

Photographic Equipment List

Choose the right tool for the job, know how to use it properly and wisely and you should accomplish your goal. This clearly applies to the photography tours.

Whatever tool you choose to use (read: whatever brand), read the directions (1st!), test it, practice with it, become very familiar with controls, menus, etc. and use it to best of its capability and as importantly, use it for what it was designed for. There are some photos that can't be taken with certain gear.

The options and combinations of gear are too numerous to consider, below are points to consider.

I am not saying you need all of this, keep it light and simple and you will make more photos since you will concentrate on making photos with one camera and one lens at a time, instead of lugging a bunch of heavy gear around and keeping an eye on it.

What camera gear should you bring?

Begin with a core kit and build from there....based on where you are going, what the weather will be like, what kind of photos you want to make, weight and size restrictions and your technical knowledge.

I have my personal kit, with many different brands that I use and they work for what I need to accomplish and I am happy with my results. If I practiced and used another major brand I would be as successful, so I don't get hung up with brands (and I have used many of them). I am a 35mm user and I think for their capabilities, weight, quality and versatility, they are hard to beat and they are much more affordable than any medium format system out there. They are also much more resilient in harsh conditions and that is where I tend to find myself in. I do choose the best I can afford that is of good value, well made, that is reliable and produces excellent results that I expect from a professional piece of gear. The new generation of mirror-less cameras have pretty amazing capabilities and are so much smaller!

I do NOT recommend lenses that cover from ultra-wide to long telephoto (i.e.: 24-300mm zoom) as they are not as good as they claim. They may be small, compact and cover a long range but the results are less than optimal. If you are limited by budget, size and weight, you may not have an option but there are a few great exceptions to consider.

For the field I prefer to have a **basic kit that includes some choices from this basic core group**. I would always lean towards using lenses or bodies with built-in Image Stabilization/Vibration reduction capabilities if at all possible.

The 'core kit' includes some of these choices:

- 1 or 2 full-frame sensor camera bodies OR
- 1 or 2 cropped sensor camera (you gain power on the long telephotos, you lose coverage on the wide angle lenses)
- prime "wide" lens (24, 28, 35, etc.) *some people only use a 28 or 35 or 50mm lenses as their main lens
- prime "normal" lens (28, 35, 50mm, etc.)
- wide "zoom" lens (12-24/2.8, 16-35/2.8, 17-40/4.0, etc.)
- medium wide "zoom" lens (24-70/2.8, 28-75/2.8, 24-105/4.0, etc.)
- telephoto "zoom" lens (70-200/2.8, 70-200/4.0, 75-300/4.0, 100-300/4.5, etc.)
- prime long "telephoto" lens (300/4.0, 400/5.6, etc.)
- macro lens (50/2.8, 100/2.8, 180/5.6, etc.)
- dedicated TTL strobe (with a diffuser for soft light and/or with Better Beamer flash extender for the long shots)
- electronic shutter release (critical when using big lenses, during low light or macro photography)
- If space and weight are at a premium you may consider this wide range zoom (yes, an exception) from well-

known manufacturers and these are the high-end glass, so they actually are pretty good.

- wide to telephoto zoom (35-350/3.5-5.6)
- telephoto zoom (100-400/4.5-5.6)
- on-camera strobe that works with your camera system

The basic gear you must have:

- 20-300 GB of total CF/SD storage (bring many cards, med to high capacity that write fast, in a digital media case that protects them from elements)
- 2-4 extra batteries for each camera (charged). Preferably new vs. old. Batteries are not one size-fits-all!
- 2 chargers with cords to match each battery type (one size does not fit all!)
- basic sensor cleaning kit
- micro-fibre cloth and 'lens pen' – keep many of them in separate pockets!
- Small headlamp
- Small multi-tool
- A camera bag that holds what you need and protects it from the elements and abuse.

The 'specialized' gear includes:

- 15mm fisheye lens
- prime "ultra-wide" lens (14, 17, 20mm, etc.)
- extension tube for extreme close-up and closer focusing distance to subject
- 1.4x converter (you gain 40% more power but you lose 1 stop of light)
- 2x converter (you gain 100% more power but you lose 2 stops of light)

For shooting animals AND landscapes I recommend the following **big glass**. Yes, they are VERY EXPENSIVE and HEAVY, but the results are worth the money!

- 200/2.0
- 300/2.8
- 400/2.8
- 400/4.0
- 500/4.0
- 600/4.0
- 800/5.6

For low light conditions I use super fast lenses. They are EXPENSIVE but worth it! They can mean the difference between getting a usable shot or not. Combine some of these fast lenses and the better cameras with great low-light capabilities and you will have a killer combo and you will put the odds in your favor and create stunning images.

- 24/1.4
- 28/1.8
- 35/1.4
- 50/1.2
- 50/1.4
- 85/1.2
- 85/1.8
- 200/2.0
- 300/2.8

What camera bags should you bring?

Carry systems and photo gear bags are used from home to destination (bigger bags), then on location (small & compact), and specific carry needs for terrain and weather are the next considerations (photo vest, fanny pack, sling pack, waterproof sack). Use whatever system works for you and you are familiar with.

- **photo vest** is a great way to carry a lot of gear, comfortably and conveniently. You can carry other gear besides photo gear when needed (Scottevest, Domke, The Vested Interest and others)
- **waist/fanny pack** for one body, 2-3 lenses, 1 flash, CF cards, etc. (MindShift, Think Tank Photo, LowePro, ClickElite, Tamrac, Naneu, Gura Gear, Kinesis, etc.)
- **backpack** for basic photo gear kit AND extra clothing, food, water, glasses, hat, sunscreen, matches, etc. (MindShift, Think Tank Photo, LowePro, ClickElite, Tamrac, Naneu, Gura Gear, Kinesis, etc.)

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- **waterproof fanny pack, backpack or sealable bag** that keep the water, dirt, sand, dust, bugs and critters out. (LowePro, Seattle Designs, True North, etc.)
- **shipping cases** are used to send your gear protected and are best for checked baggage. This would be waterproof & padded cases with wheels that protect your gear and all the big, heavy & odd-sized items (big lenses, tripod, etc.) that you cannot carry-on. (Pelican, LowePro, UW Kinetics, etc.)

What tripod should you bring?

Use a tripod and head combination that is designed for the weight of lens and body being used. I prefer ball heads over those with levers (personal preference) but I think ball heads are faster to use and quite secure.

If you have lenses that are 300mm or smaller; consider a ball head or pan/tilt head. For lenses in the “fast” range (400mm 2.8 and upwards) you should consider using a gimbal style tripod head or an adapter to a ballhead that will give you gimbal capabilities.

Tripods come in many shapes and sizes and materials. Which one you choose depends on where are you going, what subject are you shooting, what gear are you using and whether you can carry it yourself or need help. Also, small planes/boats have size and weight limitations. Heavier is preferable for sharper shots (especially with long lenses) and some people are using carbon fiber tripods (expensive buy oh so nice!) that are lighter than aluminum ones with much success. The choice often depends on your budget.

- ball head with Quick Release mechanism that will handle up to 12-15 lbs. (Really Right Stuff, Acratech, Kirk, Induro, Giottos, Gitzo, Manfrotto, etc.)
- Gimbal head that is made for big lenses (Wimberley, Joby, 4th Generation, Manfrotto, etc.)
- Gimbal accessory for ballhead (Wimberley Sidekick)
- Arca-Swiss compatible head clamps (have plates for camera bodies and lenses & standardize on one system and have plates on all lenses & cameras in place)
- tripod legs that can withstand the total weight of camera, lens, tripod head and accessories and not wobble or shake. I prefer three sections vs. 4 sections on my tripods. (Feisol, Gitzo, Manfrotto, Slik, Induro, etc.)

How to keep the camera sensors clean?

Cleaning sensors and camera bodies and lenses is a MUST. Do not skimp on the sensor kits, get the best you can afford and understand the issues that are specific to your camera brand and model. Self-cleaning cameras are not 100% guaranteed to keep the sensor clean. They are improving on the technology but you need to know how to clean in the field. Done right, there is no issue and little chance of damaging anything. You are actually cleaning a filter (a piece of glass) in front of the sensor NOT the actual sensor. There are some cameras that do not have that filter but you would know that when you bought it.

- sensor cleaning kit (dry and wet systems)
- lens cleaning kit (lenspen and microfiber cloth are great combos as well as lens paper and cleaning fluid))
- camera body cleaning kit (robust paint brush to get the grit off and keep the outside of the camera clean, especially near the mount and keep the inside as clean as possible.
- LCD cleaning pads

- compressed air for the outside (NOT to be used inside mirror box or to clean the sensor!) NOT allowed to be carried on airlines (carry-on or check-in). Check with T.S.A.

What crush-proof / waterproof cases should you bring?

If I have the need for protection against abuse and the elements, I take these specialized pieces with me.

- waterproof cases (Pelican, OtterBox, Nanuk, Underwater Kinetics, etc.)
- waterproof/splashproof housings (Aqua tech, Ewa-Marine, Aquatica, DiCAPac, Ikelite, Sea & Sea, etc.)

What computer should you bring?

Computer and all the technology that goes along with them – this is a basic core group.

- Apple MacBook Pro 13"/15", maxed out RAM, fastest and biggest drive I can stuff in there (1 TB). I may swap out the optical drive and stick in another drive so I have two drives. I rarely use the CD/DVD drive anymore.
- Tablet (iPad, Google, Samsung, etc.) for reading and showing photos, e-mail, etc. It **DOES NOT REPLACE** a laptop as the OS and the vast amount of data would choke the tablet in one sitting and is not the same thing.
- 2 external hard drives (phantom power, minimum size of 1 TB (preferably with Thunderbolt, USB 3 or FW 800 or a combo of all options). It all depends on your computer jacks.
- 2 card readers (preferably with Thunderbolt, USB 3 or FW 800) AND their cords.
- wireless mouse & mouse pad (so much more efficient than a track pad)
- spare cords of all peripherals including laptop
- portable storage HD that you can download CF/SD cards to, that can verify all is well via data count or visually. (Epson, Jobo, Digital Foci, Wolverine, etc.) **** NO LONGER USE THESE ANYMORE!**
- high-end surge protectors
- high voltage converters 220 to 110, with spare fuses
- strip for plugs (2-4 plug capability)
- 2-3 converter plugs to make 3-prong plugs into 2-prong plugs (which makes them non-grounded, such is life)
- LED light (on flexible stem) that runs off USB port for late night work or reading, etc.
- iPod/Nano, etc. for music (w/ear buds, small external speakers)
- cel phone with international calling capabilities (some smart phones are quite handy and have useful apps for sun/moon/tides/weather, etc.)
- solar chargers for all electronics (check to see compatibility and charging capacity when charging lots of items at once) Goal0, etc.
- small tool kit for basic field needs and repairs (micro screwdrivers, multi-purpose tool, head lamp, etc.)

****See our Basic Equipment List (PDF) for clothing and other recommendations.**

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