

Aerial

Photography
Primer

Peter Eastway

INTRODUCTION



My first photography shoot out of an aircraft was from an army Iroquois. I was placed in a side seat in the middle of the helicopter, facing outwards, strapped in and given a headset. There was no door. I was photographing soldiers as they jumped in and out of the aircraft and would remain on board as

the Iroquois went back to pick up a new group of recruits.

On one return flight, the Iroquois suddenly rolled on its side in a tight turn over Middle Head in Sydney Harbour. The harness took my whole weight and suddenly I found myself dangling in mid-air, looking directly down at barnacle-encrusted rocks, several hundred feet below.

In my headset, I heard the co-pilot talking.

“Captain, haven’t we still got that photographer on board?”

I won’t repeat what the captain said, but slowly the Iroquois straightened up and my weight returned to the back of my seat.

These days, I figure the pilot and co-pilot were probably just having a lend of me, but it makes a great story.

Skills & Experience

I don’t profess to be the most experienced aerial photographer, but over the years I have done some 500 flights in small aircraft and I have interviewed and spoken with photographers who I consider legends when it comes to shooting aerals.

Richard Bennett has covered over 50 Sydney to Hobart

Yacht Races from the air and Richard Woldendorp has probably photographed more of Australia, also from the air, than any other photographer. Some of their skills can only come from years of experience, but nevertheless, there are many basic principles that have helped me get good results and I am sure will undoubtedly assist you as well.

In recent times, aerial photographs have become incredibly popular. The unusual camera angle gives viewers something new to look at and if you crop them tightly without an horizon, they can create wonderful abstract mosaics.

So what are the main challenges for aerial photographers?

First, there’s a cost. Helicopters are prohibitively expensive for most people, and so drones may be the answer for low altitude aerals in the future.

Next, there’s the challenge of capturing a sharp photograph that reveals all the wonderful detail that only becomes visible once in the air. A fast shutter speed is required to freeze the movement of the aircraft over the land below, as well as to prevent camera shake from a vibrating camera platform.

Often your autofocus system will struggle to find focus as well, although there is no big problem with depth-of-field: you may find you are happily focused on infinity for most of the flight, although this probably applies more to planes than balloons.

While aerial photography can be as easy as pointing your camera out the window, to capture great aerals with high quality requires a little more skill and some post-production.

Welcome to an introductory primer on aerial photography.

Peter Eastway



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THE ART OF AERIAL PHOTOGRAPHY

Abstract aerals have become a landscape genre in their own right. They are clearly recognisable, often with an intriguing puzzle to decipher or a detailed pattern to enjoy. And while we're used to seeing landscapes from around six feet above ground level, the view from 500 or 5000 feet above can be both novel and unexpected.

Now, point your camera down a little more to remove the horizon and your subject's context. Perhaps tighten up the crop on an interesting pattern or shape and, with some careful post-production, your aerial can be transformed into a commanding abstract.

Of course, how much abstraction is introduced is completely up to you. Sometimes a subject like a sand dune takes on an abstract character, simply because of the aerial viewpoint. On other occasions, you can composite a number of images together to create something completely otherworldly.

Love them or not, the aerial abstract is incredibly popular and while it's quite askance to traditional landscapes, I find that the same attention to detail and technique is required.

Insight

It's been interesting to watch the abstract aerial take its place in landscape photography over the past 10 years. The approach was

firmly established well before drones became popular, so earlier work was shot using the same techniques as the traditional aerial photographers, out of an aircraft window or door. But while in the past almost any aerial was inherently interesting because of its altitude, the more recent abstract compositions with their enhanced contrast and saturated colours have taken the genre well outside the traditionalist's field.

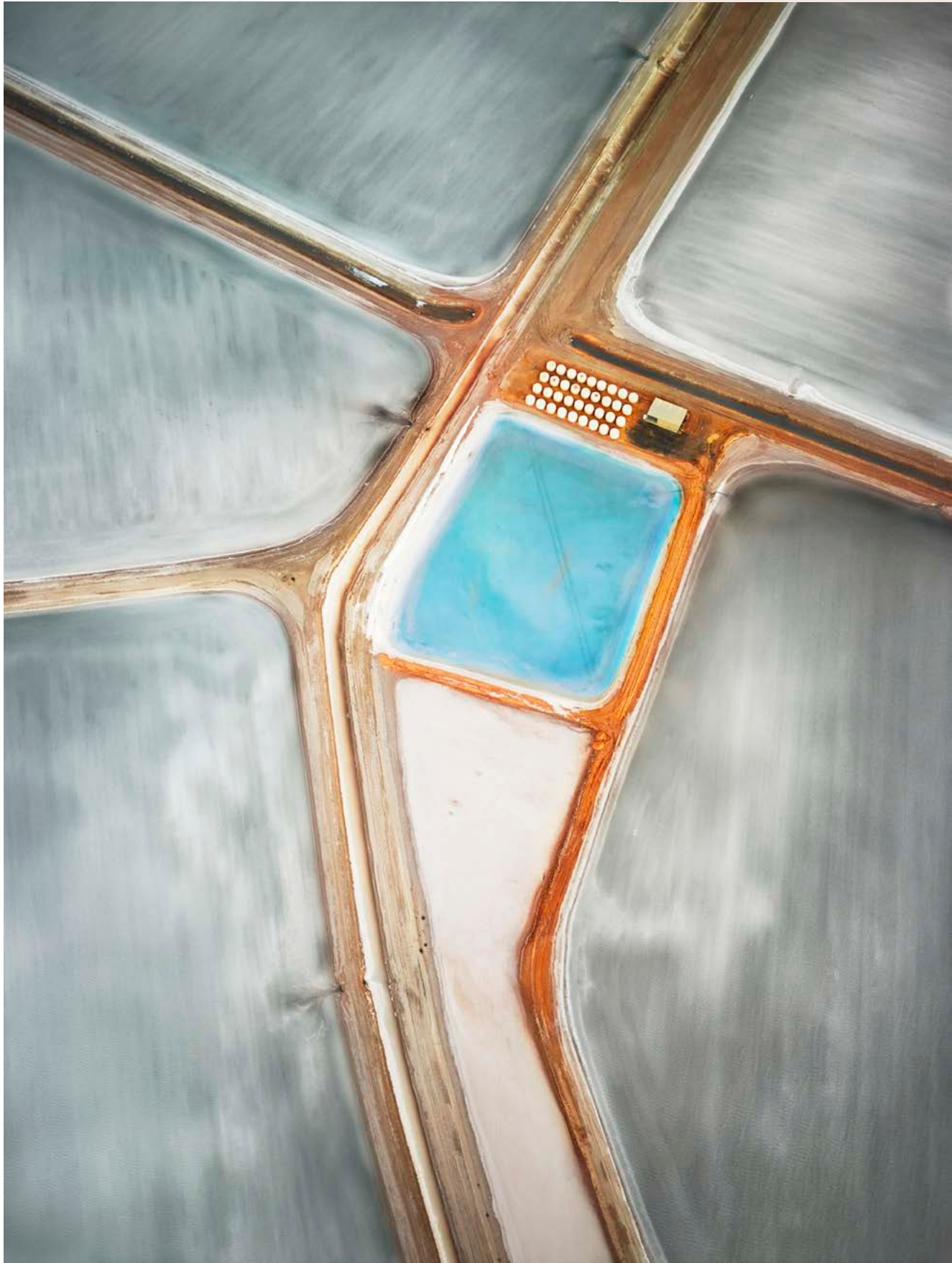
Richard Woldendorp (1927-2023) was an aerial photography pioneer, working from the 1960s to just last year. In Australia, he sold hundreds of thousands of lavish coffee-table books full of amazing aerial photographs and while his work was considered semi-abstract at the time, today we would think most of his work very literal.

Just Too Strong?

As one of my mentors, I invited Richard to a 2013 print exhibition with the ND5 group of photographers, which included some of our aerial abstracts. He was very polite as he took me aside in a fatherly fashion and congratulated me on my sense of framing and composition, but really, the colour was 'just too strong, too unrealistic'.

I smiled because I know aerial abstracts are not for everyone, but if you can accept that photography is a language which can

📷 F 2.8 @ 1/160 sec, ISO 200



The salt mine at Useless Loop, on the western edge of Shark Bay, has become a 'must-see' destination for aerial photographers around the world. This is an early edit I posted on Facebook in May, 2013.

be used for both fiction and non-fiction, for poetry and science, then nothing more need be said. Aerial abstracts are an artform first, a record of the landform below a distant second.

The exhibition was titled *Shark Bay Inscription – 2016* (in 2013 we were working ahead of the 400 year anniversary of the Dutch discovering Australia) and presented by ND5, a collective of four Australian photographers and a video producer (Christian Fletcher, Michael Fletcher, Les Walking, Tony Hewitt and me). We had already been shooting a series of projects around Western Australia since 2008, gradually developing separate tastes for increasingly abstract aerials.

Shark Bay as a destination is large, flat and desolate, but when you take to the skies, the environment below is a honey pot of colours, shapes and patterns. Importantly for us, the images were photographed with medium format digital backs and printed large, from one to two metres. The traditional approach to landscape detail remained fundamental, so that as our viewers came closer to inspect the print, they wouldn't be disappointed. However, unlike a traditional landscape photograph, they would often struggle to resolve the abstract nature of the overall composition and it was only when they looked closer that the literal subject matter was revealed.

Extra Effort

Using medium format equipment back then certainly required extra effort, but everything is relative. I can remember lugging a huge 8x10" view camera and tripod up a steep sand dune last century, dreaming of the day technology would invent a small camera the size of a 35mm SLR camera, but able to capture the same 8x10" resolution and detail. Shooting with one of these old cameras out of an open window in a light plane was never going to happen, but when Phase One and Hasselblad introduced medium format cameras that could be taken out of the studio and

into the field, the world of high resolution landscape photography was transformed. One need never again be disappointed in a print's technical quality, no matter how closely viewed.

Today with lots of mirrorless cameras using 50+ megapixel sensors and software like Topaz Gigapixel AI able to up-rez our files, medium format might not seem to be necessary, but for me, a medium format file is not just about resolution, but dynamic range and a different feeling of depth as well. However, that's a separate topic and a lot of my friends and students are producing stunning, jaw-dropping abstract aerials with mirrorless cameras. Pixel envy is not an issue.

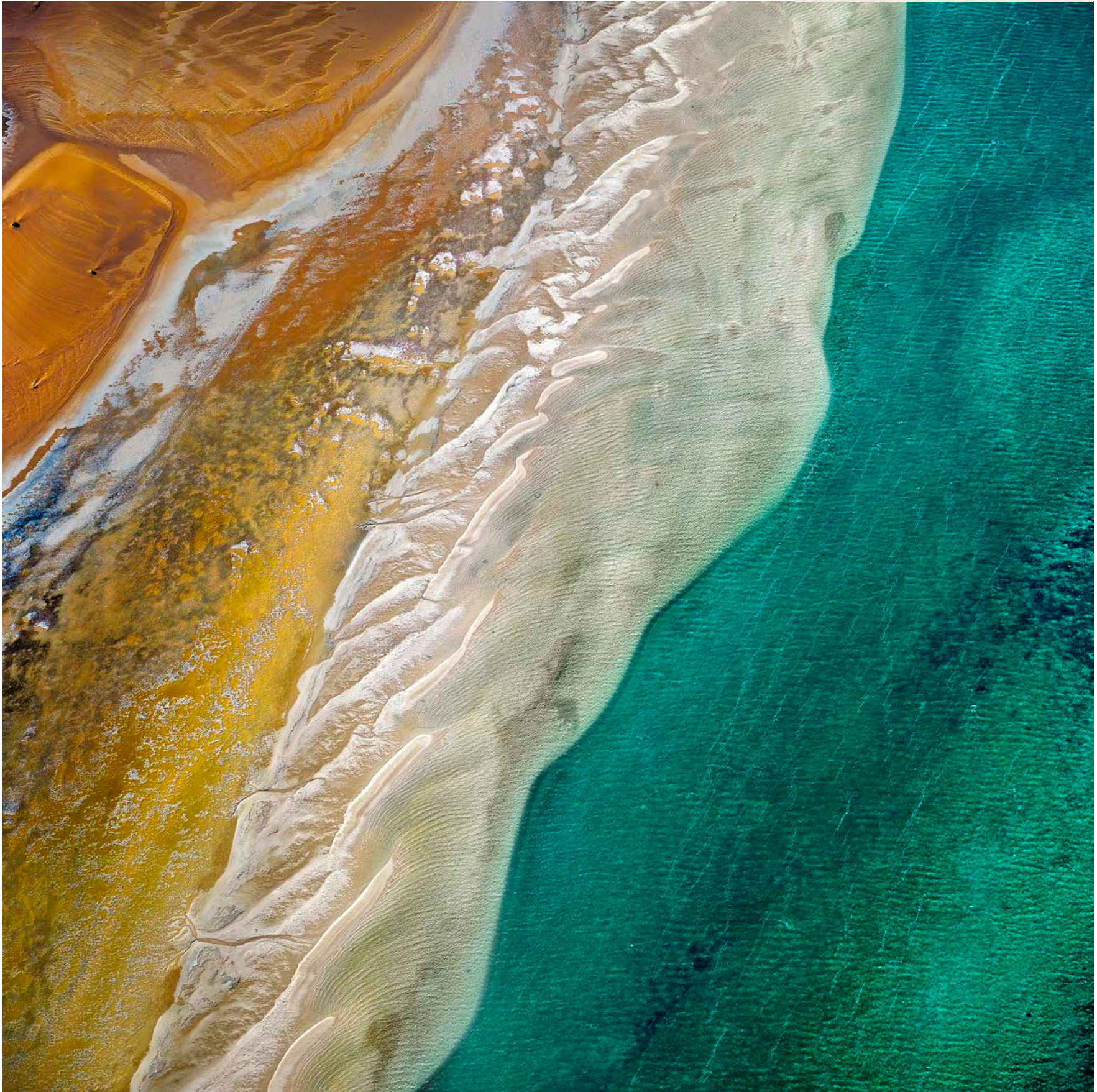


Our Shark Bay exhibition has been incredibly successful, both financially and aesthetically. The general public loves a good aerial and our work is still displayed ten years later in the visitor centre at Denham. It seems the abstract nature of the subject matter allows more people to read something into the shapes and colours, making a personal connection for them even though they had never visited the locations. And as we know, selling landscape photography is as much about creating a connection with the buyer as producing a technically perfect print.

The photographs from the exhibition also won the ND5 group numerous awards in both print and book competitions, so much so that in Australia at least, there was a flurry of activity as photographers from as far away as the other side of the continent journeyed to Shark Bay. Locations like Useless Loop and Monkey Mia became almost household names within the local photographic community.

There have been photographers in other parts of the world

F 4.0 @ 1/1250 sec, ISO 100



Quoin Bay, Dirk Hartog Island, Shark Bay. This image has been very popular with interior designers and can be found in a couple of Western Australian hotels of repute. Part of the Shark Bay – Inscription 2016 exhibition.

exploring similar paths, but it was around this time that abstract aerals really made a splash in Australia, New Zealand and the USA, certainly in the professional print competitions. I like to think our ND5 group had a little influence on the great work that has followed.

Today at Shark Bay, the aircraft charter company tells me there are more photographers than general sightseers taking joy flights from their airstrip.

Helicopter or Plane?

Most of my abstract aerals are taken from an aircraft, somewhere between 1000 and 5000 feet, depending on the subject below. Often the choice between a helicopter or a plane is one of economics. For a lot of remote locations, a large chunk of the budget can be spent just getting the aircraft to the location and this makes a helicopter more expensive because its hourly rate is at least double that of a light plane. In my next life, I intend to come back as someone wealthy enough to buy my own helicopter and pilot!

A helicopter is probably the preferred aircraft, simply because it is more comfortable, it can fly more slowly than a plane (which means you have more time to frame your shots), and you can hover over a location for as long as you like or can afford. With the doors off and a bit of a roll, you can easily point your camera straight down and often for abstract aerals, it's a plan view that works the best.

Light planes probably have a longer range than a helicopter and while they can't be slowed down the same way, you just adapt your shooting approach. You might need to take two or three passes over a subject to get it right, but at the price, it's comparatively affordable.

While shooting with doors off is great, it's not always possible. Sometimes you have to make do with the aircraft that are available. The main issue isn't necessarily shooting through the

glass window (assuming it's not curved), it's eliminating the reflections – I now use a large flexible rubber lens hood which can be placed in contact with the window to solve this.

Another option is to shoot from a balloon. You don't have as much control over where you're going, but it's a great aerial platform and there are no windows to worry about.

The main challenge for most of us is the aircraft's hourly rate and you can quickly spend several thousand dollars on an aerial shoot. Travelling with friends really does have advantages! Or maybe that drone is looking like a less expensive option?

However you manage to get into the air, the technical issues are much the same whether you're shooting pictorial aerals or abstracts.

The Aesthetics

One of the ND5 group's first exhibitions, called *The Pilbara Project*, was curated by an American museum director. He had a different vision to me and while it was great to work with him, I learnt that colour was not his thing.

As background, many people don't believe the intensity of the colours found in photographs of the Pilbara – not until they have been to the Pilbara region themselves. It is full of strong reds and ochres and, after rain, the greens and yellows are equally the most vibrant I have seen. On this project, I certainly responded to the colour, for both my traditional and aerial prints, but our curator was not happy with me. He suggested that bright colours and high impact contrast might be suitable for my magazines and even in books, but it had no place on a gallery wall.

I quickly discovered how rigid certain areas of art can be. Yet what struck me a few days later as I walked around the Art Gallery of Western Australia, is that the painters whose works were on the walls didn't worry about too much colour at all. In fact, many of the contemporary works built their power on a bold, highly

F 2.8 @ 485/606249 sec, ISO 400



Aerial from The Pilbara Project, 2010. Although there is nothing particularly abstract about the subject, framing and post-production create an image that can perhaps be considered more art than science.

saturated colour palette. Why shouldn't photography be permitted to do the same?

I write this because I know there are a lot of biases in photography. Rather than biases, let's think about preferences. I don't ask photographers to like my work, rather to accept that my way of seeing is just as valid as any other. I possibly worry too much about the naysayers, given how successful this genre has become. And of course, an abstract aerial doesn't have to be colourful to be successful!

200% Saturation

But I love colour. I don't need the entire image to be full of saturated hues, but often there will be one or two splashes of "200%" colour saturation that hold the eye and give the image it's impact.

Many of my unprocessed raw files look rather dull and boring, but within what appears to be a monotonous stretch of sand or water, you can find a myriad of shapes and patterns that without careful post-production would remain invisible to the eye. There's an element of serendipity which I love because I'm never quite sure what I will discover, buried deep within a raw file.

While the finished result might bear little resemblance to reality, my approach is directed by what is already there. It doesn't have to be, but I like to work this way – it's a preference. As I process the image, details and patterns will reveal themselves as exposure and contrast are adjusted, and from there they can be further enhanced and directed with selective adjustments.

I process my raw files in Capture One or Lightroom. In earlier years, Capture One gave me a result much closer to my aesthetic than Lightroom, but currently I can produce very similar results with both of them. Sometimes the image can be fully resolved in Capture One or Lightroom, but usually I will take a processed file across to Photoshop where I use the Auto Curves dialog to stretch

out the colours and tones, correcting any unwanted colour casts I may have introduced during editing.

It would be interesting to create a step-by-step approach for aerial abstracts, but every image is so different. However, for me the key to abstract aerals is managing the colour and contrast, but only after I have cropped and transformed the composition. In the air, I might shoot 10 or 20 frames of the same subject which allows me to choose one with the strongest framing potential. I'm happy to rotate and use perspective controls in post-production, simplifying the composition.

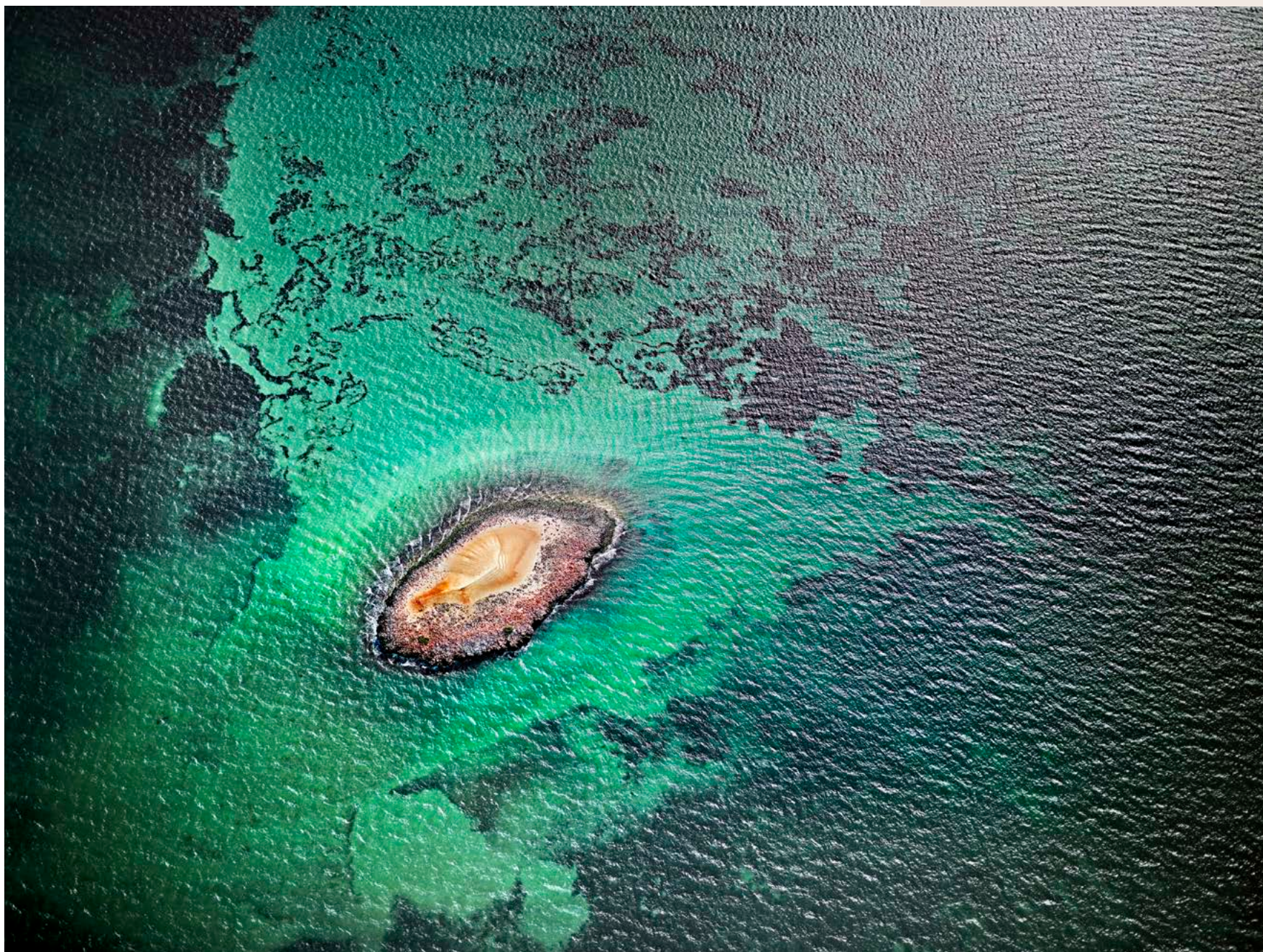
Most of my abstracts are single capture, but not always. I use multiple exposures, composites, stitches and cloning to achieve the desired result, but what I enjoy most is opening a raw file and seeing where it leads me. Sometimes when I press the shutter I know exactly what I want the final photograph to look like, but just as often, the image takes me somewhere else and the finished print ends up being quite different to what I originally imagined. And that's the fun with abstract aerals.

Standard Lenses

I'm using a standard 80mm lens most of the time, the equivalent of a 50mm on a full frame sensor. If I want to fit more in, I ask the pilot to fly higher. Do I want a tighter crop? Then fly lower. However, I use moderately wide-angle and telephoto lenses as well, just to mix it up.

So, what about drones? In most places around the world, there's a ceiling on how high you can take a drone, which can be limiting. Then again, working within these limits is just another creative challenge and I've seen some sensational abstract aerals taken from only a few hundred feet off the ground. And the image quality? Well, if you process the files carefully and use the Topaz suite to sharpen and up-rez your files, it's amazing what you can produce. No, it's not the same as shooting with medium format

F 3.2 @ 1/2500 sec, ISO 100



Egg Island, Shark Bay. The trick behind this image is in controlling the exposure, especially the reflected highlights off the water surface. And while not an abstract per se, it is simple and approachable. Part of the Shark Bay – Inscription 2016 exhibition.

from an aircraft, but who said it has to be the same? It's a different aesthetic and one I also enjoy. Monogamy isn't a prerequisite for photography.

The Print On The Wall

I worked on a book project with Mikkel Aaland and some of the Adobe Lightroom programmers – yes, a book project, so it was quite some time ago! Mikkel told me how he had met Ansel Adams in person. He asked Ansel what would he do if he were starting his career again and Ansel replied that there was this new thing called 'electronic imaging' coming along and that he hoped he'd be around long enough to enjoy it.

The photographers we look upon as our mentors and heroes are usually remembered because they were doing something new. They were trailblazers and so when it comes to our photography, I think we should give ourselves permission to try something new.

Then there is another quote by legendary Australian artist John Olsen who said, just because something is new and different, doesn't mean it's good!

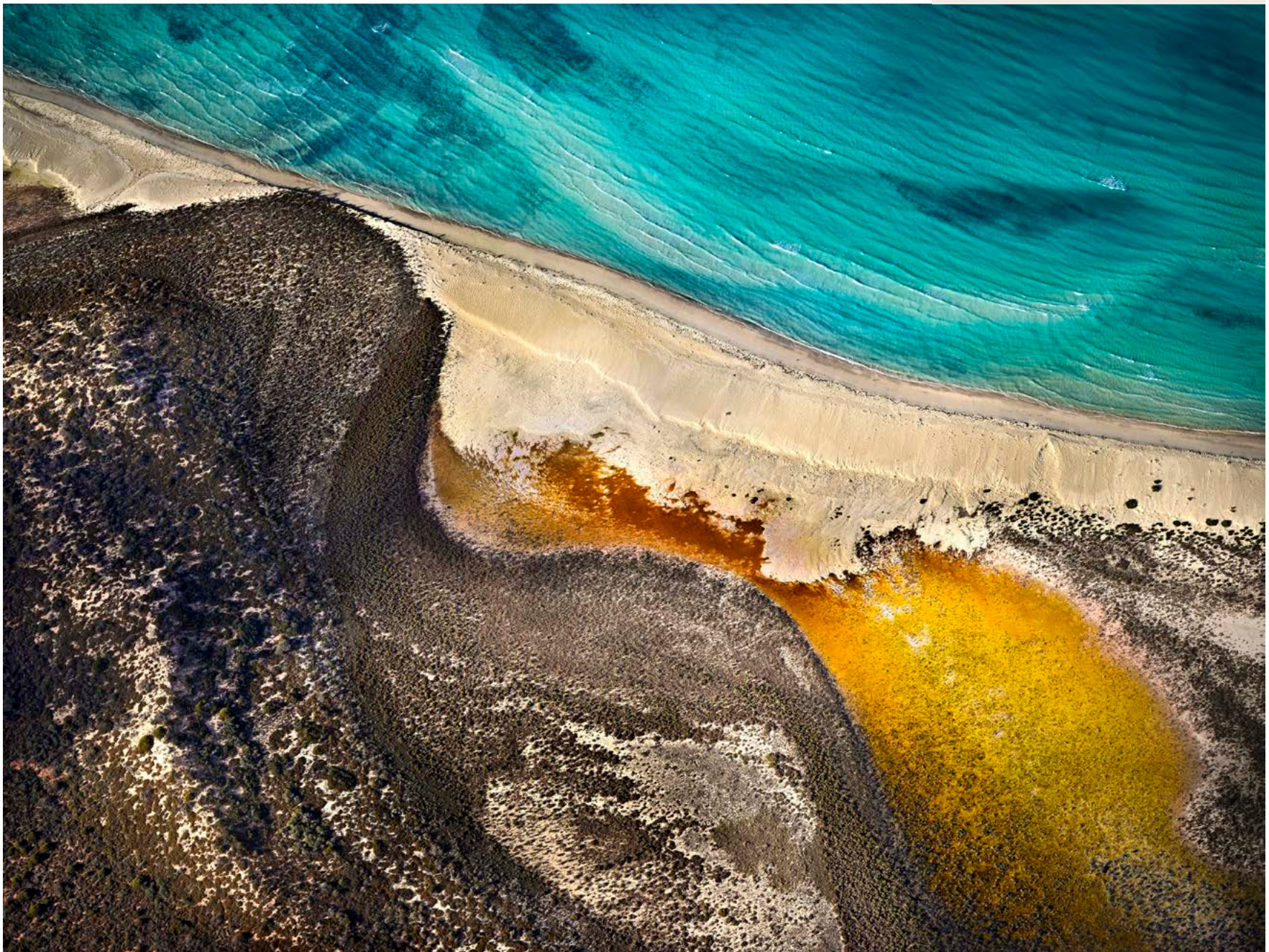
So, where am I going with this train of thought? Our 2013 exhibition was a little bold at the time, because instead of the full gloss finish that landscape photographers used almost universally, we printed on matte paper, we mounted on aluminum and we didn't use frames or glass. The concept was that there should be literally nothing between the viewer and our work.

Would we present our work the same way today? We already mount on GatorBoard because it's lighter than aluminium (but the edges are not as nice and so a frame will help), and there are many new options we're playing with, such as printing directly onto aluminium (ChromaLuxe). I've also had quite a few clients print my work as face mount acrylics, so while there's no shortage of reflections, with the right lighting, the results still looked great!

For me, a lot of the impact of an abstract aerial comes from its size and the ability to walk up closer to the print, never feeling that you are getting too close. You need to have sharp detail from corner to corner, just like the classical landscapes we all love.

But from there, we need to remember that we are creating abstracts.

F 6.3 @ 1/400 sec, ISO 100



Dirk Hartog Island and part of the Shark Bay – Inscription 2016 exhibition. The high resolution, medium format file allowed the image to be printed up to 2 metres wide with no problematic loss of image fidelity. More recently, software can interpolate many of your files to provide the extra resolution required to make beautiful prints on a large scale.

THE FLYING MACHINES

There are many ways to get aloft. The easiest way to get a high viewpoint is to drive or climb to the top of a mountain or a building and an aerial perspective will unfold below you, but obviously there are limitations in this approach.

When we talk about aerals, we're generally thinking about jumping in an aircraft of some kind.

Which aircraft is the best and why?

Balloons

For a gentle introduction to aerial photography with plenty of time to think, it's hard to go past a balloon flight.

A balloon's basket is a very stable platform from which to shoot. Balloon flights usually take place with very light winds (they will be cancelled in rough weather) and so your aircraft floats along at a modest rate.

However, don't be fooled by the gentleness of your progress. Balloon flights usually begin before sunrise and so there's not much light around, and because you are quite close to the ground, you will still need fast shutter speeds to freeze the movement of the subject below.

The best thing about balloons is there are no windows to shoot

through and usually they give you a glass of champagne at the end. The worst thing is you have less control over where you go and what you photograph!

The cost of a balloon flight ranges from \$100 to \$300 per person and lasts from one to two hours.

Planes

There are lots of different types of planes and perhaps the biggest problems are the windows and doors. If you photograph from a plane, you really want to shoot with the 'doors off' or 'windows open'.

When you inspect the window surfaces of a plane, you might notice lots of small scratches or it might just be dirty. As long as the scratches aren't too big and there's not too much dirt, you probably won't notice them in the final photographs. Note, there will be some degradation from a theoretical viewpoint, but whether the difference is objectionable or even noticeable often depends on the subject below. You might see small marks if you're shooting blue sky, but in a complicated landscape, chances are the scratches and dirt are not a problem.

You can also have windows with tinted glass. While definitely



Clockwise from top left: Back of Cessna 207 with door off; shooting through glass with large rubber lens hood; back section of a Cessna 207 – the planes are small; a small Cessna 162 with not a lot of room, even with the door off; the smallest helicopters you're likely to hire are Robinson 44s.

not recommended, in a pinch you can probably adjust the colour balance of your raw files to remove the colour cast.

The main challenge with shooting through glass is avoiding the reflections from inside the aircraft. You might not notice these reflections while you're shooting, but you'll certainly find them when you edit your files!

The best solution I have found is a large black, rubber lens hood. I use one which stretches over the lens hood on my lens to stay into place.

Unfortunately, these lens hood don't always work when you're using very wide angle lenses or shooting through curved windows – in which case, doors off or windows open might be the only satisfactory solution.

Doors can be easily removed from most small planes, despite what a few lazy pilots will tell you, but of course there are aviation restrictions and regulations to comply with. These vary from country to country and sometimes from operator to operator.

However, from a photographer's perspective you want an unimpeded view of the landscape below and that means no glass. This generally means small planes because Qantas isn't going to adapt its aircraft just for you!

When choosing a small plane, you want the wings overhead and no wing struts impeding your view. It's relatively easy to find overhead wings, but you'll probably have to put up with the struts.

Many professional photographers happily shoot out of an open window, although a door gives you more options when it comes to camera angles, (but also lots more safety issues).

The cost of hiring a light plane ranges from \$600 to \$900 an hour, but you can often split this cost between two or maybe three photographers.

Helicopters

Helicopters are considered the ultimate aircraft for aerial

photography because you can position them more easily than a plane – and at a stretch you can ask them to stop and hover (although this can lead to challenges with vibration).

However, the curved windows are not good for shooting through for many reasons. First, the Perspex or glass is unlikely to be optically neutral, meaning your subject might not be sharp. Second, the Perspex or glass can be tinted, which is problematic. Third, the glass might be dirty and, if on the outside, you might not be able to clean it. And fourth, reflections can be impossible to eliminate, especially if the helicopter has a glass ceiling above.

Helicopter windows are generally too small to shoot out of satisfactorily and so it really becomes important that the doors are taken off.

However, with the doors off, some jurisdictions require you to wear a harness and not all helicopters are fitted with them. Check with your operator first.

The cost of a small helicopter ranges from \$1500 to \$3000 an hour, but you can split the cost between two to five photographers, depending on the size and configuration of the aircraft.

Drones

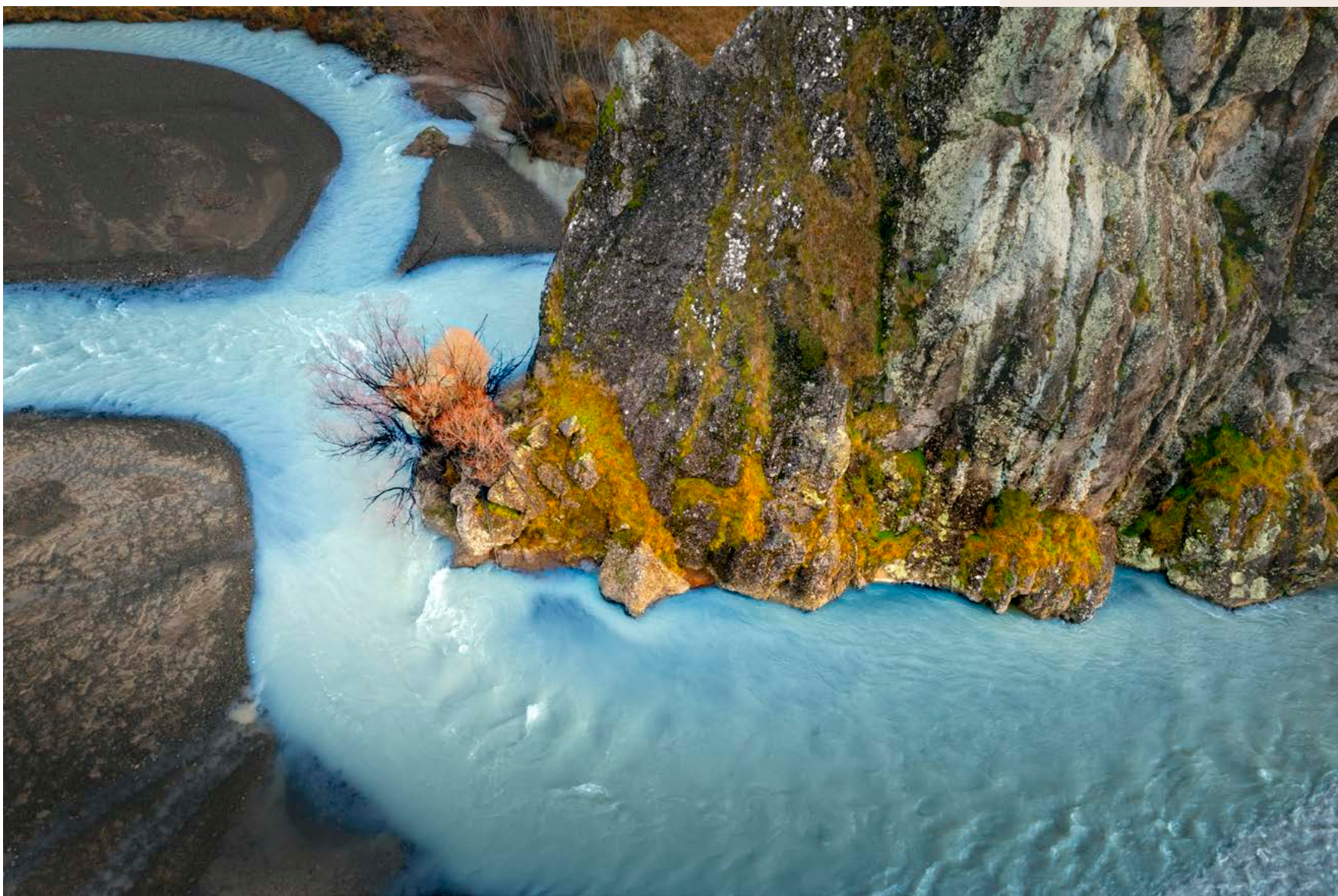
Drones are a great option. It's true that their built-in cameras don't provide the same quality as your DSLR or mirrorless camera, but they are still very, very good and with appropriate post-production, you will take some sensational aerals.

While drones mightn't give you the range of a larger aircraft, they can give you lower altitudes that larger aircraft can't access, so don't worry about the differences, look for the potentials that a drone can offer.

You can purchase a drone from \$1000 to \$5000, so it won't take long to be ahead financially!

Most of the photographs in this book were not taken with a drone.

 F 8.0 @ 1/30 sec, ISO 100



While nearly all the photos in this book have been shot from a plane or a helicopter, don't discount the drone as an option. While it might not afford the same altitude, there is still a lot to explore from much closer to the surface of the Earth, especially more intimate views of a landscape you might otherwise only photograph from the ground.

SEATING POSITIONS

When there are two or more photographers in an aircraft, the question is, where should you sit or stand?

Balloons

In a balloon, it is standing room only, but generally everyone has a position on the edge of the basket and an unimpeded view in one direction.

What you get to shoot is up to the pilot and how the balloon is orientated – if the pilot knows everyone is a photographer, the balloon can be rotated so everyone gets a turn with the various views.

Planes

In a plane, there is sometimes only one seat, so problem solved! And generally you are shooting through an open window rather than having a door off – but this all depends on the type of plane and the pilot. If in doubt, ask first.

If there is room for two photographers to shoot out the one

window (like in a Cessna 182), the photographer in the front seat gets to shoot a wider range of angles than the photographer in the back seat. However, shooting from the front seat may require you to twist your body further around to get the angles and so it may not be as comfortable as shooting from the back seat on longer flights. Both seats provide great opportunities, but they are different.

Photographers are generally placed on one side of the plane and the pilot on the other. This is a practical solution because if you shoot from both sides of the plane, you may spend a lot of time re-circling around your subject so both sides get the desired angle.

If the photographers are shooting from both sides of the plane, it may also change the dynamics of what you shoot and how you deal with the view being better (or different) from each side.

In the older Cessna 182's, for instance, the window is not huge and there is a wing strut to deal with, but many of Australia's leading professional photographers have used exactly this model

F 7.1 @ 1/1000 sec, ISO 200



While most aerials are single capture, there's no reason you can't composite images together, as in this example of the tidal flats at Wyndham in the Kimberley.

plane to produce exhibitions and books.

With the doors off at the back of the plane, like a Cessna 207, you may need to be harnessed in. Discuss this with your pilot as much depends on the design of the plane and regulations you are working with.

Helicopters

The windows on many helicopters are very small and while you can poke a lens through them, they are certainly not ideal. If shooting in cold climates (like the alps in New Zealand during winter), it might be all that's on offer, but the preferred option is to shoot with the door off.

So, where do you sit? In a small four seater aircraft like a Robinson R44, there are three positions: in the front (next to the pilot), in the back (opposite the pilot), and behind the pilot.

In the front, you are protected from the air flow, especially if you are flying at speed. It is the most comfortable seat in this respect and you can survey the world in front of you. It is also the best position to be in if you need to direct the pilot, but it is not always the best position for shooting.

Some photographers don't like the front seat because they feel they are twisting around and shooting backwards a lot of the time, so for longer flights it might not be quite as comfortable as the seat behind for your body. So, 100% for comfort, 80% for shooting.

In comparison, the back seat opposite the pilot offers 80% for comfort and 100% for shooting. You don't have a great view forwards, so you are reliant on the pilot and the person in the other

front seat to direct you. At speed, you'll be buffeted around by the wind, but when you slow to take photographs, your body will be the most relaxed.

The back seat behind the pilot is almost as good, but given we are using our cameras right-handed, some people find it more difficult to shoot from this side than the other (you have to twist your upper body a little more). It would be rated at 75% for comfort and 100% for photography, assuming the pilot's door is off. If the pilot's door is on (so three doors off, one door on), then when sitting behind the pilot you can feel like you're in a Venturi wind tunnel, especially when flying at speed. Always ask the pilot to take his/her door off for this reason.

In larger helicopters, like the Bell Ranger, there is one seat in the front and four seats in the back (if there are extra seats in the middle, they are not suitable for photography). The ratings are the same for the seats facing forwards, but what about the seats facing backwards? These are generally very protected (100% comfort) and get 80% for shooting on the left and 90% on the right (because we are using right-handed cameras).

No, you don't get the same view when you're looking backwards and you can't easily get the camera around to shoot at right angles, but the shots you do get have the same potential.

All these seats in a helicopter provide great access for photographers when the doors are off. With experience, you will work out what is best for you, but if you're climbing on board into what you might think is the worst seat, it could end up being the best seat in the chopper!

 F 2.8 @ 1/800 sec, ISO 125



Some seats seem better than others, but my experience is that there are opportunities from every seat. For this photograph of Muller's Station (during one of our Middlehurst workshops), I was behind the pilot and shooting out the opposite door between two photographers. I was very happy with the result!

THINKING ABOUT SHUTTER SPEEDS

If there's one camera setting you have to get right, it's your shutter speed. You can play around with different apertures and ISO settings, but if you don't have a fast enough shutter speed, the resulting blurred image will be unusable!

How Fast?

So, what is the minimum shutter speed you need?

If you want a single number to take away from this book, use 1/2000 second or faster.

Now, read on to understand the issues involved because it is possible to get sharp photos with shutter speeds as slow as 1/250 second. Sometimes.

There are two main reasons for using a fast shutter speed.

The first is to hide the vibration of the aircraft itself. Obviously this isn't much of a problem in a balloon, although other passengers moving around can rock the basket. However, in a plane and a helicopter, there can be a lot of vibration to contend

with and there are times when even 1/8000 second is not fast enough to completely eliminate camera shake!

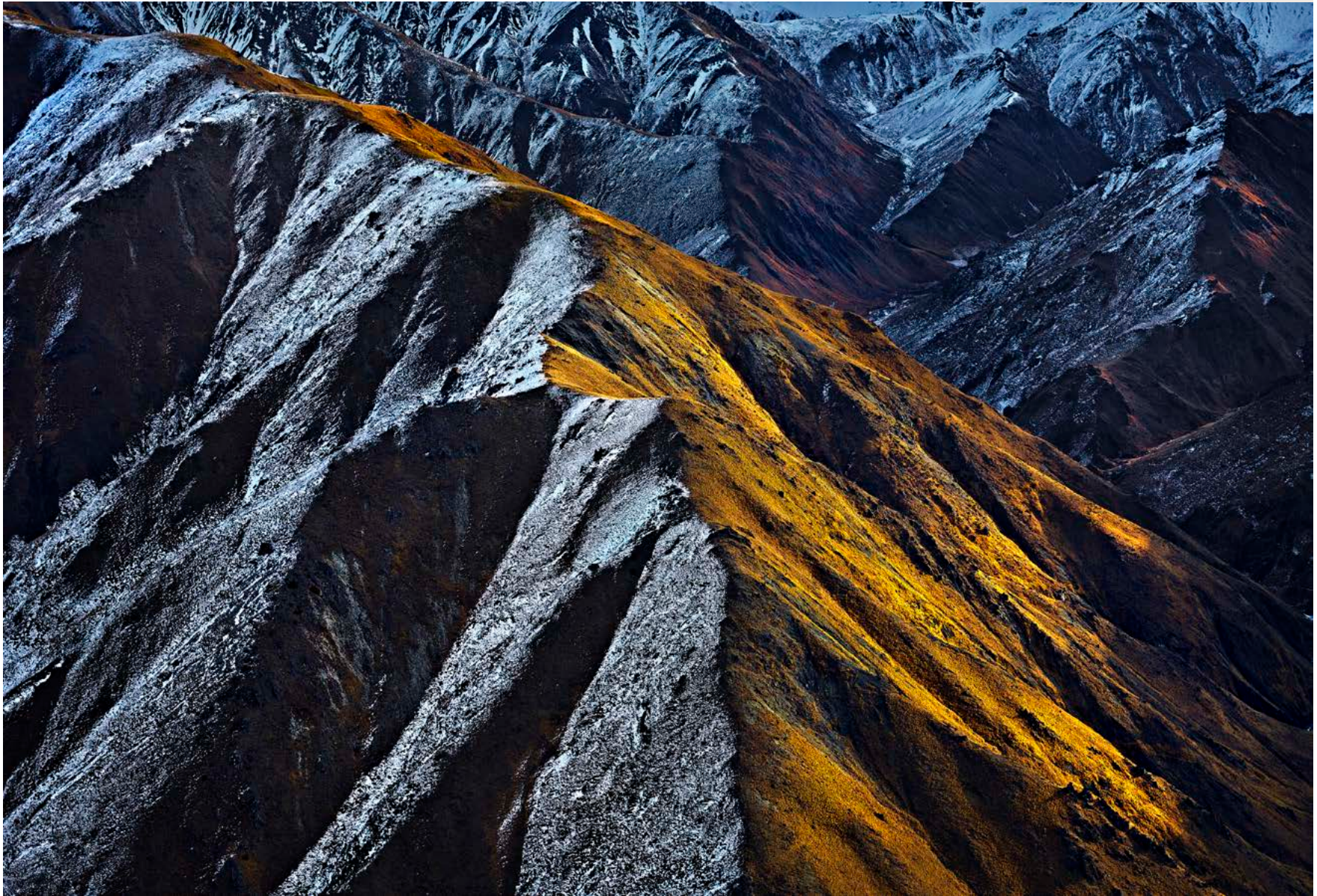
There can be moments in your aircraft when your flight feels completely smooth and so a fast shutter speed isn't as important to eliminate camera shake. However, generally speaking a combination of the engine and turbulent air mean the aircraft is constantly vibrating and moving around, so the faster the shutter speed, the less likely your photos will suffer from camera shake.

Set If You Can

If it is possible to set, 1/2000 second will eliminate camera shake in 95% of your photographs. And with our modern cameras, the more pixels you have, the more that camera shake is magnified, and so the faster the shutter speed required to eliminate it. A 1/2000 second works for me, even with 150-megapixels.

Unfortunately, when you're shooting in low light (around sunrise and sunset or in overcast conditions), it might not be

 F 4.5 @ 1/1250 sec, ISO 200



The closer you are to your subject, the faster your shutter speed needs to be if you are flying past in a plane or a helicopter. I don't think about it much anymore – I just set 1/2000 second and work out the other settings from there! Alpine aerial taken from Middlehurst Station, New Zealand.

possible to set 1/2000 second with your maximum aperture (say f4) and your preferred ISO setting (say ISO 800 or lower).

If you find yourself shooting at slower shutter speeds, all is not lost and there's a good chance some photos will come out. If this is the case, shoot lots of photos of each subject to improve your chances of having that critically sharp image.

How Close?

The other reason fast shutter speeds are required is because of the speed at which your aircraft is travelling when the photo is taken. You can ask your pilot to slow down to take a photograph, but you're still moving pretty quickly, so is this a problem?

Think of the photos you take out of a moving car. The trees on the horizon will probably look pretty sharp, but the grass on the side of the road will be completely blurred. This is because of the relative speed at which your subject is moving in front of the camera.

The grass on the side of the road rushes from one side of the frame to the other in a split second (and so it is blurred), while the distant tree hardly moves within the frame (it remains sharp).

So, the greater the distance between you and your subject, the less movement there is within the frame.

When shooting from 2000 feet above the ground, the speed at which the landscape moves through your viewfinder is much slower than at 500 feet. So, the higher you are, the less you need

super fast shutter speeds to keep your subject sharp, but this becomes academic because you still need fast shutter speeds to eliminate camera shake from vibration.

When you're photographing from lower heights, or you have a closer subject (such as trees on a tall hill), the foreground can be blurred while the background is sharp (just like you get when shooting from a car window). The point to remember is that the lower you are flying, the faster the shutter speed needs to be to freeze the subject.

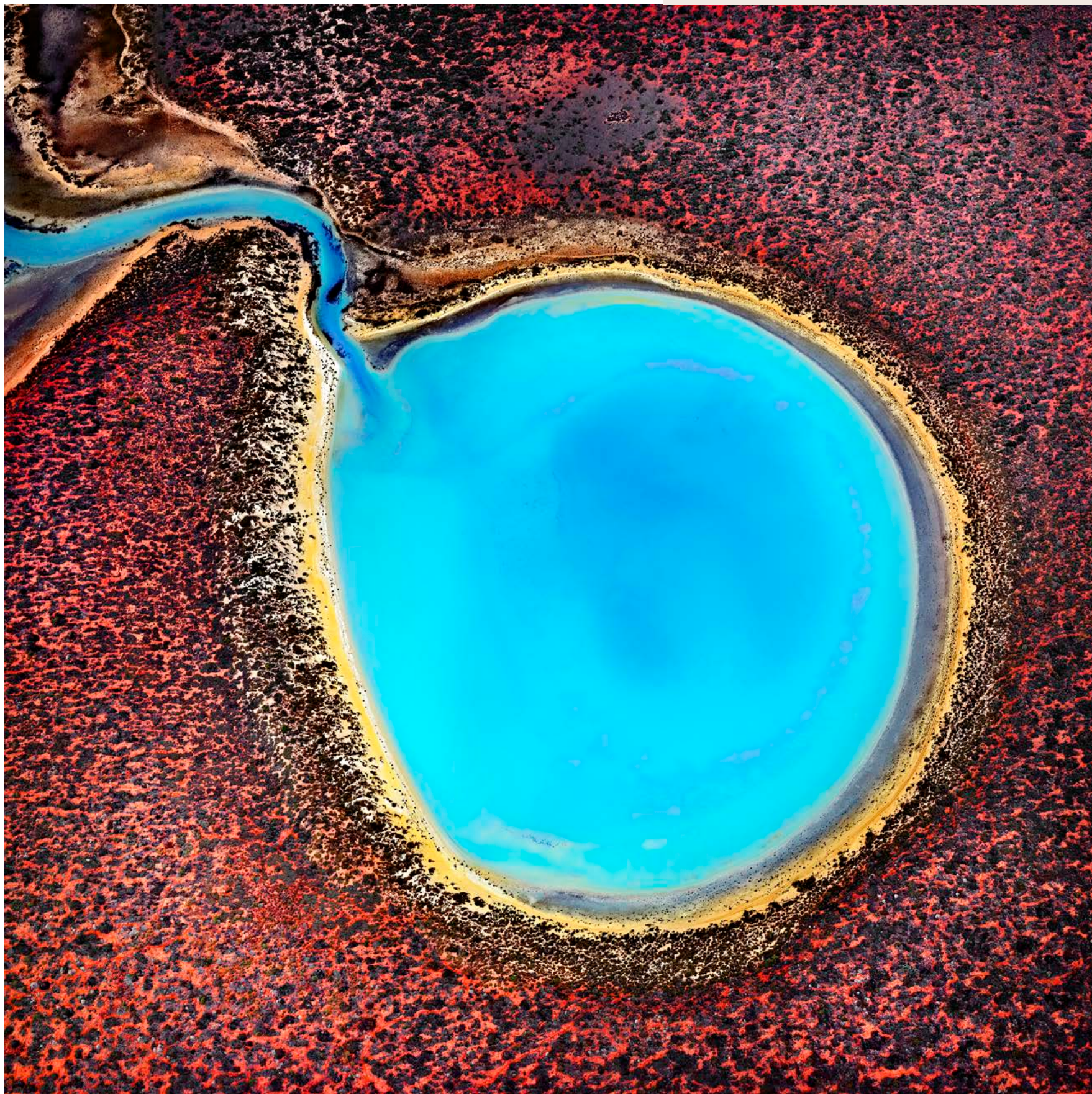
What about using the helicopter to stop and hover over your subject? This will certainly solve the problem of subject movement, but the aircraft tends to vibrate more intensely when stationary or flying slowly, so you're back to a fast shutter speed to avoid problems caused by vibrations.

(Another option is to use a gyro to keep the camera still, but this is beyond the scope of our little book as it introduces a host of different issues to consider. I generally don't use a gyro.)

These issues also explain why fast shutter speeds are required when photographing from balloons. Although the balloon isn't moving very quickly, if it is low to the ground, the relative speed as seen through the viewfinder can be quite rapid and so you need faster shutter speeds than you might imagine.

A minimum of 1/1000 second is still required in a balloon, dropping to 1/500 or even 1/250 second as you get higher above the ground.

📷 F 5.0 @ 10737417/4294967295 sec, ISO 200



One of the closest locations for aerial photography at Shark Bay is just north of the airstrip. By cropping the image reasonably tightly, you can create a geometric abstract – and add in a little colour as well.

CAMERA SETTINGS

Having determined that the success of your aerial photographs depends on a fast shutter speed, what exposure settings do you use?

Aperture

For landscape photography, an aperture of f8 or f11 is considered optimum in terms of depth-of-field and resolution. For example, f8 is usually sharper than f2.8 or f4, especially when you look at the image quality in the corners. And for aerial landscapes, you generally want corner to corner sharpness if you can get it.

Unfortunately, you can't always shoot at your lens's optimum aperture of f8 or f11. On a sunny day, to have 1/2000 second at f11 could require an ISO of 400 or 800, but ISO 400 or 800 could have more noise than ISO 100. To get the best out of your sensor, an aperture of f4 might be the best aperture you can get.

If it's not a bright sunny day, you may find yourself shooting at f2.8 or f4 because you don't want to increase your ISO.

ISO

Why is increasing your ISO a problem? It is and it isn't.

Depending on your camera (later models are very good at controlling noise at higher ISO settings), how many pixels you have (higher pixel sensors show more noise) and your aversion to noise (sometimes a little noise in an image isn't a problem at all), you may be happy shooting at up to ISO 6400. If this is the case, then you will be able to have f8 or f11 and 1/2000 second most of the time.

However, what a lot of photographers find is that once they go past ISO 400, 800 or 1600 (depending on your aversion to noise), the improvement in image quality provided by a smaller aperture (like f8) is offset to some extent by a degradation of image quality

due to more visible noise.

There is no right or wrong with any of this, unless you are shooting for a client who definitely wants no noise, of course. However, you will already know how your camera performs in terms of ISO and noise generally speaking – and this will translate directly to your aerial photographs.

Exposure Modes

So, how do you set up your camera? Again, no single answer and probably the best solution is to use your camera as you normally do, but keep an eye on your shutter speeds throughout the flight to ensure they remain at 1/2000 second or higher.

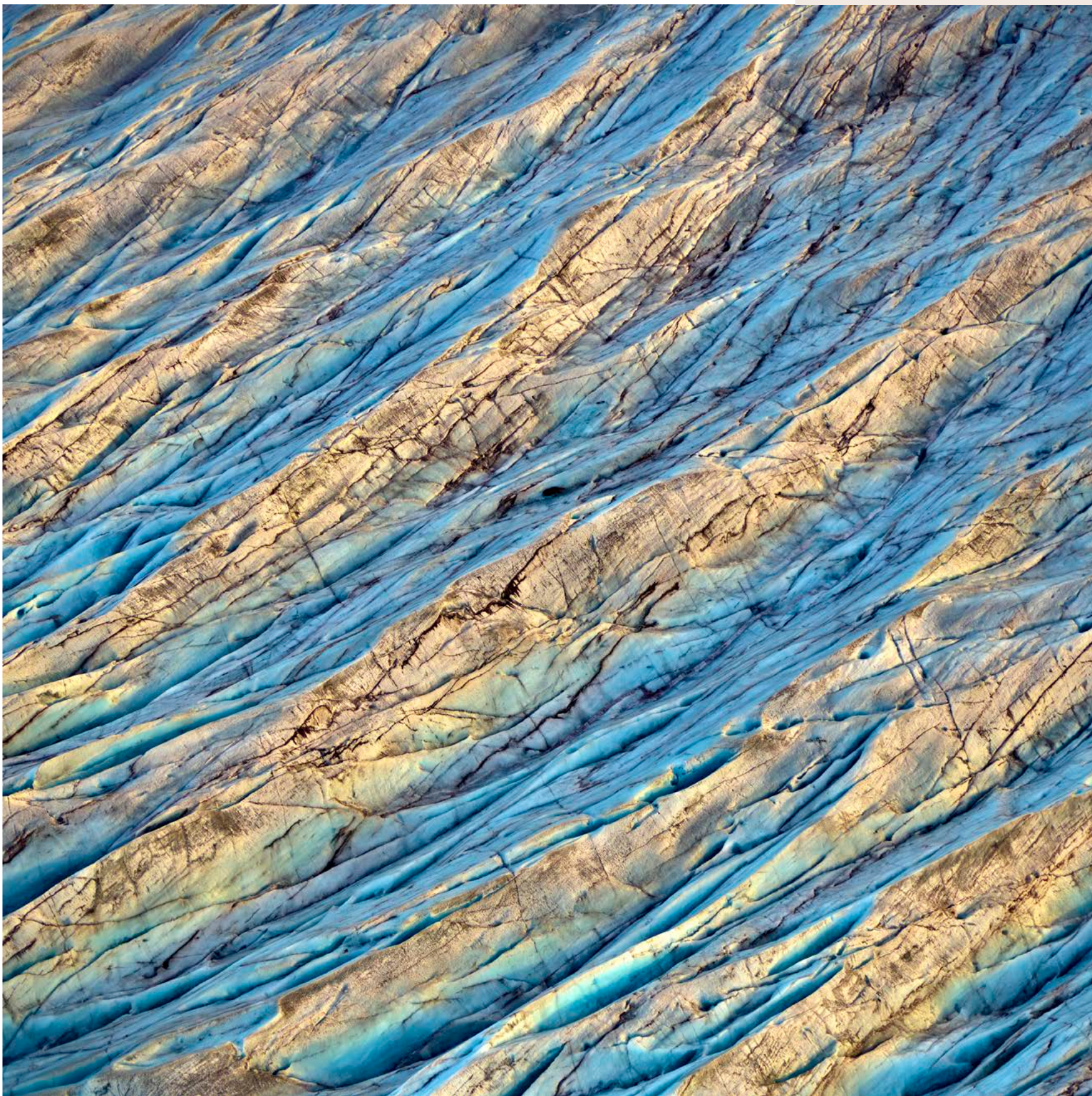
My current approach is to use shutter priority exposure mode and set the shutter to 1/2000 second. The camera will change the aperture to suit. Some cameras may even increase the ISO automatically, but please check your camera manual as other cameras will not increase the ISO and just give you an under-exposed result.

A variation on shutter priority is to use Auto ISO as well. Again depending on your camera, you may be able to set a minimum shutter speed of 1/2000 second and, as light levels change, the camera adjusts the aperture and ISO to ensure correct exposure.

A third approach is to use manual exposure mode and Auto ISO, so you set both the shutter speed and aperture and let the ISO sort out the exposure. However, you can't always use exposure compensation with these settings, so if your histogram is showing incorrect exposure, you'll have to use one of the other methods.

The main thing to remember is that shutter speeds are the most important setting!

F 3.2 @ 1/3200 sec, ISO 200



This glacier in iceland initially looks like a simple pattern, but when you look more closely you can see all the gaps and fissures. It's for this reason I like to have my aerials as sharp and clear as possible, so when viewers look more closely at the image, the true nature of the subject matter is revealed.

CAMERA ISSUES DURING FLIGHT

Some helicopter flights are for very short periods, maybe only 15 minutes, and so there's a little pressure to have your camera settings correct before you jump on the aircraft, so you don't waste time while you're up in the air.

Even if you have set the camera up correctly, things can go wrong. You can knock a dial or change a menu item without realising it, so the discipline is to check what you're shooting on a regular basis as the flight progresses.

Even with a short flight, I suggest that within that 15 minutes or so, you should check your camera settings several times.

The aim is to come back with at least some good photographs, rather than none, and no matter how good you are, you will always miss something.

Accept you can't shoot it all, take a deep breath and make the time to check your camera settings several times during your flight.

Here are a few other issues to consider.

Forget Depth-of-Field

For the majority of aerals, depth-of-field isn't going to be a problem. Everything in the viewfinder is going to be so distant from the camera that it will all be in sharp focus at your lens's infinity setting. In this respect, it doesn't matter whether you shoot at f2.8 or f11.

The reason you will choose a smaller aperture (say f4 instead of f2.8) is that you are likely to get better image quality in the corners of the frame (technically, this is because of depth-of-focus, not

depth-of-field – similar concepts, but not exactly the same).

Keep A View On The Histogram

There's a good chance that on your first couple of flights you'll do a few things wrong – and this is quite normal for most photographers.

However, if you think of it, check your histogram from time to time to ensure your exposure is correct.

When you are first airborne, chances are the surrounding airport or location is not particularly photogenic, so take a couple of test shots and check out the shutter speed and the histogram. Everything should be working normally.

Exposure Compensation

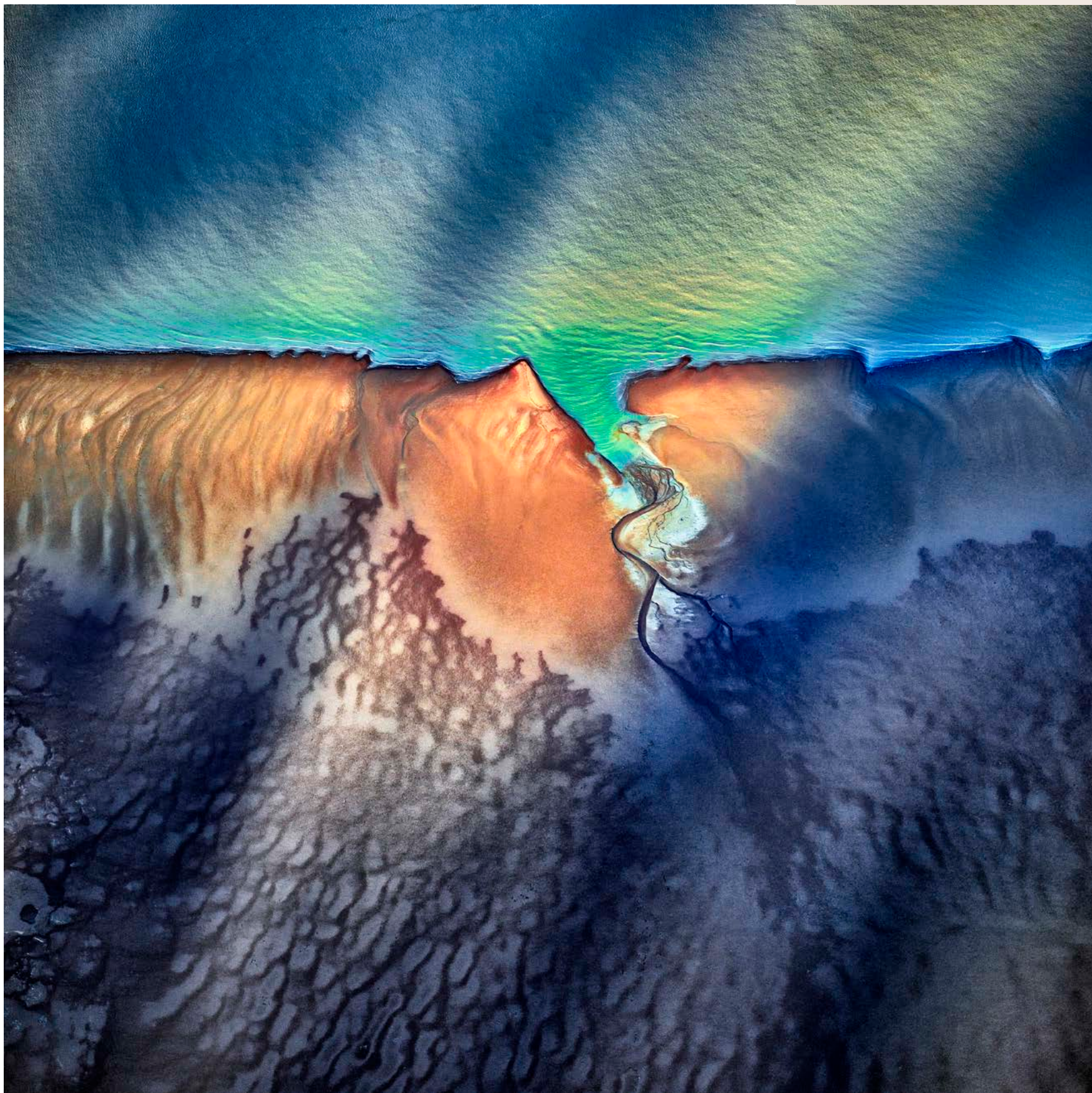
If you're shooting directly down with no sky or reflected sunlight in the frame, your camera is likely to give you the correct exposure.

However, when the sky is included, or there's light reflected off the water etcetera, your camera may struggle to give you the best exposure.

For instance, you may find the histogram shows the camera is overexposing the sky (like it does for land-based photography). If this is the case, you may need to use your exposure compensation control to adjust the exposure.

There's nothing tricky about this – exposure control for aerial photography is no different to shooting on the ground.

F 3.5 @ 1/2000 sec, ISO 200



What will the weather be like? Sometimes it doesn't matter if you're pointing your camera directly down, but one of my favourite shooting conditions is when scattered clouds throw shadows across the landscape below, creating an extra dimension to the abstract nature of the subject.

HOW TO FOCUS

Surely your camera's autofocus system will handle everything for you? For most cameras and most lenses, it will do an admirable job, but let's just run through the various options anyway.

AF Mode

You may think shooting in a continuous autofocus mode is a good idea, but experience will probably show that single shot autofocus is better.

Autofocus systems require contrast in order to find sharp focus. As you point your camera out of the aircraft, the landscape below is moving constantly. What looks like sharp contrast edges to us may appear like a soft blur to your AF system. The result is that the AF system can think it has achieved sharp focus when in fact it hasn't!

Importantly, the focus distance isn't going to change if your subject is hundreds of feet or metres below. Whether the top or the bottom of a hill, the focus point for the lens will be the same – at infinity.

In continuous AF mode, the focus system may hunt for a different focus point because of the moving subject, resulting in unfocused images if you press the shutter mid-hunt.

For aerial photos, I would suggest you choose single shot autofocus so that once the focus is found, it just sits there. It's at infinity, so there's no need for it to hunt.

Focus Points

A single AF focus point may work better when you're trying to pin-point a subject among other objects at different distances, but when shooting landscapes from the air, all the AF points will be

focused on the one distance.

On this basis, you might think a single AF point is best, but sometimes subjects from the air can be quite detailless – which means an AF system can't focus on them. If you use the camera's area autofocus system (with multiple points), at least one focus point should pick up a contrast edge and achieve sharp focus.

If you do find your AF system is hunting or struggling to find focus, point your camera at something else with good contrast, perhaps closer to the horizon. When you have focus, press the focus lock button to hold the focus, re-compose and take the photo. Since the distances are so great, the focus will be the same.

Autofocus Or Manual

Most aerial photographers will use autofocus because it is convenient and it works well. But, given your autofocus system is only going to focus on infinity, why use autofocus at all?

If you're using a zoom lens, chances are it is a 'variable focal length' lens and not a true zoom design, so infinity focus may be at a different position for each focal length. Using AF seems the most practical approach with zoom lenses.

For photographers using prime (single focal length) lenses, there is an argument for taping your lens at infinity and that way you know your AF system will never be confused (the AF is turned off). The danger in taping your focus at infinity is if you tape it at the wrong position, then all your shots will be blurred.

If you have a manual focus lens, then infinity might be easy to set by simply turning the lens focus collar as far as it goes: that's infinity! However, **most** lenses focus past infinity, so this will not be a suitable solution. Check your lens manual if necessary.

F 4.0 @ 1/2000 sec, ISO 50



*I find with aerial landscapes that the inspiration for the colour palette is often found in the raw file itself.
It's just a matter of using contrast and saturation to bring the colours out. Broome, Western Australia.*

LENSES FOR AERIALS

When shooting from the air, it's useful to remember that your pilot can often position you anywhere you like in relation to your subject. Of course, there are some restrictions depending on the type of aircraft, but if you want to get a little closer to something, you fly over to it; if you want a wider view, you fly away.

Lens Arguments

For this reason, standard lenses are used for a lot of aerial work. In terms of a full-frame DSLR or mirrorless camera, the 50mm is ideal, but any lens from 35mm to 85mm is useful in the air.

If you're photographing the Earth immediately below you, a 50mm lens in combination with your pilot will give you a suitable angle. As you look higher to include the horizon, the 50mm gives you a recognisable magnification. It's a comfortable lens to use.

Of course, most photographers don't own a 50mm lens, but they do own a mid-range zoom, like a 24-70mm or 24-120mm (full-frame equivalent). These are, in fact, the ideal lenses for aerial photography. It means that if your pilot isn't at quite the right distance, a little zoom in or out can usually solve the problem.

Wider Or Longer?

Ultra wide-angle lenses can work wonders from the air, but you need to keep in mind that the wings and wheels of the plane or the rotors of the helicopter can get in the way.

This means you might also be restricted in the angles you can shoot from the aircraft (if you point too far to the left, right, up or down, the aircraft comes into view), but this isn't an insurmountable problem if your pilot can get you into position for the camera angles that fit.

One advantage with wide-angle lenses is that you may get away with slightly slower shutter speeds because everything in the wider angle-of-view is reduced in size, including camera shake and subject blur.

On the other hand, as you move to telephoto lenses, these issues become magnified and so faster shutter speeds may be required. Shooting with a 300mm lens from an aircraft is certainly possible, but you need to watch image sharpness carefully.

Hoods And Filters

When shooting from the air, it's generally best not to put on a lens hood (unless you are shooting through closed windows and doors.

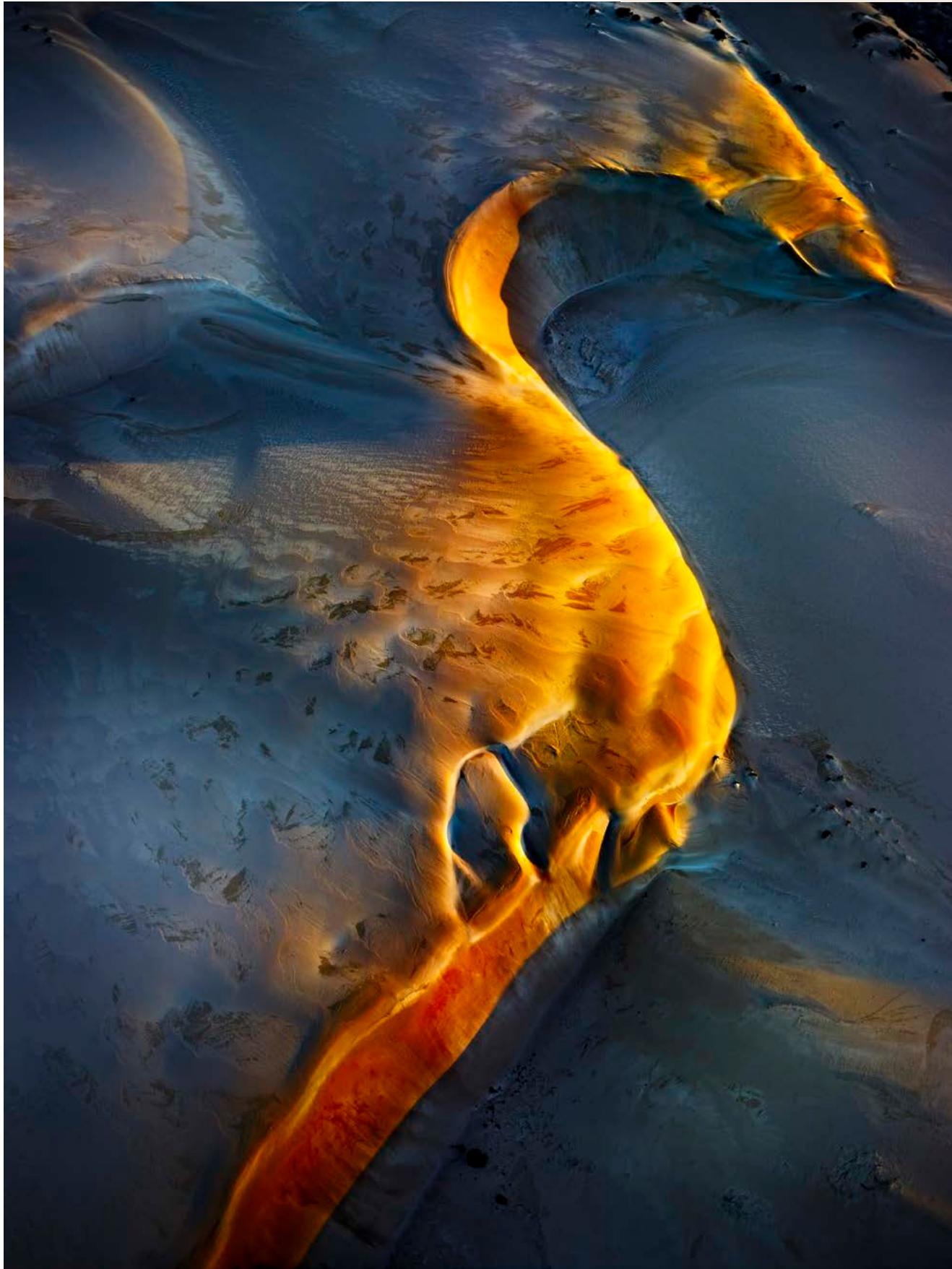
First, the hood can catch the air, making it hard to handle the camera if you happen to push it too far out the door or window. Second, if it comes off and hits the tail rotor of your helicopter, you could find yourself in an emergency landing situation!

In terms of filters, a UV filter can be useful, especially when shooting over water, as can a polarising filter for controlling reflections and specular highlights. However, as the aircraft changes angle in relation to the sun, you may find shooting through a polariser is quite challenging. It's not impossible, you just have to turn the filter quickly as you circle around your subject.

A polarising filter reduces the light from one to three stops, so be aware that it may affect your shutter speed. However, generally you're using a polariser on a sunny day when there is lots of light, so things tend to work out.

Finally, your filters should be the screw in type, not the square filters in a holder. The latter will not survive for long in the airstream and are hazardous, especially for helicopter.

📷 F 2.8 @ 1/500 sec, ISO 200



As you can see, this photo was taken with a 1/500 second shutter speed and even though the image was taken at a low height, it is still sharp. So it is possible, but I also had several other frames taken at the same time that were not sharp, so when possible, I will always shoot with 1/2000 second.

LUGGAGE AND ATTIRE

If the doors are off or the window open, it will be cooler in the air than on the ground. When working in the tropics, this can be a welcome relief, but even in the tropics, if you go high enough it can become very cold very quickly.

If in doubt, ask your pilot for advice, but generally speaking your clothing will be a matter of commonsense.

When seated in a plane with just an open window, or in the front seat of a helicopter out of the wind, you will be toasty warm in comparison to a seat next to an open door experiencing the full force of the air flowing past the aircraft.

Commonsense

So, at the risk of being overly simplistic, close-fitting, long trousers and a long-sleeved shirt or top, with comfortable shoes and socks. No hats, scarves or loose clothing that can flap mercilessly in the wind. Add a warm top or even a jacket for cold climate work, and maybe a beanie to keep your ears warm. The audio headset you wear will keep your beanie and glasses in position. Thin gloves can also be useful for cold weather shooting.

Generally speaking, you are not sticking your body outside the aircraft at any time. It's true that some cameramen like to sit out on a helicopter's skids, but that's outside the scope of this article.

If the pilot keeps his door on, you will both be warmer in the front, but the others will probably be colder in the back. It is

better to dress warmly, but if you do find yourself getting cold, it is usually not for an extended period because your budget doesn't stretch to long flights!

What To Take

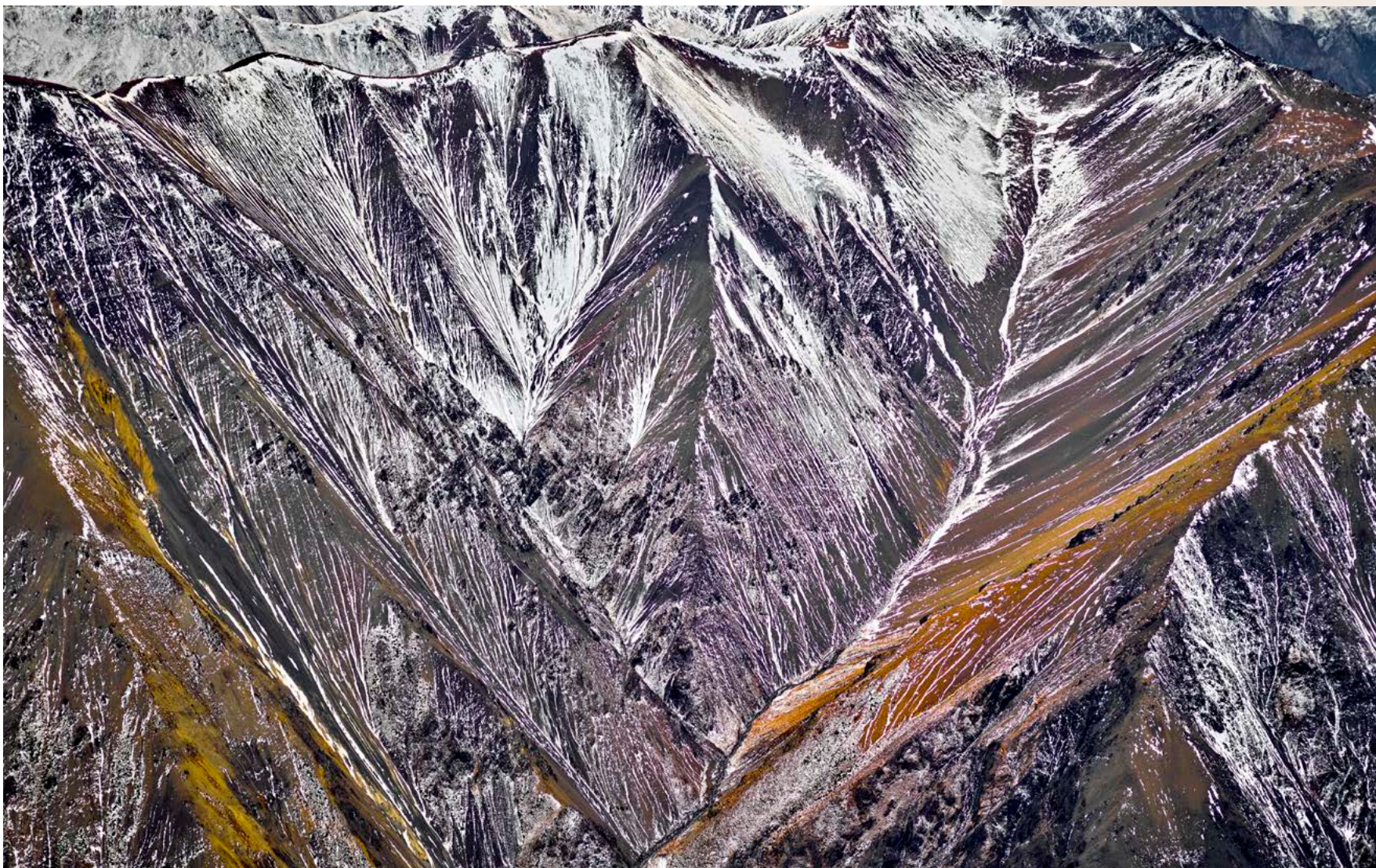
Zip pockets are great for holding spare batteries and memory cards. For helicopters, they really should be zip pockets because you don't want to risk something falling out of your pocket, out of the aircraft and into the tail rotor. Objects don't fall vertically from a moving aircraft, they fly out backwards and back into the aircraft with potentially disastrous consequences.

Your camera must have a strap. Keep the strap around your neck, or wound several times around your wrist so that it is firmly attached to you. You don't want to lose it.

Depending on the aircraft, generally that's it. One camera with a spare battery and memory card. Optionally, take a second camera with a different lens as it is easier to change cameras than lenses while in the air.

As you gain more experience and your pilot becomes more comfortable with you, a small camera bag with additional lenses may be able to be kept at your feet or in a seat pocket. Extra gear isn't a problem in a balloon or a plane with the doors on, but is critical in the back of some helicopters with the doors off. Talk this over with your pilot beforehand.

F 4.0 @ 1/2000 sec, ISO 200



*In winter environments, if it's cold on the ground it will be even colder up in the air!
Wear lots of warm clothing and the flight will be really enjoyable, even if the tip of
your nose is a little cool!. Middelhurst Station, New Zealand.*

SHOOTING POSTURE AND TRUST

If you're in the air for an hour, you're very likely to take 500 photographs – and you should! Depending on the amount of vibration, there's no guarantee every photograph will be sharp and since air flight is so expensive, it seems only sensible to shoot lots of photographs to ensure you have some sharp ones.

When sitting in the aircraft, it can be tempting to lean against the frame to support yourself, but this is exactly what you shouldn't do.

Don't Lean!

When holding your camera, the aim is to transmit as little vibration as possible, so leaning either yourself or your camera against the aircraft shell or frame will only help transfer the craft's vibration to your camera.

Instead, you want to sit up straight with as little of your body touching the aircraft or seat as possible so you become a vibration insulator.

If you're moving at speed, don't stick the camera out into the airflow. You'll soon work this out as the wind will catch the camera and make it difficult to hold it still. When you're travelling a little more slowly, you may find your head and camera are fractionally out in the airflow to get the precise angle, but generally you will get sharper images if you keep your camera completely inside the aircraft. (Balloons are excepted.)

Hold the camera close to your head for extra support if you need to. Press the shutter smoothly and gently.

As you're shooting, try to be aware of what the aircraft is doing at the same time. If at the moment you take a shot the aircraft is experiencing strong vibrations or there was a lurch in the air, shoot another few frames as insurance. They might not be exactly

the same, but close enough. It's probably not necessary to use a camera at 10 frames per second, but it is an option!

Your Pilot

If you haven't done much aerial photography before, tell your pilot. Your pilot will have flown with photographers before, that's for sure, and you should hear some of the stories they tell about us! They are not always flattering!

The idea is to respect your pilot and accept that safety is his or her first priority. If they ask you to do something, by all means politely ask the reason why, but follow their instructions. The pilot is the boss.

I find that the more a pilot understands what I am photographing and how I need to position my camera, the better he or she will be able to get me into position.

If you have specific shots in mind, show them examples before you go. When you're in the air, give the pilot as much notice as possible and be as precise as possible. You don't need to use special aviator language, a simple left or right will do.

Planes and helicopters operate very comfortably when tilted (rolled) at an angle and, if you're looking to shoot aerals directly down, it is almost essential for your pilot to roll the aircraft partially on its side to make this easier. At the same time, you will find the aircraft usually turns through an arc, so what may look like a simple operation to you, may be challenging for the pilot, especially if he or she is guessing what you are looking for. Communication is key.

However, it is true that some pilots look after photographers better than others and if you find a pilot you work with well, he or she is a real treasure.

F 2.8 @ 1/350 sec, ISO 100



If you look carefully, you may see ripple patterns in the darker areas between the sand dunes – these are brushed in water surfaces from composite images. Abstract aerials don't need to be single capture. For an abstract aerial, everything is possible. Dune, Dirk Hartog Island, 2013.

POST-PRODUCTION

There is no obligation to process aerial photographs in a particular manner. Photography is a language and we can use it for multiple purposes, styles and outcomes, so don't read the following pages believing this is the 'correct' way to process an aerial or that it is a magic formula. Every image needs to be processed on its merits.

Having said that, there is a post-production theme that runs through many of the 'aerial abstracts' in this book which relies on bringing out the colours and textures that to some extent are already resident in the raw file.

When captured, a lot of the photographs are relatively flat with little three-dimensional relief – and this makes complete sense if we're 2000 feet in the air shooting a desert or sea, the surface of which is indeed relatively flat! If we leave these photographs as captured, mostly they have low level interest for a viewer.

What I love about aerial abstracts is that from an otherwise 'uninteresting' raw file, I can tease out a new world of colour, shape and pattern. There is an element of serendipity in that you're never quite sure what you might discover buried deep within the pixels.

Of course, you can't do this with just any aerial photograph. For the best results, you need to photograph a suitable subject – usually including a combination of lines, shapes and patterns

with which you can create a geometrically pleasing composition. Most of the images presented in this book were taken in just a few locations that I have found particularly fruitful – and that have access to air services. However, what you find interesting might be completely different to me so really, the only limits are your imagination, especially if you're prepared to work with drones.

The image opposite was photographed in Wyndham, Western Australia. This location has huge coastal tides which transform the shallow mud flats into a mosaic of shapes and patterns. Some features remain for month and even years, others are there just for the one tidal cycle.

I've chosen this image to demonstrate my post-production approach because it shows how in just a few simple steps, you can transform a raw file.

However, many of my photographs have taken hours to process. It's not the actual editing that takes the time, rather the patient observation of the changes you're making to the file and how they impact the result.

Post-production is an equal partner with capture in the creation of a photograph.

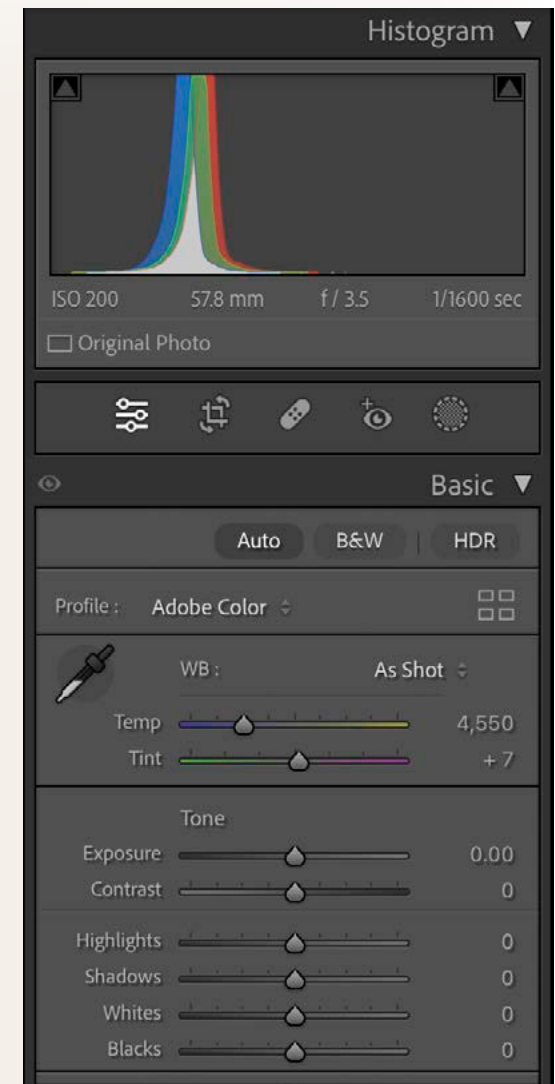
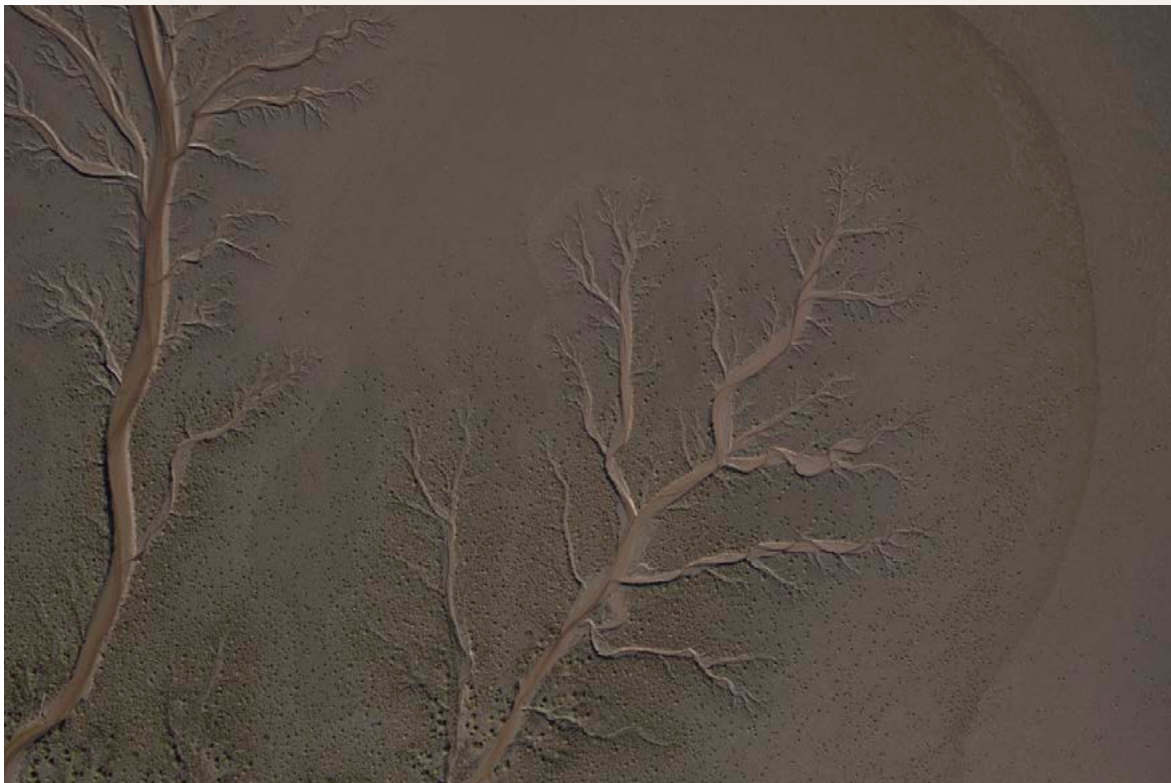
F 3.5 @ 1/1600 sec, ISO 200



What I love about this photograph is the simple background, punctuated by tiny tufts of grasses, and the tidal line that curves around the right edge. Wyndham, Western Australia.

EXAMPLE EDIT



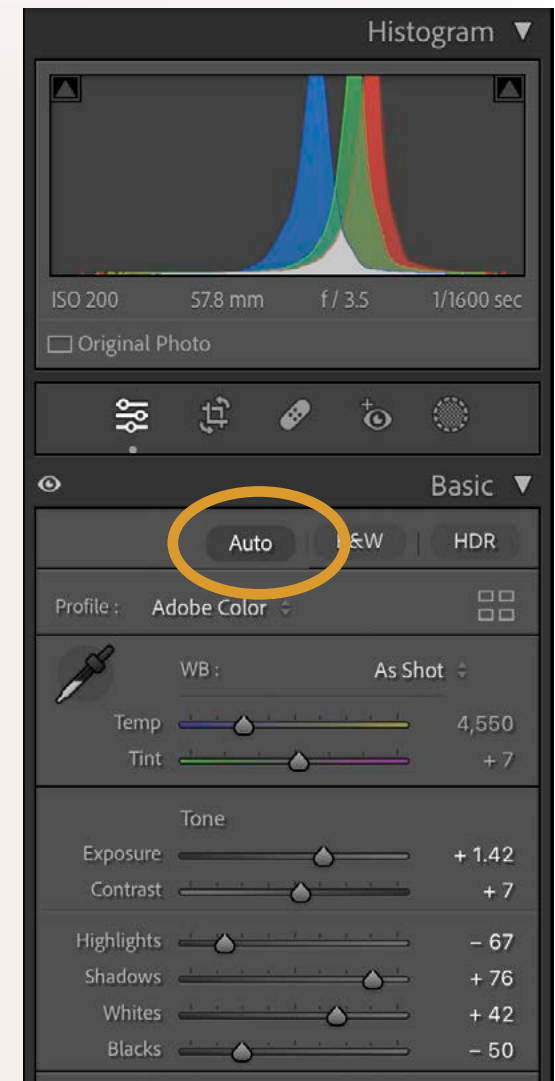


STARTING POINT

The subject is a tidal inundation that takes on the shape of a tree. The curved line on the right is where the mud has dried out around a lower, moister area. Within the raw file, you can see interesting shapes and patterns, but the colour is rather drab and sombre. However, looking more closely you can see there are differences in hue (colour) and it is these difference that will be

used to give the final result its colour appearance.

I have used Lightroom to demonstrate the technique, simply because it is the most commonly used app. However, the same 'tools' used in Lightroom are found in all editing apps, so adjust the approach to whatever software you enjoy using.



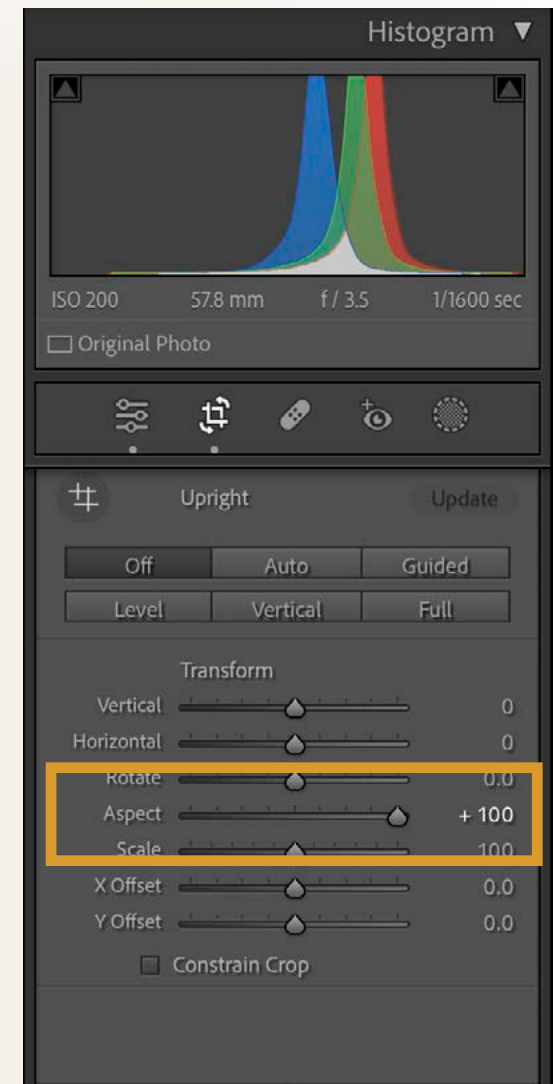
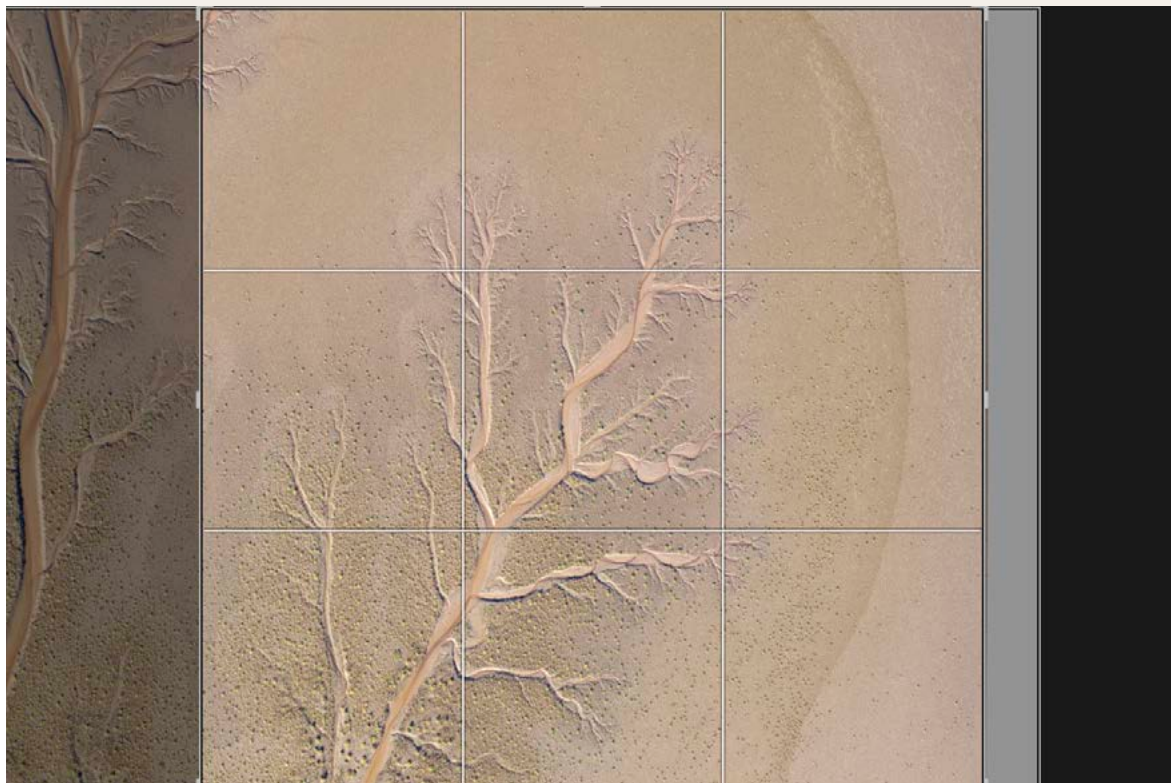
FIRST STEP - PRESS AUTO

Just as I use automatic exposure and (sometimes) autofocus, there's nothing wrong in pressing the 'Auto' exposure button in Lightroom's Basic panel. All Lightroom is doing is mathematically stretching out the values of all your pixels to fill the tonal range available – from black to white.

As the raw file was underexposed, it was a little difficult to properly assess its potential, so by lightening up the image and

setting a colour balance, I can more easily see what I am working with. The shapes, lines and structures are clearly shown.

You can also see how Lightroom has adjusted the exposure, contrast, highlights, shadows, whites, blacks and more... These are not 'creative' settings, they are nothing more than a practical starting point which can be disregarded if you wish.

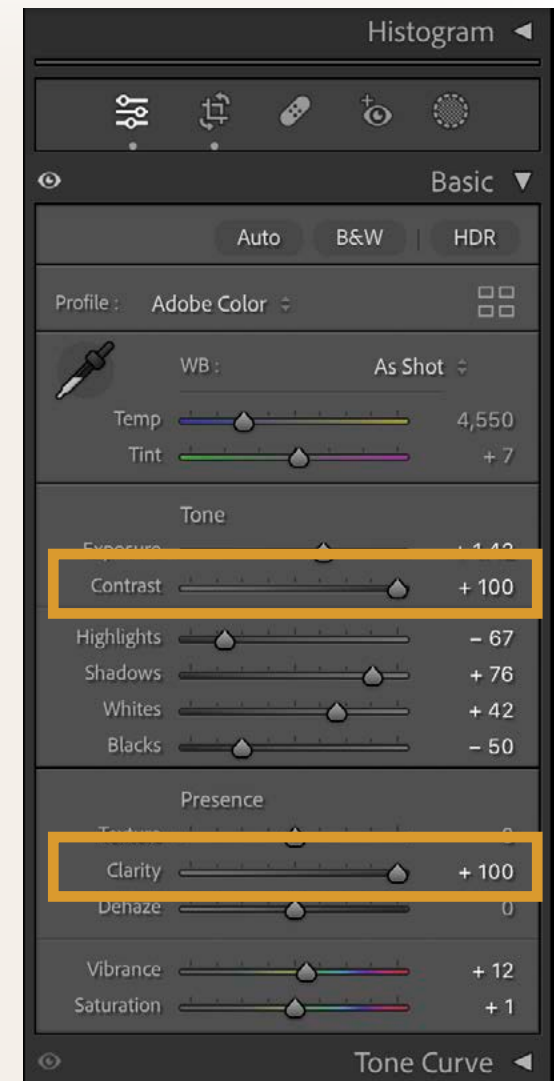


DETERMINE FRAMING, CROPPING, COMPOSITION

Square frames are popular for abstract aerials because we are giving nothing away to the viewer. A landscape or portrait frame indicates a particular orientation, whereas a square is neutral and so the viewer has more scope to interpret the image on their own.

When cropping the image square, sometimes the elements within the resulting frame don't fit properly. In this example, I couldn't include the middle 'tree' and the right-hand 'curved

line' without them being too close to the edges of the frame, so I used the Aspect slider in the Transform panel to 'squish' the image together. I find the Aspect slider very useful and most of the images in this book have been squished or stretched to some extent.



CONTRAST AND CLARITY

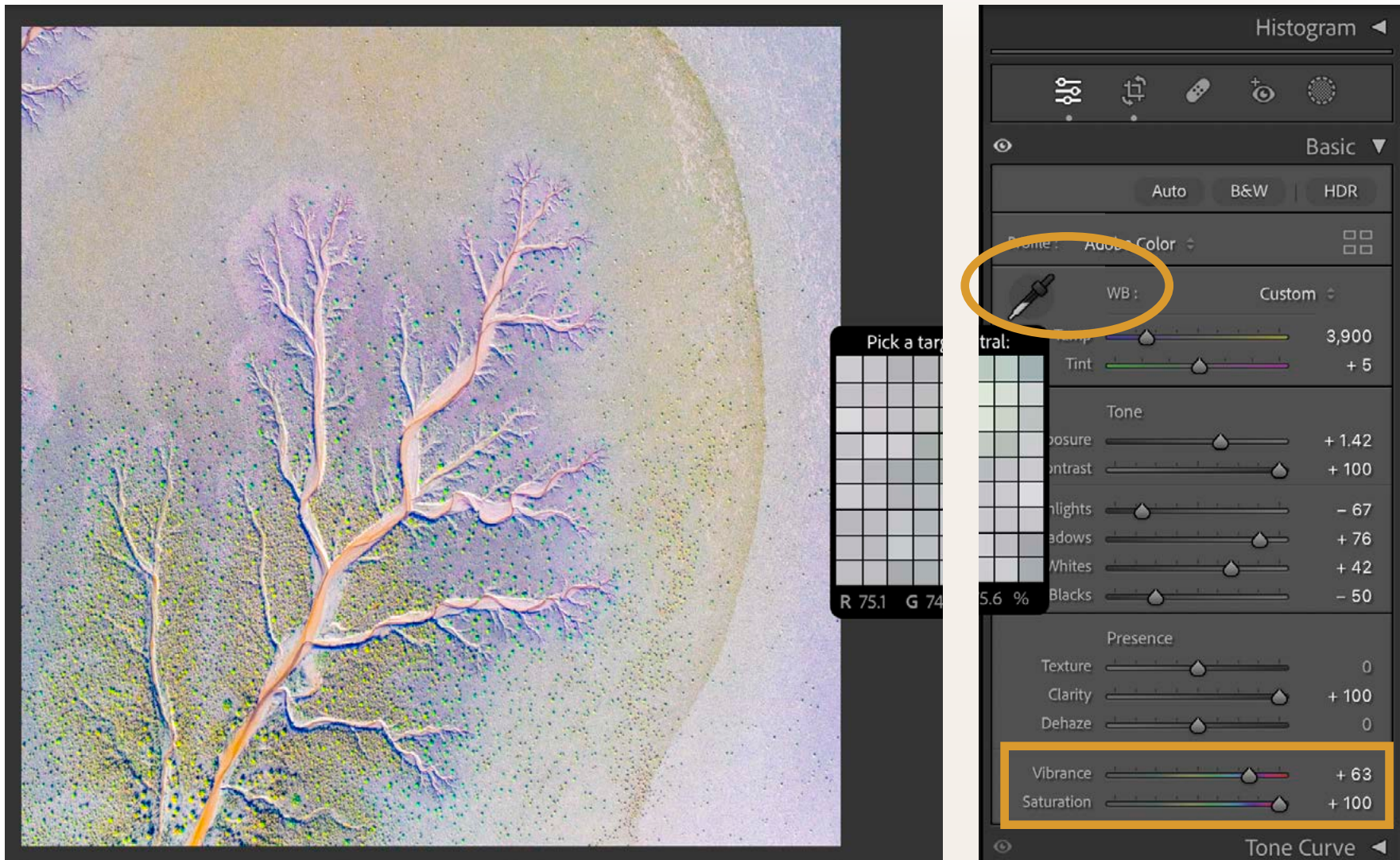
To bring out the shapes and textures of the mud flats, we need to separate the tones from one another. The two tools I use are Contrast and Clarity.

Sometimes I also use Texture and Dehaze as well and while they can have a positive impact, they can also introduce other results and artefacts (noise, contrast and colour shifts) that don't suit what I am looking for. However, they are a part of the post-

production process.

When using the sliders, don't be timid. Push the sliders as far as they go and see what happens. If the result is too strong, you can always move the slider back until you have the result you want.

As you can see, the introduction of clarity has really helped the subject to 'pop' out of the background.



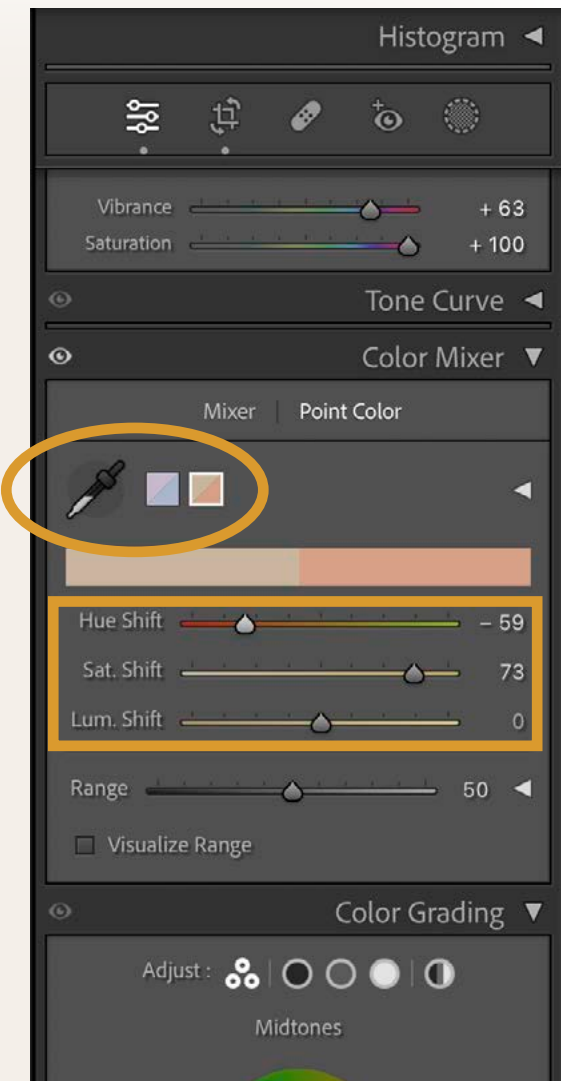
NEUTRALISE COLOURS, INCREASE SATURATION

The mud flats are a muddy brown colour, which shouldn't surprise us! One of the tricks I've found is that by setting the mud colour to a neutral grey, it cleans up the other hues in the image.

The first thing I try is the White Balance colour picker. I click on different areas of the image and see what happens. I keep experimenting until I find a result I think I can work with. I find this approach also works with coastal and mountain scenes,

remembering that I'm not after a 'true' colour balance, rather one that has impact in an abstract sense.

Sometimes I will push the colour Saturation and Vibrance sliders to the right before using the White Balance colour picker, sometimes after. It doesn't matter in which order as there will inevitably be some toing and froing until you achieve the colourfulness you want.



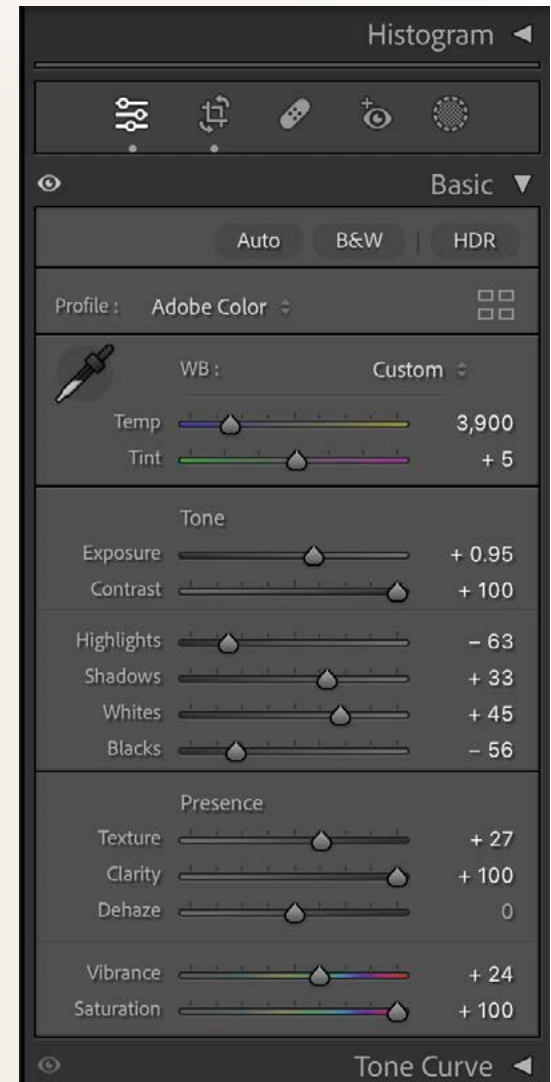
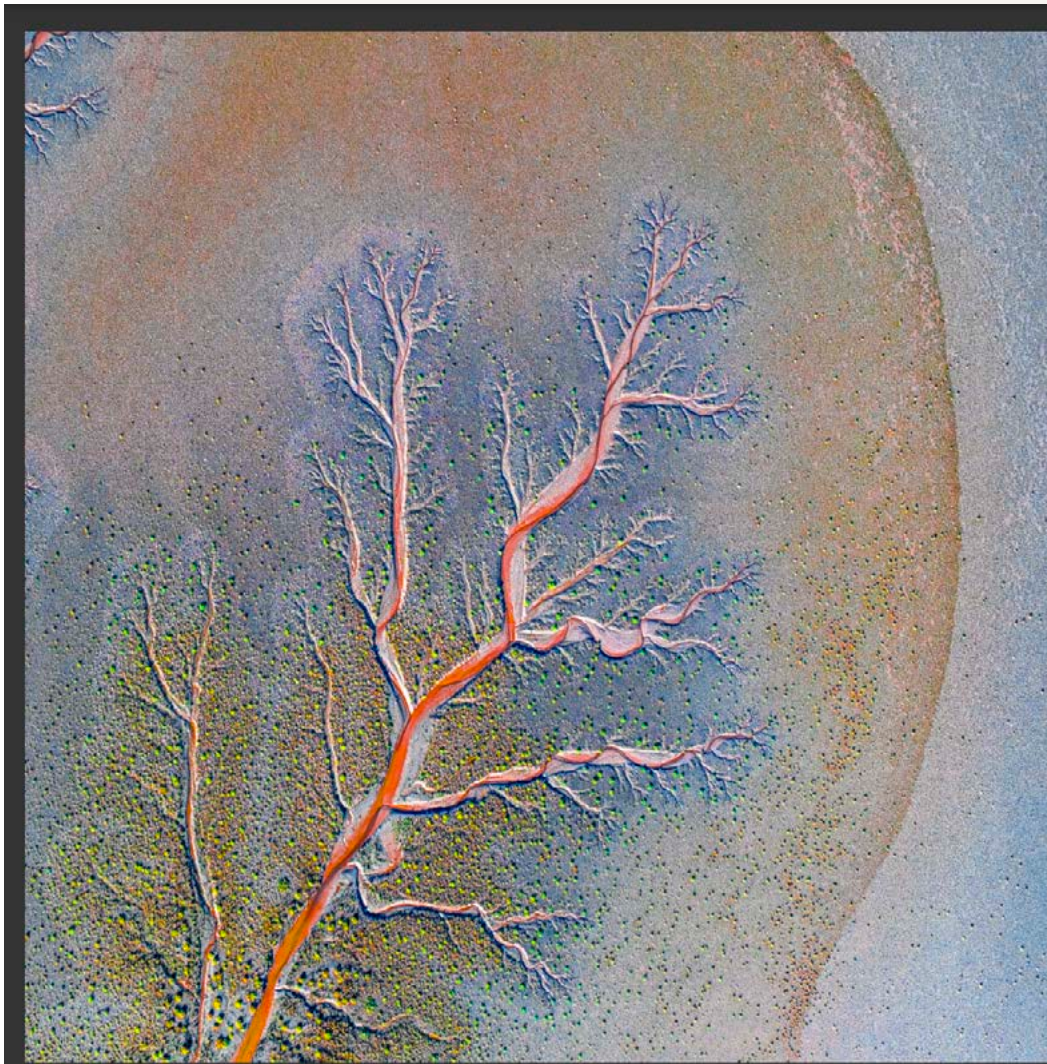
SELECTIVE COLOUR ADJUSTMENTS

Sometimes the resulting colours aren't quite to my liking. Why do I like some colours better than others? It is purely subjective, of course, perhaps based on some science and observation that artists throughout history have capitalised upon. I have researched (looked at) art and photography for many years, so I have gradually worked out what I like and what I don't.

As I look at my post-production, I will see colours that don't suit

my imagined outcome, so I can selectively change the colour's Hue, Saturation and Luminance. This is now easy to do with Lightroom's Point Color feature in the Color Mixer panel. You click on the colour in the photo you want to change and then use the sliders to change the HSL attributes.

Sometimes you might use a mask so that you are only changing the colour in a particular area.



FINISHING TOUCHES

By this stage, you have the broad brush completed and it's time to do the finishing touches.

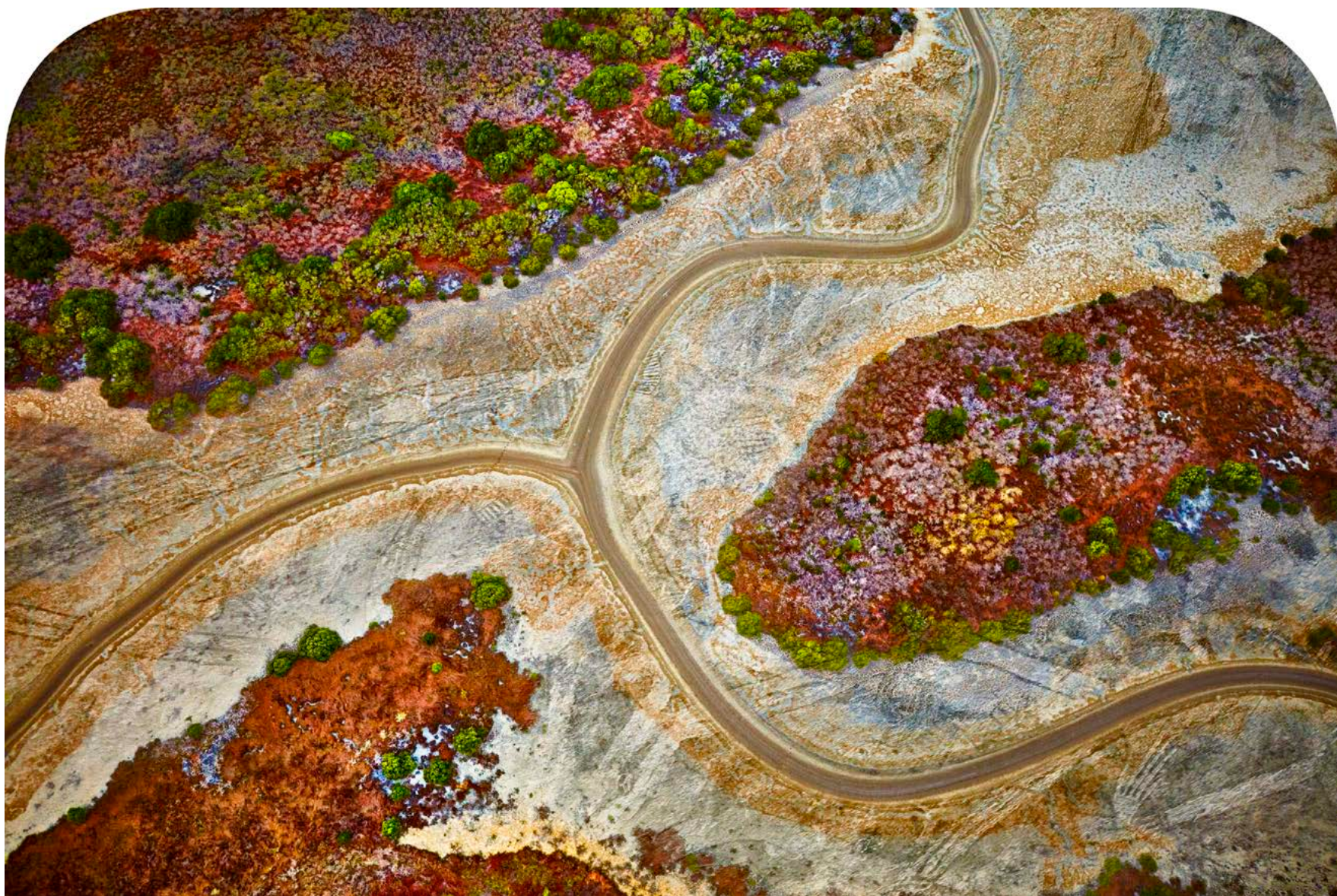
I find that I revisit a lot of the settings already made, nudging them one way or the other and observing the result. You can also find that there are distinct areas that need to be selectively edited. In this example, all the adjustments shown have been done globally – meaning to the entire image. However, I could pick out

the branches of the trees and enhance them, or select the area to the right of the curved line and darken down that area a little.

I will often take an image from Lightroom or Capture One into Photoshop and play further. In theory, there's not much I actually do in Photoshop that I couldn't do in Lightroom, but there does appear to be a difference in the thought process I use. If it helps, then do it! Afterall, this is an art practice, not a science.

PORTFOLIO PIECES

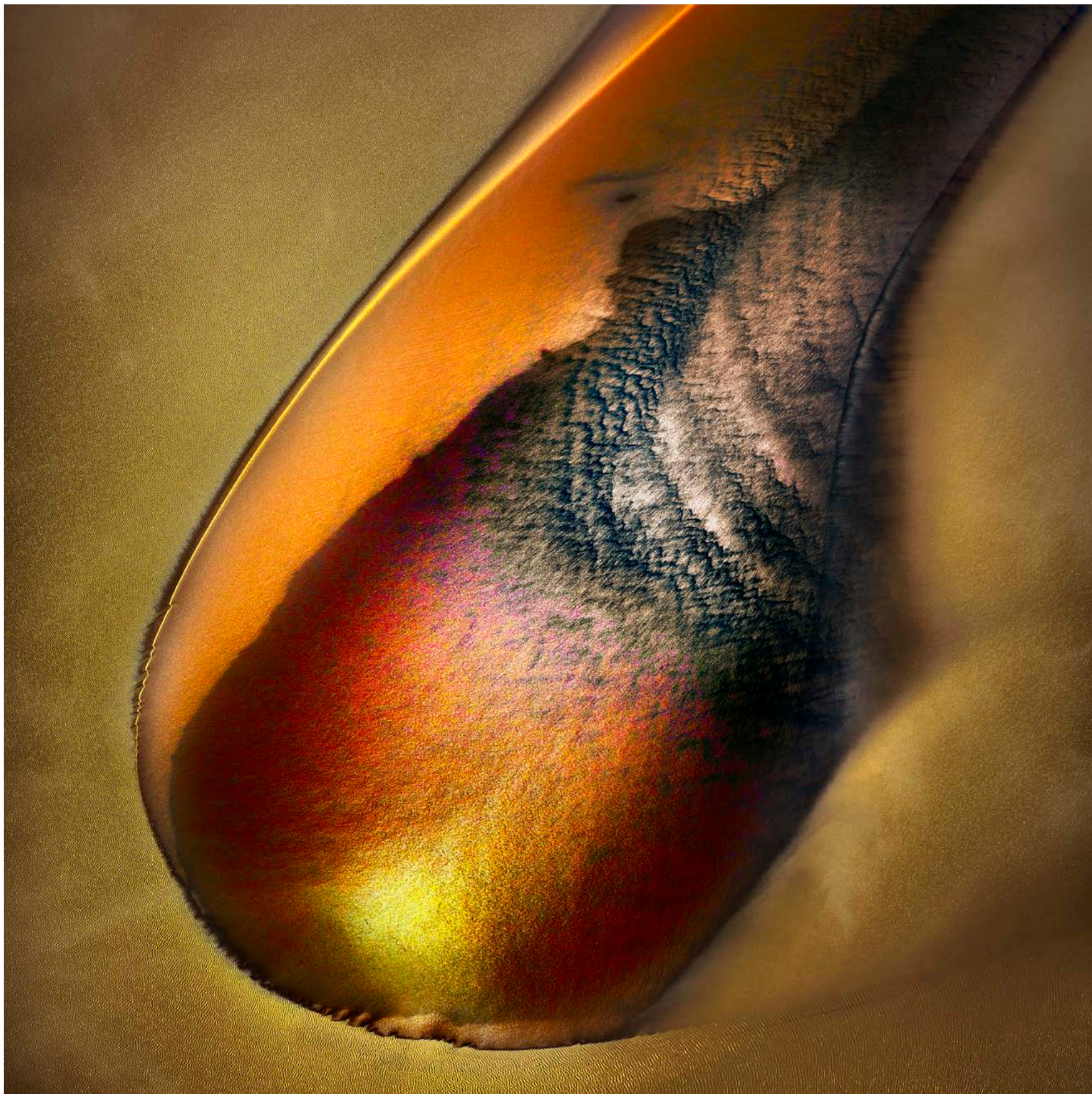
It's challenging to produce a book with a limited number of pages. In one way, it's a great discipline; in other ways, it's frustrating I can't share more of my 'favourite' aerial landscapes. So rather than calling these my 'favourites,' let's describe them as a representative selection of how I'm approaching my aerial photography – and specifically the abstract genre. This photograph is taken to the north of Darwin in Australia's Northern Territory near Mount Borradaile from a helicopter.



Off the coast north of Darwin, many meandering rivers make their way to the coast where they stretch out and disgorge into the sea. Here a tidal movement is caught inching its way inland. Nearby at Mount Borradaile, there's a luxury camp which provides access to some wonderfully preserved Aboriginal rock art – a dragon motif photographed on a rock wall was introduced into the aerial composition.



This tidal movement at Clean Skin Creek in the Northern Territory, Australia looks like a three-dimensional drop of water or oil, inching its way across the salt-water sands. The interpretation comes from the post-production.



When you're working with other photographers, it is inevitable that we all see and respond to some of the same things. I think all of us in the ND5 group photographed this tree shape. Mind you, around Wyndham, lots of shapes in the tidal muds look like tree or root patterns, but this particular structure has been present for 10 years at least and so is a popular landmark.



Lake Tyrrell, Victoria, Australia. I am guessing there are more flood events in this part of Australia than the popular Lake Eyre and that as the waters advance or recede, they leave tidal marks on the salt flats, creating the patterns you can see. Some careful use of contrast and clarity was needed to highlight the markings.



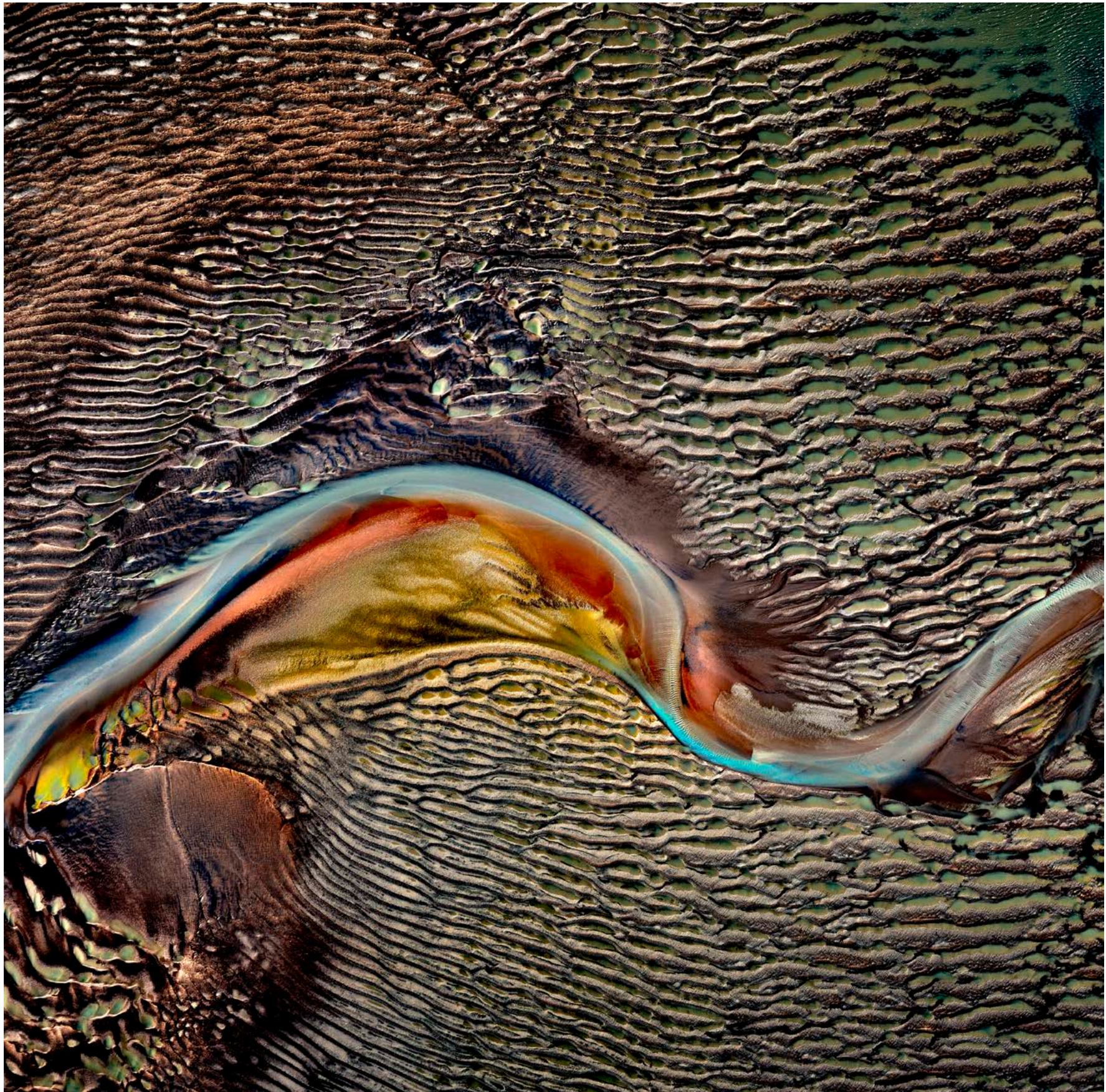
Wendover, Utah, USA. Often this area is completely dry, ideal for driving fast vehicles over the incredibly level salt flats. On our visit, there was quite a lot of shallow water around and you could see how the floods would pick up the detritus of human civilisation and deposit it ingloriously on the shallow shores.



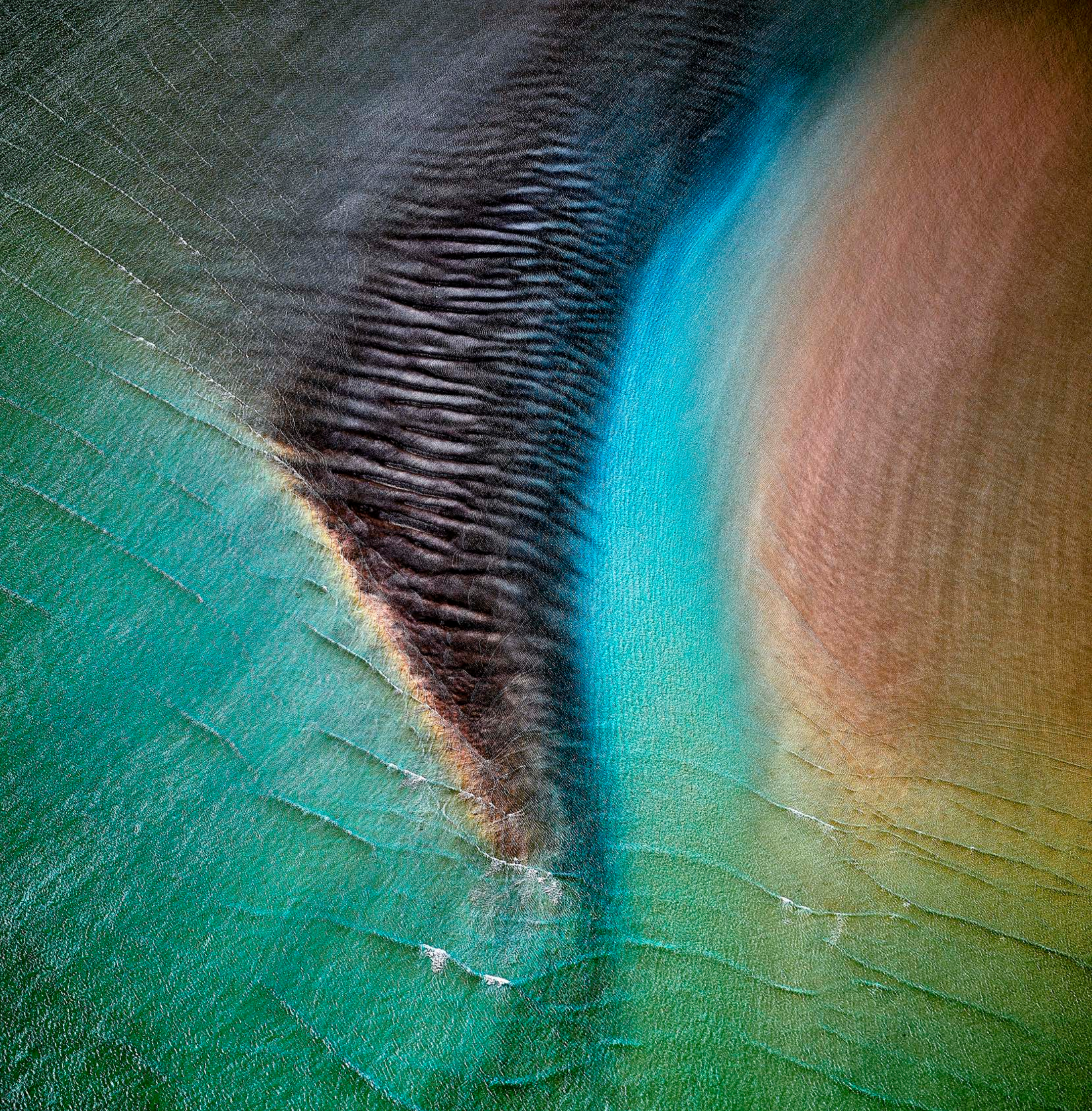
Most pattern abstracts benefit from a point of difference or an obvious centre of interest. This glacier in Iceland doesn't really have a single point for the eye to rest on, yet there is so much activity in the cracks and crevices that to my eye, I enjoy the composition's energy and movement.



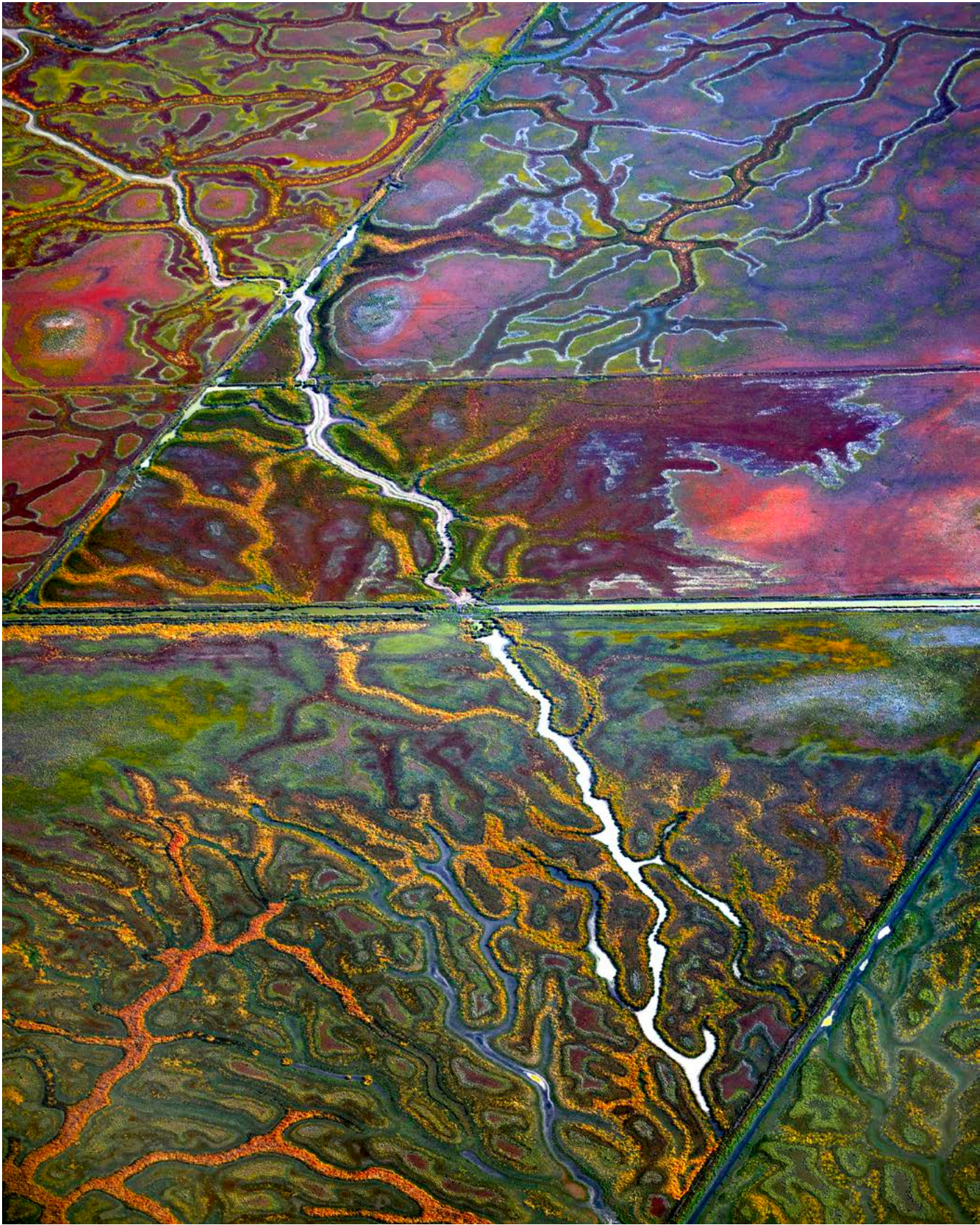
When searching for suitable locations to shoot, in some ways you're looking for quite large areas with similar characteristics – the large expanses of Lake Eyre in South Australia, the waters of Shark Bay in Western Australia, the mountains surrounding Middelhurst in New Zealand. However, once you've found the location, then you're looking for points of difference and interest – such as this 'stream' cutting through the patterned tidal sand flats in Derby, Western Australia.



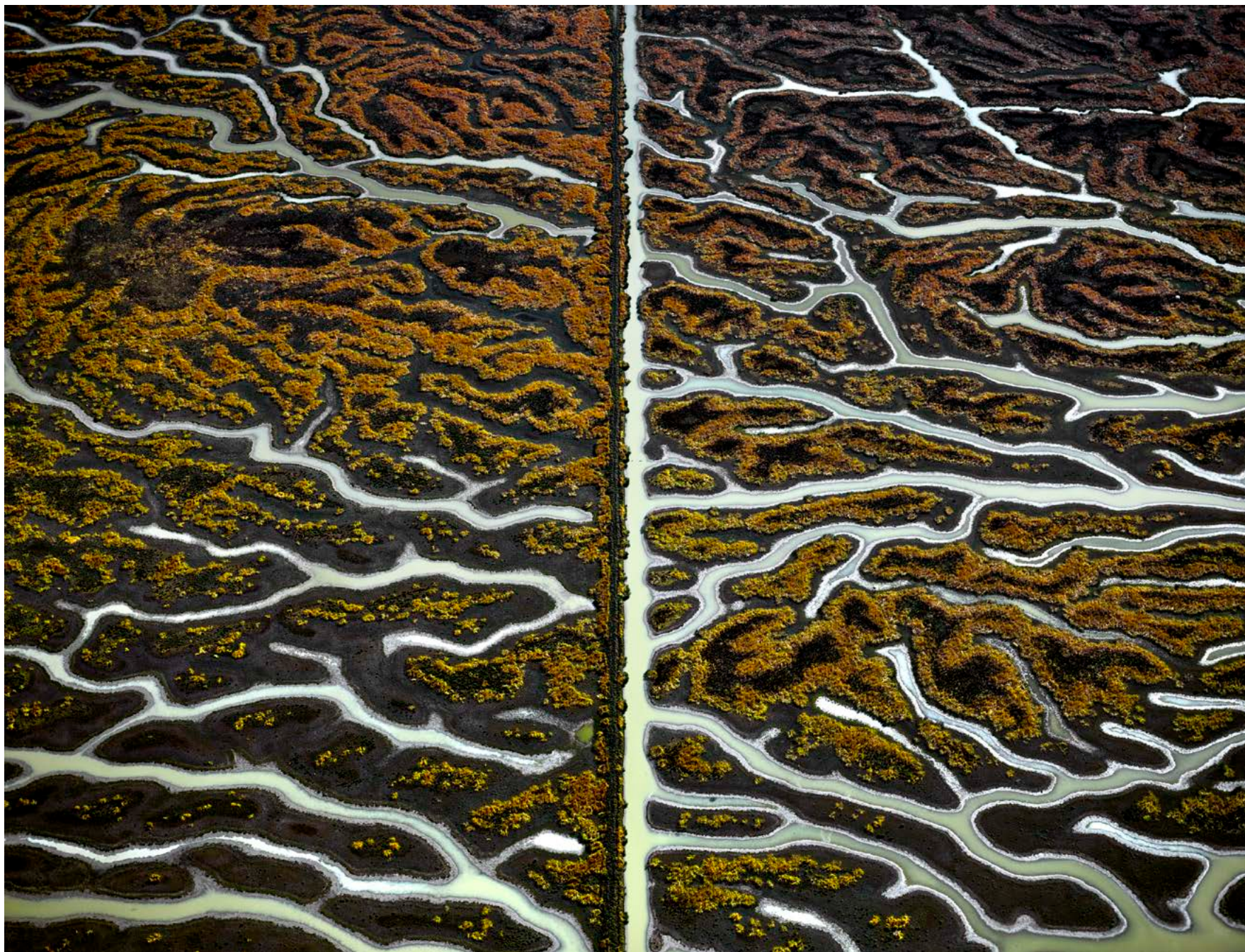
The mud flats at the end of Roebuck Bay in Broome are quite remarkable. Sitting in the hotel at the other end of the bay, there is no inkling of the remarkable shapes and patterns being sculptured by the daily churn of the tides and the occasional ocean swell.



Gayini Wetlands, New South Wales, Australia. Interestingly, the colours are all derived from what was captured in the landscape below. Don't read this to mean the colours were all there as you see them now, rather the colours you see are based on the original hues in the landscape.



The actual fence was invisible to my naked eye, but it's impact on the landscape it delineated was clear to see. This is the Gayini Wetlands in the Murrumbidgee Valley in New South Wales, Australia. The transform tools were used freely to achieve the geometric composition.



Pareidolia is rife with aerial photographers. We love finding shapes of things in the landforms we see below. Here a salt pan looks like a brain – or does it? The location is 'somewhere' between Arkaroola and Lake Eyre, where exactly I can't remember!



Lake Callabonna, South Australia. When it comes to colour, you only need small amounts to have an impact if the rest of the image is relatively colourless. Here the yellows in the coastal areas and the tiny splash of blue stand out against the drab surroundings, but for me, the composition is held together by the wonderful texture and detail.



Patience and readiness. On a long flight from Arkaroola in South Australia to Broken Hill in New South Wales, the landscape below can look quite monotonous, but keep your eye out for landforms of interest. This dam and its surroundings was like an idea in a brain. The colour of the dam water was enhanced (of course).



Lake Frome, South Australia. Even on Google Earth, you can clearly see the strangely shaped sand dunes that sit atop a brilliant white salt pan floor. A little lens flare from the rising sun has added a splash of colour and interest to the composition.



Lake Eyre, South Australia. There is usually some water somewhere, but not always. This image is photographed near William Creek at sunset, using the curve of the 'coast' to create a leading line.



Although a lot of my aerals are photographed over wilderness areas, agricultural areas are rich sources of material, especially when you're looking for geometric lines, patterns and shapes. These are paddock fences on Muller's Station, near Middlehurst, New Zealand.



Everyone should have personal favourites. I imagine this will not be every reader's first pick in this book, but it is one of mine. I like the simplicity of the diagonal lines punctuated by the clump of round trees in the valley. Middlehurst, New Zealand.



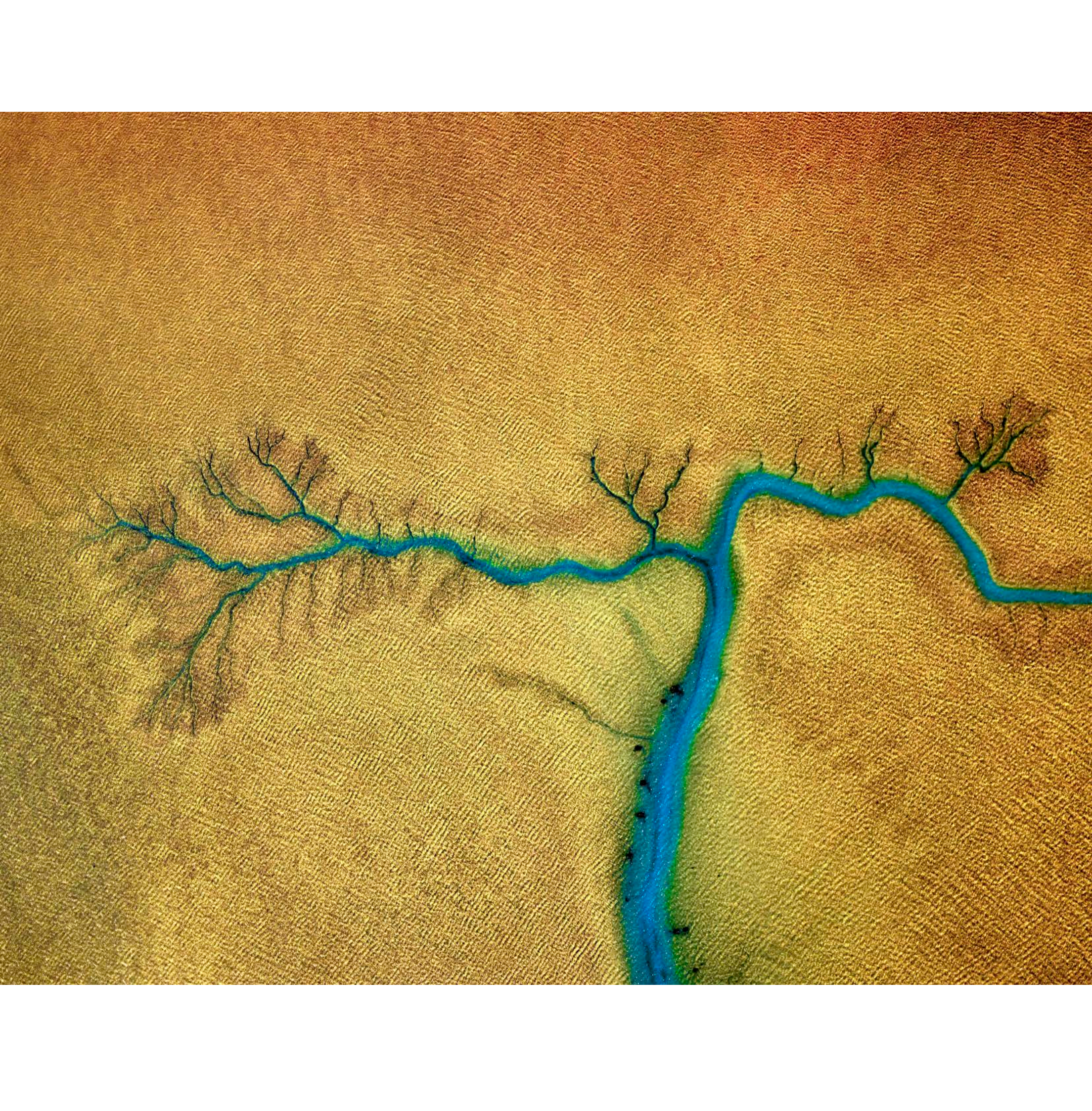
We have visited Middlehurst in New Zealand perhaps ten times and only this once were we able to fly above some localised mist. In the event of a misty morning, normally helicopters don't fly at all (so they don't run into unseen mountainsides), but on this morning, the mist was localised in the river valleys and created a wonderful opportunity. Tolkein Rock.



This image has a little more colour editing than normal, in that the flat sands have been desaturated so the yellow sand dunes with their shape and form take precedence. Southern end of Dirk Hartog Island, a particularly fruitful stretch of sand dunes.



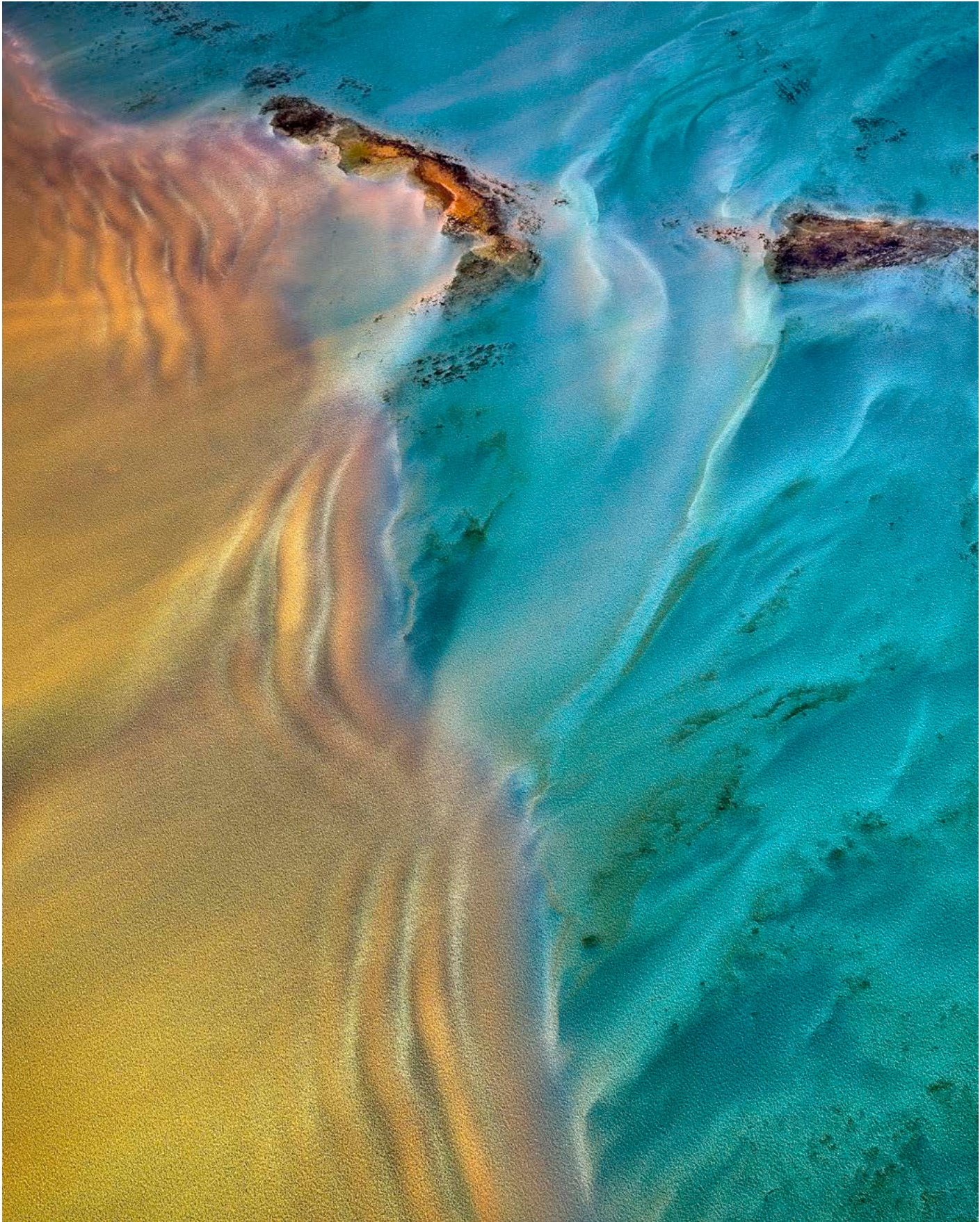
Shark Bay far shore. While there are thousands of tree branch shapes like this, sometimes the most powerful compositions are achieved by isolating just one or two structures and simplifying the subject to its essence.



Above the tidal flats at Broome, Western Australia. The shape of the sand is unchanged, but by adjusting the tone and colour of different areas, the diamond shape in the centre has been emphasised.



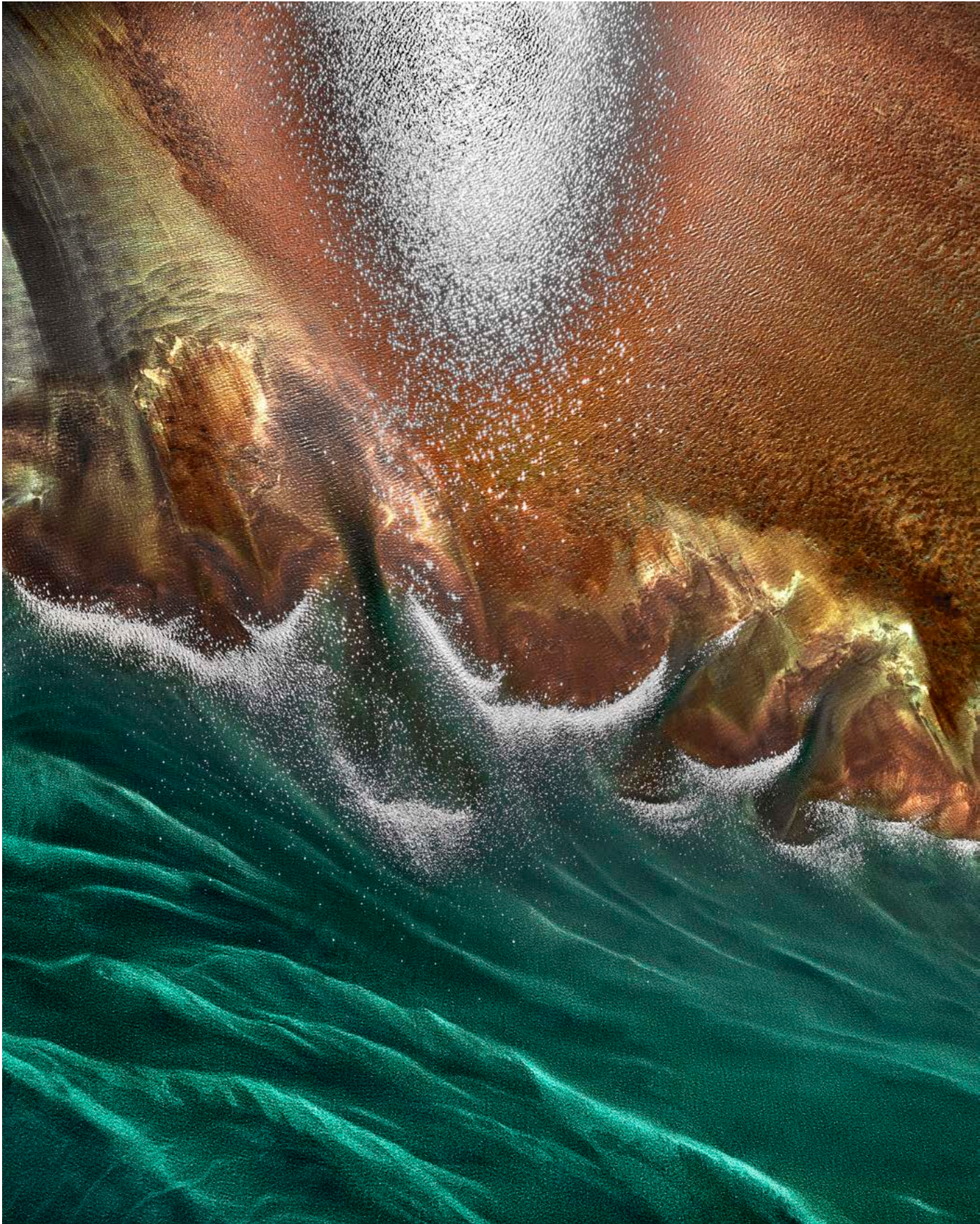
In the air, you're looking for shapes and lines which can be used to create geometric patterns in you compositions. Sometimes the line is simply a dividing partition between water and earth – or in this case, a shallow sand shoal. The small exposed sand bars at the top provide a visual resting point.



Angel wings at Shark Bay – or so they are called locally. A sand shoal lies just below the water with a hint of yellow in it, which I have used to create the stronger yellows, oranges and reds. The shape of the wings is easy to see, once you're flying over the right spot.



Shark Bay's far shore. Using the reflection of the sun as a compositional element, water texture has been retained throughout the highlights using careful post-production.



PETER EASTWAY - BIOGRAPHY

1958 Born Melbourne, Victoria
1960 Moved to Sydney, NSW
1974 First place, Northern Sydney Schools Photography Competition
1976 Joined Mosman Camera Club and met Elizabeth Lough
First place, Snap Your Cat, Whiskas pet food
photography competition
1977 Santa Claus photographer, Neutral Bay
1978 Bachelor of Economics, Sydney University
1979 First place, Goethe Institute Photographic Competition
for Young Australians

Career Highlights

1978 First photos published in Australian Photography
magazine monthly competition
First surfing photos published in
Australian Surfing World Magazine
1979 Author of article on wide-angle lenses published in
Australian Camera Craft magazine, published by Paul Curtis
1980 Became regular contributor to Australian Camera Craft Magazine
1981 Inclusion in the international Minolta Mirror (annual),
published in Japan
1982 Covered Ski World Cup in Kitzbuhel for Slope Magazine
Appointed editor of Australian Camera Craft Magazine
1983 Opera House surfing story and photographs, Tracks Magazine
1984 Appointed managing editor, Iris Publishing
1985 Joined Australian Institute of Professional Photography (AIPP)
Treasurer, NSW Division of AIPP
1986 Associate of Australian Institute of Professional Photography
AIPP Kodak Achievement Award
National Treasurer, Australian Institute of Professional
Photography, held for 10 years
1988 Ferry to Mosman book and exhibition with Paul Burrows and
Phillip Ramsden for the Australian Bicentennial Celebrations
1992 Published Profitable Photography Newsletter, the name was
changed to The Working Pro and then to the AIPP Journal –
published until 2019
1995 First issue of Better Photography magazine, published with wife
Kathie – still being published in 2024
1995 Master of Photography, AIPP
First issue of Which Camera, published until 2014
1998 Purchased Australian Surfing World magazine with Doug Lees,

Mark Eymes and John (Reggae) Elliss
2001 First issue of Better Digital magazine, co-published with Robin
Nichols, published until 2013
2004 First issue of Better Photoshop Techniques magazine, co-
published with Robin Nichols and Philip Andrews,
then published until 2013.
Surfing World shoot in the Mentawai Islands, Indonesia with
Danny Wills, Dean Morrison, Jay Thompson, Matt Wilkinson,
Mitch Coleburn, Tim Baker and Lance Knight.
2005 Chairman, Australian Professional Photography Awards,
held for six years.
2006 AIPP Grand Master of Photography
Panasonic Japan – camera range catalogue shoot
Chillfactor Magazine – Niseko shoot
2008 Adobe Lightroom – research trip with Adobe programmers in
Tasmania with Mikkel Aaland
Panasonic Japan – second camera range catalogue shoot
2009 First voyage to Antarctica, South Georgia and the Falklands
PNG shoot for Tourism PNG
2012 Apple uses iceberg photograph for Macbook Pro TV commercial
2012 Phase One – produced Capture One 6 instructional video
series in Denmark
2006 Dairy Australia book project with Ken Duncan
2010 The Pilbara Project with Christian Fletcher, Les Walkling, Tony
Hewitt and Michael Fletcher. The genesis of the Ninety Degrees
Five (ND5) collective.
2012 Australian postage stamp – Farming Australia series
2014 Introduced International Landscape Photographer of the Year
Awards with David Evans and Nathan Oxley
2015 Antarctica shoot with Abraham Joffe for Tales By Light television
series, in partnership with Canon, Nat Geo Channel and
(subsequently) Netflix.

Selected Presentations and Tours

1995 Business Planning for Professional Photographers with Kodak
(Australian capitals)
Co-leader of photo tour to Namibia with Ruby Spowart
2000 AIPP – GST workshops for professional photographers
(Australian capitals)
2005 Speaker, Orvieto Fotografica
New Zealand, NZIPP

2006	Speaker and judge, Wedding Portrait Photographers International (WPPI), Las Vegas, USA
2007	Speaker and judge, Wedding Portrait Photographers International (WPPI), Las Vegas, USA Speaker and judge, NZIPP, Auckland, NZ Lecture tour for Phase One to Hong Kong, Korea and Singapore
2008	Speaker and judge, Wedding Portrait Photographers International (WPPI), Las Vegas, USA
2009	Speaker, FotoFest, Birmingham, UK Speaker and judge, NZIPP, Wellington, NZ Hamilton Island Away photography workshop with David Oliver (annually until 2016). Orpheus Island Print workshop with Les Walkling and John de Rooy
2010	Leader, Karijini Photo Workshop with Christian Fletcher and Tony Hewitt (annually until 2016)
2010	Leader, Central Australia PODAS (Phase One Digital Artist Series) photo tour
2011	Workshop and photo tours around the world become a regular part of calendar

Exhibitions

1979	Photography for Living With, Cave Group, Printers Gallery, Crows Nest, Sydney, NSW Goethe Institute Travelling Exhibition, West Germany
1981	Festival of Sydney Photography, A Creative Approach, NSW
1988	Ferry To Mosman - Australian BiCentennial Celebration, Mosman with Paul Burrows and Phillip Ramsden
2003	Away - exhibition and book with David Oliver, Gallery Xposure, Rozelle, NSW
2004	Spirit exhibition, Neutral Bay, NSW with Joanne Felk, Tania Niwa and David Oliver
2011	Rockhopper, Gaffa Gallery, Sydney The Pilbara Project, FORM Gallery, Perth, The Pilbara Project, Courthouse Gallery, Port Hedland
2012	The Pilbara Project: The Photographers' Cut, Midlands, Perth The Pilbara Project, Sofitel Hotel, Melbourne ND5 Travel Expo, Exhibition Halls, Perth The Pilbara Project, Oz Fest, New Delhi, India South West Light, Yallingup Gallery, Yallingup
2013	At The Edge of the Light, Australian High Commission, Wellington, New Zealand

2014	At The Edge of the Light, WPPI Exhibition, Las Vegas, USA At The Edge of the Light, The Digital Show, Melbourne 2016 Shark Bay - Inscription, Lynton & Kay Gallery, Perth 2016 Shark Bay - Inscription, Maud Creative Gallery, Brisbane At The Edge of the Light, Millenium Public Art Gallery, Blenheim, New Zealand
2015	North + East, Maud Creative Gallery, Brisbane Earth Matters, Monash Gallery, Melbourne
2016	2016 Shark Bay - Inscription, Denham, W.A.

Major Awards

1995	NSW AIPP Professional Photographer of the Year
1995	AIPP Australian Landscape Photographer of the Year
1996	NSW AIPP Professional Photographer of the Year
1996	AIPP Australian Landscape Photographer of the Year
1996	AIPP Australian Professional Photographer of the Year
1998	AIPP Australian Landscape Photographer of the Year
1998	AIPP Australian Professional Photographer of the Year
2004	NSW AIPP Professional Photographer of the Year
2004	AIPP Australian Illustrative Photographer of the Year
2005	Grand Award, WPPI, Commercial Category
2007	New Zealand Overseas Photographer of the Year
2008	Grand Award, WPPI, Commercial Category
2009	1st, 2nd, 3rd Landscape Category, WPPI, Commercial Category
2009	Kodak Award of Distinction, WPPI
2010	Finalist, International Section, FEP European Professional Photographer of the Year Awards
2010	1st Place, SWPP and BPPA, Natural World Category, UK
2010	NSW AIPP Landscape Photographer of the Year
2010	NSW AIPP Commercial Photographer of the Year
2010	NSW AIPP Professional Photographer of the Year
2011	Finalist, FEP European Fine Art Photograph of the Year
2013	NSW Landscape Photographer of the Year
2018	AIPP Photography Book of the Year (Middlehurst – Middle Earth)
2019	NSW AIPP Professional Photographer of the Year
2019	AIPP Australian Professional Nature Photographer of the Year
2023	Aerial Award, Natural Landscape Photography Awards

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<https://www.betterphotography.com/online-shop/new-trad-book>



PETER EASTWAY

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On Photography: Methods and Fables



