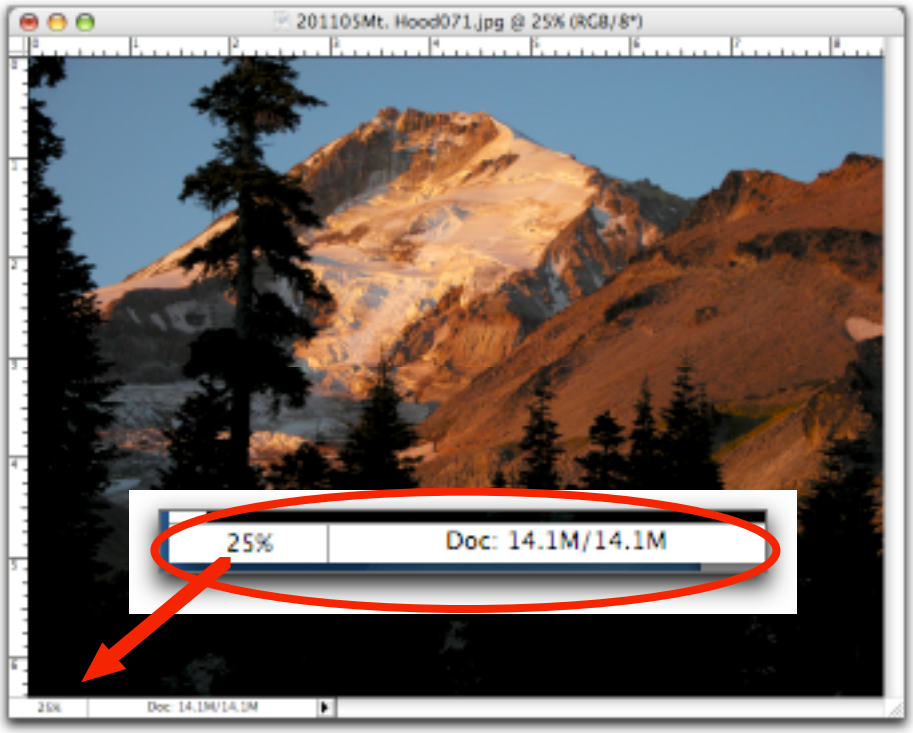
Resizing Images for Screen or Print

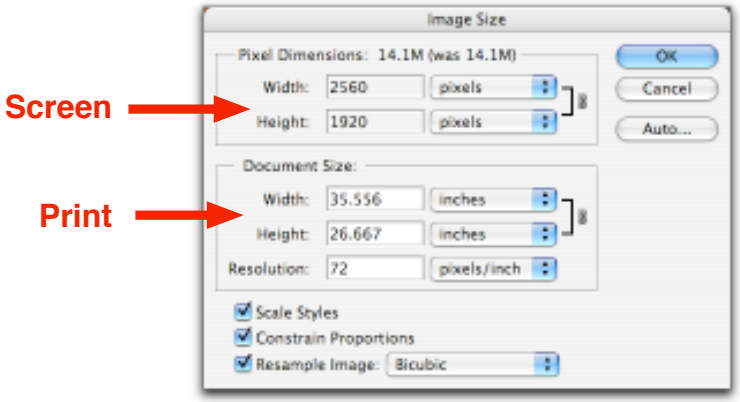


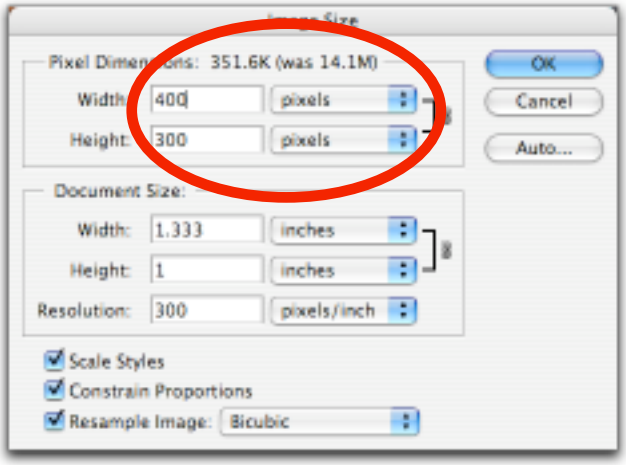
The Picture

Here is a picture opened in Photoshop (these directions reference the **Image Size** dialog box in Photoshop and Photoshop Elements, but the principles hold true for other image editing software, such as Fireworks).

A peek at the bottom left corner reveals that it is being displayed at 25% of its full screen size (not print size) and that it's a big file: 14.1 MB. Is it too big, too small, or just right? That depends on what you want to do with the picture.

We will talk about two basic workflows: going to a **screen** (web page, email, PowerPoint, etc.) and to **print** (it's going on paper).





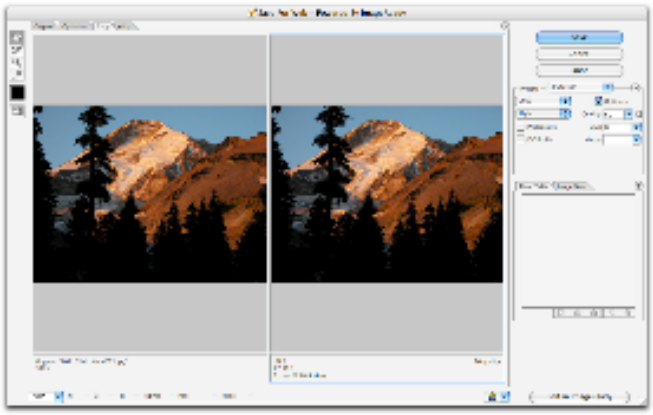
Screen

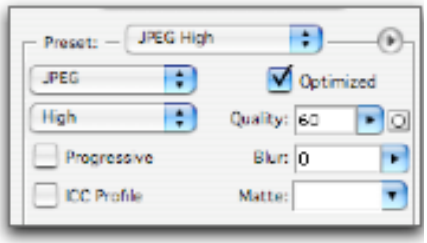
The **Image Size** dialog box **(Image > Image Size** in Photoshop**; Image > Resize > Image Size** in Elements) is broken into two sizing areas. If you are going to **screen** for whatever reason, you need only be concerned with the top portion. Ignore the bottom part.

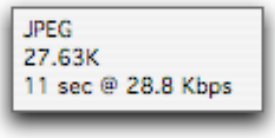
The only problem is you need to know how big you want it to be on the screen. For example, when I prepare a picture for the web, I typically make it 400 pixels in the largest direction (the other dimension will adjust itself automatically). I may have to fine tune if I find that it's too big or too small. Notice that by doing so, my file size went from 14 MB to 350 KB. In a minute we'll see how to get the file size even smaller for web pages or emails.

If you're making it for **your** screen, that's that. But if it's for others (e.g. a web page), then how big or small it will look to them depends on what resolution their monitor is set to (probably the two most standard monitor resolutions are **800 x 600** and **1024 x 768** pixels). You need to find a happy medium.

Save for Web

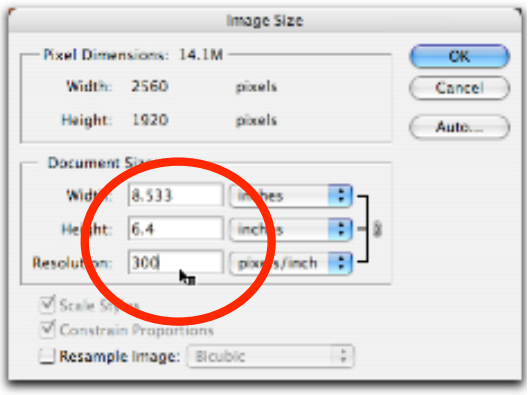






In both Photoshop and Elements you can further reduce file size without hurting quality too much by choosing **File > Save for Web**. The **Save for Web** dialog box shows both the original (no compression) on the left and how it will look with the current settings on the right. In this example, I chose JPEG as the format because it's a photograph (choose GIF it's made up of large areas of a single color, like a cartoon) and chose 60 from the quality pull-down menu. You can see above that those settings yield a picture that looks pretty good, is the same physical size as the original, but is less than 28 KB in file size (remember the original downsized amount was 351 KB). When you click OK, you'll be asked to give the file a name and location for this copy. After that, close the original version without saving any of the changes (like resizing) so you have the full original to go back to if necessary. We've gone from a 14 MB high resolution picture to a 28 KB copy appropriate for use in email, web, presentations, or video.

Print



If your goal is to put this picture on paper, then you need to focus on the lower portion of the dialog box. Here you need to be concerned about two different issues: physical size and Resolution.

If you recall, when we first opened this picture (prior page), its print size was 35 inches by 26 inches at 72 pixels per inch (ppi; sometimes referred to as dpi for dots per inch). Not what we want. As a rule of thumb, images to be printed should shoot for a resolution of around 300 ppi. That's the industry standard. Many people use 225 ppi to print to high quality ink jet printers or 150 ppi to a laser.

To increase the resolution (and reduce the print size as well), deselect the **Resample Image** choice, and then change the resolution to 300 (or 225 or 150 or ...). What happens if we do not resample is that the pixels are made smaller so that it takes more of them to make up an inch; high resolution really means smaller pixels (and because the pixels are smaller, they take up less physical space; above you can see the image is now sized to a more manageable size of about 8 inches by 6 inches).

If you need to hit a target size (say 5 inches by 7 inches), you can change one of the dimensions (the other will resize automatically) instead of the Resolution. Then look at the new resolution and see if there is enough resolution for your purposes. If the new resolution is too high or too low, re-enable the **Resample Image** box and change the resolution to your target. Resampling either invents new pixels (bad) or throws away extra pixels (OK) to meet your request. The rule of thumb is it's OK to go from a high number to a lower number. If you go from a low number to a high number, there will be a quality hit. You can get away with maybe 10-20% increase without much penalty, but do this only if you have no other choice. Now you know how to take a picture from your digital camera (or anywhere else) and repurpose it for printing or screen use. You can quickly prepare the original for its intended purpose.