NEWSLETTER

MICHAEL CLARK
PHOTOGRAPHY

SPRING 2020

contents

copyright notice:

This Newsletter was created by Michael Clark for the promotion of Michael Clark Photography. No reproduction of any part of this Newsletter is allowed without written permission. All images Copyright © 2020 Michael Clark Photography. All Rights Reserved. Contact me at info@michaelclarkphoto.com. To see more of my work view my website at www.michaelclarkphoto.com.

Cover Image: Marcus Garcia climbing a steep WI5 route belayed by Hayden Carpenter in the Ouray Ice Park in Ouray, Colorado. Opposite Page: An Osprey V-22 tilt-rotor aircraft on the runway at Camp LeJeune near Jacksonville, North Carolina during an assignment documenting the MARSOC Marine training.

Covid-19 Edition

Sinking into our new Reality

Welcome to the new reality. At least the new reality for the next few years. I don't see our World getting back to normal anytime soon. As I am sure everyone can understand, trips I went on just a few shot months ago seem like they happened years ago. Here in New Mexico we have been in lock down for about two and a half months now—and rightly so to keep the death rate to a minimum and not overwhelm our health care system. Like many of you I have been reading the news vociferously, taking in every little nugget of information to get a handle on the present and think about what the future could look like. The news is overwhelming. And sadly, here in the USA, my own country has mishandled this outbreak in an alarming fashion. It feels like we have gone through the looking glass into the Twilight Zone.

Luckily, my family and I have remained healthy. All of my assignments, as with my peers, evaporated overnight way back in early March when the lock down started. Hence, I have been at home working on finishing the update to the 7th Edition of my e-book entitled, *A Professional Photographer's Workflow: Using Adobe Lightroom and Photoshop*, which is described in the News section of this Newsletter and there is also an excerpt from the new chapter at the end of the Newsletter. My time has been filled with interviews and office work. But I cannot complain in the least. This time at home for all of us has shown just how valuable those working on the front lines are to our civilization. Our hearts go out to those working in the local government, in the grocery stores, in the hospitals, the farmers, the meat packers, the truckers, the warehouse workers shipping out goods all over the country and all those keeping our country going. Thank you for your service. I hope that when we come out of this we re-evaluate what the truly important jobs are and restructure how those workers are paid.

Also in this issue of the newsletter is an article about an assignment from last fall with the Marine Forces Special Operations Command (MARSOC). I have not been able to talk about this assignment until now as the images had to be vetted by the US Marine Corps before I could share them in any way. That assignment led to some pretty remarkable images. Here's hoping this Newsletter offers up some entertainment value in these tough times.

Opposite Page: Hayden Carpenter climbing a steep WI4+ route while being belayed by Marcus Garcia down below in the Ouray Ice Park in Ouray, Colorado.

Recent Clients: Fujifilm North America, Red Bull Media House, Colonial Systems, Colorado Tourism, CreativeLIVE, Orlebar Brown, National Geographic, Santa Fe Institute, and InLightWorks Productions.

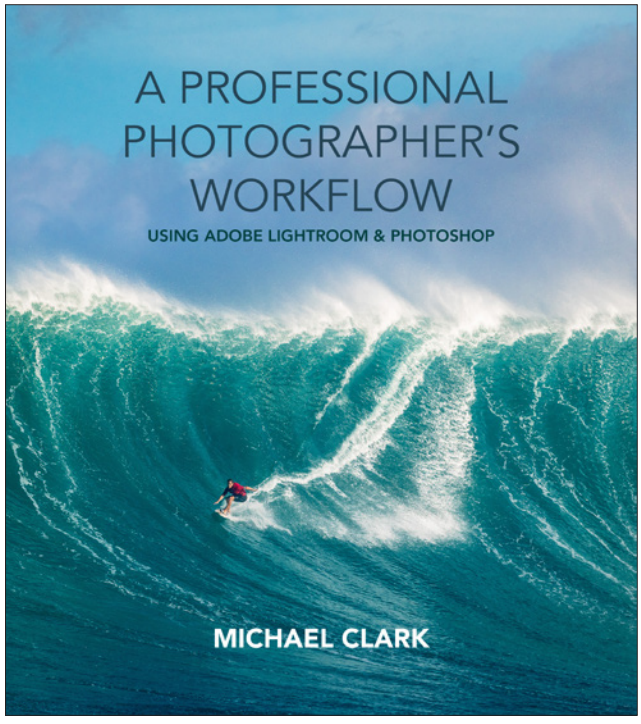
A Professional Photographer's Workflow

The updated and revamped 7th Edition of my popular Digital Workflow e-book

I am happy to announce that I have updated my highly regarded e-book, A Professional Photographer's Workflow: Using Adobe Lightroom and Photoshop (7th Edition), for Lightroom Classic CC (2020) and Photoshop CC. This book is a 565-page digital workflow workshop in book form. This new edition was sorely needed as the last version was nearly five years old. To purchase the e-book visit my website.

Over the last five years I have just been too busy to update the e-book. I started work on revamping this book from front-to-back about a year ago. In 2019, I had so many assignments and was on the road for over nine months, which made it tough to update the book but I worked on it as much as I could between assignments. In the last six weeks, with Covid-19 keeping us at home I have been able to make some serious progress and finally was able to finish the update. The e-book now includes an entirely new chapter on Equipment Selection, links to new Full HD videos where you can watch me work up three images in both Lightroom and Photoshop.

In addition to the new chapter, the new videos and the updates throughout the book, the e-book also comes with a Photoshop Action which lays out the basic adjustments I do to pretty much every image. The Photoshop Action comes with a ReadMe PDF that explains how to load that action into the Actions palette in Photoshop. It will work on just about any version of Photoshop.



I can honestly say that I have not seen any other book on the market today that includes as much detailed and comprehensive information as this e-book does on a complete digital workflow from setting up the camera to backing up your images and everything in-between. To purchase the e-book please visit my website. If you would like to download a sample of the PDF with the table of contents and the introduction click here.

when it comes to light gathering ability (i.e. aperture) and focal length. In another example below, the 70-200mm f/2.8 zoom lenses on the Sony and the Nikon are basically the same length—the differences are just the width of the camera body.

In this second comparison above are the Fuji X-T3 (left), Sony A7R III (center) and Nikon D850 (right) all with a 70-200mm f/2.8 lens on each camera. In the case of the Fuji, it has a 50-140mm f/2.8 lens attached to it, which is the equivalent to the other two lenses. The Sony lens is essentially the same length as the Nikon version, the only difference being the thickness of the camera bodies.

Factoring in image quality to this equation and it becomes a bit murkier. The D850 and the Sony A7R III have essentially equivalent image quality. But if you step down to the smaller APS-C sensor format, then you lose significant image quality compared to the D850 or the A7R III—mostly because these smaller sensors have much lower resolution. Again it is just a matter of physics, a larger sensor can hold more pixels than a smaller sensor. It is the same scenario when comparing full-frame sensors to the larger medium format sensors.

ADVANTAGES OF MIRRORLESS

Mirrorless cameras do have a significant advantage over their DSLR cousins. Regardless of my nit-picking in the last section, the path forward to higher-resolution and much improved digital still cameras is by way of removing the mirror and embracing the new technology. Below, with commentary, are some of the main (and most obvious) advantages to be found in mirrorless cameras so far.

The Z Series EVF, found in the Nikon Z6 and Z7 mirrorless cameras, is one of the best EVFs to date in any mirrorless camera. Save for those portions of the EVF that are showing blown out highlights this viewfinder looks very similar to an optical viewfinder—albeit with much more information.

ELECTRONIC VIEWFINDER (EVF): The advantage of an electronic viewfinder, which is basically a very high-resolution monitor inside the eye-piece, may not be obvious at first. The EVF is essentially showing exactly what the sensor is see-

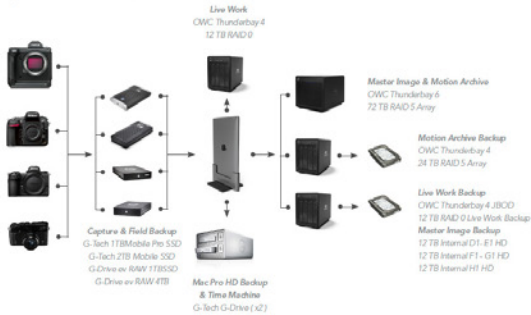
STORAGE & IMAGE ARCHIVE WORKFLOW

On the following page is a diagram showing my entire storage and image archive workflow. Because this workflow is so complex, I will go through it in great detail here to explain the logic behind my system. For the average photographer, this storage workflow is massively overkill, but for those working professionals with huge image libraries this example is a good option to consider. Whether you are a pro or an amateur, take from this example what you need to build a fast and robust backup strategy.

Starting with the camera, once I have captured the images I download my memory cards to a variety of G-Tech SSD hard drives. Note that I download images to at least two drives and don't clear the memory cards until the images from the assignment are fully processed, providing me with three copies of my images minimum. Once I get back into the office the images are moved from the portable SSD drives over to the Live Work enclosure, which is an OWC Thunderbay 4 RAID 0 array. This Live Work enclosure is set up for maximum speed and throughput. The Live Work HD has four 3 TB hard drives in it which are set up as a 12 TB RAID 0 and the Live Work array is backed up nightly to a single 12 TB HDD named Live Work Backup. For the backup, I use SuperDuper to clone the RAID 0 drives with "smart backup" technology each night. The smart backup option in SuperDuper goes in and checks what has changed on the original drive and changes it on the backup drive so they match exactly, which takes a lot less time than cloning the entire hard drive every night.

Once the images or motion content are on the Live work drives, I work them up in Lightroom and Photoshop as laid out in this book. After the post-processing work is finished, I move all of these images and video content to the Master Image & Motion Archive enclosure, which in this case is a 72TB OWC Thunderbay 6 RAID 5 enclosure. The Master Image and Motion Archive is then copied to the

Master Image Backup hard drives and the Motion Archive Backup RAID 5 array. Using RAID 5 for these archive drives offers exceptional reliability so that my images are safe and sound.



Backing up huge quantities of images can be daunting. For most amateur photographers, the fewer number of images and hard drives can greatly simplify this process, but for the pro the terabytes add up quickly. Above you can see my entire storage and archive workflow, which looks like a rats nest of hard drives but as the images/video content move from the field hard drives to the Live Work and Master Archive drives everything is backed up in triplicate along the way.

The last step in my storage workflow is to make copies of everything including all image and video content, a bootable clone on my computers hard drive, and copy everything on the Live Work RAID 0 array onto individual hard drives that will be stored off-site. I use a variety of internal HDDs (like the Seagate Barracuda hard drives) for the off-site storage. These hard drives are kept in a safety deposit

Communication Arts 2020 Photo Annual

An image from the FUJIFILM GFX 100 assignment included in this illustrious photo annual

I am very excited to announce that the image on the next page of Savannah Cummins climbing the classic route Scarface (5.11) in Indian Creek, Utah has been chosen for inclusion in the 2020 Communication Arts Photography Annual, which will be published in the July/August 2020 issue of Communication Arts (CA). The CA Photography Annual is one of the most exclusive photography competitions in the world. The Communication Arts Photography Annual competition has been held for the last 61 years making this one of the oldest photography competitions in the World. From the Communications Arts press release, "Of the 2,511 entries to the 61st Photography Annual, only 121 were accepted, representing the work of 112 photographers, making the Photography Annual the most exclusive major photography competition in the world."

For those not familiar with Communication Arts, here is a description from the press release of the magazine, which is more like a high-end book than a magazine: "Communication Arts is a professional journal for designers, art directors, design firms, corporate design departments, agencies, illustrators, photographers and everyone involved in visual communications. Through its editorials, feature articles and the annual competitions it sponsors, CA provides new ideas and information, while promoting the highest professional standards for the field. With a paid circulation of 25,000, CA has a rich tradition of representing the aspirations of a continually-growing and quality-conscious field of visual communications. Now in its 61st year, CA continues to showcase the current best—whether it's from industry veterans or tomorrow's stars—in design, advertising, photography, illustration, interactive and typography. Everything is reproduced with printing technology and attention to detail unmatched by any trade publication anywhere."

For me personally, getting the email that another one of my images made it into the Photo Annual, and especially this image in particular, is a confirmation of how we knocked it out of the park on this assignment for FUJIFILM North America. [My first image to be included in the Communication Arts Photo Annual was in 2016 and my second was in 2018.] When I got the news I was overjoyed as this image is from one of the best assignments I have ever had—and it was very exciting to be a small part of the launch for the incredible FUJIFILM GFX 100. Along with the notice, I also received an email that I could announce that my image was included in the Annual, even though the July/August issue is yet to be published.

Photography Workshops

An overview of workshops and online classes with Michael Clark

Each year I teach a few workshops on a variety of topics including adventure sports photography and artificial lighting. Below is a listing of the workshops I will be teaching in 2020. Of course, with current events (i.e. the Coronavirus) we will have to wait and see if these workshops will be able to run. Stay tuned to my blog for the latest information on these upcoming workshops. For more information on these workshops, and to find out how to register, go to the Workshops page on my blog or click on the links in the descriptions below.

ONE-ON-ONE VIRTUAL WORKSHOPS

Online via Skype or Zoom

Email info@michaelclarkphoto.com to Schedule

With the Covid-19 virus running freely here in the USA, I am doing quite a few online tutorials and workshops. If you would like to set up a one-on-one Skype or Zoom session to discuss any photography related topic please contact me. From portfolio reviews to digital workflow, lighting techniques and career development and anything in between we can set up a session and cover whatever you want. If you have any questions about these sessions please don't hesitate to reach out.

Pricing for online sessions starts at $85/hour and discounts apply for multiple hour sessions.

SUMMIT SESSIONS

Online via Zoom

Photographyatthesummit.com/sessions

In tandem with Summit Workshops, I am offering a wide array of one-on-one sessions through their platform. They have a wide variety of options with all of their world-class instructors from many different photography genres. From their website, "Summit Sessions will provide one-on-one virtual, 60 minute classes with our amazing and award-winning faculty of photographers, magazine editors, and photography business partners. Currently, we have 30+ instructors offering 40+ sessions ranging from image capture, digital workflow, portfolio/website reviews, to the business/marketing of photography. Each session is available at an introductory price of $99, and Summit and each instructor will work with you to tailor the session to best fit your needs."

For more information and to check out the sessions and instructors go to the Summit Workshops website.

ADVENTURE SPORTS PHOTOGRAPHY

Summit Workshops - Jackson, Wyoming

September 12 - 17, 2020

Instructors: Corey Rich, Dave Black, Bo Bridges, Jen Edney,

Ryan Taylor, Savannah Cummins, Ted Hesser, Mark Kettenhofen and Michael Clark

Action and Adventure Junkies Rejoice! Set out on a photography journey in the Grand Tetons with our faculty of adventure photographers and editors from National Geographic, Red Bull, The North Face, and more. Work with expert photographers and learn the shooting and scouting techniques that they use to land their images in top publications, meet the editors behind some of the world's most daring photography expeditions and learn how they hire photographers, and even spend a night camping with the faculty as you network with them throughout the workshop. In this workshop, you'll be exposed to every aspect of adventure photography, from adventure and outdoor sports photography to product and outdoor commercial photography. The Adventure Workshop is for any and all photographers.

This will be my third year as an instructor for this workshop and I must say it is an excellent experience and a golden opportunity for those looking to jump into the adventure genre. There is no other workshop out there (on the topic of adventure photography) that gives you access to so many top pro photographers in a single workshop. Additionally, where else can you hang out with a top-end photo editor like Marv Watson from Red Bull and sit down with several working pro adventure photographers? This workshop has literally started careers.

Cost: $1,995.00

Go to the Summit Workshops website for the specifics on what is covered and what isn't. Please note that this workshop is taught by nine outstanding photographers and photo editors and offers an incredible opportunity to learn from not just one but many experts. This is by far one of the best adventure sports photography workshops out there, especially if you are looking to go pro.

Online Workshop Classes

Over the last few years I have taught a number of online classes for CreativeLIVE, which are available for download on their website. These classes are in-depth, online two-to-three days courses. Hence, there is a lot of information and they are a very cost effective way to learn about various photography skills. Below are a listing of my most recent classes.

The Professional Photographer's Digital Workflow
CreativeLIVE (www.creativelive.com)

This digital workflow class covers everything from image capture to the final print. This is not just a class on how to process your images, it is a detailed class for any and all photographers looking to take their photography to a whole new level, stay organized and make sure that they are getting the best possible image quality. This CreativeLIVE class won't cover everything contained in my digital workflow e-book, but it will cover a good portion of the key basics. In this CreativeLIVE class we take a deep dive into color management, sensor cleaning, image organization, file and folder naming, processing images in Lightroom Classic CC and Photoshop CC, printing, backing up your images and much more. To purchase this class visit www.creativelive.com.

Cost: $99 USD
Note that CreativeLIVE often runs sales so the class

might be discounted below this price.

Advanced Lighting for Adventure Photography
CreativeLIVE (www.creativelive.com)

A few years ago, I taught a two-day live class on advanced lighting techniques for CreativeLIVE and Red Bull Photography, which was broadcast live on July 17th and 18th, 2017. This class is available for download on www.creativelive.com. While this isn't an in-person workshop, like the others listed here, it is a resource that is available online and can be downloaded and watched anytime.

Cost: $79 USD
Note that CreativeLIVE often runs sales so the class might be discounted below this price.

Workshop Testimonials

"Within the short time I've been studying and practicing photography, I have had teachers who are good educators, but not great photographers, and vice versa, but few who are both. Count yourself in these narrow ranks...I went through four years of college and several careers getting less candid advice and encouragement than I got in four days with you. For what it is worth, thank you for that." – Brandon McMahon, Adventure Photography Workshop

"Michael set an incredibly high bar for his workshop. He gave 110%, covered a broad range of topics and did an outstanding job." - Chris Council, Adventure Photography Workshop

"I just finished Michael Clark's Adventure Photography Workshop. Michael Clark really knows his stuff and has a lot of excess energy, which he focused on us, and he can also teach. He read our skills and weaknesses quickly and went to work to improve each of us technically. He sorted out our individual goals, even when we couldn't really articulate them. Then he gave us plenty of time to address those goals and ask question after question after question. The rough environments in which we photographed were great fun to explore. Couldn't be better." - Tania Evans

"Michael is the best instructor I have taken a workshop from." - Participant, Cutting-Edge Lighting Workshop

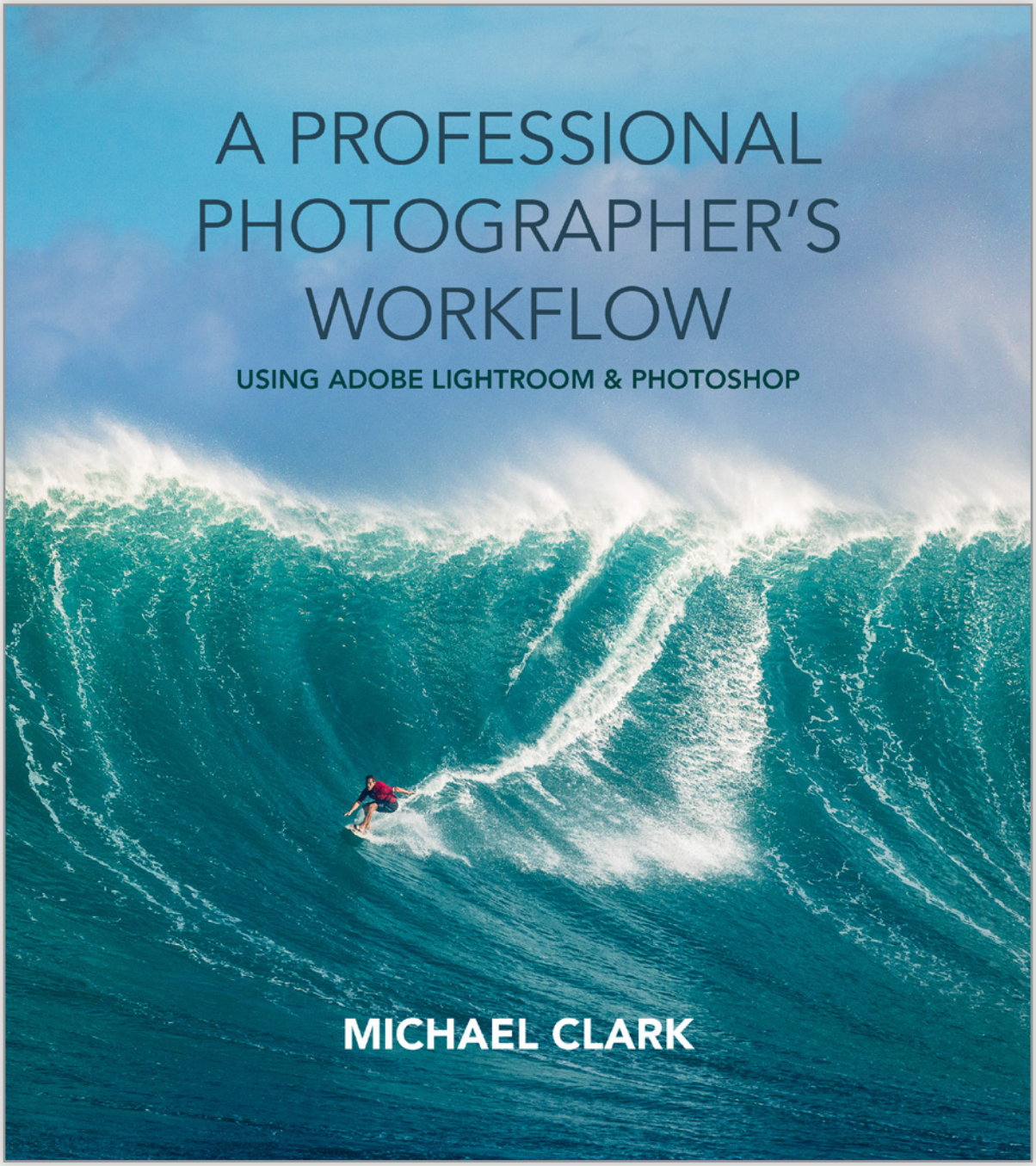
"Priceless chance to learn from the absolute best. Every photographer should take this class!" - Jill Sanders, The Professional Photographer's Digital Workflow available on CreativeLIVE

"Michael is a true professional and readily explains all of the nitty gritty issues of a photographer's digital workflow, including important things like Color Management, Lightroom workflows, Printing, and more. He has a thorough knowledge and passion that he loves to share. He can get way deep into the subject, which I found fascinating. You can tell Michael has great experience in teaching and also likes to learn from his students. He is very authentic, honest, and direct. I highly recommend this class, and look forward to another one of Michael's courses in the future!" - Kristen, The Professional Photographer's Digital Workflow on CreativeLIVE

For more information on my upcoming workshops, or to read more testimonials, please visit the Workshops page on my blog. Hope to see you at a workshop here soon!

ADVERTISEMENT

A Professional Photographer's Workflow.



Reality Check. Make Your Images Shine.

PURCHASE & DOWNLOAD THIS E-BOOK AT WWW.MICHAELCLARKPHOTO.COM

FUJIFILM GF45-100mm F/4 R LM OIS WR

A review of Fujifilm's latest GFX mid-range zoom lens

Disclaimer: *I shot an assignment for the launch of this lens earlier this year and as part of the assignment I was given the GF45-100 f/4 lens. All of the ice climbing images in this newsletter were captured with this lens on that assignment.*

Fujifilm launched a new wide-to-medium telephoto zoom earlier this year, the GF45-100mm f/4 R LM OIS WR. In full-frame (35mm) terms this lens is the equivalent of a 36-79mm f/3.2 lens, which means it covers those mid-range focal lengths that are generally the bread and butter focal lengths for many photographers. The lens weighs 1,005 grams (2.2 lbs) and is 145mm (5.7 inches) long so this is by no means a small lens, but on the flip side it is not that heavy or large when compared

A portrait of Hayden Carpenter captured in the late afternoon light on Molas Pass just north of Durango, Colorado. The GF45-100mm f/4 lens is a perfect match for portraiture. Even at f/5.6, the background is nicely blurred out here creating plenty of separation from the background. On the GFX 100 the lens balances very well and offers a great focal length range for a wide variety of scenarios. Tech Specs: FUJIFILM GFX 100, GF45-100mm f/4 lens at 51.8mm, ISO 100, f/5.6 at 1/1,250th second. Also note that an Elinchrom ELB 500 TTL battery-powered strobe was used to light this portrait.

to 35mm equivalent lenses. For example the Nikkor 24-70 f/2.8 VR lens is both longer and heavier than this Fujifilm medium format lens. Regardless of it's size and weight, this zoom lens fills a much needed hole in the GFX lens lineup. For portrait and studio photographers this lens will fall into the must have category. For the rest of us, the GF45-100 completes a wonderful medium format GFX holy trinity with the GF 32-64mm f/4 and the GF100-200mm f/5.6 lenses. As I said in the disclaimer, I was lucky to shoot an assignment with this gorgeous lens earlier this year in January before Covid-19 took hold of the World. For that assignment, I captured images of ice climbing—my favorite sport—in the Ouray Ice Park in Ouray, Colorado. What follows are my impressions of the lens so far.

DURABILITY & WEATHER SEALING

On the shoot in Ouray, it was a full-on sideways blizzard for most of the day while we were shooting ice climbing,

which presented a very good test of the lenses weather proofing. Every time I looked down at the lens it was either soaking wet or covered with an inch of snow. I am kicking myself for not taking a photo the iced-up frozen GFX 100 with the 45-100 on it. That image would have said a lot more about the build quality of the lens than anything I could write here. At some point late in the day, the temps dropped and all that snow and water started to freeze on the camera and lens. I even had to breathe on the buttons on the back of the camera to unfreeze them so I could actually depress the buttons. The lens never seemed to be phased by the weather at all. The GF45-100 has a telescoping front lens element which elongates as you zoom, but even with that moving back and forth, no water ever got into the lens and after letting it and the camera dry out back at the hotel room it was totally fine.

Hence, taking the above into account, and in all my other experiences so far with the lens, the build quality, weather sealing and overall durability of the lens seems to be top-notch. Just as with the GF32-64mm and GF100-200mm zooms, the GF45-100 seems to be another stellar, tough as nails addition to the GFX lens lineup.

IMAGE QUALITY

As with pretty much all of the GFX lenses—at least all that I have shot with, which is most of them—the image quality produced by the GF45-100 is simply phenomenal. I think I have gotten spoiled over the last year shooting with the FUJIFILM GFX 100 and the G-mount lenses. This past week, I shot a little with my Nikon D850 and my go to Nikkor 24-70mm f/2.8 lens that I have used for years and years—and when I downloaded the images I was quite disappointed with the amount of chromatic aberration and the overall poor image quality compared to what I am used to getting with the GFX 100 and any of my GFX system lenses. That Nikkor 24-70mm lens has been a standard bearer for sharpness and image quality for me for many years. The D850 is no slouch either. But this just goes to show how much better the image quality provided by any of the GFX lenses is over and above my top-end Nikon offerings. I went back out and shot some of the same images with the GF45-100 and the image quality is in a whole other league from the best Nikkor lenses I own, which are in effect some of Nikons best F-mount lenses.

I don't know if it is just the excellent optical design of the GFX lenses or the built-in camera profiles for the GFX 100 but I can't remember the last time I saw any chromatic aberration in any of my images captured with the GFX 100 and my G-mount lenses. The 45-100mm f/4 didn't shock me necessarily in terms of how sharp it is because it is right up there on par with all of my other G-mount lenses—and I have just gotten used to the incredible image quality provided by Fujifilm's G-mount lenses. Perhaps the GF110mm f/2 and the GF250mm f/4 are slightly sharper but those are two of the best lenses Fujifilm makes for the GFX system—along with the GF45mm f/2.8.

From wide open at f/4 all the way up to f/11 where diffraction starts to impact image sharpness the image quality from the GF45-100 is crazy good. In terms of bokeh, at f/4 this lens won't necessarily blur out the background as well as the 110mm f/2 lens will, but because of the larger sensor size, f/4 blurs the background beautifully when needed. Noticeably, the GF45-100 also controls flare extremely well. In back lit situations there was very little

ghosting. Regardless, at all focal lengths the GF45-100 renders remarkably sharp images from edge-to-edge.

AUTOFOCUS

The autofocus on the GF45-100 is also remarkably fast. I would say that it is in the same ballpark as the GF32-64mm f/4 or the GF100-200mm f/5.6 lens on the GFX 100. Focus acquisition is quick and accurate in my experience. I have not seen the lens hunt for focus at all—even in relatively low-light while shooting in a full on blizzard. As shown on the previous page, the autofocus easily grabbed my subject even when he was way off center.

While the GF45-100 will render great video footage I wanted to note here that there is a considerable amount of focus breathing with this lens. Hence, if you want to pull focus while capturing 4k footage, this is probably not the lens you want to use. It makes more sense for video anyway to use any of the stellar fixed focal length lenses that Fujifilm offers.

OPTICAL IMAGE STABILIZATION (OIS)

The GF45-100 also comes with Optical Image Stabilization (OIS) built into the lens. The OIS works with the IBIS in the GFX 100 to give the best possible stabilization. With the GFX 100's IBIS engaged and the OIS on I was able to capture sharp images all the way down to 1/15th second easily. Depending on the focal length I could use even slower shutter speeds.

In my experimentation with the GFX 100, I tend to leave the IBIS turned on when shooting on a tripod as the IBIS is so good it helps offset any wind hitting the tripod and results in sharper images. As for the OIS, I turn that off when shooting on a tripod, which is normally the best option with any stabilized lens.

CONCLUSION

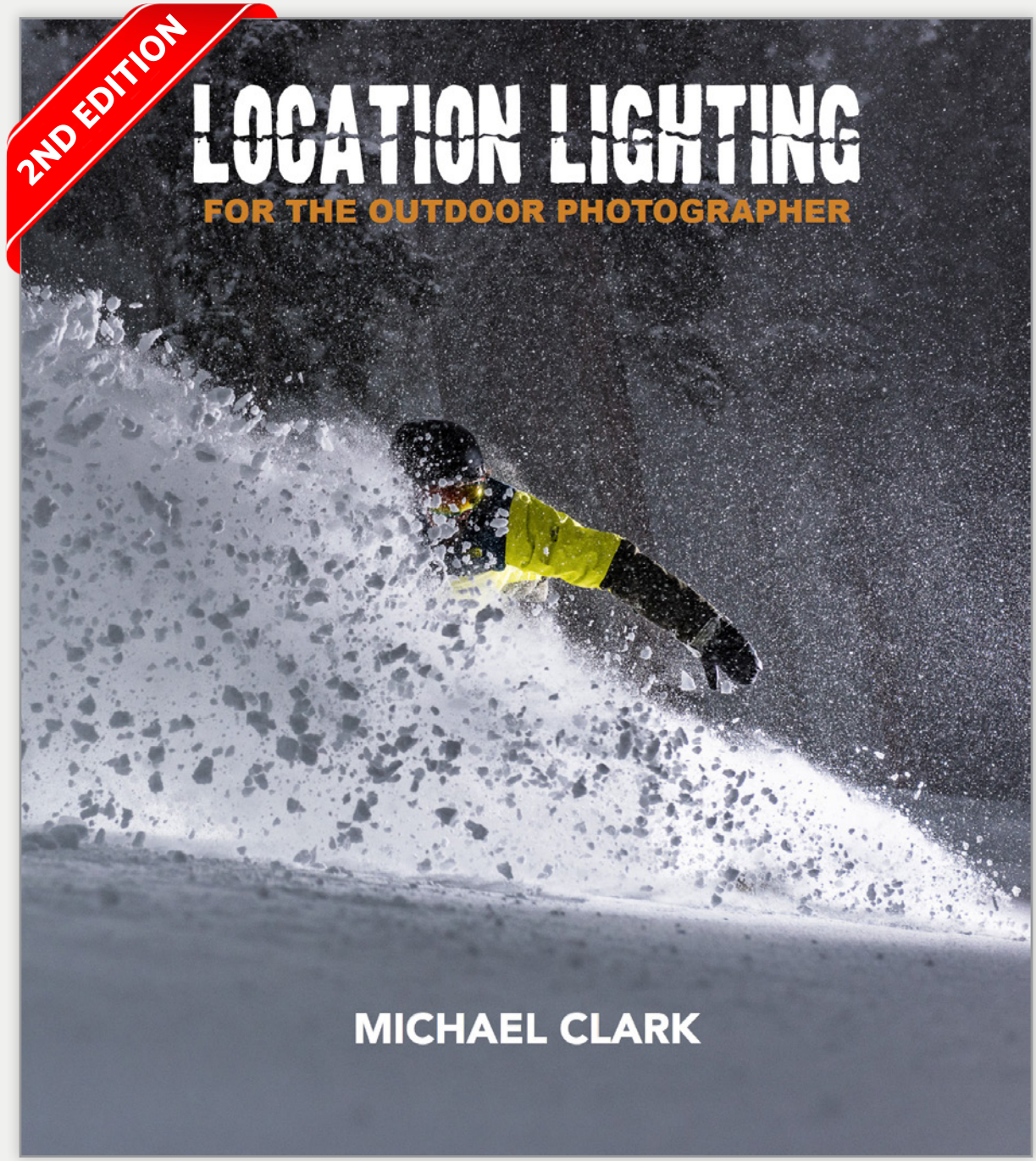
The GF45-100 may not be the sexiest range of focal lengths but the lens covers a number of key focal lengths in the medium format game, including 45mm, 65mm, 80mm and 100mm. For what it is this lens is relatively compact and lightweight, especially if you compare it to the gargantuan Hasselblad HC 50-110mm f/3.5-4.5 lens that has been around for a long time and covers basically the same focal length range. I have found the GF45-100 to be much sharper than the Hasselblad 50-110mm lens and it also has essentially no chromatic aberration or severe issues with flare like the Hasselblad lens exhibits. At $2,299.95 for the GF45-100, this lens is certainly not inexpensive, but compared to the $6,350 that Hasselblad asks for their 50-110 the Fujifilm lens is a bargain.

If you are looking for a stellar mid-range zoom to go with your GFX camera then this lens is the one for you. This lens will go with me on just about every assignment from now on (once we get through this Covid-19 pandemic). On a portrait assignment this might be the only lens I take with me. Once again Fujifilm has added another phenomenal lens to the G-mount system.

My thanks to Fujifilm North America for the assignment to shoot with this lens and to the athletes Marcus Garcia and Hayden Carpenter who agreed to climb some steep lines in less than ideal conditions. For more information on the stellar GF45-100mm f/4 R LM OIS WR lens please visit the Fujifilm-X website.

ADVERTISEMENT

Location Lighting. For The Outdoor Photographer.



Realized. Shaping your Images with Light.

PURCHASE & DOWNLOAD THIS E-BOOK AT WWW.MICHAELCLARKPHOTO.COM

on assignment:

MARSOC

U.S. MARINE CORPS FORCES SPECIAL OPERATIONS COMMAND

MARSOC Marines awaiting a pickup by an Osprey tilt-rotor aircraft while on a training mission at Camp LeJeune near Jacksonville, North Carolina.

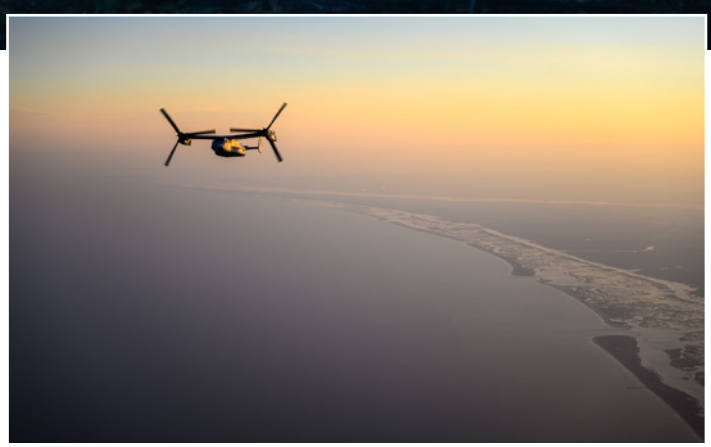
These images were created to promote the Marine Forces Special Operations Command (MARSOC) internally in the Marine Corps. Only those elite soldiers already in the Marine Corps can apply to MARSOC. As such these images are not being used to promote the Marine Corps in an outward manner to the general public, which is part of the reason I accepted this assignment. Also, note that this article and the images included herein have been vetted by the US Marine Corps. Hence, the captions for these images are basic.

Last fall, I had an assignment working with the Marine Forces Special Operations Command (MARSOC) to create a series of images alongside a video shoot out at Camp LeJeune near Jacksonville, North Carolina. The Marine special forces are the most elite of the Marines and it was fascinating to spend a week capturing images mostly during the night with the Marines fully decked out on a mock mission. The images and video that were created are being used internally to encourage the top-end Marines to apply for MARSOC. These images have been held back until they could go through a series of approvals by the US Military to make sure nothing sensitive was pictured in the images. As such, because this is an unusual shoot for me and the subject matter includes a lot of sensitive topics I will keep my remarks here on the technical details of the shoot rather than give a chronological account of how the assignment unfolded.

As can be seen in the images, for the most part we were working at night under moonlight with a little help from various low-power LED lights pulled in by the video crew. The soldiers were in full kit at all times and my assignment was to capture stills (and some video clips) while the crew was filming and in between takes. This was extremely challenging from a technical perspective as we were moving so fast I had to catch images on the fly. All of the images you see here were captured handheld without a tripod.

For this shoot, I needed the fastest lenses I owned, which meant I was working with my trusty Sigma ART 24mm f/1.4 and Nikkor 85mm f/1.4G lenses for pretty much the entire assignment. Since I was working at crazy high ISO settings ranging from ISO 6400 up to ISO 12800, I chose my Nikon Z6 as my main camera body since it has the least amount of noise of any camera I own at super high ISO settings. The Z6 also has incredible In-Body Image Stabilization (IBIS) which allowed me to capture images handheld at extremely slow shutter speeds in the range of 1/10th to 1/20th of a second. For a good portion of the entire assignment I was working wide open at f/1.4, 1/10th second shutter speed and at ISO 6400 or higher. These were some of the toughest lighting conditions I have ever faced while on any assignment—at least in terms of the lack of light. The idea was to keep it real and from what I understand MARSOC does not go out in the daytime on any missions. Hence, the nighttime images in this article.

I also had the privilege of working with an incredible crew on this assignment including Jon Long (Director), Gary Lorimer (1st AD), Alex Fostvedt (DP), Lane Stevens (1st AC), Ben Cowan (2nd Unit), and Tal Black-Brown (2nd Unit AC). What these guys were able to pull off in terms of the video was astounding. The video was captured using Red Gemini and Blackmagic 4K Cinema Cameras—all mounted on stabilizers. They captured a lot of footage with nothing but the moon lighting the subjects, which was mind-blowing from a technical standpoint. In between takes I would jump in and capture stills—and



Above: MARSOC Marines training at night at Camp LeJeune near Jacksonville, North Carolina. Right: MARSOC Marines being transported by an Osprey tilt-rotor aircraft during a training mission at Camp LeJeune near Jacksonville, North Carolina.

because I was using such slow shutter speeds most of my stills required the subjects weren't moving.

As shown in the first image in this article, we were also working in and around the Osprey tilt-rotor aircraft, which is one of the most complex aircraft in the world. MARSOC often deploys using Ospreys so to keep this mock mission real we captured them sky diving out of an Osprey at night. Not many civilians get to fly in an Osprey helicopter so it was a special honor to jump in and capture images as the team exited the aircraft. Myself and another cinematographer sat on the open back exit ramp of an Osprey capturing images of a second Osprey flying behind us, which is how the daytime images of the Osprey in flight were captured. We flew specific routes in daylight to get our flight path dialed in for the night jump. Note that we had to be especially careful both while capturing images and footage to not show anyones face straight on for the safety and security of the MARSOC team members.

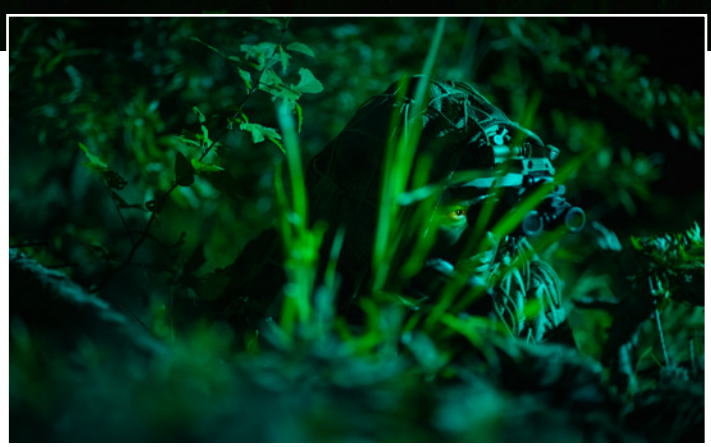
"For a good portion of this assignment I was working wide open at f/1.4, 1/10th second shutter speed and at ISO 6400 or higher. These were some of the toughest lighting conditions I have ever faced while on any assignment—at least in terms of the lack of light."

All in all, I have to say I was quite impressed by the soldiers and the MARSOC squad. Even though this was just a mock mission, it was incredible to see them at work and see what they go through just in training. At one point while we were capturing footage of the snipers I showed up a few minutes after they got set and asked "Where are they?" One of the crew pointed down right at my feet and there was a sniper all set up in the grass just below me. Looking down at him I couldn't even see him until he moved his finger. Needless to say I was pretty blown away at their ability to camouflage themselves. With the help of a little green tinted LED light we made the image shown on the bottom of the next page.

My grandfather was a Marine Sniper in World War II, and much of his career was so secret that we only learned of his whereabouts during the war after his death. He was at Pearl Harbor when the Japanese bombed the base, then was sent all over the Pacific to many of the largest battles. He also received a Purple Heart, among many other medals, and was handicapped for 70-plus years after being hit by shrapnel at Okinawa four years after he enlisted. As with many World War II vets he never spoke of the war, but he did speak about the Marines often. It was clear the respect he had for the Marines superseded the respect he had for the government. The MARSOC team I worked with were all super smart, dedicated and honorable men who did their job to the best of their abilities.

Technically, this assignment pushed the limits of what is possible with modern digital cameras about as far as I have ever seen. I was blown away by the handheld images we were able to create at such shockingly low shutter speeds. The lighting employed to get any detail in the soldiers was comical at best (in terms of its brightness). I

Continued on page 30



Above: MARSOC Marines in line to sky dive out of an Osprey tilt-rotor aircraft during a training mission at Camp LeJeune near Jacksonville, North Carolina. Right: A MARSOC Marine sniper set up during a training mission at Camp LeJeune near Jacksonville, North Carolina.

An Osprey tilt-rotor aircraft on the tarmac during a MARSOC training mission at Camp LeJeune near Jacksonville, North Carolina.

Above: MARSOC Marines on a training mission at Camp Le-Jeune near Jacksonville, North Carolina. Right: An empty Osprey tilt-rotor aircraft during a MARSOC training mission at Camp LeJeune near Jacksonville, North Carolina.

Right: Osprey tilt-rotor aircraft standing by on the tarmac during a MARSOC training mission at Camp LeJeune near Jacksonville, North Carolina. Below: MARSOC Marines on a training mission at Camp LeJeune near Jacksonville, North Carolina. Page 32: MARSOC Marines on a training mission at Camp LeJeune near Jacksonville, North Carolina. Page 33: MARSOC Marines being transported by an Osprey tilt-rotor aircraft during a training mission at Camp LeJeune near Jacksonville, North Carolina.

also used the FUJIFILM GFX 100 for some of these images and for capturing 4K footage for the motion component of this assignment. The GFX 100 would have been my main camera but I needed faster lenses than were available for the GFX system—specifically a fast wide angle lens. Hence, the Z6 stepped up the plate and performed incredibly well.

As someone who has not spent much time around the military or military bases this assignment was quite interesting and the images we produced are quite frankly like nothing I have ever captured in my career. A few of the images—especially the top image on page 28—look like they were captured on a modern day *Apocalypse Now* film set. As an adventure photographer, I have seen a lot but this assignment was out there in a completely different way knowing that the team we worked with could and most likely would be sent out on a real-world mission at any moment. My thanks to Nathan Simpson for this assignment, and also thanks to Becca Newman and the entire MARSOC crew for working with us deep into the night for an entire week.

portfolio

Equipment Selection

An excerpt from my updated e-book A Professional Photographer's Workflow

This is an excerpt composed of material from Chapter 2 entitled "Equipment Selection" from my recently revamped and updated e-book *A Professional Photographer's Workflow: Using Adobe Lightroom and Photoshop*. The updated e-book is a 565-page book that gets down to the nuts and bolts of a real world digital workflow. This e-book was completely revised and re-written over the last year, and presents a workflow that can be adapted by any photographer, professional or amateur. This e-book now includes an entirely new chapter on camera Equipment Selection—excerpted here—and also includes links to three videos (a total of 47 minutes of video content) where you can watch me work up three images from start to finish in the latest version of Lightroom Classic and Photoshop. I can honestly say that I have not seen any other book on the market today that includes as much detailed and comprehensive information as this e-book does on a complete digital workflow from setting up the camera to backing up your images and everything in-between. Without further ado, here is a taste of the new chapter on camera gear.

Discussing photographic equipment is a deep, dark bottomless black hole. There is always something new and better to tempt us—most of us photographers are gear heads always debating the latest and greatest tools. In the end, cameras, lenses, flashes and all that are just tools—nothing more, nothing less. I like to remember the famous quote by Ansel Adams when I start drooling over the latest camera, "The single most important component of a camera is the twelve inches behind it." I could make similar images with a wide variety of cameras. It is only a matter of getting to know the tool so I can manipulate it as needed to get the desired results.

I have avoided discussing camera gear here in this e-book for a long time because it didn't really matter that much, and in reality it still doesn't. But this past year with the coming mirrorless wars between camera manufacturers the tools we use will change irrevocably. Hence, because there is such a huge upheaval going on within the photo industry I wanted to discuss some of the main topics related to modern digital cameras. I won't debate which camera is the best or the worst or even recommend any specific cameras here, this is a larger discussion that I hope informs the reader on a wide variety of topics to consider when choosing their next camera.

DIGITAL CAMERA TECHNOLOGY

Digital camera technology has exploded in the past five or six years. With the introduction of mirrorless camera systems by pretty much all of the camera manufacturers, but especially Olympus, Panasonic, Fujifilm and Sony

Above is the opening spread of the new "Equipment Selection" Chapter in my recently revamped and updated e-book A Professional Photographer's Workflow: Using Adobe Lightroom and Photoshop (7th Edition). This chapter covers a wide variety of topics including modern camera technology, mirrorless versus DSLRs, the advantages of mirrorless cameras, digital camera formats, 14-bit versus 16-bit, medium format digital cameras and the future of digital photography.

early on, there have been a slew of new technologies incorporated into cameras. For years now I have been asking for a variety of new features to be incorporated into digital cameras and many of those features—like live histograms in the viewfinder, wider dynamic range, and faster frame rates on high-megapixel cameras—have been added along with other features I had never even dreamed of like in-body image stabilization (IBIS). In reality, we are only seeing the initial tipping point in terms of the technology that will be built into future cameras.

Have no doubt, the future of interchangeable lens cameras is mirrorless. By removing the mirror box, and using an electronic viewfinder (EVF), the door has been cracked wide open for new and exciting technologies to be added to forthcoming cameras. With the mirror out of the way AF has become massively more accurate, live histograms in high-resolution EVFs have sped up the shooting workflow, and new options like artificial intelligence (AI) assisted Eye-AF have changed the game for many photographers.

Olympus, Panasonic, Fujifilm and Sony, started the mirrorless craze in earnest over a decade ago. Those first mirrorless cameras left a lot to be desired but the technology has massively improved to the point that the Sony A9 rivals Canon and Nikon's best top-end DSLRs. The Sony A9 II autofocus is arguably as good as, or perhaps even better than, the Nikon D6 or the Canon 1DX III, at least in good lighting conditions. Sony essentially dragged

serious care to get the best image quality out of it because it is so sensitive to camera shake. Comparing high-end 40 to 50 MP full-frame cameras to 50 to 100 MP medium format cameras is like splitting hairs. Yes, the medium format camera will have better image quality overall but how much better is it relative to the cost difference? Obviously, the higher resolution 100 to 150 MP cameras have the resolution to set them apart but you won't see much difference unless you make absolutely massive prints. In the end, if you need or are willing to invest in medium format you will have to make that decision—and hopefully have a chance to try it out before buying to see exactly what the difference is and if it is worth the extra expense.

The Hasselblad X1D II (left) and the FUJIFILM GFX 100 (left) and are both mirrorless medium format digital cameras and are smaller than old-school medium format cameras with optical viewfinders. The FUJIFILM GFX 100 is a 102 MP medium format camera with amazingly fast autofocus. It is also the first medium format camera to ever have sensor stabilization.

In 2017, Hasselblad announced the first mirrorless digital medium format camera, the Hasselblad X1D. Shortly thereafter Fuji introduced the Fuji GFX 50s, a similar, though larger, 50 MP mirrorless camera using the same sensor as the X1D. Fujifilm also has the game-changing GFX 100 that uses the newest 44 x 33

mm 102 MP BSI CMOS sensor. Both the Fujifilm and Hasselblad mirrorless offerings are significantly smaller and lighter than the old-school Hasselblad H series cameras and the Phase One XF camera. I will admit, as a photographer who has dragged my older Hasselblad H5D kit around the world in tandem with a full Nikon DSLR kit, I am quite happy to have a more capable, smaller Fujifilm GFX 100 and not an old-school cinder block like my H5D.

The Hasselblad H6D 100c (left) and the Phase One XF IQ4150 (right) are both medium format digital cameras with optical viewfinders. These are "old-school" medium format cameras but are still state of the art with image quality few other cameras can compete with. They both have the larger 53 x 40 mm sensors. While these cameras are much larger than the mirrorless medium format cameras and have very slow autofocus (with only one AF point) they do have great ergonomics.

There is certainly something special about working with a medium format camera. They make you slow down and think about the images you are creating. The images themselves feel more valuable because of the quality—and they are begging to be printed large, which only adds to that feeling of value. For those that can afford it, medium format is a great addition to a full-frame camera system. But let's be real, it is a specialized tool. The Fujifilm GFX 100 has changed the game somewhat but it is still an expensive medium format system compared to the average full-frame kit. Nonetheless, depending on what you photograph a medium format kit might be all the camera you need.

Nikon and Canon into the full-frame mirrorless world. With that said, mirrorless isn't quite there yet for all photographic genres. It still struggles with autofocus in low-light and with fast-moving subjects, which is often the realm of the sports photographer. But for most other genres, the top mirrorless cameras are good enough (as of 2020). In the next year or two, we will no doubt see massive improvements in mirrorless cameras as Nikon and Canon up their game in the full-frame mirrorless genre and fill out their mirrorless lens lineup.

With ever higher resolution cameras coming out each and every year, we are seeing better and better image quality but we are also seeing the issues associated with older DSLR technology. Ever since Nikon came out with the original D800, with a whopping 36 MP Sony sensor inside it, we have been battling camera shake and the handling issues that come with handholding such high-resolution cameras. Many of us have gotten used to using much higher shutter speeds to make sure we get sharp images, but when Olympus and Panasonic perfected IBIS technology that changed the game. Now, most mirrorless cameras have IBIS in some form built in, which allows us to capture images handheld at remarkably slow shutter speeds—like 1/3rd second on my Nikon Z6.

All of this isn't to say that DSLRs are dead. On the contrary, I would say that currently (as of 2020) the Nikon D850 is the best and most versatile DSLR on the market with absolutely incredible image quality, wicked fast autofocus, the best dynamic range of any full-frame camera on the market and a phenomenal 9 fps in 14-bit mode capturing 45.7 MP images. It might have already been outdone by the 61 MP Sony A7R IV that was released in late 2019 but I have not shot with the new Sony. For sports photographers, very few mirrorless cameras can

reliably track erratically moving subjects as well as the top DSLRs.

If manufacturers hope to build cameras with 60-plus MP sensors (Sony has already released the 60-MP A7R IV) that can actually get usable sharp images handheld then mirrorless is the only option. Removing the mirror, shortening the flange distance and providing larger lens mounts (as Nikon and Canon have opted for) significantly simplifies the lens designs allowing for sharper, higher resolving lenses, which will be required to get the most out of the new 60-plus MP sensors. The question then becomes how much resolution do we need. If history is any indication the answer for most photographers is "as much as we can get."

Aside from mirrorless technologies, there are a host of other imaging technologies that are being studied or have even been implemented but never took hold including light field cameras (where the actual focus can be adjusted after the fact in software), liquid lens elements being studied at Harvard, sensors being built into lenses and doing away with the camera body all together, smart cameras powered by machine learning and AI, facial recognition, capturing images and sharing them directly from the camera and 3D imaging just to name a few. If you want to know where cameras are headed you only have to look to smartphones, which already have AI adjusting the images as they are shot to smooth out skin and remove blemishes, to see where it is all going.

MIRRORLESS VS DSLRS

For those looking to purchase their first camera or their next camera, the main debate right now is Mirrorless versus DSLR. DSLRs are a legacy technology that dates back to the film SLR days. Basically camera manufacturers slapped a digital sensor where the film used to go and created the modern digital camera as we know it. It wasn't until Sony, Panasonic and a few others created the mirrorless camera that a true next generation completely digital camera came to be. With the removal of the mirror box, mirrorless cameras are now slimmer, smaller and more advanced (in many ways) than their DSLR cousins. As I said in the last section, mirrorless is the future and in a few years, likely before I updated this e-book again we will all be shooting mainly with mirrorless cameras.

Among my peers, most professionals still have DSLRs and have added or are adding a mirrorless rig to their kit. The writing is on the wall. For pros, it is a scary time to think that in a few short years we will all likely have to sell off our DSLRs and their associated lenses and start from scratch building up a new mirrorless kit. At this point, for most genres mirrorless cameras are more than good enough. Sports photography (and some adventure sports) is the only genre where mirrorless in general is not fully up to the task.

This excerpt is just the start of Chapter 2, which covers a wide variety of topics including modern camera technology, mirrorless versus DSLRs, the advantages of mirrorless cameras, digital camera formats, 14-bit versus 16-bit image capture, medium format digital cameras and the future of digital photography. At this point my main cameras are mirrorless, including the FUJIFILM GFX 100, the Nikon Z6, and the smaller format FUJIFILM X-Pro 3. I still have my Nikon D850 camera bodies but they aren't used very often. If this excerpt seems interesting, check out the full e-book, available for purchase on my website.

Self-Quarantine

by Michael Clark

As an adventure photographer, there have been several times in my career where I have been forcibly isolated due to weather, the location or any number of reasons. I remember being stuck in a tent for a month on the Ruth Glacier during a mountaineering trip in the Alaska Range. We only went out to use the bathroom and even had a rope leading to and from the bathroom so you didn't get lost in a white out. We did have a few days of clear weather where we skied around and watched hundreds of avalanches come down all around us but other than that I read Dostoevsky's classic novel, *The Brothers Karamazov*, which was over 600-pages long. On numerous expeditions in the Amazon, the Andes, the Himalayas and in Patagonia I have had my fair share of brutal circumstances that force you to accept what is happening and just deal with it. All of that, strangely, has been good training for our current locked-down situation with the Covid-19 virus.

I am one of the lucky ones who works from home—save for my assignments. Of course, all of my upcoming assignments have been canceled or postponed indefinitely as they should be. This time at home has also given me time to finish the update to my 565-page e-book, *A Professional Photographer's Workflow: Using Adobe Lightroom and Photoshop*, which is helping out financially. Amazingly, it has been quite busy here in the office working on the e-book, teaching online workshops for the Rocky Mountain School of Photography and the Santa Fe Workshops via Zoom, and also doing online presentations and interviews for a wide variety of sponsors and clients. Basically every sponsor I work with has asked for an interview for their website or a presentation of some sort that they can post. Some clients, specifically Red Bull and Fujifilm, have paid for those presentations as well—giving me work in this difficult time, which is greatly appreciated.

Both locally and in my larger international photography community, I have seen lots of folks pull together to help out those in need and those looking for advice. The American Society of Media Photographers (ASMP.org) in particular has been doing great work to help out the professional photography community with online Town Hall meetings every week, which help pros file for all of the various EIDL, PPP and PUA loan and unemployment programs. Here in my community, folks are sewing masks and giving them away and also baking a wide variety of sweets—and then sharing them with their neighbors. I am very happy to live in New Mexico, where our Governor shut everything down early and our healthcare systems have been on top of this from very early on. I know these are tough times and I hope this finds you staying healthy and, if possible, staying home to slow the spread of this virus. For those on the front lines, thank you!

parting shot

Hayden Carpenter ice climbing in Los Alamos, New Mexico on a short but steep ice pillar. This past winter I took some time for myself and climbed a fair bit of ice, much of it with Hayden, who is a much stronger ice climber than I am. This image was shot as part of an assignment for FUJIFILM North America with their new GF 45-100mm f/4 OIS lens on the FUJIFILM GFX 100. All of the other ice climbing images in this Newsletter were also part of that assignment.

ADVERTISEMENT

Fine Art Prints. Images to Live With.

All of my images are available as fine art prints. Each image is printed in-house on archival papers to insure image quality and color fidelity. Please contact me if you are interested in purchasing a print.

Make Your Walls Come Alive.

PRICING AVAILABLE AT WWW.MICHAELCLARKPHOTO.COM