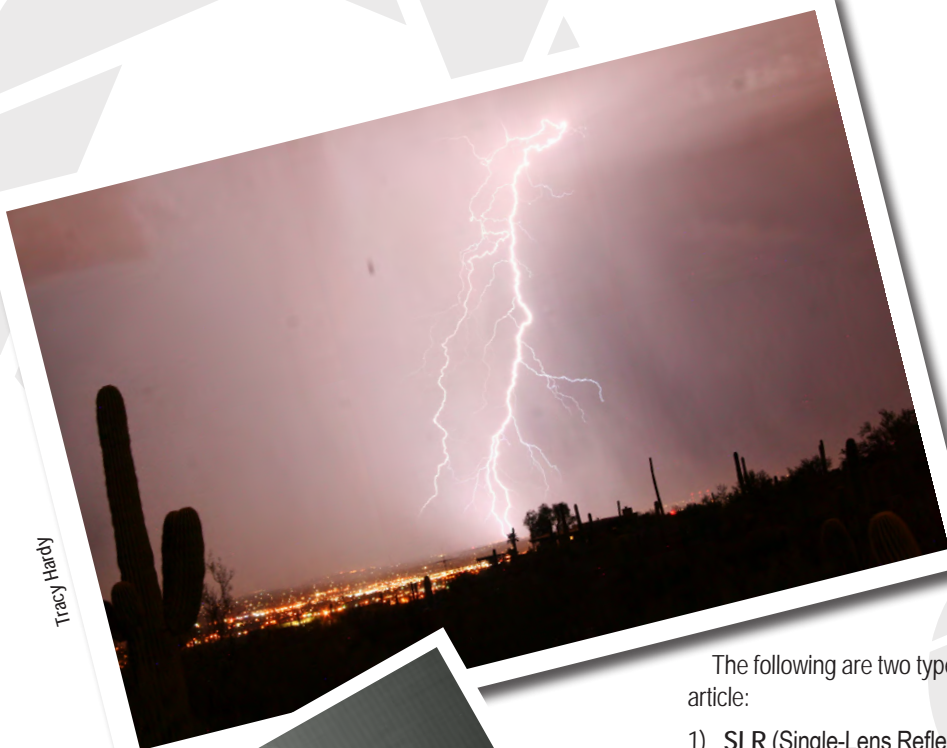


CAPTURING MOTHER NATURE'S FIREWORKS

Eric Larsen and Curt Peters, Extension
Agents, 4-H Youth Development, Pima County
Cooperative Extension,
University of Arizona



Tracy Hardy



Eric Larsen

The monsoon season in Arizona which typically runs from early July to late September brings spectacular lightning shows or “Mother Nature’s fireworks.” It is awe inspiring and breathtaking for both the young and old. And just like fireworks on the Fourth of July, lightning flashing across the sky or between sky and ground can make for some fabulous photographs. Capturing that flash of light on your camera is an art, but can be done by anyone that has a camera with a few key settings.

Please note lightning is very unpredictable, which is why it is very DANGEROUS and safety needs to be an important part of your plan when taking photographs of lightning. The storm may seem miles away but the lightning might not be. Two places that are relatively safe for shooting pictures are within your house near a window or from within a hard topped vehicle. If taking photos through a window, make sure to turn off all lights inside to reduce reflections. Please visit the following website for more information on lightning safety before you venture out to take your photographs: National Weather Service - <http://www.lightningsafety.noaa.gov/overview.htm>

The following are two types of digital cameras discussed throughout this article:

- 1) SLR (Single-Lens Reflex) – This type of camera will have a “B” or Bulb function and will allow you to manually adjust the focus, exposure, aperture, and ISO settings.
- 2) Compact Camera (point-and-shoot) – It is important that your camera has the ability to force the focus to infinity and keep the shutter open for at least 10 to 30 seconds or has a fireworks setting. The fireworks setting usually turns the flash to off, sets autofocus to infinity and exposure compensation to off, bumps down the shutter speed and aperture, and lowers the ISO.

The following tips will help you prepare yourself and your equipment to capture your next award winning lightning photograph.

GET TO KNOW YOUR CAMERA SETTINGS AHEAD OF TIME

A lightning session may come and go quickly. The storm might not leave time to look up settings and how to adjust them. Know your camera and how to adjust your camera ahead of time. It’s a good idea to practice making adjustments in the dark. But, just in case, or if you have a special circumstance arise, be sure to have a small flashlight with you. If you are taking photos with someone else be aware that your flashlight could possibly ruin their photo, so be careful when turning on a light.

FIND A SUITABLE LOCATION

It is very important to keep SAFETY in mind when selecting a location to setup your camera equipment. Remember that no place outdoors is safe when thunderstorms are in your area. Lightning can strike without warning many miles out ahead of thunderstorms. Select a location that has an unbroken view of the dark sky. It’s very difficult to aim your lens at a small view of the sky and think that a strike of lightning will happen right there. Have a broad expanse that you can capture, and then crop to the composition you like with your computer or, when you see the

location where lightning is striking, zoom in on that location. The location should have low levels of ambient light close to the camera. Street lights miles away won't affect your shot as much as one within 100 feet of your location. If the camera picks up light nearby, it can ruin the photo. The location ideally should provide protection, both for your camera equipment and for the photographer. Rain moisture can get into cameras and lightning can kill. So pick a safe location!

USE A TRIPOD

You will be using a long exposure setting (10 seconds to 1 minute) on your camera. You cannot possibly hold it still for that exposure time. A tripod will help prevent blurred pictures. Keep in mind that you can still utilize a tripod within a vehicle in the passenger seat or utilize a system that clamps onto your window.

SHOOT AT NIGHT

By shooting at night, you can use a long exposure to capture the lightning. Daytime lightning photography requires specialized equipment that can be expensive. When shooting at night, be sure to bring a flash light, so you can see not only where you are walking but also the buttons on your camera. Flashlights that have a red light or a red lens are very useful because you can leave your red light on and not affect your pictures.

FOCUSING THE LENS

Set the focus on your camera to infinity. Your camera cannot focus quickly enough if left on automatic focus and your auto focus will continue to search for a focus subject. Check your camera's owner's manual to find out how to set your focus to infinity. SLR cameras have a switch on the lens or in the camera's menu labeled AF (Autofocus) and MF (Manual Focus); switch it so it is on MF. Some compact digital cameras have an option to force the focus to infinity or you can utilize the landscape picture setting sometimes symbolized as a mountain and tree.

BULB FUNCTION & REMOTE SHUTTER RELEASE

Change the shutter speed setting on your camera to "B" or Bulb function. This function allows the shutter to stay open for prolonged periods of time. When you hold the shutter button down it opens the shutter until you release the button. For both SLR and Compact Camera's reference your camera's owner's manual. Most Compact Cameras do not have a Bulb function. In that case set your exposure time to the longest possible setting, this will most likely be thirty seconds. Keep in mind that you will have to push your shutter button after each time the exposure ends.

A remote shutter release allows you to start the exposure without having to "push the button". This reduces the amount of "jiggle" that occurs from the force of pushing the button. The remote shutter release allows you to determine when you want to end the exposure. Longer exposure time allows you to get more strikes into a photo, which makes for a cool effect on your final product.

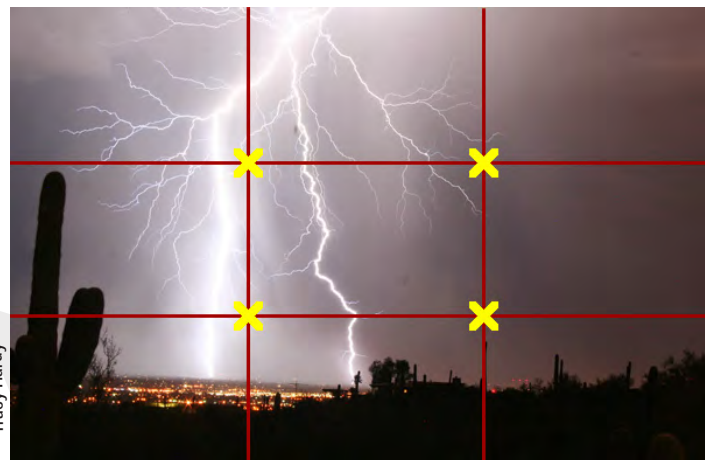
STARTING POINTS FOR OTHER CAMERA SETTINGS

You should set your camera's settings to the following as a starting point; the ISO should be at 200, f-stop at f/2.8 - f/8. The f-stop you choose depends on how distant the lightning is, how bright the lightning is, and your personal preference. The higher f-stops should be used for distant

lightning (greater than 25 miles away), when used on closer lightning will result in a thinner channel than the lower f-stops.

COMPOSITION

Just because the bolt of lightning is your main subject, you can't forget to compose your photo. Be sure to watch for power lines and poles. You may not notice them at night, but they will show up as black lines and detract from the photo. Look for strong features in the foreground that may silhouette with the flash from the lightning, keeping mind the rule of thirds. The rule of thirds is a composition technique. Imagine your image is divided into thirds, both horizontally and vertically, into nine equal parts. The rule of thirds tells us to place the most important elements of the image where the lines intersect. In this photo the landscape is in the lower third with the brightest bolt of lightning near the left vertical line. A common technique when photographing lightning is to have the horizon at the bottom of the photo and include as much sky as possible.



PROTECT YOUR GEAR

Protect your camera equipment from the elements, no use exposing expensive equipment to a downpour. Consider purchasing an inexpensive rain cover for your camera. Establish a dry area where you can change your lenses, preferably you should change your lens indoors to avoid dust and moisture. Utilize your vehicle if you are away from your house or a building. Remember – Safety First! No place outdoors is safe.

BE PATIENT

Lightning may come and go quickly from the location you are taking pictures. It might keep wandering around an area, always avoiding the direction of your lens. That perfect bolt might come as you are between exposures. You can't "plan a date" with lightning – it happens when and where it happens and you have to try to be ready. It's not like taking photos of animals at the zoo when you can plan to go there and you know there will be subjects available. Going back to the first step, it is always helpful to get to know your camera settings ahead of time so you can capture a prize winning photograph.

Lightning photography takes some practice and trial and error to find out what works with your camera. If you would like more information on lightning photography you can purchase a copy of the 4-H Lightning Photography curriculum called "Catch the Spark!" either online at <http://cals.arizona.edu/4hsales> or you can call toll free (877) 763-5315, Monday through Friday 1:00 pm to 4:30 pm. Search for or ask for Publication #: 4HAZ1511, cost is \$2.00 plus shipping and handling.