

Photographing Weather

Photographing the weather

Here are some tips on how to successfully photograph the weather.

Cameras, lenses and film

In general any camera, old or modern, digital or film, is capable of recording an acceptable weather picture. A relatively poor image of a rare phenomenon or event taken with a cheap disposable camera is better than no picture at all, but obviously the better (and arguably the more expensive) the camera that you use, the better quality pictures you are likely to achieve. More expensive cameras will tend to have the better quality lenses and offer the greater functionality in their exposure and other systems.

The best cameras to use for weather photography are those which offer good versatility. For example, the ability to manually override automatic exposure systems can be useful in certain illumination conditions. 'Spot metering' for determining exposure can be extremely useful. The ability of your camera to zoom the focal length of its lens from telephoto to wide-angle is also a powerful tool. A good Compact camera will have a zoom lens but there is no doubt that a Single Lens Reflex (SLR) will offer the best quality in this respect as SLRs allow you to interchange lenses. Being able, as with an SLR, to fit a filter (such as a polarising filter) to the front of the camera lens is indispensable. Lens flare can be a problem when photographing the sky with the sun in the frame or just outside, so the ability to fit a lens hood to the lens will help to reduce flare from the sun.

If you buy a digital camera, as opposed to a camera using film, then I would suggest that you choose a camera with a sensor that will offer the greatest resolution. A 10 megapixel camera is ideal, a 6 megapixel camera will be okay, but sensors with less resolution will give picture quality far less than that available by using film. This is not a problem if you just want some prints for personal use, but if your intention is to submit your photos for publication then it may be an issue. The big advantage of digital, over film, is the fact that the pictures are available immediately. You can spot any problems and correct them straight away. Also the pictures are available in digital form for publication, or for manipulation on the computer, without going through the intermediate process of scanning negatives, prints or slides.

If you do use a film camera then for most weather photography you should use slow or medium speed film - i.e. films with an ISO rating of 100 or 200. There may be occasions under dull lighting when you need a 400 ISO film but this will give grainier pictures. The slower speed films offer the finest resolution and colour saturation. In effect the same applies with digital cameras. Set your digital camera to as slow a speed as appropriate to the lighting conditions. Higher speed settings introduce 'noise' on the digital file, having much the same effect as the graininess of high speed films.

With film cameras, the choice of whether to use negative film for prints, or transparency film for slides, to some extent depends on the eventual use of your pictures. If intended for publication (for example in Weather) then transparencies are better than prints. If your pictures are only for personal interest then prints might be more convenient. The main thing to note is that with transparency film the slides that you expose in the camera are the final products. With negative film you will rely on the processing company to produce the final print and it is a fact that automatic printing machines tend to average out the exposure of the scene. This means that no matter how careful you've been to select the correct exposure for clouds when you take the picture, they may appear washed out and pale in the final print. For this reason then, slides give the better quality. Slides also give more colour saturation, but beware, transparency film has far less exposure latitude than negative film and so your exposure needs to be more precise when using slide film.

Filters

Assuming your camera allows you to put a filter onto the front of the lens, then there are principally two filters which are most useful - a polarising filter and a graduated neutral-density. A skylight filter is also worthwhile.

A skylight filter fitted to the lens all the time is a good idea as it will protect the surface of your expensive camera lens from dust and scratches, It's main aim though is to cut through haze to give a slightly clearer image. In mountains, because of increased ultra-violet rays at altitude (giving a slightly blue colour cast), you may wish to put a UV (ultra-violet) filter on the lens instead. It effectively does the same as the skylight but with a more powerful effect.

A polarising filter is absolutely indispensable when photographing clouds. It allows you to increase the contrast between the white clouds and the background blue sky. Polarisation of the blue sky is at a maximum 90 degrees from the sun. Near to the sun though, where polarisation of the light is less, the filter will be ineffective. Modern cameras with automatic exposure and focus will require a circular polarising filter. With simple cameras which do not have a screw facility to mount filters it is often possible with a little practice to simply hold the filter in front of the lens.

In pictures where you include both sky and foreground, the sky may be much brighter than the foreground. Confronted by such a situation, if you expose for the sky your camera's exposure meter will suggest settings that will automatically underexpose the foreground and turn it into a silhouette. At the other extreme if you select the exposure for the foreground the sky will lose colour and become washed out with overexposure. A meter reading from a bright mid-tone gives the best result with a better balance of foreground detail and colour in the sky. The advantage of the graduated neutral-density filter (which has half the filter clear and half the filter darkened, is that you can place the dark portion over the sky to reduce its brightness.

Some general tips for good weather photography

1) It is usually worthwhile including some foreground when photographing clouds to provide a sense of scale and orientation. Your picture will be enhanced if the foreground is interesting and well composed. Make sure the horizon is level - the act of pressing the shutter button can sometimes cause people to tilt the camera slightly and result in a wonky horizon. Don't always stick to horizontal format; remember, sometimes, it may be appropriate to turn the camera on it's side and shoot a vertical format picture (e.g for the front cover of Weather).

2) Expose the film or digital picture correctly. Slight underexposure of clouds is better than overexposure which will result in detail being washed out. Use 'spot metering' on your camera if available. Use a graduated neutral-density filter, if necessary, to decrease the brightness of the sky with respect to the foreground. It's a very good idea to bracket exposures, that is to take one picture at what you think is the correct exposure and also take further pictures, one slightly overexposed and one slightly underexposed. At least one of the 3 shots should be correctly exposed. With film this technique will obviously increase the cost of your photography as you'll take at least 3 pictures of the scene rather than just one, but with digital cameras you can quite happily take lots of photos with no cost implications.

3) Use a polarising filter to enhance colour saturation and contrast between blue sky and white cloud.

4) In dull lighting conditions a tripod will be indispensable. With subjects taken at night (such as lightning), or in twilight conditions (such as noctilucent cloud), a tripod is absolutely essential. For pictures of noctilucent clouds you will need to take a time exposure of a few seconds using the B (bulb) shutter speed setting. Take lots of pictures to bracket the exposures.

5) Lightning photography is relatively simple; all you need is a tripod, a camera loaded with slow film, say 100 ISO, or your digital camera set to this, and set the lens aperture to one of the smallest f/numbers - i.e. a wide aperture. Point the camera towards where the lightning is occurring and open the shutter using the B (bulb) shutter setting for several seconds to a minute. Close the shutter after you see a lightning stroke in the field of view. Beware, if you leave the shutter open too long the background sky will become overexposed. You will need to be prepared to take lots of pictures, some of which will be wasted. It is best if the storm is some considerable distance away, rather than nearby. Quite apart from not wanting to get the camera wet with rain, your safety must be the number one priority when you are near a thunderstorm. Your tripod can make an excellent lightning conductor! Nowhere near an electrical storm can be totally safe, but shooting from inside a building through an open window is far safer than being outside in an open space. Photographing a storm from a distance you can use your camera's zoom or telephoto lens to frame the picture without putting yourself in danger.

6) When photographing halos and other phenomena near the sun you can exclude the very bright sun from the picture by hiding it behind objects such as trees or buildings.

George Anderson
Photo Editor, Weather

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