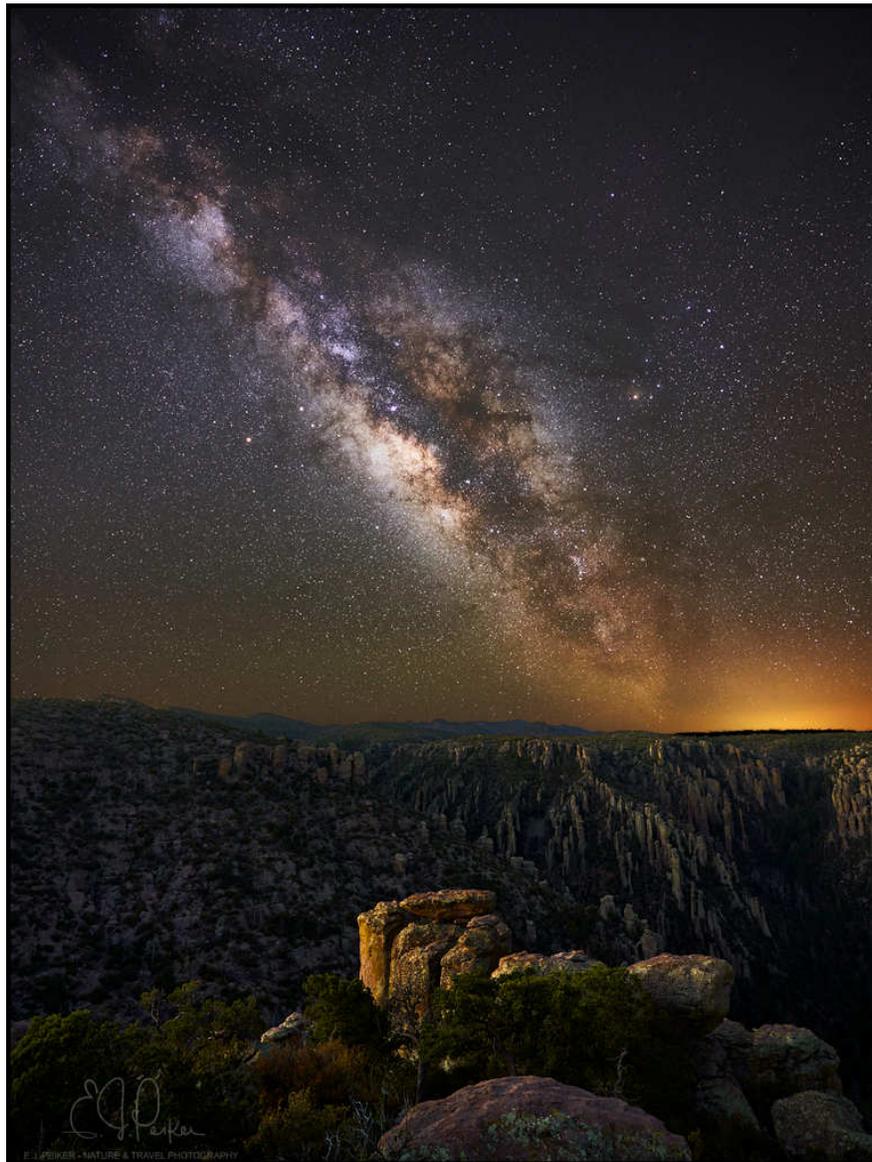
While we are on the topic of blurring, I often use a neutral density filter to slow down exposures to create a blurred water or blurred cloud effect. Usually a polarizer is also needed to take the sheen off of the surrounding rocks and vegetation or to give the sky a bit more punch by darkening the blues and thereby increasing sky contrast. This creates a situation where you are stacking filters. Each filter adds two surfaces that can degrade image quality. In a world of 50-150 megapixel sensors which are now commonly used, especially in landscape photography, the more glass you put in front of your lens, the more likely you are to degrade the resolution of your optics to the level where you might be recording 100 megapixels but you aren't getting 100 megapixels worth of detail in your final image taken with a 100 megapixel camera (or 42, or 45, or 50, or 61, insert the resolution of your camera...). I was excited when Sing-Ray first came out with their Bryan Hansen Waterfall Polarizer which is a dark polarizer that cuts approximately 4 stops of light while polarizing but I found it not to be quite dark enough for most of my uses for this type of filter, which revolve primarily around waterfalls or coastal landscapes so I continued to stack a polarizer and a 6 stop ND filter most of the time when shooting these types of scenes. Fortunately, Breakthrough Filters, a company that makes what I feel are the best ND filters on the market, recently introduced their line of Dark Polarizers. They come in 3-stop and 6-stop variants and are available from 39mm all the way out to 112mm diameters. I purchased a set of 6-stop Dark

Polarizers in 67mm, 72mm, 77mm, and 82mm diameters to cover all of my landscape photography oriented lenses. You may ask “why not just get the 82mm and some step-up rings to fit all of the lenses?” While that is an option and a very cost-effective approach, it precludes me from using my lens hoods which I find highly necessary, especially here in the desert southwest. I also find that lens hoods are your first and best solution in minimizing the impact of dropping a lens.

For photographing around moving water, I have found the Breakthrough Filters 6-stop Dark Polarizer my “perfect” filter.

<https://breakthrough.photography/products/x4-circular-polarizer?variant=36472878673>

The Story Behind The Photo



When I first got the Sony a7R III and the Sony 16-35mm f/2.8 GM lens a few years ago, I was excited to get them out of my home testing environment and out in the field. I decided to make a very early

morning 3 hour drive from Chandler, Arizona to the southeastern corner of the state, a place named Chiricahua National Monument. This is a place with many hoodoos and it is a very dark sky area of the state being approximately halfway between Tucson and Las Cruces, NM/El Paso, TX with not much in-between to cause significant light pollution – at least not from USA sources. I left around 1:00AM which would get me to my planned shooting location by 4:00AM or about 2 hours before sunrise in April. The temperature at 1:00AM at my home was around 70 degrees (21 Celsius) – typical for an overnight low during that time of year in my Sonoran Desert hometown which sits 1200 feet above sea level. The closest reporting station to my destination was reporting a temperature of 65 degrees (18 Celsius). The drive down in the dark was uneventful and I arrived as planned. It was a dead clear night and almost immediately, even though my eyes were still adjusted to my dashboard lighting, I was able to see the core of the Milky Way on this very dark night. I opened the door to the car to get out and begin setting up my equipment and I was stunned by how cold it was. I took a quick look at the temperature reading in my car and it said 28 degrees (-2 Celsius). What the heck was going on? How can it be 70 degrees 150 miles northeast and just 28 degrees here? In Arizona, we generally think of it getting colder as you go north and east, not so much going south. Fortunately I keep an emergency jacket and hat in my car but the jacket was not heavy enough for that kind of temperature. I put on the jacket and hat and then checked an app on my phone for weather, the closest reporting station, Sierra Vista, AZ, showed 60 degrees (16 Celsius). Then it dawned on me; it must be elevation. I pulled up another app and it showed me to be at 6900 feet above sea level. Driving in the dark, I had not realized that for the last 50 miles I had been steadily climbing. I decided to continue and tough it out. I was sooooo cold but the result was worth it.

I set-up my new a7R III and the brand new Sony 16-35mm f/2.8 GM on my star tracker, aligned the tracker to Polaris, the north star, and then swing the camera to the south to photograph the Milky Way. Things had changed a bit since I first pulled up and walked the short distance to my shooting spot – a thin crescent moon had risen adding just a small amount of light to the tops of some of the hoodoos. I chose a 16mm focal length with the lens wide open at f/2.8 and the ISO set to 3200 with a shutter speed of 30 seconds and took a series of 12 exposures. Once that was done, I turned the tracker off and took a 3 minute exposure at ISO 100 to render the foreground hoodoos as clean of noise as possible and without the motion blur you get in ground based object during a long exposure with the camera slowly moving to track the sky as the Earth rotates.

By the time I was done with all of this, I was literally freezing and could not feel my hands. My body was shivering. I went back to the car to warm up. After about a half hour, light was starting to appear on the horizon and I went back out for more photography of the area. As is usually the case in the desert, as soon as the sun came above the horizon, it warmed up quickly and I had a nice morning of photography in this wonderful National Monument. Once the sun got too harsh, about an hour after sunrise, I had walked quite a ways from my car so I headed back, packed up, and went on my way back home, stopping at a diner for a nice hot and hearty breakfast.

Once I got home, I was surprised to see the extent of the light pollution on the horizon which turns out to be from Agua Prieta, Mexico. The reason I took 12 shots of the Milky Way was to be able to stack them in specialty software designed for this sort of thing which has the effect of largely reducing the random noise caused by the high ISO required to capture the Milky Way. I use a program called Starry Landscape Stacker if I am working on a Mac and Sequator on a Windows based PC. Either will do the job equally well. Then I combine that with the low ISO image taken with the star tracker off for the foreground to produce the final image.

The lesson I learned on that day: don't just check the temperature at the closest reporting station but also check the elevation of your actual shooting area in comparison and dress appropriately.

Holes in Mirrorless Lens Line-ups

The regularly featured section below which summarizes my recommended lenses for every lens category makes clear that there are holes in the various manufacturers mirrorless lens line-ups. A lot of these holes can be filled by adapting DSLR lenses but often at the cost of fast autofocus tracking. Some adapted lenses are better than others; specifically Canon EF lenses used with one of Canon's EF to RF mount adapters tend to perform the best. This is probably due to the fact that Canon has been offering a very capable sensor based AF system on their DSLR's, called dual pixel AF, for a number of years. However, even better performance is in the offing as their mirrorless lens lineup fills in. Canon has clearly focused on very high quality professional grade zoom lenses and so far has not provided much in the way of prime lenses. Basically the prime lens line-up consists of the venerable 50mm and 85mm offerings. There are no wide primes and on the telephoto end, there are just a couple of very slow fixed-aperture super teles – the 600 f/11 and 800 f/11 which can hardly be considered professional grade despite fairly good image quality. The problem though is that f/11 simply does not allow you good subject to background separation and forces you into some high ISO values if shooting any kind of action. Even their super-tele zoom, the 100-500mm lens is burdened with a slow f/7.1 maximum aperture at longer focal lengths. Canon has not yet announced any teleconverters for the RF mount nor is a fish-eye lens available; but again, their excellent 8-15mm fish-eye zoom can be adapted. Canon does have a couple of Macro lenses, one is a very short 35mm and the other is an 85mm but it really isn't a true macro lens as it only goes to a 1:2 reproduction ratio.

Nikon has done a better job on introducing prime lenses with a relatively complete set of high quality f/1.8 primes ranging from 20mm to 85mm but also has not yet introduced any telephoto primes although they have published a roadmap that includes a professional level 400mm and 600mm but no 300 or 500mm telephoto lenses, both staples in the wildlife photography world. Of course the DSLR equivalents can be adapted with Nikon's FTZ adapter but at a significant cost to AF performance. So far, Nikon has not announced a super-tele zoom either although a 100-400mm pro grade and a 200-600mm enthusiast grade lens are on the roadmap. Nikon has introduced both a 1.4x and 2x Z-mount teleconverter. Nikon also does not have a fish-eye lens but the 8-15mm DSLR fish-eye lens can be adapted with the FTZ adapter. Nikon currently has no Macro lenses but a 50mm and 105mm lens are on the roadmap.

Sony has been at the full-frame mirrorless game for many more years than Canon or Nikon and it shows with a reasonably full lens line-up including both 1.4x and 2x teleconverters. However, there are still some holes. For wildlife photographers, the most glaring holes are the lack of a fast 300mm and 500mm prime lens. Pretty much everything else is covered. There is even a fish-eye option although it is not a good one; it consists of their consumer grade 28mm f/2 lens and a screw-on fish-eye adapter lens. In addition to the numerous Sony lenses, Sony decided to make their E/FE mount an open mount that they will license to third party manufacturers. This has produced many outstanding lenses from the likes of Sigma, Tamron, Samyang/Rokinon, Zeiss, and many more – just about anything you could want is available, even Macro lenses longer than 90mm, except the missing super teles in the Sony line-up.



The Best Lenses for Your Nikon, Canon and Sony Mirrorless Cameras

The table of best lenses for your camera is a living document that gets updated every quarter. Changes from previous tables can be seen in **bold**. As development of DSLR lenses for Nikon and Canon have essentially stopped, I am switching this section to covering mirrorless only. On all systems, areas left blank means that there is no lens currently available (or there isn't one that I can recommend – e.g. the Canon 600/800mm f/11 lenses) with that native mount; however, in virtually all cases, a DSLR lens can be adapted to the mirrorless system often with some minor to moderate compromises, primarily in autofocus capability. Currently there are no electronically coupled third party lenses for the Canon and Nikon mirrorless systems due to both manufacturers using a proprietary mount strategy. For my final DSLR lens recommendations for Canon and Nikon, please see the Autumn 2020 Newsletter linked here: <https://ejphoto.com/Quack%20PDF/Quack%20Autumn%202020.pdf>

Lens Category	Canon RF Mount	Nikon Z Mount	Sony (F)E Mount
Full-frame Fisheye			Sony 28mm f/2 + 16mm Fisheye Conversion Lens
Hyper Wide Prime			Sigma 14mm f/1.8 Art
Ultra Wide Prime		Nikkor Z 20mm f/1.8S	Zeiss Batis 18mm f/2.8 Voigtlander 15mm f/4.5
Extra Wide Prime		Nikkor Z 24mm f/1.8S	Sony 20mm f/1.8 G Zeiss Loxia 21mm f/2.8
Standard Wide Prime			Sony 24mm f/1.4 GM Sigma 24mm f/1.4 Art
Moderate Wide Prime		Nikkor Z 35mm f/1.8S	Sigma 35mm f/1.2 Art Sony-Zeiss 35mm f/1.4
Standard Prime	Canon RF 50mm f/1.2L Canon RF 50mm f/1.8	Nikkor Z 50mm f/1.2S Nikkor Z 50mm f/1.8S	Sony 50mm f/1.2 GM Sony-Zeiss 55mm f/1.8
Portrait Prime (short telephoto)	Canon RF 85mm f/1.2L Canon RF 85mm f/2 Macro IS	Nikkor Z 85mm f/1.8S	Sigma 85mm f/1.4 DG DN Sigma 105mm f/1.4 Art Sony 85mm f/1.4 GM
Medium Telephoto Prime			Sigma 135mm f/1.8 Art Sony 135mm f/1.8 GM Zeiss Batis 135mm f/2.8
200mm Prime			
300mm Prime			
400mm Prime			Sony 400mm f/2.8 GM
500mm Prime			
600mm Prime			Sony 600mm f/4 GM
800mm Prime			
Wide Angle Zoom	Canon RF 15-35mm f/2.8L	Nikkor Z 14-24mm f/2.8S Nikkor Z 14-30mm f/4S	Sony 16-35mm f/2.8 GM Sony 12-24mm f/2.8 GM Sigma 14-24 f/2.8 Art Tamron 17-28 f/2.8 Di
Standard Zoom	Canon 28-70mm f/2L Canon 24-80 f/2.8L Canon RF 24-105mm f/4L IS	Nikkor Z 24-70 f/2.8S Nikkor Z 24-70 f/4S	Sigma 24-70 f/2.8 Art Sony 24-70 f/2.8 GM Tamron 25-75mm f/2.8
Telephoto Zoom	Canon RF 70-200 f/2.8L IS	Nikkor Z 70-200mm f/2.8 VR	Tamron 70-180mm f/2.8 Sony 70-200 f/2.8 GM
Super Telephoto Zoom	Canon RF 100-500mm f/4.5-7.1		Sony 100-400 f/4.5-5.6 GM Sony 200-600 f/5.6-6.3 G
Macro	Canon RF 85mm f/2 Macro (0.5:1x)		Sigma 105mm f/2.8 Macro Art Sony 90mm f/2.8 Macro Voigtlander 110mm f/2.5

Photo Gear Garage Sale

All items that are currently available for sale are listed on my website. Here's the direct link to all of the gear I am currently selling – it is kept up to date: https://ejphoto.com/gear_for_sale_page.htm

Workshops

All of my group and one-on-one workshops are currently on hold until such a time that safety from COVID-19 can be assured. I will start to take reservations for private 1 on 1 sessions with people that have been fully vaccinated and have had their second dose of Pfizer or Moderna or the single shot of the Johnson and Johnson vaccine at least 15 days earlier – we will still follow enhanced safety protocols

Private instruction in camera operation, landscape and wildlife photography is also available as well as image processing training in Capture One, Topaz, Nik, and Photoshop. Photo workstation consulting services are available. These services are currently only available via telephone or video conference. Contact me at ejpeiker@cox.net for more information.

Facebook and Instagram Pages

For 2021 I have changed my approach to Instagram. Previously I had only used it for Landscape photography posting a minimum of one image per day. As I have not been producing much new work during the pandemic, I have decided to move to a monthly theme for 2021 where I post a thematic image every day. For January, the theme was Birds of Arizona; in February I posted travel shots from all 7 continents. As this newsletter goes out we are in Monochromatic March. Future themes include Aerial Photography, African Wildlife, Great Mountain Ranges, Hummingbird and Topical Birds, North American Wildlife, Waterfowl of the World, National Parks, the desert, and Polar Region photographs <https://www.instagram.com/ejpeiker/> and to my Facebook page to see a daily mixture of wildlife, landscape and travel photography: <https://www.facebook.com/EJPeikerNaturePhotographer>

Newsletter Info

This is the 20th year of my quarterly Newsletter. I try to cover the wide array of digital imaging and products from mirrorless to medium format and everything in between. Throughout the years, the information contained herein has always been free and will continue to be free despite the many hours it takes to put it together and significant equipment and travel expenses. Most of the products that I have tested and reviewed, I have purchased myself. A small minority have been made available to me for review and evaluation by loyal readers and a few by the manufacturers themselves. While the newsletter is free either via eMail subscription or via accessing it on my website at <http://www.ejphoto.com/newsletter.htm>, if you find the information useful to you and you do wish to donate for my continuing efforts, you may do so via PayPal and sending the funds to ejpeiker@cox.net.

Disclaimers

E.J. Peiker conducts consulting services and product design services for a number of photographic product companies. Those that know me know that I would not endorse a product, even for compensation, if I did not feel it were a superior product.

E.J. Peiker is a co-founder of www.Naturescapes.net and leads photographic workshops under the **NatureScapes** Certified Workshops banner.

E.J. Peiker is a member of **Nikon** Professional Services and receives some services at a substantial discount or free of charge from Nikon USA. www.nikonpro.com

E.J. Peiker is a **Sony** Digital Imaging Pro and receives some services at a reduced cost or free of charge from Sony USA. <https://alphauniverse.com/prosupport/>

E.J. Peiker promotes **LensCoat** products and receives some of their products at no cost. www.lenscoat.com

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Artist's Palette - Death Valley, California (GFX 50S, 120mm)

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