



The Better Guide

PHOTOGRAPHY & FILMING IN ANTARCTICA & MACQUARIE ISLAND



Australian Government
Department of Climate Change, Energy,
the Environment and Water
Australian Antarctic Division



AUSTRALIAN
ANTARCTIC
PROGRAM



Welcome to...

The Better Guide

Digital Photography + Filming Down South

This guide has been specifically prepared for you,
the Australian Antarctic Expeditioner.

Taking **good** shots in Antarctica is easy;
taking **GREAT** shots can sometimes take
a little bit more time, talent and careful preparation.

Whether you're a beginner or a pro,
we hope the tips and tricks included here
help you capture your trip south.

If you require further information, please contact:

production@aad.gov.au

...snaps

EQUIPMENT

Everyone is different, but if you're interested in photography this a good general guide of what camera gear you might need:

- 2x DSLR camera bodies
- 1x handy compact camera
- Wide angle lens
- Telephoto lens
- External flash
- Tripod
- Photo backpack (best with a plastic cover)
- Memory cards and external hard drives
- Batteries
- Sensor cleaning kit
- Plastic zip lock bags and rubber bands

It's strongly recommended that you take spare/back-up equipment in case your standard equipment doesn't function as expected in the cold.

Camera Bodies

It's always a good idea for photographers in remote areas to take two compatible camera bodies. That way you've got a spare in case anything happens to your main camera. It's not unheard of for an expeditioner to drop their camera within the first week and have to go without or borrow one for the rest of the season, so if you can, have a backup. Another good reason for having two DSLRs is so you don't have to swap and change lenses all the time when you're out in the field. One camera can have a wide angle and the other the telephoto lens.

Compacts

The best shots will **ALWAYS** occur without warning, so keep a handy compact camera with you at all times! An alternative to a compact camera is to use your smartphone's camera, however the battery drains quickly and it's usually a lot more expensive than a basic compact. Water/weatherproof cameras have varying results, but the Antarctic environment really pushes them to the limit.

Lenses

As the environment in Antarctica is **BIG**, you'll need a wide angle lens to capture it at its best. Some photographers take several (ie 16-35mm, 20mm and perhaps a 15mm fish eye lens).

For wildlife photography, probably the most useful lens is a 70-210mm, as you can safely get up close to the animals without disturbing them (see the back of this booklet for approach distances). If there is a need for additional reach or to isolate a particular animal, a 300mm telephoto or an extender on the 70-210mm can also be handy.

Don't forget the smaller details – an ice crystal on a window or a cluster of bubbles in a frozen melt lake can be just as spectacular as a huge iceberg so consider bringing along a macro lens too – ie 100mm.



Flashes

It's not a good idea to use a flash when photographing wildlife, it could disturb the animal and it doesn't reach very far. Instead use longer exposures and a tripod. Social occasions on station, or photographing people, may require some fill flash.

Filters

A UV filter eliminates invisible ultraviolet light, producing pictures with higher contrast. The filter removes the blue cast from images taken in very bright sunny conditions. We highly recommend leaving this filter on at all times as a lens protector.

A polarising filter will reduce glare on the water, help saturate colours and sometimes even remove, unwanted reflections from your image. Mostly polarisers are used to make blue skies bluer and clouds stand out in a dramatic fashion. Though a polariser is handy, it's not recommended that you keep it on your lens all the time as it can result in an unrealistic look to your photos.

Neutral density (ND) filters are useful if you are shooting or filming on the ice and in very bright conditions. ND filters reduce the amount of transmitted light without affecting colour balance. They are especially useful when you want to control aperture or shutter speed in brightly lit situations. As a general rule, if it's bright enough to wear sunglasses, protect your lens.

Drones

There are strict rules and guidelines that apply to the use of drones in the Australian Antarctic Territory. For further information regarding these guidelines please contact your Station Leader or email eia@aad.gov.au prior to operating your device.



Tripod/Monopod

Older style tripods that operate without liquid lubricants cope better in cold conditions than the newer oil filled hydrostatic ball heads. Your tripod needs to easily carry the weight of your camera body and lens, be heavy enough to remain stable in windy conditions and light enough to carry around. Finding a happy medium can sometimes take a bit of time.

A table-top tripod is another useful addition to your kit bag. This provides a stable shooting platform that you can use anywhere; whether on top of a weathered rocky moraine or balanced on your survival pack when out in the field. It will do wonders to stabilise your shots and will help you get shots lower to the ground without spending your time lying in penguin guano.

On the ship, some photographers find on the ship, the constant rocking doesn't allow for the use of tripod (especially if you want a level horizon), a monopod is much more flexible in this situation. To save space in your bag, there are tripods available with a removable leg to transform into a monopod.

Backpack

A good camera backpack is the most versatile way to carry your gear. Those that have a plastic cover are great for preventing blowing snow from damaging your camera bag and equipment. If you have a lot of gear, a pelican case is good for bumpy rides in Hagglunds or on quads. If carrying equipment in a bag or backpack, a plastic or all-weather cover is good to protect gear from blowing snow. A bum bag is also unfashionably handy. You can usually fit in a lens and some batteries, keeping them close to your skin and nice and warm.

Batteries

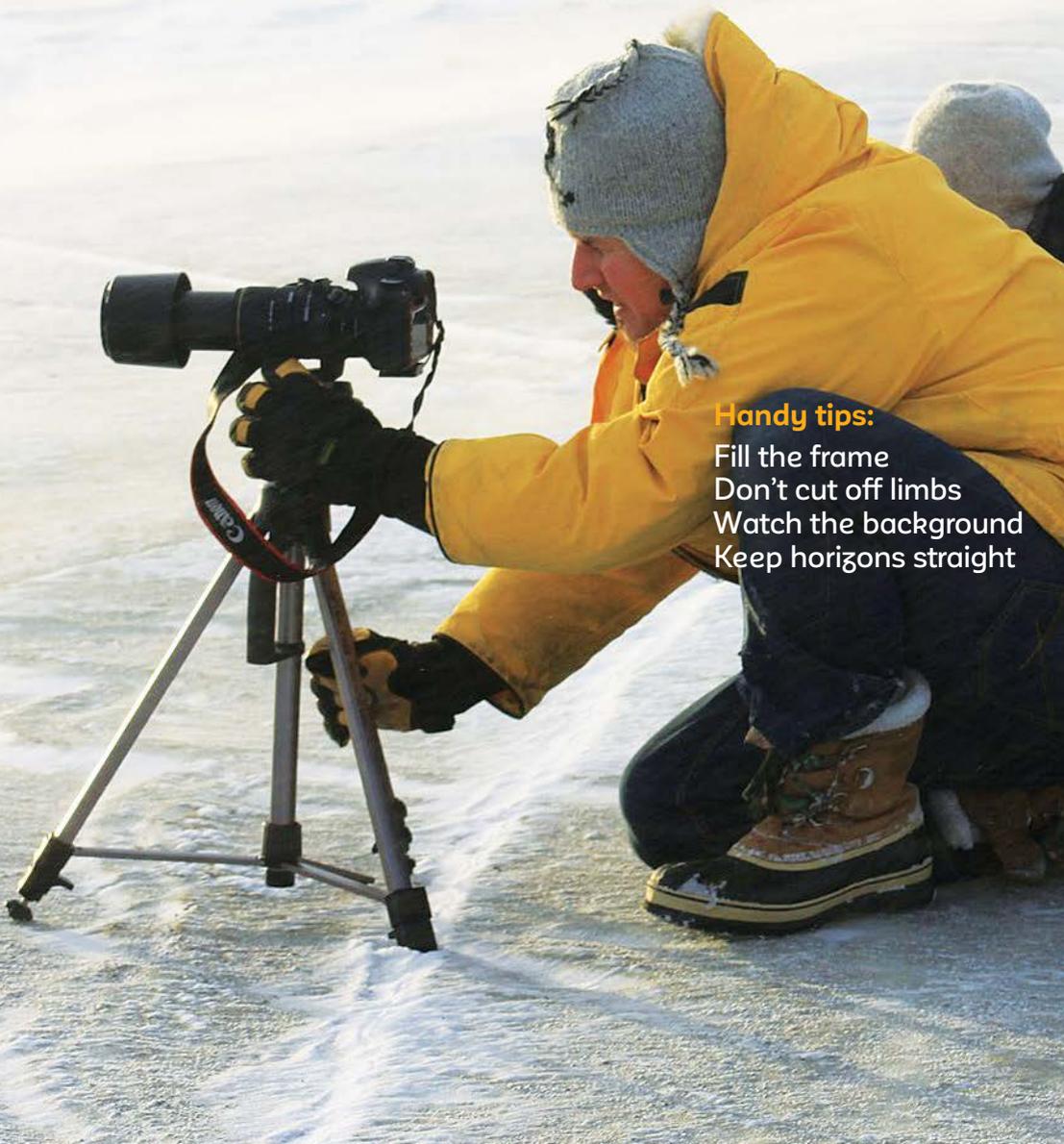
The outside temperatures in Antarctica can regularly dip to -30 degrees Celsius, and at these temperatures, most camera batteries go dead in around 10-20 minutes. Some magnesium alloy camera bodies will act like a giant heat sink and be constantly very cold to the touch. To maximise the operating time of your camera, always carry spare batteries close to your skin to keep them warm, and in extreme cases you might want to use chemically activated hand warmers in the camera case to generate heat. Lithium batteries or rechargeable nickel-cadmium batteries tend to work better and last longer than alkaline batteries in cold climates.

Dust

Due to the dryness of the Antarctic air, static electricity is a big issue that increases the amount of dust that can get attached to your camera's sensor. Try to minimise the number of lens changes, as the instant a lens is removed dust is introduced into the system. For this reason alone, a good quality sensor cleaning kit is a must.

Handy tips:

- Fill the frame
- Don't cut off limbs
- Watch the background
- Keep horizons straight



Handy tip:

Use an old wind-proof balaclava over your camera to help minimise heat loss and shield it from the constant cold winds!



KEEPING THINGS WARM AND DRY

Modern day cameras are dependent on electronics to make them work, this makes them very intolerant of any moisture. When you're finished taking photos outside in very cold temperatures and you move inside to a warm building, the internal air has a higher level of relative humidity. When the humid air comes into contact with cold surfaces, such as your camera or lens, it forms condensation on both the outside and inside of the equipment. **The best way to prevent condensation is to let the camera equipment warm up slowly.**

Before entering a warm room with a cold camera, **place the camera and lenses into a zip lock bag** (squeeze the air out, and seal the bag tightly). Allow the equipment to warm up to room temperature slowly (an hour or two) before removing it from the bag. The colder it is outside, the more important this routine becomes. **If you have a lot of gear, use really large ziplock bags. Your camera will THANK you!**

Keeping your equipment warm will provide more reliable operation and better photographic results. Plastic, metal and glass all shrink at different rates when exposed to cold conditions. In bitter cold, O-rings shrivel, lubricants in cameras and tripods seize up, LCD screens freeze and everything is brittle and fragile. Lenses that use composite materials, for instance, don't cope well in extremely cold environments.

Whenever possible carry batteries, cameras, lenses, and other accessories under your clothing, where they will stay warm and be protected from the wind. Don't have equipment out in the cold longer than necessary. Be careful not to breathe on your equipment, because your breath will form a layer of frost.

You'll probably want to pack some waterproofing equipment such as a drybag for shooting in bad weather, or around salty spray. Take a ziplock bag, poke a hole in one end and wrap an elastic band around the lens, and that does the trick to protect your camera and lens.

A wet camera is a broken camera.

TECHNICAL TIPS

Quality of Light

The daylight hours in Antarctica over the summer months (November to March) are very long and bright. The winter months are generally filled with overcast days intermittently pierced with days of brilliant sunshine and clear skies. Although it doesn't have to be completely sunny to take great photographs; when the light gets dull, so will your images.

Due to the large amounts of snow and ice, the exposure metres in cameras think that the light levels are very high. As a result, cameras can shoot very dark or grey pictures. Some photographers recommend as a rule you should over-expose in order to show detail in the landscape.

Simply set your exposure to somewhere between +0.5 and +1 which will expose your photos a little bit more and compensate for the varying light levels.

How much to over-expose depends on how much ice or snow there is in your shot and how dark the rest of the picture is. You will need to experiment with the exposure of your shots, depending on the ambient brightness, how much of the scene is snow and ice and how you intend to process your images.

If you use a DSLR, shoot in RAW and the exposure problem can be corrected in the editing process, because it's easy to adjust exposure levels as part of the file conversion process without losing image quality shooting JPGs is more risky.

If you need details in the dark areas, try a graduated medium density filter to darken the bright area, or use fill flash to brighten up the dark area. Of course not all snow scenes are created equal so bracketing is a must for critical work. The aim should always be to expose your photos so that the bright objects retain detail.

Practice makes perfect and it's always a good idea to regularly review your images to ensure you are happy with your results and the settings that you are using.





HANDY TIP:

If you have a compact or an entry level DSLR, there will most likely be a great Winter/Snow exposure setting.



Histograms

A Histogram is a graph that displays where all of the brightness levels contained in the scene are found, from the darkest to the lightest. In most real world situations there is no such thing as a “perfect” exposure. There is simply one that places the tonal values found in the scene most appropriately within the capability range of the camera’s imaging chip. “Most appropriately” means that the mid-tones found in the image fall roughly half way between the darkest and the brightest values. This is where a Histogram becomes such a valuable visual tool.

You should aim to bias your exposures so that the histogram is nestled up to the right, but not to the point that the highlights are blown. This can usually be seen by the flashing alert on most camera review screens. Now when you look at the RAW file in your favourite RAW processing software, the image will likely appear to be too light. Use the available sliders to change the brightness level and contrast so that the data is spread out appropriately and the image looks “right”.

RAW files and Workflow (for the more serious snapper)

A RAW file is like a digital negative. It contains all of the information that the camera's chip was able to record without any processing. All of the camera's settings for white balance, sharpness, colour temperature etc are irrelevant if you shoot in RAW mode. The reason for this is that you will be able to control these after the fact, either in your RAW processing software or Photoshop.

You'll find that RAW files are quite a bit larger than JPEGs which are usually compressed. For example, a Canon 5D produces a 12MB RAW file, but this expands to a 72MB (16 Bit) TIFF file when converted.

After downloading the RAW files from your card reader to your computer, it's a good idea to make a copy on an external hard drive (or even two) as an archive copy, you can then set about reviewing the RAW files in your photo editing program. The RAW converter is the place to make basic adjustments; and then export them to Photoshop for further refinement.

RAW files will chew up a lot of memory space, so if you're not super serious about photography and don't need huge file sizes, set your camera to shoot in a more easily manageable JPEG or TIFF file format. You'll still have a great pic, it's just a compressed version.

Handy tip:

Learn to control your breathing as you place your eye against the camera. If you breath at the wrong time, you'll find that the view finder freezes over and you won't be able to see through it.

COMPOSITION

The rule of thirds

The rule of thirds is one of the most useful composition techniques in photography. It's an important concept to learn as it can be used to produce images which are more engaging and better balanced.

The rule of thirds makes use of a natural tendency for the human eye to be drawn toward certain parts of an image. As a photographer, it is your way of making sure the viewer focuses on what you want them to. An off-centre composition is more pleasing to the eye and looks more natural than one where the subject is placed right in the middle of the frame. It also encourages you to make creative use of negative space, the empty areas around your subject. When framing a photo, imagine the scene divided up as below.

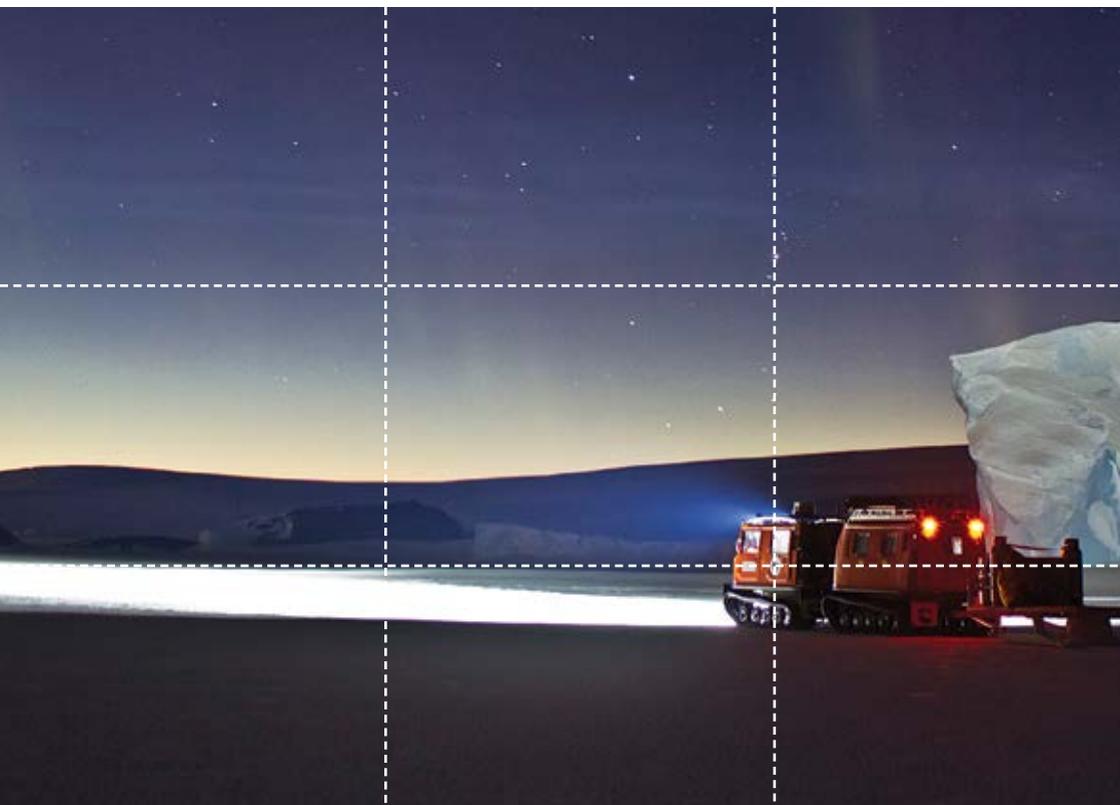


Think about what elements of the photo are most important, and try to position them at or near the lines and intersections of the grid. They don't have to be perfectly lined up as long as they're close.

Some cameras have a setting which overlays a rule of thirds grid onto your viewfinder. This removes all guesswork and helps you get your positioning even more accurate. It's a good idea to position people off to one side of the frame. This provides some space, shows the subject's environment, and stops the photo from looking like a mugshot.

We are naturally drawn to people's eyes. Place them at one of the intersections on the rule of thirds grid to give the shot a clear focal point. When photographing moving subjects, position them as normal, but also pay attention to the direction they're moving. You should leave more space in front of them than behind, to show where they're going.

Images: Justin Chambers



Horizons and lines

KEEP THEM STRAIGHT

One of the biggest mistakes in photography, and a way to easily ruin an image is a case of crooked horizons or badly aligned lines. It's okay when an image is tilted intentionally to create an interesting composition, tilting horizons and lines in your shots can produce stunning results, but otherwise **KEEP THEM STRAIGHT!** Try and do this while taking the shot and don't leave for post-processing because if you have a tight frame, cropping and straightening will reduce the image size and you might lose key parts of your photo.

Most pictures also look better if the horizon is positioned above or below the middle of the frame, not directly in the center of the image. The exception is when shooting a reflection. In this case, having the horizon in the center can work well because it creates equal elements at the top and bottom.

Eye level photography

You are probably going to see so much wildlife that finding an interesting way to photograph them will not be difficult. When photographing wildlife **shoot at their eye level and not downwards.** Eye-to-eye gives a much more appealing and natural photograph. Getting as low as you can and placing them against the background works well. Most people use a long lens to accomplish this but if you are patient enough and let the wildlife come to you, then you are able to use your wide lens and capture more of the surrounding area to give a greater sense of place. When photographing people and animals it's best to have them looking into the frame. Remember the wildlife distances that are at the end of this booklet.

A tripod will come in handy in case you're waiting for quite a time. And a micro-tripod if you want to get down really low.

Handy tip:

When operating in sub-zero temperatures, your face may stick to any metal parts of your camera when you look through the viewfinder. A simple solution is to cover these parts of your camera with gaffer or electrical tape.

Patterns + Textures

Subjects with repetitive patterns can make for beautiful and interesting photographs! Patterns that are found in nature, or are man-made can give your image a strong composition. Ice patterns on windows, ice bubbles in frozen lakes, a section of an old hut and so on.

Show scale

Large icebergs and massive land formations show a sense of scale and can really give the viewer a feel for what it is like to be there. By placing IRBs, people or wildlife in the frame it will help to translate the sheer size of the environment you are in.

HOW TO TAKE THE PERFECT AURORA SHOT

Everyone has their own method for shooting an aurora, but ex-Mawson expeditioner, **James Chappell** has this advice.

Photo in front of Rumdoodle hut,
near Mawson research station by James Chappell
Nikon D3200
Lens: Tokina 11-16mm f/2.8. Focal Length 11 mm
Aperture: f/2.8
Shutter speed: 25 seconds
ISO: 200

To get the perfect aurora shot, the general principle is that you need to get as much light hitting your camera sensor for as long as possible (because it will be dark), while keeping your camera very still. A camera with a manual mode is required, so that aperture, shutter speed and ISO can be adjusted.

Aperture (f/stop)

This is a measure of the size of the hole through which light passes to the camera's sensor (where the image is recorded). A smaller number equates to a bigger hole and thus more light hitting the sensor. I use a lens with a maximum aperture of $f/2.8$ and then manually set my aperture to this. Confusion often surrounds the $f/stop$ and this sequence of seemingly random numbers ($f/2$, $f/2.8$, $f/4$, $f/5.6$, $f/8$, $f/11$, $f/16$, $f/22$ etc). The $f/stop$ number is actually the ratio of the lens opening to the focal length of the lens and is really an inverse amount, which accounts for its inverse relationship with the size of the hole. You don't need to understand this, just set the number as small as your camera and lens will allow! This will give you the biggest opening and allow the most light to hit the sensor.

Shutter speed

Make this long so that there is sufficient time for the light to get through the aperture to hit the sensor. I typically use 15 or 25 seconds. Be aware that auroras move and you will essentially capture an 'average' image of where the aurora was over the time the shutter was open (and the aurora's light was hitting the camera's sensor).

Polar pyramid tent lit up with aurora in the night sky by Chris Wilson
Canon EOS 5D
Lens: 27mm
Aperture: f/2.8
Shutter speed: 77 seconds
ISO: 200



ISO

This is a measure of the camera's sensitivity to light. A bigger ISO number makes the camera sensor more sensitive to light. Hence, for a given aperture and shutter speed, a higher ISO will result in a brighter image.

However, the tradeoff is that the image will start to appear grainy at higher ISOs. So use quite low ISOs (under 400).

Generally a **wide angle lens** that includes as much of the night sky as possible is desirable. I use a Tokina 11-16mm f/2.8. There is no reason that you couldn't use a longer (eg telephoto) lens if you wanted. More important is the lens' maximum aperture. Remember a small f/stop number means a bigger opening and allows more of the night sky to hit the sensor.

A higher maximum f/stop number (smaller hole) means that you will need to compensate by increasing the time that the shutter is open, or by increasing the ISO. In fact, to get the same amount of light hitting the sensor at f/4 as f/2.8, it is necessary to double the time that the shutter is open, or double the ISO.

A **tripod is very handy**. It keeps the image - particularly any objects in the foreground - as sharp as possible. Many people use a **remote** to open the shutter (ie to take the photo) so that they don't bump the camera and blur the image when they press the shutter release button. I get around this by setting my camera to take the picture ten seconds after I press the shutter release button (as you would for a self portrait). This way I'm not bumping the camera when the shutter opens.

Another consideration is **focus**. Your camera might hunt for a focal point and refuse to take the photo because it can't find anything to focus on. Best to set it to manual focus and, as auroras are a long way away, focus on infinity (ie as far away as possible). You might want to play around with this if you desire objects in the foreground to be in focus.

Much of the fun in capturing auroras is in playing around with settings and, let's face it, hitting on a bit of luck as well!

SHOOTING VIDEO WITH PETE



Peter Curtis ACS is an Award-winning Tasmanian based cameraman and lighting director, working for ABC Television. In a career that has spanned over 25 years Peter has worked as a cameraman on a wide variety of TV programs and network documentaries. Peter has considerable international experience having been posted to the ABC bureaus in Moscow, Jerusalem and Washington DC. Whilst based in Tasmania, Peter has also completed many one off assignments in various parts of the world for programs such as 'Foreign Correspondent'. He has worked under just about every condition possible and has significant skills in cold climate shooting, having worked in the Arctic and Antarctic several times.

So whether you're a keen amateur, or consider yourself a pro, if Pete doesn't mention it here, it's probably not worth knowing!

Camera Kit

If you really want to keep a good video record of your times in Antarctica I recommend you buy the best quality camera you can afford. Unfortunately, like most things, you pay a lot more for high quality. Big name brands are generally the most reliable (Sony, Panasonic, Canon). A large sensor camera is fantastic, if you can afford it, but they are significantly more expensive and often more challenging to operate.

A small 'all in one' handy-cam with a built in lens is ideal for someone who just wants to grab a camera out of their pocket and start shooting.

Important features to look for in a camera:

- **A quality lens.** It's no good having a hi-def camera if the inbuilt lens isn't sharp to begin with. A long-range optical zoom is important (10x or more). The lens needs to be fairly wide angle too, for hand held shooting in small spaces.
- **An optical image stabiliser is vital.** It's needed to minimise distracting image shake that happens when shooting hand held, in high winds, or when the operator is shivering! Digital image stabilisers aren't as good as optical image stabilisers.
- **Built in Neutral Density (ND) filters,** with two or more selection settings are also a must for shooting in Antarctica. ND filters cut the light back under the extreme brightness when shooting out in sunshine on snow.
- **A decent eyepiece type viewfinder** in addition to the flip out screen is very handy. Out on the sunny snow it can be nearly impossible to see the image on the flip screen, so you need to revert to the eyepiece viewfinder to get a proper idea of what you are shooting.
- **A camera that records to a generic memory card format** like an SD card is ideal. These cards are relatively inexpensive so you can probably afford lots of them and hopefully keep the original material you shoot on each card as well as backing up to an external hard-drive.
- **A separate external battery charger.** You want to be able to charge batteries and keep on shooting with the camera. Some brands have batteries that have to be charged while mounted on the camera which is a disaster!

Other camera features which are handy, but not vital, include –

- **Physical buttons and switches** to adjust important settings (eg iris, focus, white balance controls). This is preferable to the alternative of only having touch screen menus. These are hard to see in bright outdoor conditions and tough to use when wearing gloves!
- **A time lapse recording facility.** Great for shots like a low tracking sun scooting across the horizon, or capturing the slowly drifting ice bergs off the coast, or a bliz. moving down off the plateau towards the station.
- **A good range of shutter speeds** including slow shutter is also useful.

GoPro and other small action cameras

are a popular choice - they're, tough, easy to operate and shoot great high-def time lapse, real time or underwater vision. There are plenty of different mounting options available, allowing you to be as creative as you want. High capacity batteries are recommended for colder conditions.



Camera Accessories

- **Spare batteries.** You should consider buying extra batteries and larger capacity batteries to cover the drop off in their performance in the cold. Most batteries have Lithium-Ion (LIon) cells. These are by far the best kind of battery you can get, so check for this if you are buying a camera.
- **A tripod** is an often-neglected accessory, but it gives you so much more scope when shooting. It is vital when trying to get very long (zoomed right in) shots or lovely big close up shots of wildlife. A gimble is also a handy little tool if shooting rough vision with your smartphone's camera. It smooths it out and makes movement much more fluid.
- **A directional, top mounted microphone** with a 'fluffy' wind gag is going to get you significantly better sound quality compared with the built in microphones on most cameras. The 'fluffy' cuts the wind noise, without reducing all the low frequencies.
- **A screw on glass polariser filter** (suitable to your camera) is another excellent addition to your kit. They are brilliant on Antarctic blue skies or when out on the water among the icebergs. Out there, a polariser cuts through the glare on the surface of the water.
- **Lens cleaning cloths** are very important. They are easily lost in all those pockets, so get a few. A bottle of lens cleaning fluid is another good thing to have back at the station.
- **A screw on wide-angle lens adaptor** is a great little tool if you think you'll be doing a lot of hand held shooting or video work from a moving platform. Although wide-angle adaptors can create a bit of lens distortion this can add to the shot – just don't film faces close-up with this adaptor as it makes everyone close look like they have a HUGE nose!
- **A LED camera mounted light.** These are lightweight and low powered lights that are ideal to add a little bit of an 'eye light' when filming in dark areas, or to sneak a bit of light on to a face when outside at dusk.
- **A flare guard** made from a stiff bit of matte black card (or something similar) is very useful for getting rid of unwanted flare down the lens when shooting into the low sun. Hold the card in front of the lens, just up out of shot, so it casts a shadow over the lens. Get a mate to do this if they are handy!

Before you head off on a shoot

- **Familiarise yourself with the camera gear and how it works.** Check for problems. If you are nice and comfortable with the equipment you can concentrate on being creative.
- **Make sure all batteries are charged and media (eg SD Card) is formatted** and ready for use - a basic task but one, which people often stuff up!
- **Think ahead about any extra gear you may need** like camera mounts, filters, reflectors, lenses, lights, mini-cameras (eg GoPro) etc.
- **Take the time to set up your camera accessories** like the tripod (balance, friction etc).

Before shooting at a particular location

- **First of all check out the location.** This is your chance to wander around the action to discover the best angles and any potential problems (eg bad backgrounds, light issues etc) and assess any safety issues.
- **Consider any lighting you might need** to enhance the scene or overcome light issues.
- **Create a mental list of the shots required** or plan out a sequence of shots. Look for efficiencies – eg plan to shoot all the shots that are taken in a certain direction first, before switching direction.

Before you record ANY shot

1. **Is it framed correctly?** Is this shot the best angle? Is it a creative composition that suits the overall style of the scene? Could you make it better by dropping something into the foreground or by removing, changing something in the background?
2. **Is it in focus?** Is the focus set accurately for the “subject” of the shot? If the action moves within the frame will the point of focus need to change? Practice pulling focus if the shot requires it.
3. **Is it exposed correctly?** Is the exposure suitable to the mood and style you are trying to create? Does it match the exposure on the shots that precede or follow this one?



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Close up of an emperor penguin © Peter Hargreaves

General Tips...

- **Try to start with a master wide shot.** This allows you more time to study the action and lock in your own mind when close ups and alternative angles might best cut in.
- **Keep shots steady** or make sure any moving shots are sympathetic to the action you are capturing, eg. a hand held moving shot looks good when you are right in the middle of some fast moving action – but look terrible if the scene is very static or distant.
- **If a shot is a move,** try to make the finishing frame at the end of the shot a better angle than the one you started with.
- **Avoid unnecessary zooms.** Zooming shots often appear un-natural and can be distracting, particularly if they are not executed well.
- **Don't necessarily chase/follow moving objects/people in a scene.** Let them enter and exit frame. This makes editing easier and can get you around continuity errors.
- **Look for a natural end before you stop recording,** eg. someone completing a physical action, or finishing a sentence of speech.
- **Consider avoiding medium/wide shots taken from head height** they are the same boring way we perceive the world from normally. Instead, try to shoot from different perspectives, eg. ground level or up high.
- **Use BIG close-ups or VAST panoramic wide shots.**

Following these simple shooting disciplines means you will always end up with technically solid and interesting shots, which will edit together easily.

Shooting in

- **Learn how to manually expose.** The automatic exposure controls on most cameras are easily fooled at the best of times – in Antarctica they go crazy - thrown off by the brightness of the snow, the extreme contrast, the low sun in the sky, and other factors. Firstly, I recommend you go through the camera instruction manual and see if you can **permanently make the auto-iris underexpose (darken) the picture a little more than it would normally.** That way, even if you are shooting on auto you are more likely to get some sort of definition in the snow and ice rather than a 'white-out'. If you're feeling more confident with your camera and want to give the manual iris adjustments a go, try to critically evaluate each shot for the best exposure level. Firstly decide what you are specifically exposing for? Can you see definition in the bright snow/ice areas or are they a 'burnt out' due to over exposure? If it's a general scenic shot, you might need to close the iris down (darken the picture) to get some texture and definition in the landscape. On the other hand, can you see everything you need to in the dark areas of the picture? If the detail in the shady/dark area is important, then maybe you should open the iris (brighten the picture) more – even if the sunny/snowy background areas 'burn out'.
- **Wherever practical, aim to shoot all your pretty scenery shots in the 'golden hour/s'.** In an Antarctic summer the 'golden hours' extend to anytime between 8pm and 8am! The reason this is the time to shoot scenery is because the sun is lower in the sky, full of colour and significantly softer in intensity. Long shadows are cast from tall features (like bergs and ice cliffs), while even the endless ice plateau forms deep blue shadows in the little dips and golden ripples on the icy ridges. The result is a scenes with definition, depth and great colour saturation.
- **Although sunny days are great for shooting scenery they aren't as good for filming people.** Generally, flat light on a cloudy day is good for shooting people and faces, as your subjects are less likely to need to wear sunglasses during an interview, and aren't forced to face into the glare to be seen. While sunny days are less forgiving on faces, you can try to get your subject to stand on the snow with the sun behind them. That way they don't squint too badly, but the reflection of sunlight off the snow means their face doesn't look too dark against the background.

Antarctica ...

- **If you want to record falling snow**, zoom the camera in and try to find a dark, distant background (perhaps a building). That way there are many flakes of snow falling through your shot. Focus on the snow falling in the zone between you and the dark background so the flakes look sharp while the background is blurred, as well as dark.
- **Wherever possible try to get you and the camera out of the wind.** That's the only way you can get decent steady 'long' shots that don't vibrate too much. If you have a tripod, set it up and lock it off. Keep the legs set low, so they don't shake in the wind. Set up in the shelter of a structure, eg. a building, hut or Hagg. Maybe crouch low behind a rock formation if you're on the coast. If you're completely out in the elements put the camera on a tripod, lock off the shot, take your hand off the camera and try shielding it from the wind with your body. Open your jacket, like you're a bird airing its wings, to enlarge the area around the camera that is protected.
- **The sound quality also suffers badly in strong wind.** If you are trying to record speech in strong wind you are going to need to get very close to whomever is talking to have any chance of getting usable sound. A 'fluffy' wind gag on the microphone will help hugely in such situations. You can also tuck the mic down behind a collar or fold in the clothing, as long as it's still near the mouth.
- **Keep camera batteries in warm inner clothing pockets** when you are out in the cold. This will keep them performing close to their best when its time to use them on the camera. Chemical hand warmer sachets are fantastic for keeping batteries warm. They last for up to six hours and are small. They've saved my batteries and tapes for up to 2 days in -40 degree temperatures in the Arctic.
- **If you are moving cold camera gear from an outside location**, back inside a warm building (or steamy hut or tent), it's a good idea to place the camera into a zip-lock bag. In doing this any condensation will form on the outside of the bag and the camera will be protected from getting moisture on its surfaces or within its mechanism. Wait until the camera feels like it has reached near room temperature before you remove it from the bag. The same thing applies for other delicate gear such as microphones. Packets of moisture absorbing chemical sachets can be handy to put in with the gear when you are putting it in a box for travelling.

Looking to the **RIGHT** of camera at eye level



Looking to the **LEFT** of camera at eye level



Shooting for Media

From time to time, your Station Leader may be contacted by the AAD media team to arrange some vision/interviews to be shot for distribution to media outlets. Some guidelines for shooting for media are listed below. Don't hesitate to contact us if you require further clarification.

General vision

- Shoot on a tripod.
- 5-10sec shots. 10-15sec for moving shots.
- Super close-ups or super wides.
- Shoot a sequence, ie someone walking up to a door, close up of hand opening door, next shot from inside of person coming through door and closing it.
- Vision needs to show it's Antarctica, ie shoot outside with snow in the background where possible.

Interviews

- The "talent" needs to have a lapel microphone or someone needs to hold a microphone close to their mouth (out of shot).
- Framing of the talent needs to be head and shoulders only. Talent needs to be looking either from **Left to Right** or **Right to Left** of camera (see pics on opposite page).
- Stand someone to the left or right of the camera to act as the journalist and ask questions. The talent then needs to look at this person when answering, **and not straight into the lens.**
- Check clothing is tidy and not obstructing face. **No sunglasses.**
- Clear and concise answers are best, avoid jargon and aim language at the level of a 12 year old.
- Include the question with the answer eg. Q. What colour is the sky? A. The sky is blue - (not simply "Blue"). This is because the journalist's questions will always be cut out.
- Be natural and let your natural enthusiasm shine through.

Filming specifications

Format: 720p at 25 or 50 frames per second

Files: Please send back in H264 format .mov or mp4 files and about 5000 kbps data rate. HandBrake is recommended software for compressing video files. It takes a long time to send vision back to HQ, so please pick out the best clips to send.

Audio: Compressed as AAC 256 kbps

KEEP YOUR DISTANCE

Species	Distance (m)
Giant petrels and albatrosses	100
Breeding/moulting emperor penguin	50
All other breeding/moulting birds + seals.....	15
Non-breeding seal or bird	5

All vehicles must remain 200 metres from all wildlife





Distances are only a guide - if you detect signs of disturbance, move further away. If you are sitting or lying down, wildlife may approach you of its own accord. If this occurs, remain still and quiet until birds or animals move away.

On Macquarie Island, some areas are restricted to protect breeding wildlife, particularly albatrosses and giant petrels. Check with TASPAWS ranger staff before going out into the field.



