PANORAMAS MADE SIMPLE

HOW TO CREATE BEAUTIFUL PANORAMAS WITH THE EQUIPMENT YOU HAVE—EVEN YOUR PHONE

HUDSON HENRY

COMPLETE DIGITAL PHOTOGRAPHY

PANORAMAS MADE SIMPLE

How to create beautiful panoramas with the equipment you have—even your phone

By Hudson Henry

PREFACE MY PASSION FOR PANORAMAS

My first panorama, created from three frames of medium-format film.

I GREW UP WITH ADVENTURESOME EXTENDED FAMILY MEMBERS WHO LOVED TRAVELING, CLIMBING, AND sharing slideshows of far-off places. As I kid, I couldn't wait to head into the world with a camera. I started with 35mm slide film and studied the work of Galen Rowell and Art Wolfe.

As I scanned and edited my photos in early versions of Adobe Photoshop I found myself becoming obsessed with image quality. Like many similar photographers, I shifted to medium-format film for the bigger frame and the higher image quality. And that's when I encountered a problem: as a poor college student, I couldn't afford the wide-angle lens that I needed to capture the grand landscapes I loved photographing.

Then, one amazing pink dawn while out shooting in my hometown of Portland, Oregon, I decided to cap-

My first digital panorama, taken in the Arctic National Wildlife Refuge.

ture the entire scene in my mind's eye by photographing it in three overlapping medium-format frames. I then spent untold hours scanning, hand-merging and blending these images into a single frame with Adobe Photoshop (shown on the previous page). It was my first simple panoramic merger. When I printed it six feet wide, the image was crisp and detailed, and it permanently changed the way I thought about creating photographs and big prints. I was hooked.

Before long I purchased my first DSLR, a Nikon D70, and took that camera on a long backpacking trip through Alaska's Brooks Range. One of my goals for the trip was to create a highly detailed photograph of the Arctic National Wildlife Refuge's coastal plain, one

that I could print at an extremely large size. I set my lens to 135mm and pivoted that 6-megapixel camera through the scene, ultimately creating a 55-megapixel image (shown above) from overlapping vertical frames. It was my first fully digital panoramic merger. After creating huge prints of that scene, I set aside my film equipment and began focusing instead on digital panoramas.

Since those early days, I have continuously photographed panoramas, both at home and in my travels around the world. I have moved from simple, single-row images to more complex panoramas comprised of multiple rows, using precision equipment. And, at the heart of it all is my passion for producing these

beautiful, high-resolution images that represent a much closer rendition of the world beyond my lens. With this book, I hope to show you how easy it is to get started with panoramic photography, and to pass along some of my passion for this medium.

HOW IS THIS BOOK ORGANIZED?

This book is the first of a two-book series on creating effective and compelling panoramas. This book is focused on simple panoramas, which are the ones most people will want to create. I'll get you up and running with a minimum amount of effort or cost, and you will be amazed at the results you can achieve with a few simple guidelines.

All you will need is a camera that takes good photos—even a modern smartphone will do—a Mac or Windows computer and a version of Adobe Lightroom Classic CC (the new Lightroom CC doesn't have a panorama feature), Adobe Photoshop CC, or ON1 Photo RAW 2018.

After a brief description of the different types of panoramas, I will cover how to use your equipment in the field to capture the individual frames needed to create a successful panorama. Finally I'll delve into how to organize, process, and merge your panorama using Lightroom, Photoshop or Photo RAW.

The second book in this series is designed for the person who wants to go all in and create complex, multiple-row and other specialty panoramas, ones that require extreme precision during the capture process. It will cover the equipment necessary for building these advanced panoramic images and how to calibrate your camera and lenses. It will also offer more advanced editing techniques utilizing Photoshop and other powerful software.

But if you're new to panoramas, don't worry: in no time, I'll have you creating great panoramas with the equipment you have on hand. It's that simple.

1 AN INTRODUCTION TO PANORAMIC PHOTOGRAPHY

This ultra-wide panorama was taken on Denali, in Alaska. If you look carefully, you'll notice that its field of view is actually wider than 360°.

PANORAMIC PHOTOGRAPHY IS THE MERGING OF MULTIPLE INDIVIDUALLY CAPTURED PHOTOGRAPHS INTO A SINGLE, LARGER, IMAGE. The first panoramic photograph I remember seeing was a series of overlapping Kodak prints that my cousin laid out on his kitchen table to show the incredible view from atop a peak in the Pacific Northwest. I was amazed at the scale of the combined scene: it was big, with an ultra-wide angle, and highly detailed. Today, with the advent of digital cameras and sophisticated editing software, we can leave the kitchen table behind and easily merge individual digital photographs into high-quality, seamless panoramic mergers.

You don't have to invest a lot of money in gear to create panoramas. You can begin using the simple panoramic techniques I cover in this book without purchasing any specialty camera gear whatsoever. If you have a decent tripod, that will help, but you can also create shockingly good panoramas without one. I've sold large prints of panoramic mergers made with a handheld, point-and-shoot camera. With some care, you can even capture surprisingly good panoramas

with nothing but a smartphone. Many newer phones (and some digital cameras) have automated panoramic capture modes, but I'll show you some better techniques to create consistently higher-quality panoramas than any automatic panorama mode can create on its own.

GO WIDE AND WITH MORE DETAIL

Panoramic photography enables a photographer to go really wide; wider even than an ultra-wide angle lens. Take a close look at the photo on the previous page, which I created at the 11,000-foot camp on Denali (known until recently as Mount McKinley). If you look at the edges of the frame, you'll notice that

the field of view is actually greater than 360 degrees. Panoramic mergers let us create images that are much wider than fish-eye lenses—and with far less distortion.

Another huge benefit of panoramic mergers is the ability to create much higher quality images than you can with a single frame. Let's say you are working with a 12-megapixel camera. You could capture a single 12-megapixel frame, or you can zoom in a bit and capture that same composition in six overlapping images and merge them into a 48-megapixel panorama. In doing so you have increased the resolution of your camera by 400 percent. The image is less distorted, crisper, and capable of greater enlargement. Think

This panorama of Oregon's wine country is comprised of 32 images shot with a 50mm lens, and resulted in a 13-foot-wide print for a client. Had I shot it with a wide-angle lens, the image would have had extreme distortion, and would have lost significant detail when printed that large.

Sometimes, you'll find interesting things when you zoom in to look at a finished panorama. Looking at my wine country scene one morning, I noticed for the first time that there was another photographer working among the vines on that beautiful morning.

of the difference between old standard-definition televisions and our modern higher-resolution HD and Ultra HD screens. A similar increase in quality is possible with panoramic mergers vs. single-frame captures with a wide-angle lens.

I consider panoramic mergers whenever I want to create a huge print, be able to heavily crop an image, or zoom into an image to see crazy, spy-movie-like levels of detail.

For example, I created a panorama of Oregon's wine country for a client who wanted a 13-foot-wide print for their office. I could have captured the image with my ultra-wide lens and cropped it, but the scene would have appeared distorted and the print quality would have suffered at this level of enlargement. Instead, I captured 32 images with my 50mm lens and combined them into a panorama that provides high levels of detail at a large print size.

And sometimes you'll find something interesting: if you look at the detail crop (above), you'll see that there was another photographer working among the vines on that beautiful morning. I never saw him until I zoomed in to examine the final panorama on my computer.

SIMPLE PANORAMAS DEFINED

My sole focus in this book is to help you create simple panoramas. What do I mean by this? Well, simple panoramas have several important characteristics:

- First, they are composed of a **single row of images**. You can turn your camera vertical to capture more sky and foreground, but you are only going to capture and merge a single row of images.

- Second, simple panoramas **avoid fast-moving subjects**. You can include a person standing still in your composition or slow-moving clouds, but avoid including ocean surf, crowds of people, birds in flight and the like.

- Finally—and most importantly—simple panoramas **do not include elements that are close to the camera**.

This last point is key. Every camera's lens—even one on a smartphone—has a focus distance setting, called infinity, at which everything at that distance and further away appears to be in focus. The best simple panoramas do not include subjects or elements that are closer than your lens' infinity setting. For example, if you look at the panorama of Mount Hood with a crescent moonrise (page 9), you can see that the foreground trees and fog in this image are all further away than the infinity focus setting of my lens.

NOT ALL PANORAMAS ARE NARROW SLICES

A common misconception is that all panoramas are wide, short compositions. While I do create wide panoramas to capture ultra-wide scenes, I frequently capture panoramic images that are shaped like traditional single-frame rectangles, squares, or even tall, narrow, vertical compositions. I flipped my camera vertically and photographed Patagonia's Lago Torre (page 10) in five overlapping frames, simply because I wanted to capture the scene with more quality and resizability than was capable with a single frame.

Conversely, I kept my camera horizontal to capture a vertical panorama of the Empire State Building (also on page 10). As you can see, panoramas can be any shape you want them to be.

EQUIPMENT FOR SIMPLE PANORAMAS

Simple panoramas can be created without any specialized equipment. A solid tripod with the ability to do level panning moves from left to right is something I'd

This simple sunrise panorama of Mt. Hood works because the foreground objects are all further than the infinity focus setting of my lens.

Don't get hung up on the idea that all panoramas are wide. The photo above, of Patagonia's Lago Torre, is made up of five overlapping frames with my camera oriented vertically. Conversely, the image of the Empire State Building, on the right, was taken with a horizontal camera orientation. Panoramas like these give me much higher quality and better resizing capabilities than I could get with a conventional single frame.

highly recommend, but a handheld camera or a smartphone can yield great results when you pay attention to the setup of your intended panorama when you're in the field.

ADVANCED PANORAMAS

While we will not be creating advanced panoramas with this book, I think it's worth discussing what you can do after you've mastered the art of the simple panorama. Advanced panoramic techniques allow photographers to create seamless, higher-resolution, multiple-row panoramic images, panoramas with subjects in the frame much closer than infinity. Other types of advanced panoramas include 360° captures and HDR (high dynamic range) panoramas.

Advanced panoramas require a tripod head that allows level panning, as well as a nodal slider. The nodal slider allows the camera to slide back, positioning the lens over the head's axis of rotation. As a result, the slider must be calibrated for each different lens used.

Multiple-row captures require a few more specialized camera support pieces to ensure that the camera's vertical movements do not interfere with the nodal slider's calibration.

Not everyone wants to go that deeply into the world of panoramas, and, with the simple panoramic skills learned in this book, a few specialty camera support tools, and a bit more training, you will find that panoramas are a great way to capture higher resolution, wider angle, and less-distorted images in nearly any photographic situation you encounter.

PANORAMAS MADE SIMPLE

HOW TO CREATE BEAUTIFUL PANORAMAS
WITH THE EQUIPMENT YOU HAVE—EVEN YOUR PHONE

HUDSON HENRY

COMPLETE
DIGITAL
PHOTOGRAPHY

COMPLETE
DIGITAL
PHOTOGRAPHY