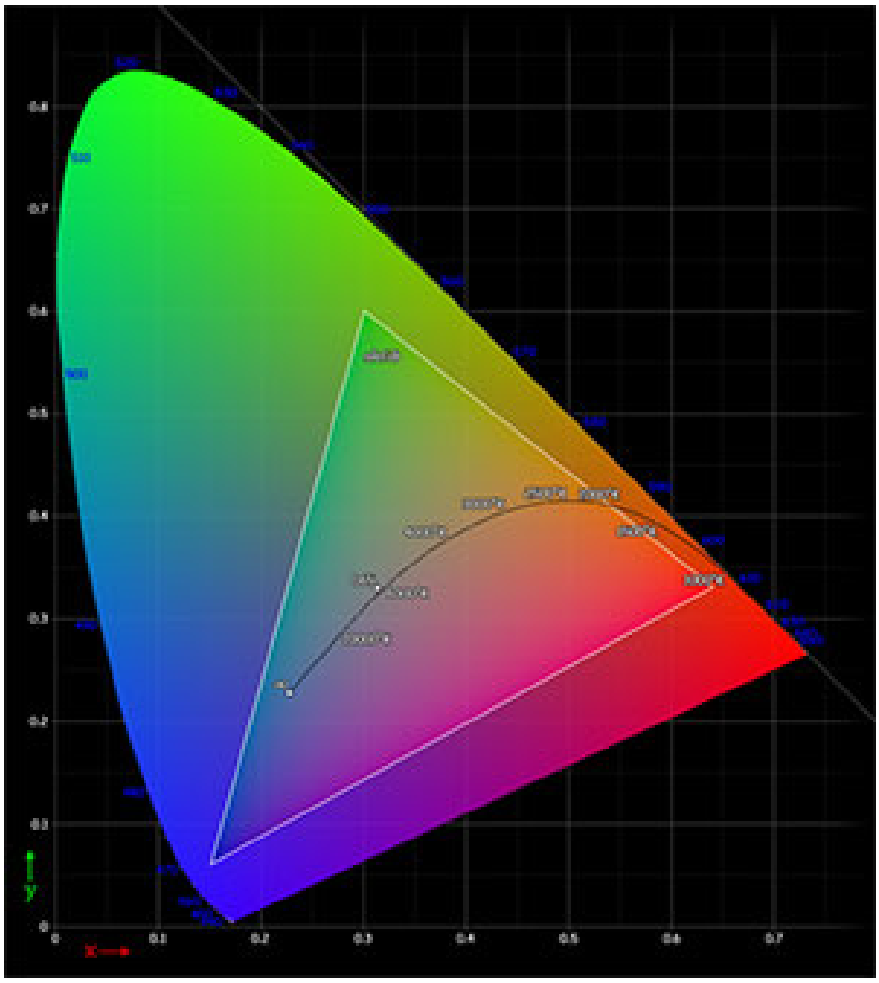
What is color space?

Whenever you take a photo, the digital camera's sensor records information about colors from the outside world. What most people don't know is that you can choose how much color detail the camera will record.

A larger color space captures more colors. In this article, let's learn with TipsMake what is color space and how does it really affect?

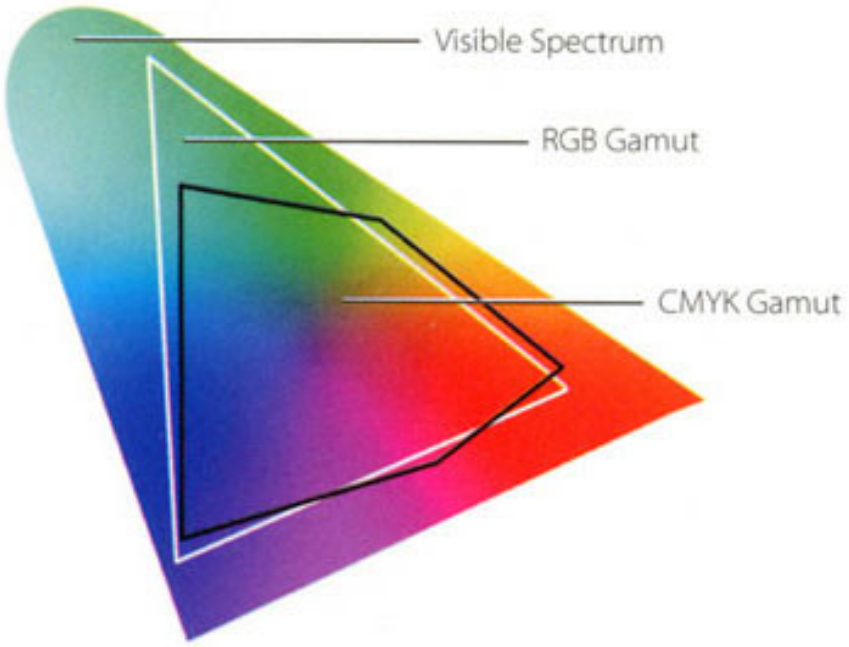
What is color space?

There are countless ways you can mix colors together. For example, just add a little green somewhere, you get a new color. This is the best way to visualize the color space. Large color spaces have more color combinations than small color spaces.



Color spaces are named after their base color. So you get RGB (Red-Cyan-Cyan), sRGB, and CMYK (Cyan-Magenta-Yellow-Black) color spaces. If you look at the color chart above, the triangle represents the sRGB color space, the color space used on most cameras, computer monitors, and printers.

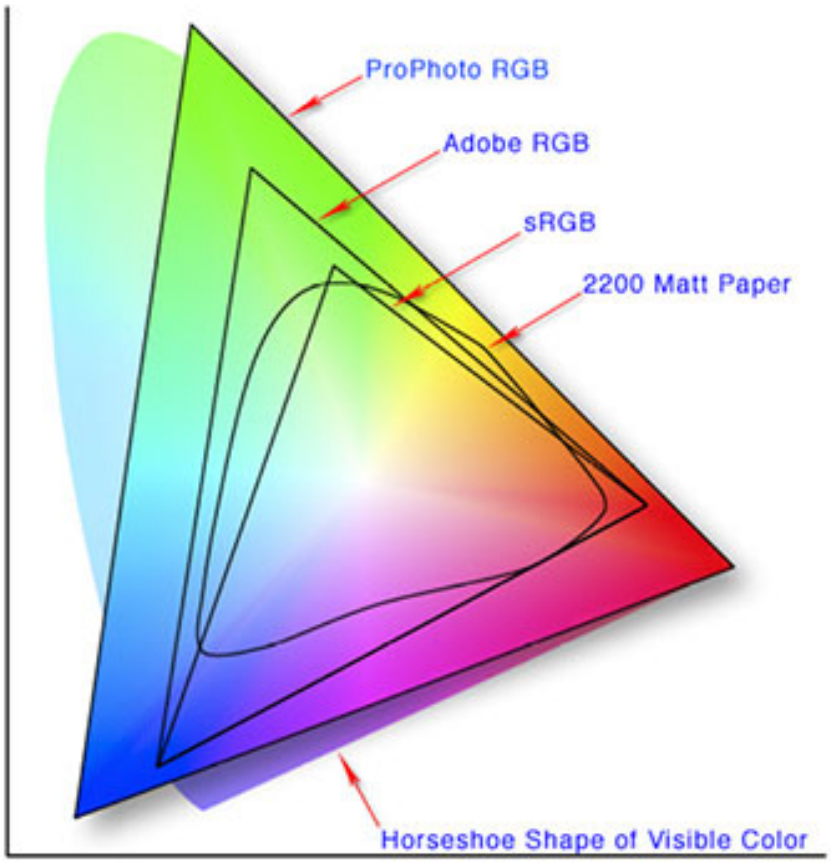
You'll also see how the sRGB color space fits into the total visible spectrum, which is the larger rounded triangle. Like said earlier, this larger space contains all the different possible combinations of blue and green, red and blue, green and red, or all three. Any color space fits into a larger map of different color combinations.



You may also have heard of a term called gamut. Gamut simply refers to color spaces.

Larger color spaces

In an effort to improve professional-grade image quality, companies have been working on printers, monitors, and cameras that can handle larger color spaces. Two of those spaces are the Adobe RGB and ProPhoto color spaces. If you look at the diagram below, you can see how they stack up against the standard RGB (sRGB) color space.



As you can see, they are clearly larger. They cover the entire sRGB space, not excluding any colors in that gamut.

What is the use of shooting in RAW format?

If you set the default format on your camera to JPEG for file processing, the camera is most likely using the sRGB color space. Some cameras allow you to capture JPEG Adobe RGB or ProPhoto RGB images, but you'll need to enter that setting manually. This makes it easier to print photos at the store.

Most commercial printers use the sRGB color space. They can't even print photos directly from the memory card unless they're in this format. So if you want the convenience of printing directly from the card, use sRGB.

If you shoot in RAW, you can choose the color space you want to use later in post-processing (when you use Photoshop on a computer). This is the best possible choice for professional photographers, who have access to high-end monitors and printers that can actually do something with the additional color information. If this description works for you, you probably already know what a color space is and why it matters.

Why should you stick with sRGB for now?

Unless you're a professional photographer working with very demanding clients, there's really no need to work in the larger color space.

You can't buy an affordable computer monitor or printer that works in the Adobe RGB or ProPhoto RGB color spaces. The industry standard is sRGB. Most people viewing your photos on the web won't be able to see all of those additional colors, even if you've taken every measure to distribute them.

Of course, all of this is subject to change when there are some new product announcements, so you have to pay to stay up to date. If monitors operating in the Adobe RGB or ProPhoto RGB space become the norm, it would make sense to start taking pictures of those screens. For the time being, the world is still in the 'stone age' when it comes to colors, so stick with sRGB.