Mentor Meeting

Proper Exposure and Tack Sharp Images

November 2, 2022

How to get a good exposure in difficult conditions

- Subject is too dark against a sunny background
- Your beautiful black dog looks washed out - brighter than you wanted
- Your winter landscape looks drab as the bright white snow turned grey.
- You are in a dark room with a bright window and you want both to look good.

When the camera sensor **doesn’t receive enough light** is called **underexposure.** We can also say that we got **“crushed shadows”** or we **“blocked up blacks,”** and the result is that we don’t have enough **information in the darkest areas of the image.**

In contrast, the exposure effect when the sensor captures **too much light** is called **overexposure.** When this happens, we can also say that we have **“blown out highlights”** or **“burned out highlights,”** and the result is that we don’t have enough **information in the brightest areas of the image**.

Under exposed Desired exposure Over exposed

So how does your camera choose exposure?

Matrix Metering Mode (Nikon)
Evaluative (Canon)
Multi (Sony/Fuji)

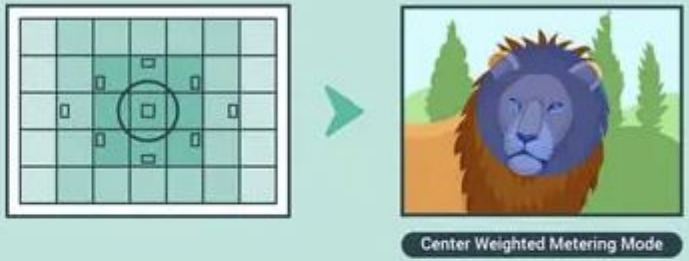
This metering mode divides the scene into different sections, and the camera considers each zone to calculate an average of the light of the scene.

It's usually the metering mode used by default.

Center Weighted Metering Mode

The camera uses the center of the frame as the most important area to calculate the average light of the scene.

It's more consistent and predictable than the Matrix mode.



NIKON/SONY

Center Weighted

CANON

Center Weighted

Spot Metering

The camera uses one single spot to calculate the light of the scene, ignoring the other areas. This spot is usually a small section between 1-5% of the entire frame. In most cameras, you can adjust the spot moving the focus point.

It provides the most accuracy to calculate the light in a particular spot of the scene.

ALL CAMERA BRANDS

Spot

Matrix metering

Spot Metering

My Meter Is Busted!

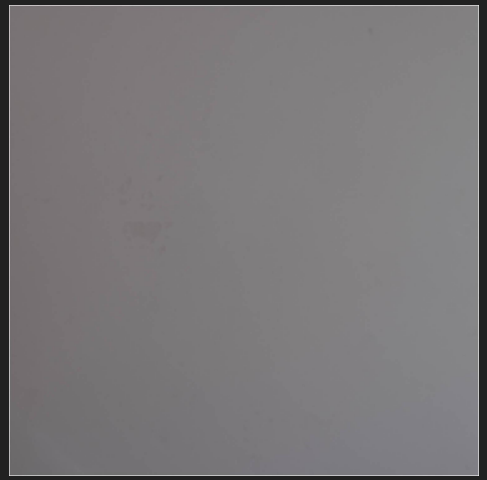
Sometimes it seems like my camera meter gets it wrong

Why does my black dog look gray?

Why does the white snow look dingy?

My Meter Is Busted! Let’s do an experiment

Take a picture of a white cardstock and the camera turns it gray



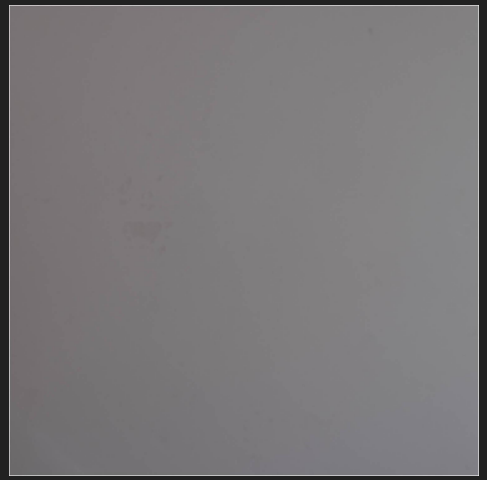
White

Take a picture of a black cardstock and the camera turns it gray

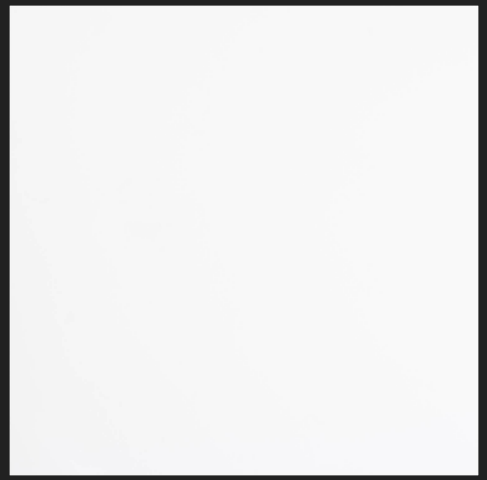
Black

Exposure compensation dial

By using exposure compensation, you adjust the exposure

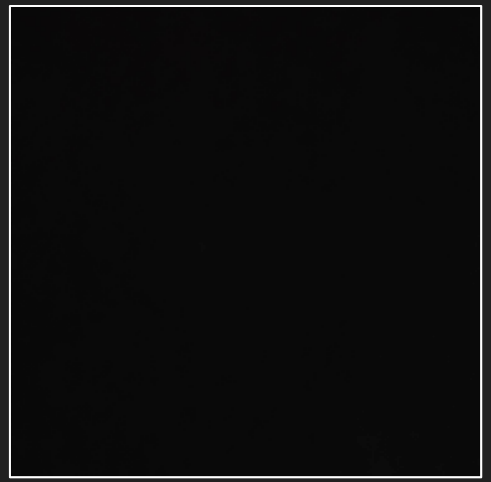


White



White +2.5 stops

By using exposure compensation, you adjust the exposure



Black -3 stops

Black

Original image when the camera lightened up the image….

Same image after dialing down the exposure compensation

Original image when the camera darkened the image….

Same image after increasing the exposure compensation

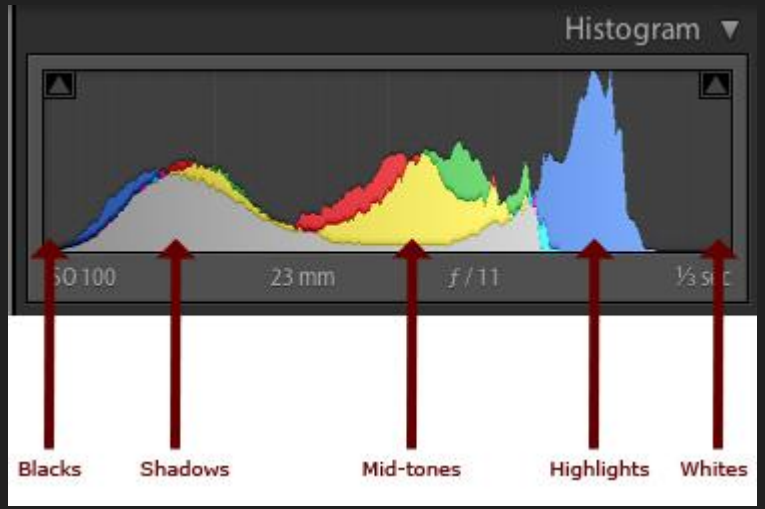
Intentionally underexposed to capture a silhouette

High-key image

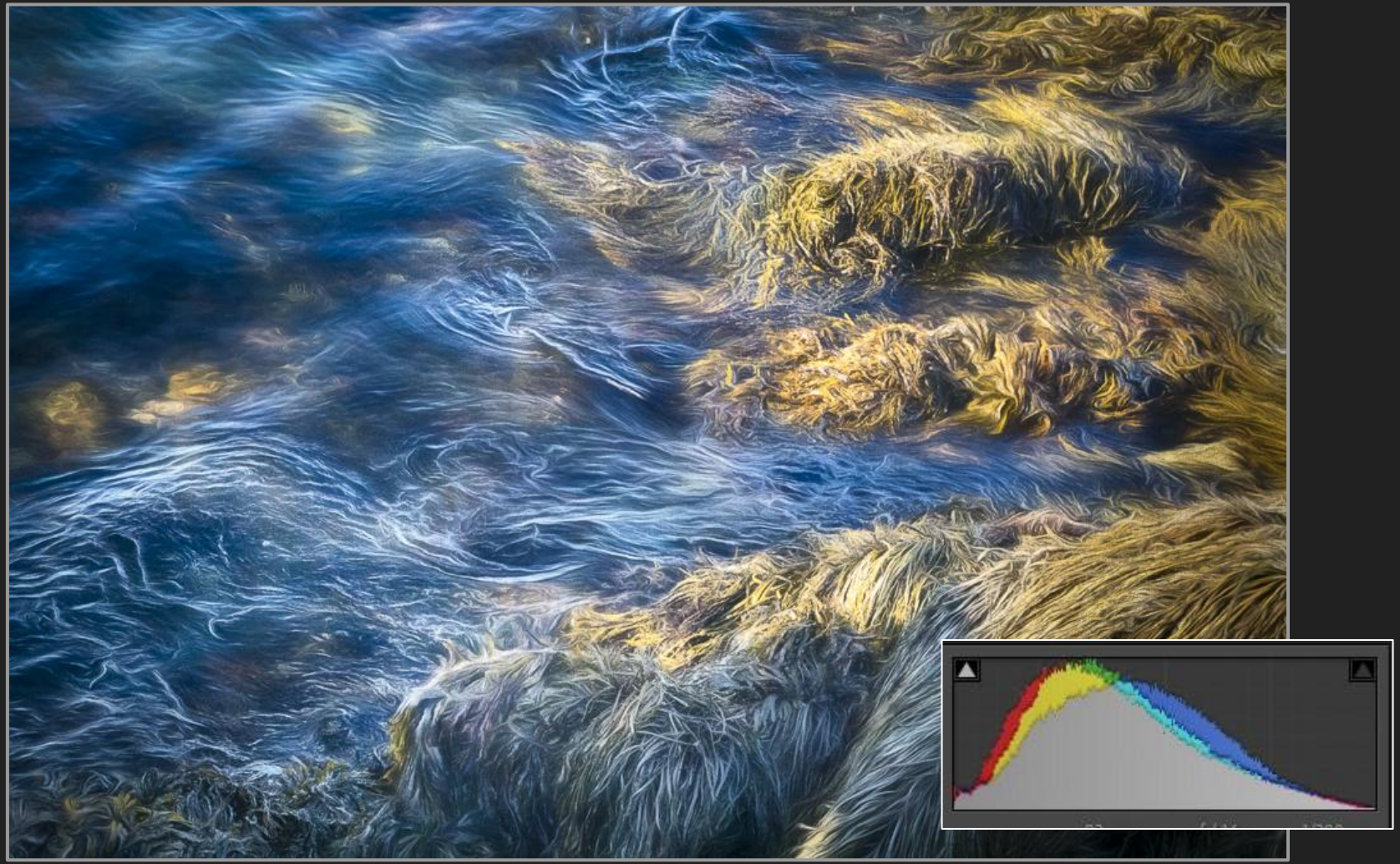
Low key image

Histogram

It’s easy: the blacks are on the left, the whites are on the right, all the mid-tones are in between.



The most important thing to know about the histogram is that a spike on the right, that touches the edge of the graph, is a problem. That means that there is a portion of your image where the highlights are “blown out”, or completely white with no detail. The reason this is such a big problem is that an area that is blown out contains no data at all, so you will not be able to do anything in post-processing to adjust it. This only applies if the spike touches the edge of the graph. If it spikes before the edge, that’s okay.



The Blinkies

The Blinkies are simply the way your camera shows you where you have overexposed highlights; they are exposure warnings or alerts.

Zebra Pattern is a camera feature that overlays some stripes into the image that indicate exposure levels. It is a function that aids exposure by showing a striped pattern over areas that are close to overexposure.

548/3060
OFF
1 100-4168
1/2000 F5.6
ISO 1250
RAW

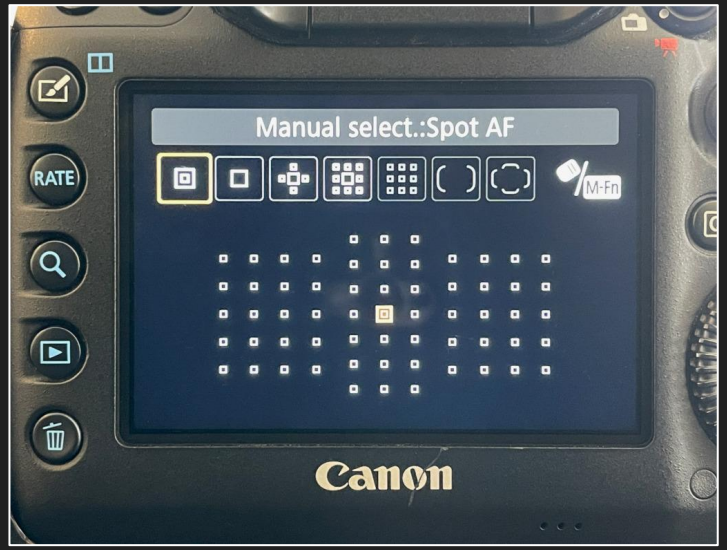
Zebra exposure warning on Sony

The Quest for Tack Sharp Images

Stay focused

All cameras are different, but they all have an array of focus points you can move around and select.

Your camera has many different built in modes for using those focus points to ensure that your focus is spot on.



Read your manual!

Get up to speed

Ensure that you are shooting at a fast enough shutter speed.

Shooting flowers in a breeze requires a faster shutter speed than on a calm day.

Shooting still life on a tripod allows for slower shutter speeds.

Longer lenses require faster shutter speeds.

Grip and Stance

Grip with the right hand and cradle with the left.

Elbows loosely against your torso.

Stand with one leg slightly in front of the other.

Bracing

Prone

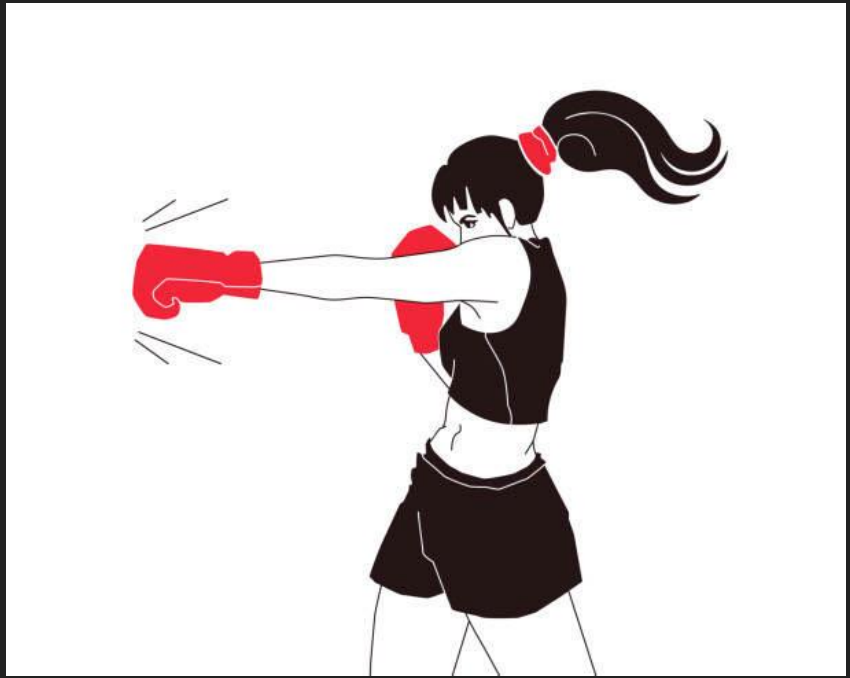
Sitting

Brace

Squeeze That Shutter Button

Never jab or punch on the shutter button. That’s a sure way to shake your camera.

Keep your finger resting lightly on the shutter and gently press when you want to shoot.



Burst Away

Try shooting in burst mode AKA continuous mode.

If you blast away 4,5,6…..images, while maintaining position, one may very well be sharp.

Of course, you will fill your memory card more quickly.

Your Tripod Can Be Your Best Friend

No one likes lugging them around, but there is no better way to ensure that your camera is stable when you shoot.

Monopods are not as stable, but are more portable and great at sporting events.

Avoid using the center column whenever possible. Which looks more stable to you?

Spoiler alert.

It’s the one on the right with the wider base, and without that single post sticking up by itself.

Use the heavier legs sections first.

Which legs would you rather walk on? Those skinny ones on the left or those solid ones on the right?

Wind Can Be Your Worst Enemy

You can be buffeted around on a windy day

Try to hide from it.

It can even shake your tripod.

Hang weight from the hook on the bottom of your tripod, if you have one.

Keep in mind that wind can blow around your camera bag if you have it hanging.

Remote Release

The remote release is a tried-and-true best way to reduce camera shake while the shutter is being released. Old-school ones threaded into your shutter release. Today, you can use electronic, remote (IR, Bluetooth, Wi-Fi), or, even use your smartphone to release the shutter.

Forgot your remote release? Use your camera’s self-timer.

Still life created using a tripod and a remote release to ensure sharpness

More Support

Platypod

Gorillapod

Beanbag

Mini Tripod

Mirror Lock Up

Shooting on a tripod with a DSLR?

Lock up your mirror prior to shooting. That mirror slap will generate some shake into your camera.

Shooting with a mirrorless camera?

No mirror? No worries.

Read your manual!

Image Stabilization

Most modern cameras offer image stabilization either in the lens or built into the body.

This not only helps keep images sharp, but maintains sharpness at slower shutter speeds.

You may want to turn stabilization off when on a tripod.

Have I mentioned….READ YOUR MANUAL!

A Few More Things

Clean your lens with appropriate tools before shooting.

Use the available tools in your software to sharpen when post processing, but don’t overdo it!

Lastly, your lens. You get what you pay for. Better glass usually gives you better results.

And if you don’t get it right in camera, don’t despair! Lightroom to the rescue!

Before and after some texture and sharpness were added in Lightroom

Before and after some exposure adjustments and sharpness were added in Lightroom

Practice
Experiment
Have Fun!

Thank you,
Jim and Betsy

Resources used in this presentation, and links for more useful information

SnapSnapSnap.photos - A Beginners Guide for Manual Controls in iPhone Photography

CaptureTheAtlas.com - What is Exposure? Exposure in Photography Explained

https://digital-photography-school.com/histograms-for-beginners/ How to read your Histogram

https://www.bhphotovideo.com/explora/photography/tips-and-solutions- 21 tips for getting sharper photos