

Images in L^AT_EX Documents

Because this involves importing and marking-up external files, this can get rather complicated. I'm going to be brief and give you the most basic way of including images in your L^AT_EX documents.

First and foremost, images are included with the `graphics` package. I think this package is now standard, so you may already have it. If you don't, find it and install it. At any rate, you need to call it up, so you should add `graphics` to the list of packages in the `\usepackage` line in your header.

The main problem is that your image must be recognizable to your printer driver as well as the PostScript generation undertaken by L^AT_EX at the dvi stage. Right now, (essentially) the only way to do this is to save all your image files as `.eps` files (for "Encapsulated PostScript"). I don't think many common image editors know what `.eps` is, so you'll need a way to convert your `.jpg` or `.gif` image into the `.eps` format. The absolute easiest way to do this is to use a free on-line image converter, making sure what you use is legitimate and not passing viruses on to your machine. I use the site

<http://image.online-convert.com/convert-to-eps>

which has never let me down.

So let's assume this technicality has been addressed. How do I now insert an image into my document? Suppose I want to include the picture `passage.eps`, centered in the page (this is a photo of a group of sea kayakers in the Inside Passage, which is my dream vacation). We first declare that we will be inserting an image with `\begin{figure}[h]`. The `[h]` stands for "here." If you want your figure to appear at the bottom of the page instead, you would use `[b]` (and similarly for figures at the top of the page).

I want to center this image, so I'll start a centered environment with `\begin{center}` next. Now it's time to call up the image: this is done with the `\includegraphics` command. Here is the complete code¹ to insert and center the photo `passage.eps`:

```
\begin{figure}[h]
\begin{center}
\includegraphics{passage.eps}
\end{center}
\end{figure}
```

Here's the effect of this code:



¹The image file must be in the same folder as your source code!

If you want to resize this, simply create what \LaTeX calls a *scalebox*, which is an imaginary box in the page that can be re-scaled by the user. This will allow you to resize your image *within your \TeX code* without having to resize and re-convert with a separate image editor. The `scalebox` command is entered as `\scalebox{p}`, where $p > 0$ is the scaling factor to be applied to the image. So if you wanted to shrink your image to 60% of its original size, you would code `\scalebox{0.6}`. Want to enlarge by 20%? Then use `\scalebox{1.2}`. Note that `\scalebox{1.0}` has the effect of not scaling at all.

Let's scale this picture up by 20%. Here's how to create a `scalebox`

```
\begin{figure}[h]
\begin{center}
\scalebox{1.2}{\includegraphics{passage.eps}}
\end{center}
\end{figure}
```

and here's the effect:



You can also include captions! This is done with—big shock—the `\caption` command. For example, to insert the original photo sized down by 20% with the caption “Dress warmly!” we would code

```
\begin{figure}[h]
\begin{center}
\scalebox{0.8}{\includegraphics{passage.eps}}
\caption{Dress warmly!}
\end{center}
\end{figure}
```

with the result:



Figure 1: Dress warmly!

HELPFUL HINT: If you wish to create a pdf file of a document with images, you must convert the document *twice*.² You must make the dvi file into a ps (PostScript) file and then make the ps file into a pdf. Luckily for WinEdt users, there is a single button that does all this for you. Once you have your dvi output the way you want it, tap the `dvi` → `pdf` button and let it run. You should now have a pdf version of your document!

²Why? Because Adobe Acrobat does not recognize EPS files.