

An aerial photograph of a meandering river in Iceland. The river is a vibrant blue, winding through a landscape of green and brown vegetation. The river's path is highly irregular, with several sharp turns and loops. The surrounding land is covered in low-lying plants and shrubs, with some areas appearing more barren and rocky. The overall scene is captured from a high angle, providing a unique perspective of the river's course.

HAVE DRONE, WILL TRAVEL

ADD ONE OF THESE "FLYING CAMERAS"
TO YOUR PHOTOGRAPHY KIT FOR
UNIQUE PERSPECTIVES THAT ADD A
NEW DIMENSION TO YOUR PORTFOLIO
TEXT & PHOTOGRAPHY BY KERIK KOUKLIS

Figure 1. Meandering
River near Kaldbaks Lake,
Westfjords, Iceland, 2017.
DJI Mavic Pro.



Figure 2. Pack Ice, Lake Michigan near the Mackinac Bridge, Michigan, 2018. DJI Phantom 4 Pro.

Over the last several years, consumer drone technology has progressed at an impressive rate. Five years ago, I bought a first-generation DJI Phantom quadcopter, which was released in January of 2013. These drones didn't come equipped with a camera, so I attached a GoPro with a rubber mount. This resulted in motion-sickness-inducing videos as the camera was making all the same moves as the Phantom. I attempted to add a gimbal to stabilize the camera and improve the quality of the video, but I was never able to get that to work very well. After playing with the Phantom for several months and learning the basics of flying a quadcopter, I got bored and put it down.

Later in 2013, DJI released its first drone with an included camera, the Phantom 2 Vision. By the end of 2016, it had released the Phantom 2, 3 and 4, and in September of that year, the revolutionary Mavic Pro.

This folding, easily transported drone was an immediate hit. In January of this year, DJI released the Mavic Air, a smaller and lighter version of the Mavic Pro with similar imaging capabilities and additional autonomous features. This persistent innovation has led to success—DJI made \$2.7 billion in 2017 with approximately 70 percent of the consumer drone market.

In 2016, I was invited to join a photographic expedition to Mongolia in the middle of winter 2017 (see "Expedition To Mongolia" at OutdoorPhotographer.com). With the opportunity to visit such a remote and beautiful location, I knew aerial videos and stills would be part of the trip. The newly released Mavic Pro was the perfect choice because it took up a fraction of the space required to bring a Phantom, and space was at a premium as we were bringing lots of gear to survive the extreme cold of the Mongolian winter. The Mavic and its folding remote easily fit into one of

my shoulder bags, taking up the space of a couple of lenses. The problem was timing. I pre-ordered a Mavic right away and got on a very long waiting list for delivery. As our departure date of February 2017 got closer, I'd check the order status several times a day to see if my drone would make it in time for the trip. It finally arrived in early January, which gave me a couple weeks to get familiar with it before we left.

The Mavic has now traveled with me to Mongolia, Iceland, Scotland, the Faroe Islands and Brazil. This year, I added the DJI Phantom 4 Pro and DJI Spark to my kit. The image quality of the Phantom 4 with its 20-megapixel, 1-inch sensor camera is significantly better than the 12-megapixel, 1/2.3-inch sensor of the Mavic or Spark, especially for stills. The Phantom also shoots 4K video at 60 fps compared to the Mavic's 4K/30 fps and the Spark's 1080P. The Spark is cute and fun. It's like my point-and-shoot drone

and is always in my bag. The Spark has a 2-axis gimbal compared to the Mavic's and Phantom's 3-axis gimbals. This results in a more "dynamic" view with the Spark—which can be fun but lacks the cinematic quality of video shot with a 3-axis gimbal.

CHOOSING WHICH DRONE TO BRING

Which drone or drones I take on a trip all comes down to where I'm going and what the hassles or restrictions of traveling with drones might be. When baggage space isn't an issue, I bring a Pelican-type hard case with the Phantom 4 Pro and Mavic Pro with their remotes, chargers, tablet, etc. Remember, all of your batteries must go in your carry-on luggage. If you leave batteries in your checked luggage, there's a good chance they'll be confiscated along the way, never to be seen again. I've had a least three friends have this very thing happen. Guess how much proprietary camera batteries cost in Ulaanbaatar! I'd likely also have the Spark in my shoulder bag, where it seems to live these days. If space is an issue, the Phantom stays home and the Mavic comes along in my shoulder bag or backpack.

These flying cameras have added great versatility to my ability to tell the story of a place with my cameras. They're like having a 400-foot-tall tripod for stills and your own personal helicopter for shooting video. I use them equally for videos and still images. I especially like the straight-down, bird's-eye view for stills and use these images in my fine art work. I continue to be a die-hard darkroom printer, making prints in platinum/palladium, gum bichromate and other "alternative processes." I make negatives digitally from the drone images, then print them by hand in my darkroom. I have a growing series of aerial images made this way that make beautiful prints.

SHOOTING AND FLYING EXPERIENCES WITH DRONES

The first time I took a drone on an overseas trip was to Mongolia. I was told by an experienced drone pilot that the Mavic

Pro would freeze and fall out of the sky. He couldn't have been more wrong. The Mavic performed beautifully. The only difference I noted was somewhat shorter flight times due to the very cold weather (-35 C). I only regret not being a more experienced pilot. Looking back now on what I shot, I can see how I'd do several things differently. I used some of the Mavic's autonomous functions like active track successfully resulting in a much more professional look to the video. I

did have a problem getting the active track to work when I was trying to follow an ice skater on a frozen lake. I think the clear blue ice was fooling the drone, and it couldn't tell exactly how high it was. I ended up flying that follow shot manually, which was a challenge. These clips are included in my 30-minute documentary "Mongolia in Winter," available on Vimeo if you look me up.

In the fall of 2017, I went to Scotland

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Figure 3. Beach and Surf, Tjørnuvík, Faroe Islands, 2018. DJI Phantom 4 Pro.



Figure 4. O'Neal Lake near Cross Village, Michigan, 2018. DJI Phantom 4 Pro.

places, you can't fly more than 400 feet above where you take off). I was able to fly very high over a series of waterfalls that made for some compelling videos. Figure 3 was taken with the Phantom 4 Pro looking straight down over a beach in Tjørnuvík, Faroe Islands.

In June, I returned to Northern Michigan to attend an annual gathering of photographers known as Photostock put on by the aforementioned Bill Schwab. There is a beautiful little lake in the area called O'Neal Lake that's a popular spot to make pictures. There are many dead and dying trees surrounded by still water, which makes for beautiful subject matter. This year, I shot it from above for the first time with the Phantom 4 Pro (Figure 4).

DON'T BE A JERK

As much fun as they are to fly and as unique as the viewpoints are that they offer, misuse of drones has given them a bad name. Unfortunately, there are people who do stupid things with drones that shine a bad light on all of us. Know the rules. They're easy to find. You can't fly in national parks, you can't fly in many state parks, you can't fly within 5 miles of an airport, etc.

While you can legally fly over your neighbor's property if you've taken off from your property or public property, be considerate. Go talk to them before you fly. Bring along a tablet and show them some of your aerial imagery and offer to take a cool picture of their house with your drone. I'm working on getting my FAA license, which allows you to obtain temporary permission to fly in some areas where you usually can't. I recommend you look into this as well if working with drones is of strong interest to you.

As fast as the technology has grown in the past five years, I'm anxious to see what's coming next, as it will surely be even better. **OP**

See more of Kerik Kouklis' work at kerik.com.

and Iceland. In the Outer Hebrides of Scotland, I was able to photograph the standing stones of Callanish from above with my Mavic Pro. One of my very favorite places in the world is a remote village called Djúpavík, located in Iceland's Westfjords. Figure 1 shows a meandering river located near Djúpavík shot with my Mavic Pro.

Missing "real" winter here in California, in March of this year I flew out to Northern Michigan to hang out with my good friend and fellow drone pilot Bill Schwab and get a taste of serious winter. I checked an extra bag and brought the Phantom 4 Pro on this trip. Figure 2 shows a vertical view of the

pack ice on Lake Michigan near the Mackinac Bridge made with the Phantom. Bill's Autel drone malfunctioned and went down on the ice well beyond where we thought it was safe to walk. A few days later, it was retrieved by a brave soul who walked out on the ice and got it, returning it to a local police department, who returned it to Bill.

In April, I went to the Faroe Islands, a series of volcanic islands located between Iceland and Norway in the North Atlantic Ocean. Think Iceland but much smaller and with a lot fewer people. There are currently no height restrictions for drones in the Faroes (in the U.S. and many other

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