


Begin

Quick Overview

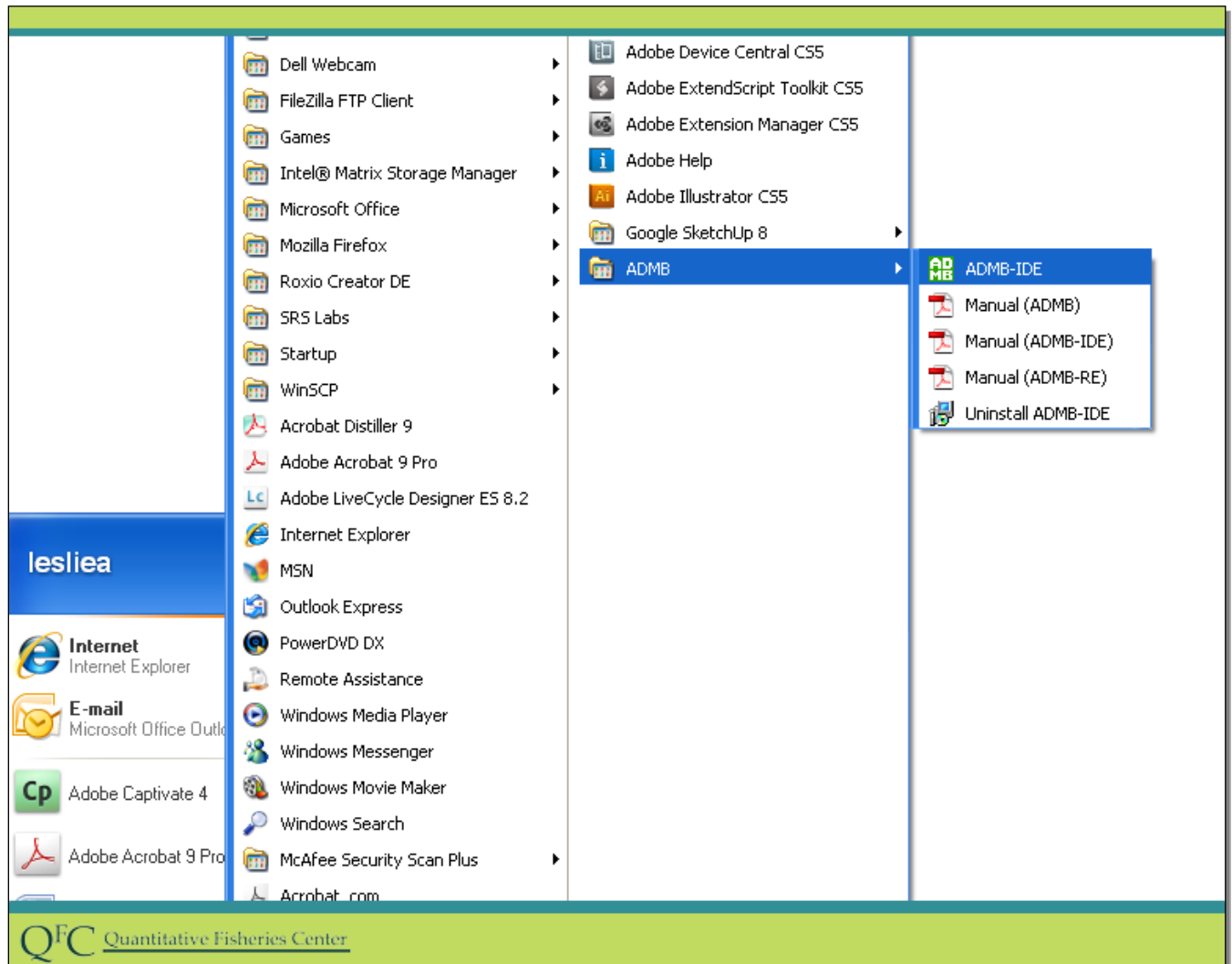


This video was created using ADMB-IDE release 4.4.0-2 (January, 2011)
You may notice some minor differences if using a different version.

QFC Quantitative Fisheries Center

This video is based systems as they existed in January 2011. Please take into account that some changes may have occurred since this video was created and take that into account when interpreting these instructions.

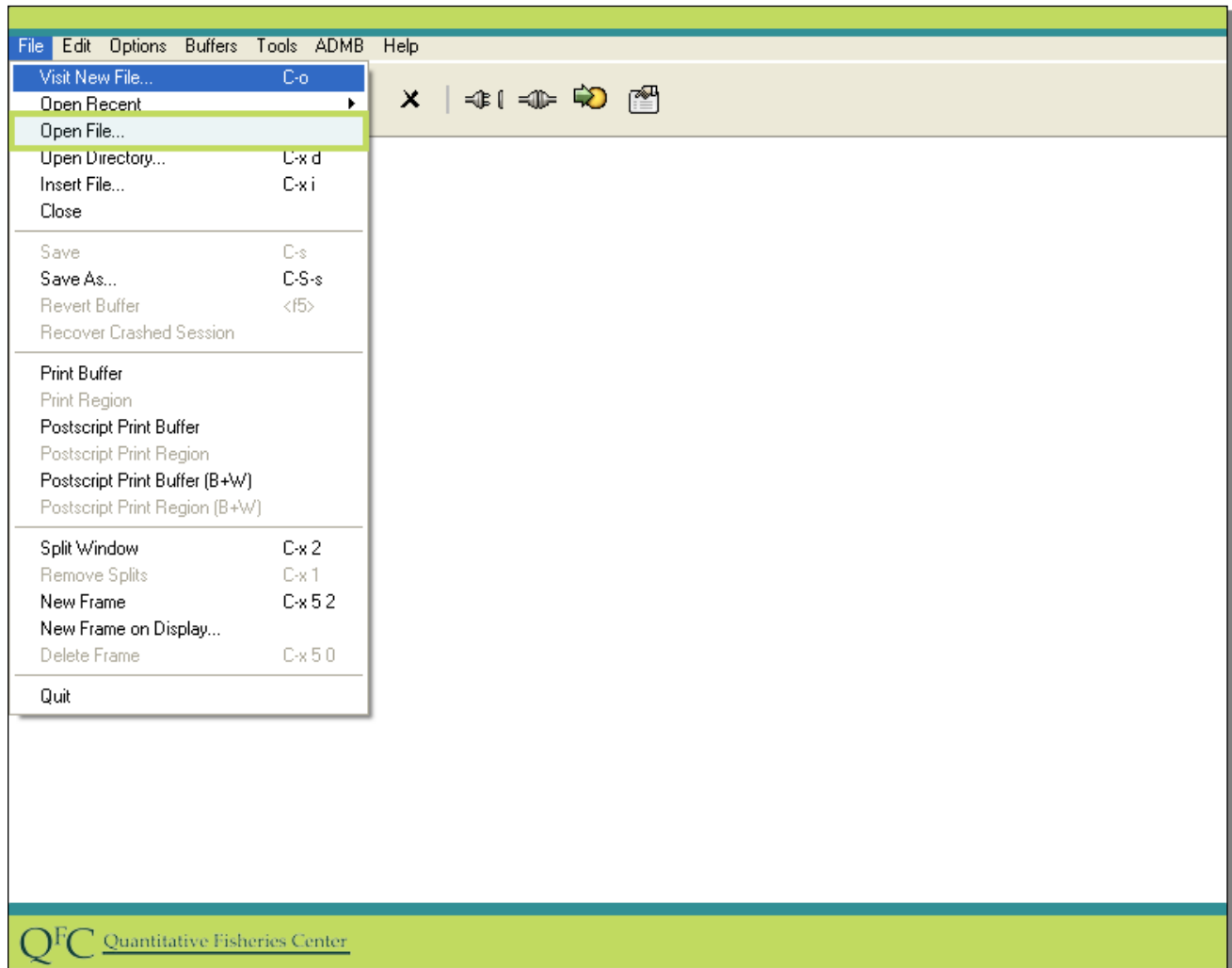
Opening ADMB



You can open ADMB by clicking on the icon on your desktop if you placed one there in the installation process, or by

1. going to the start button
2. to all programs
3. when you click on “ADMB-IDE” you actually are opening a version of the Emacs editor that has been tailored to provide ADMB functionality.

Opening Documents



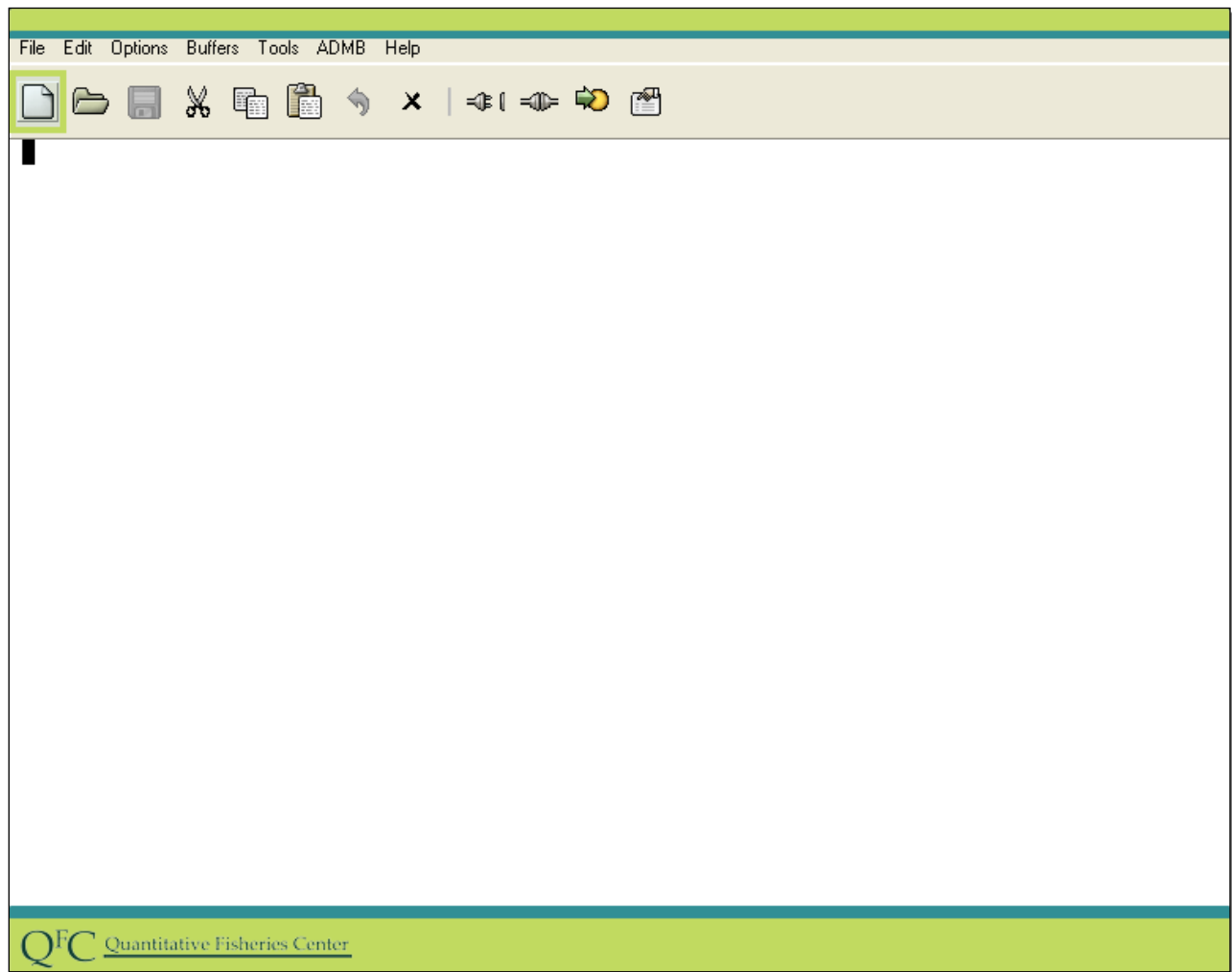
A new file opens when you launch ADMB.

You could also create a new file by

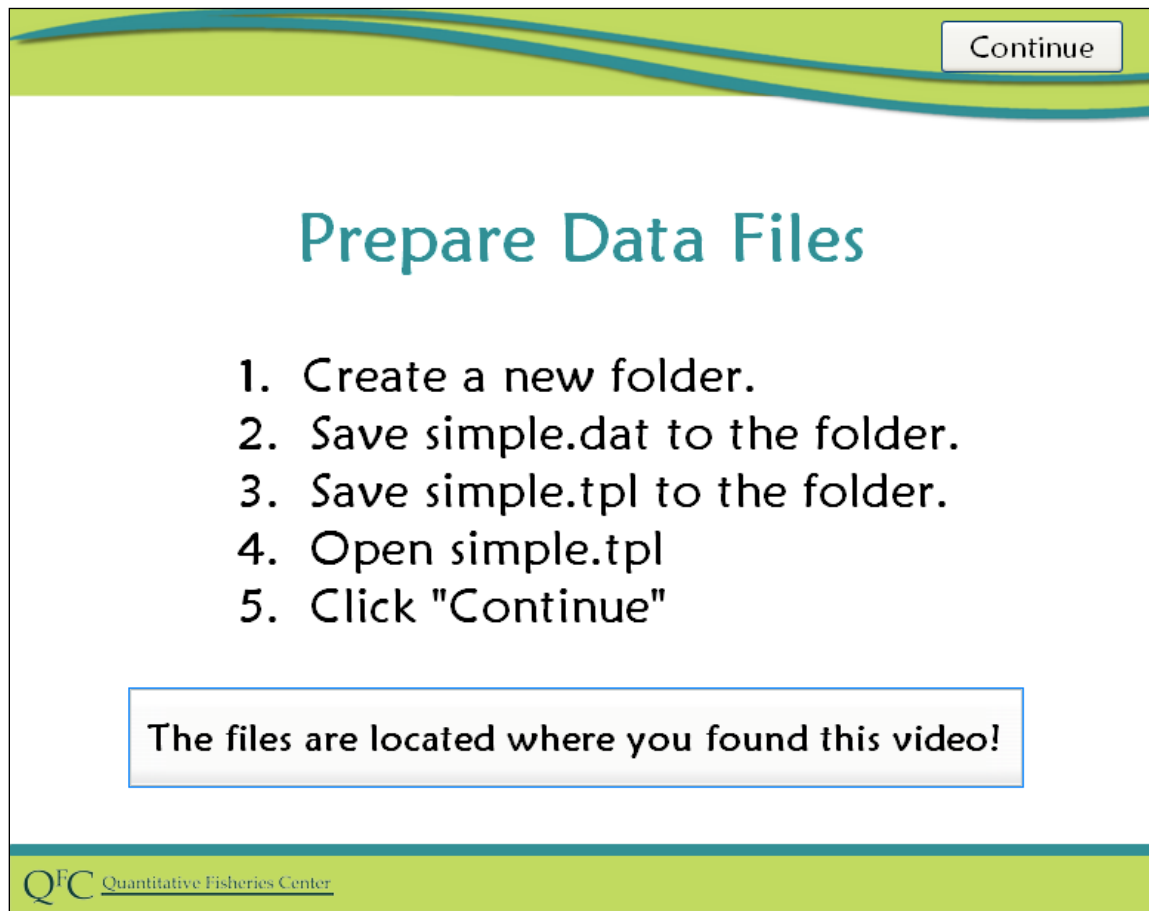
1. going to file
2. then visit new file.

You could select open file to open a file you already created.

- You would select the file you want then hit open.



You could also press the new button to open a new document.



The screenshot shows a video handout slide with a green header and footer. The header contains the text 'Continue' in a button. The main content area has a title 'Prepare Data Files' and a list of five steps. Below the list is a text box stating 'The files are located where you found this video!'. The footer contains the 'QFC Quantitative Fisheries Center' logo.

Continue

Prepare Data Files

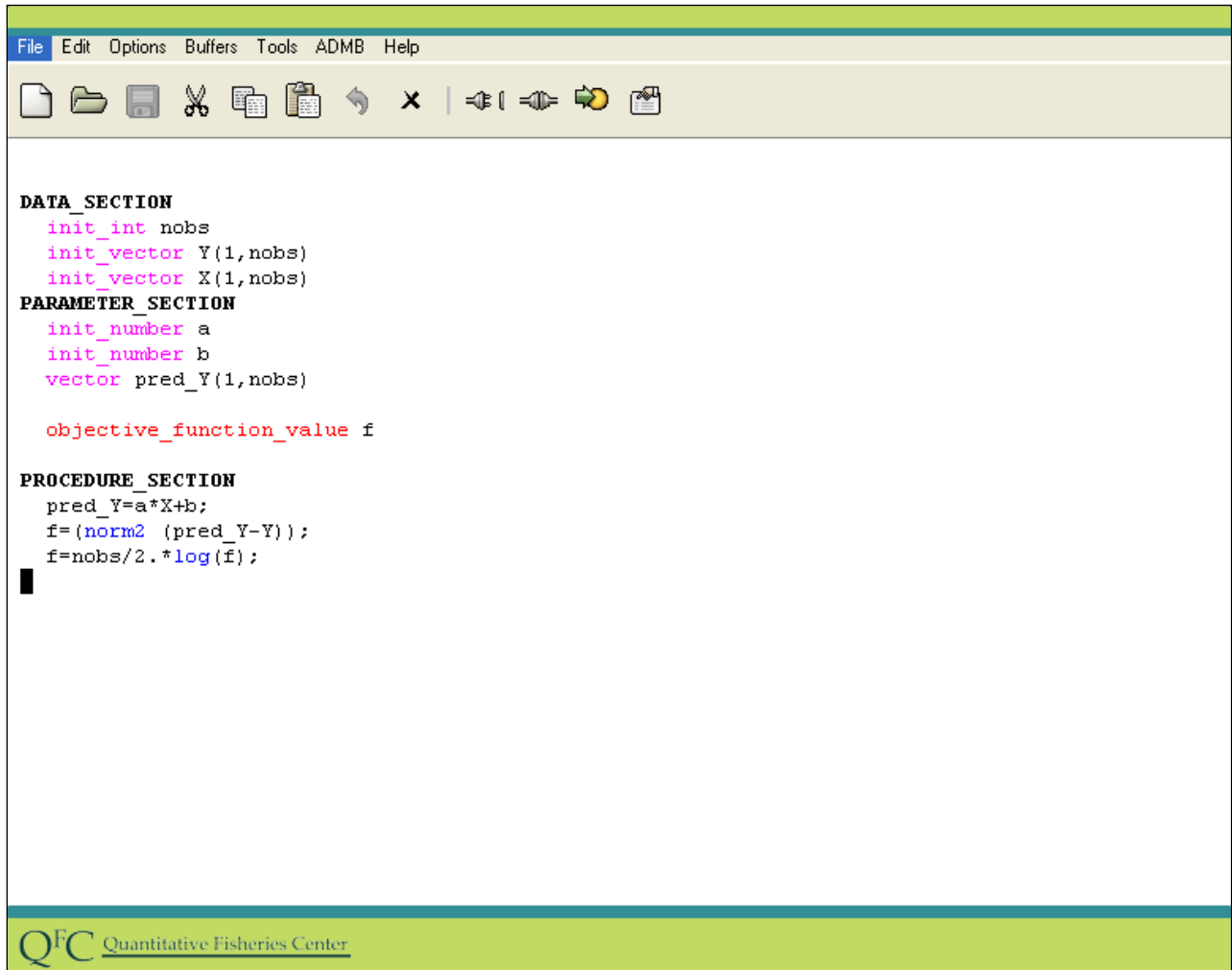
1. Create a new folder.
2. Save simple.dat to the folder.
3. Save simple.tpl to the folder.
4. Open simple.tpl
5. Click "Continue"

The files are located where you found this video!

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Prepare the files needed for this video if you would like to follow along.

ADMB Interface



```
File Edit Options Buffers Tools ADMB Help

DATA_SECTION
  init_int nobs
  init_vector Y(1,nobs)
  init_vector X(1,nobs)
PARAMETER_SECTION
  init_number a
  init_number b
  vector pred_Y(1,nobs)

  objective_function_value f

PROCEDURE_SECTION
  pred_Y=a*X+b;
  f=(norm2 (pred_Y-Y));
  f=nobs/2.*log(f);
```

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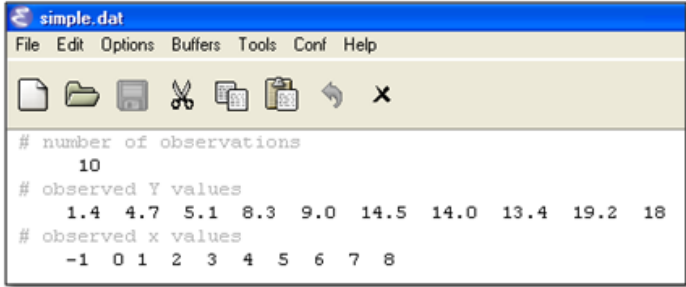
I opened a sample document to demonstrate ADMB to you. First, take a moment to look at the menu options. There are many options available from the drop down Emacs menus. We will only consider some of the options and ADMB tabs during this video but there is much more and you may want to browse through them to see what is there.

ADMB Files

Continue

2. Data .dat

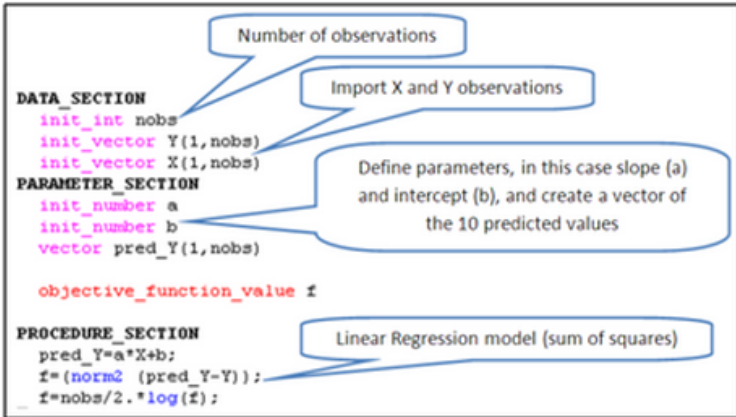
1. Template .tpl



```

# number of observations
10
# observed Y values
1.4 4.7 5.1 8.3 9.0 14.5 14.0 13.4 19.2 18
# observed x values
-1 0 1 2 3 4 5 6 7 8

```



```

DATA_SECTION
  init_int nobs
  init_vector Y(1,nobs)
  init_vector X(1,nobs)
PARAMETER_SECTION
  init_number a
  init_number b
  vector pred_Y(1,nobs)

objective_function_value f

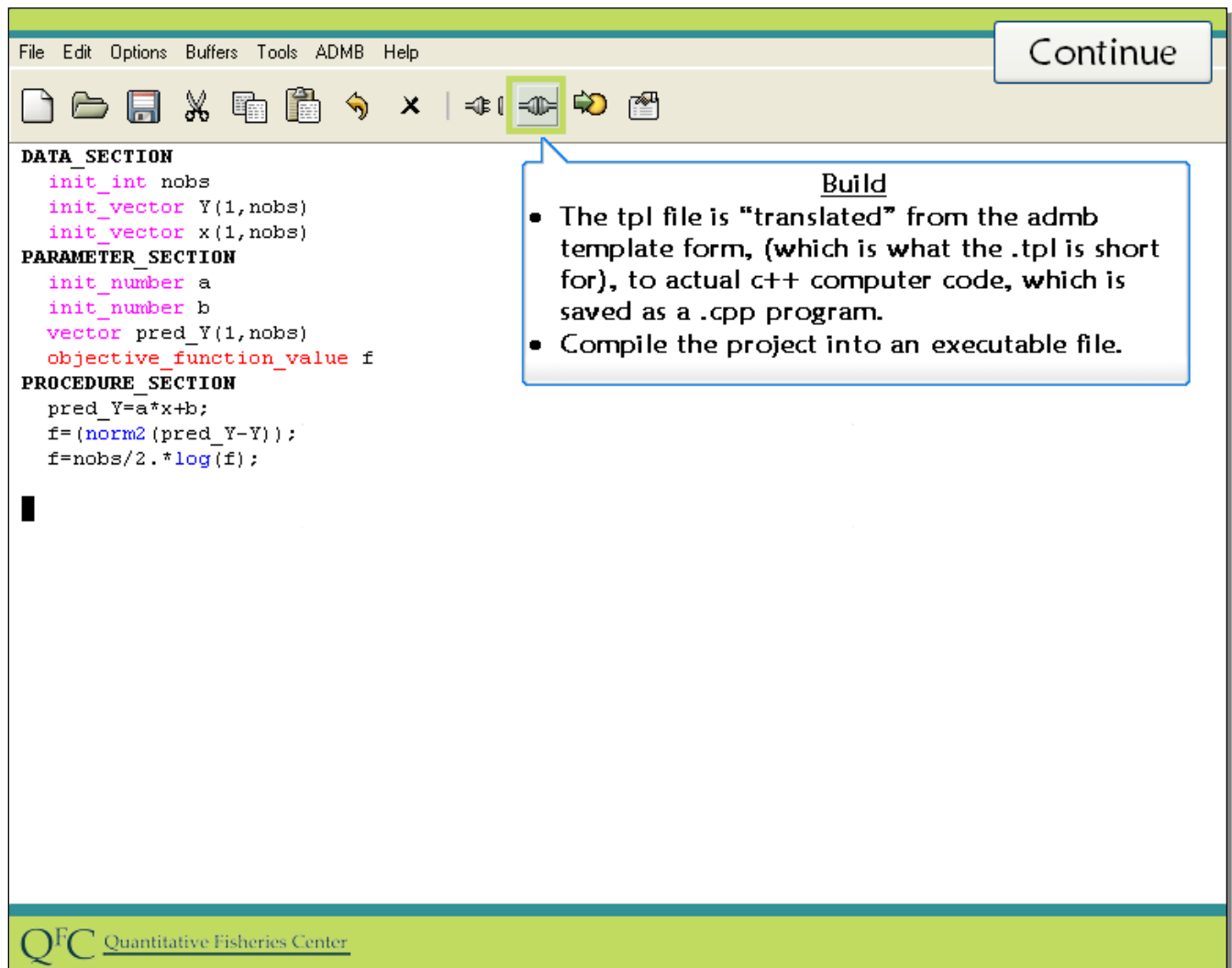
PROCEDURE_SECTION
  pred_Y=a*X+b;
  f=(norm2 (pred_Y-Y));
  f=nobs/2.*log(f);

```

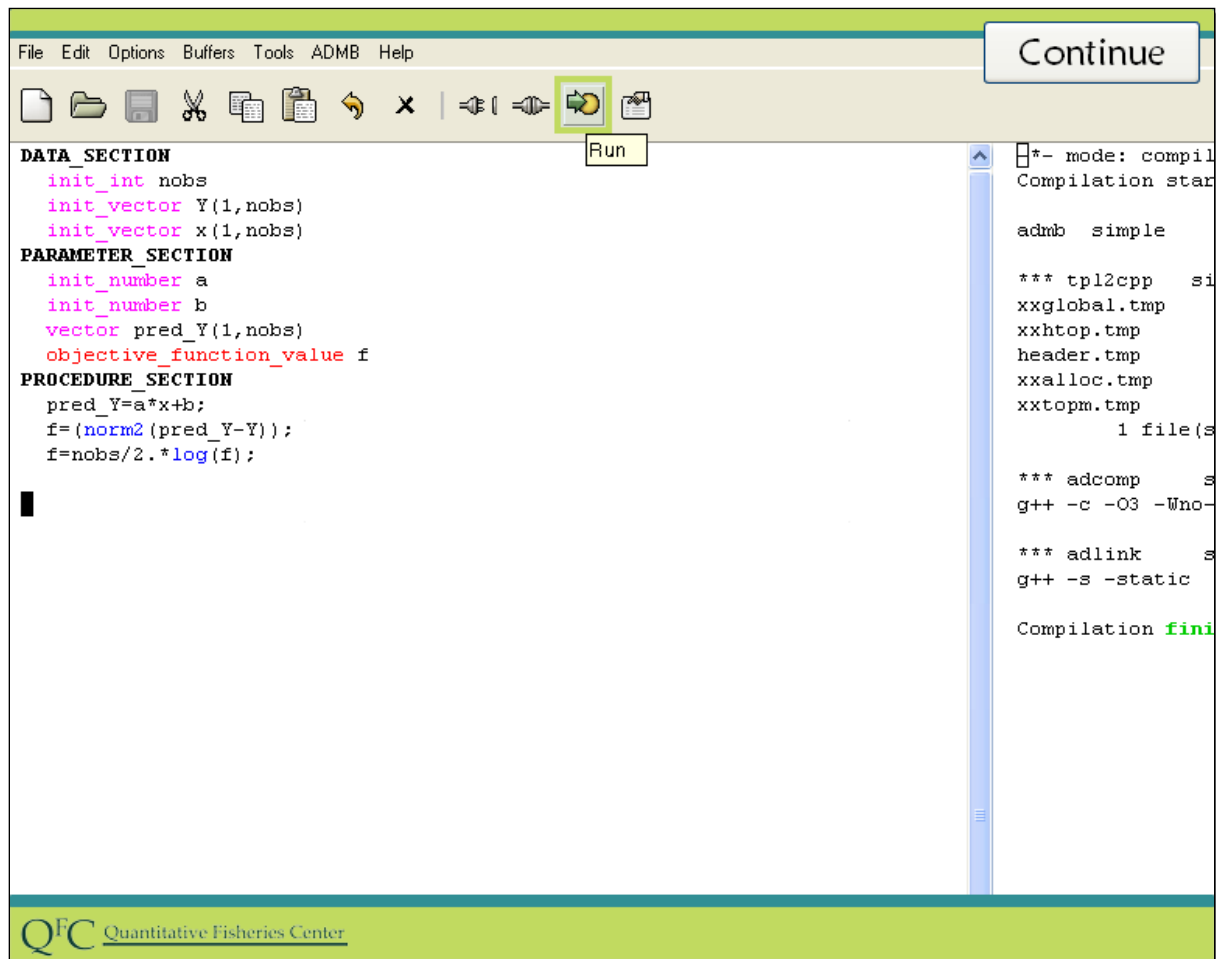
3. Initial Parameter Values .pin

I opened an example named simple that performs a simple linear regression. Every ADMB application requires two files; a template which specifies a complete model and the data. As you can see, the template contains a data, parameter and procedure section. The data section pulls the observed data from the .dat file which holds the data. Sometimes you will have an additional input file which stores the initial parameter values.

Running the Model



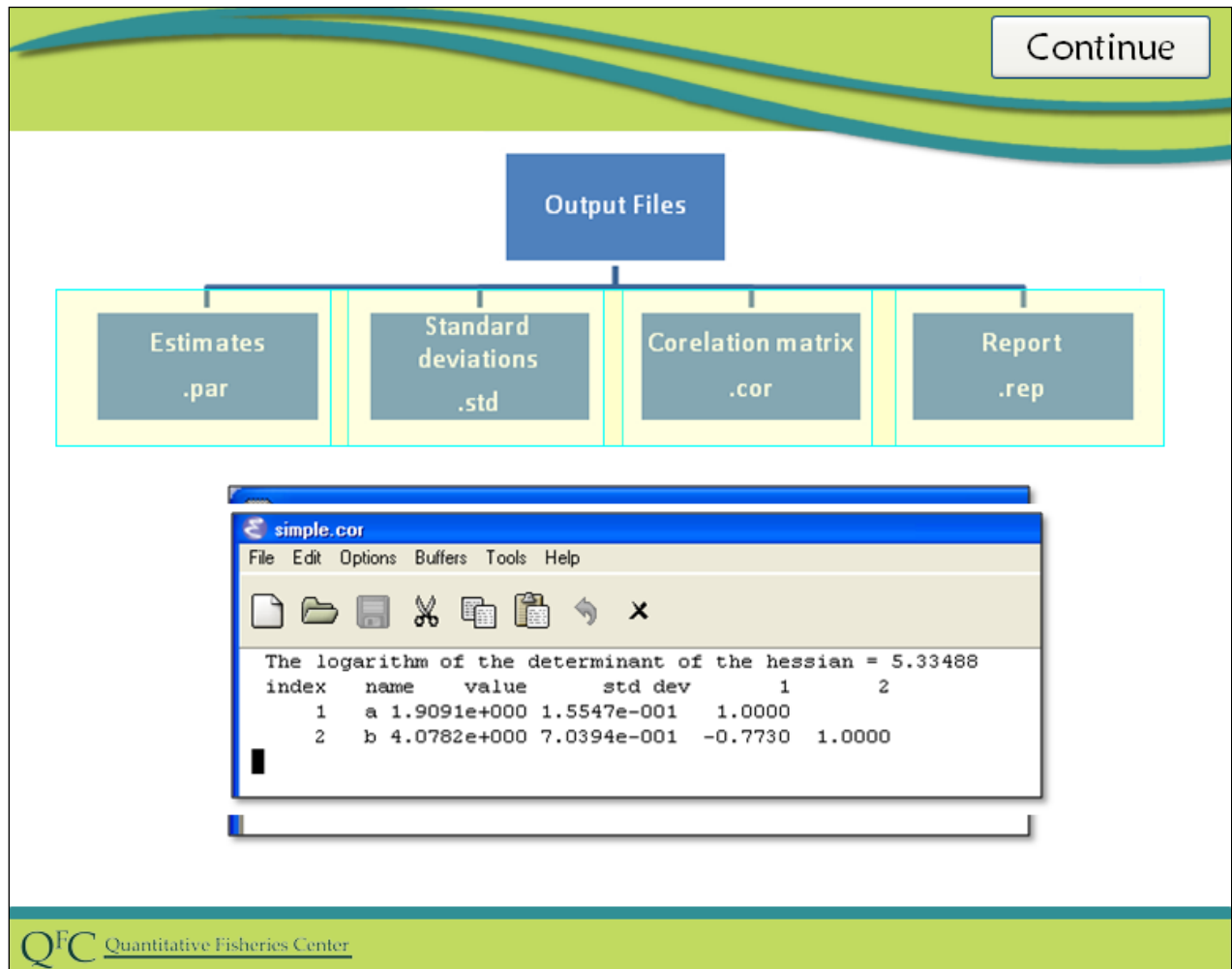
Running the model is easy, simply click the "Build" button to compile the project into an executable file. A lot is going on when you click the build button much of which is beyond the scope of this basic installation and first use video. However knowing the basic steps that happen is important. The admb choices like build appear when you have a .tpl file open. When you click on build your current .tpl file is automatically saved. That tpl file is then “translated” from the admb template form, which is what the .tpl is short for, to actual c++ computer code, which is saved as a .cpp program. This computer code is then converted into an executable file during a compile and link step. At this point it is worth knowing that there is a distinct “translation” stage where your tpl file is used to create c++ code and a compile and link stage. If you have problems you could get admb errors when you translate or errors from the c++ compiler depending on whether admb does not recognize how to translate your tpl or the compiler does not understand the resulting code. It is possible to run the translate, compile, and link stages separately.



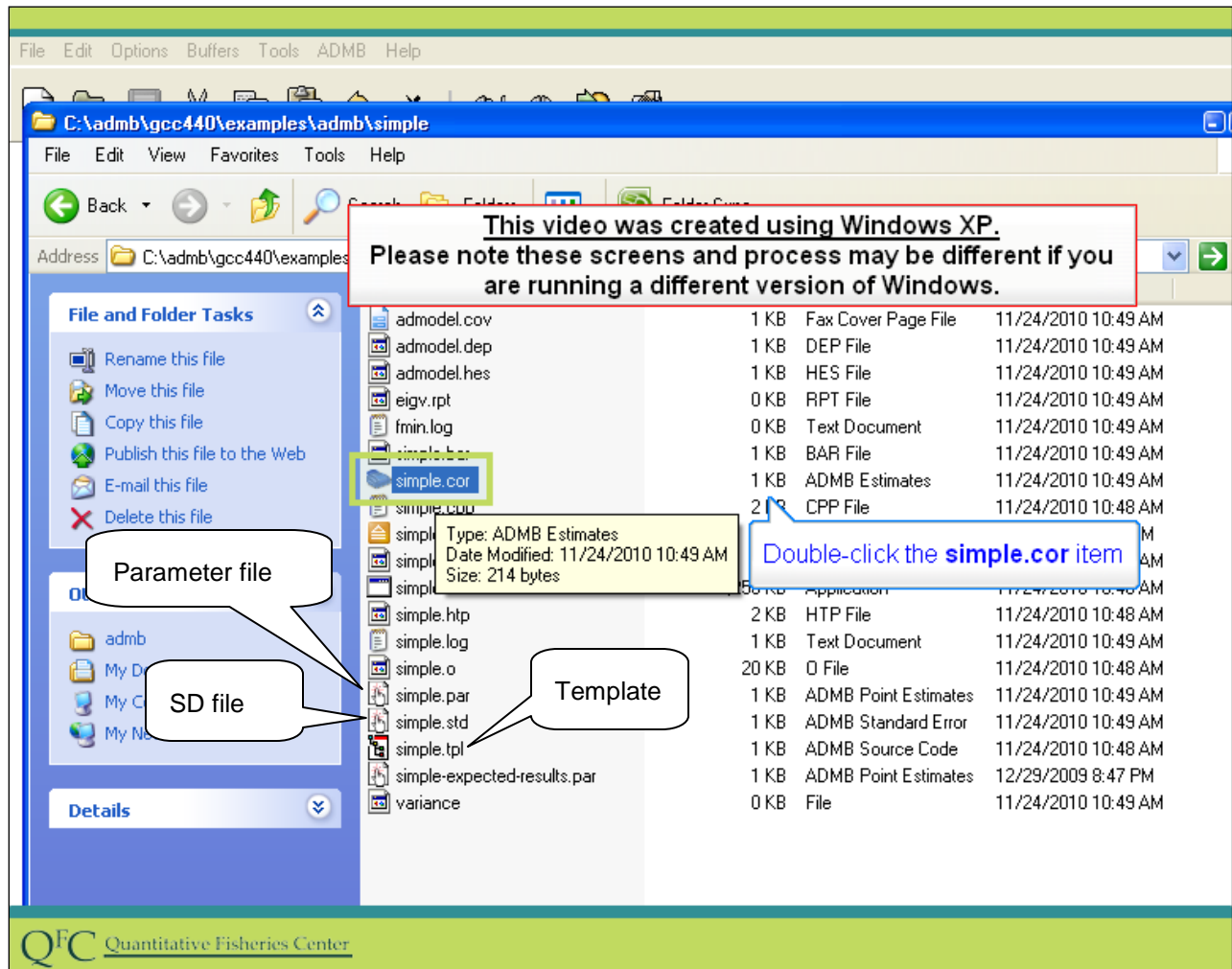
Then click the "Run" button to run the model. By default the version of ADMB-IDE we are using uses the so called-optimized ADMB libraries. In these videos, including the program we just ran, we use these libraries except in the video where we demonstrate the use of the safe mode. Some experienced ADMB users advocate always using the safe mode except when working with debugged programs that really need the added speed of the optimized mode.

You can switch to the safe mode by clicking on dash s, safe under the target section of the admb menu before you build your program. You can determine if you are in safe mode by checking to see if there is a check mark next to the dash s safe. You can learn more about safe mode by viewing the ADMB - Safe Mode video. The benefits of using safe mode will be clearer and the video on this mode will be more understandable after you have learned about loops, which is covered in a later video series.

The Results



When you build and run your ADMB executable a number of new files are created in the same directory where your tpl was originally located. Many of these are binary files that are used by your admb executable but there are several results text files that are of interest. You will almost always be interested in the results files shown here. First, the parameter estimates are held in a .par file. The .std file contains the estimates and their standard deviations, which technically are also referred to as asymptotic standard errors. The .cor file contains the estimates, standard deviations and the correlation matrix. The report file is very useful, but one was not created for this simple example.

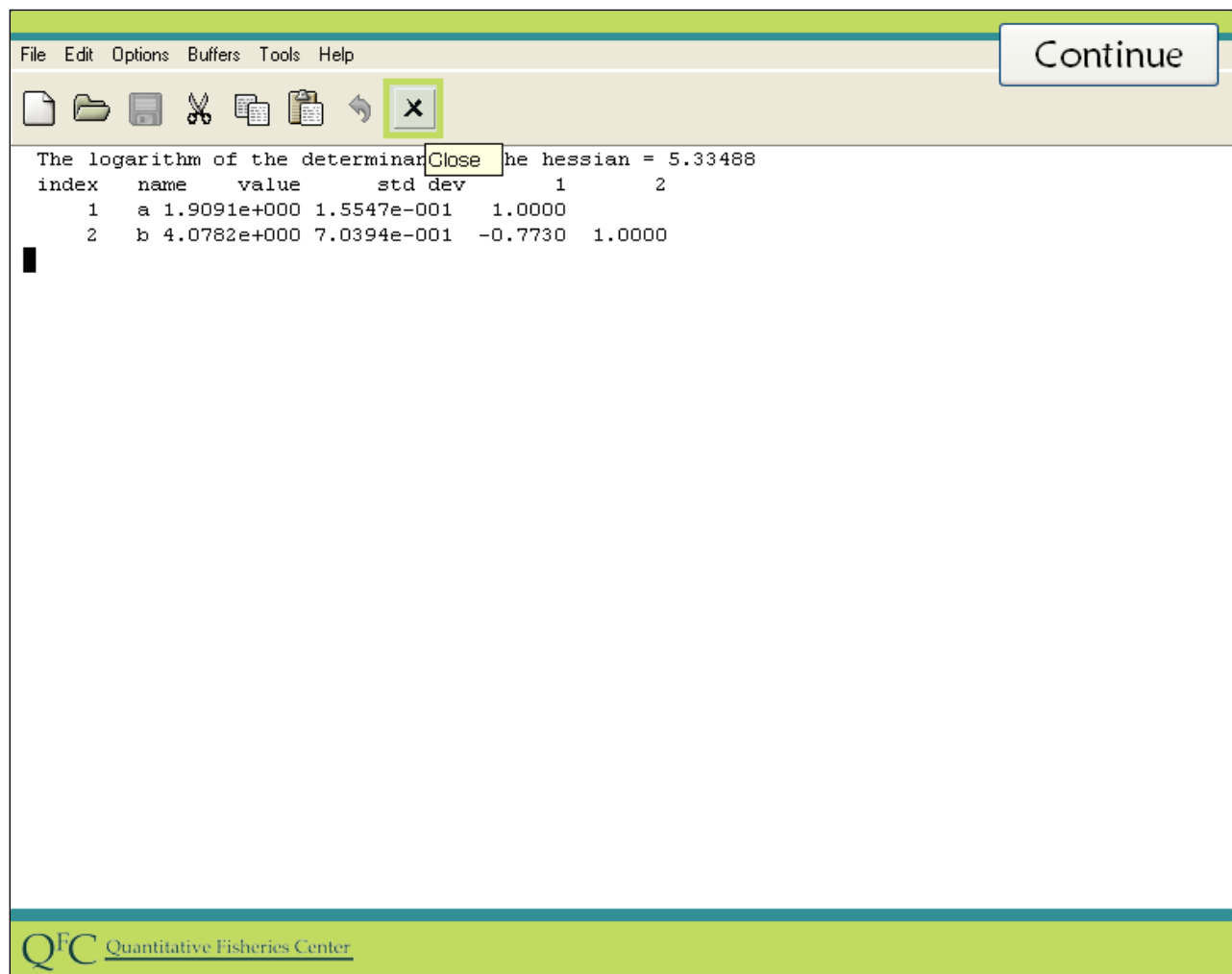


You can find these output files in a couple of ways. First, go to the folder where your tpl was and where the result files were saved.

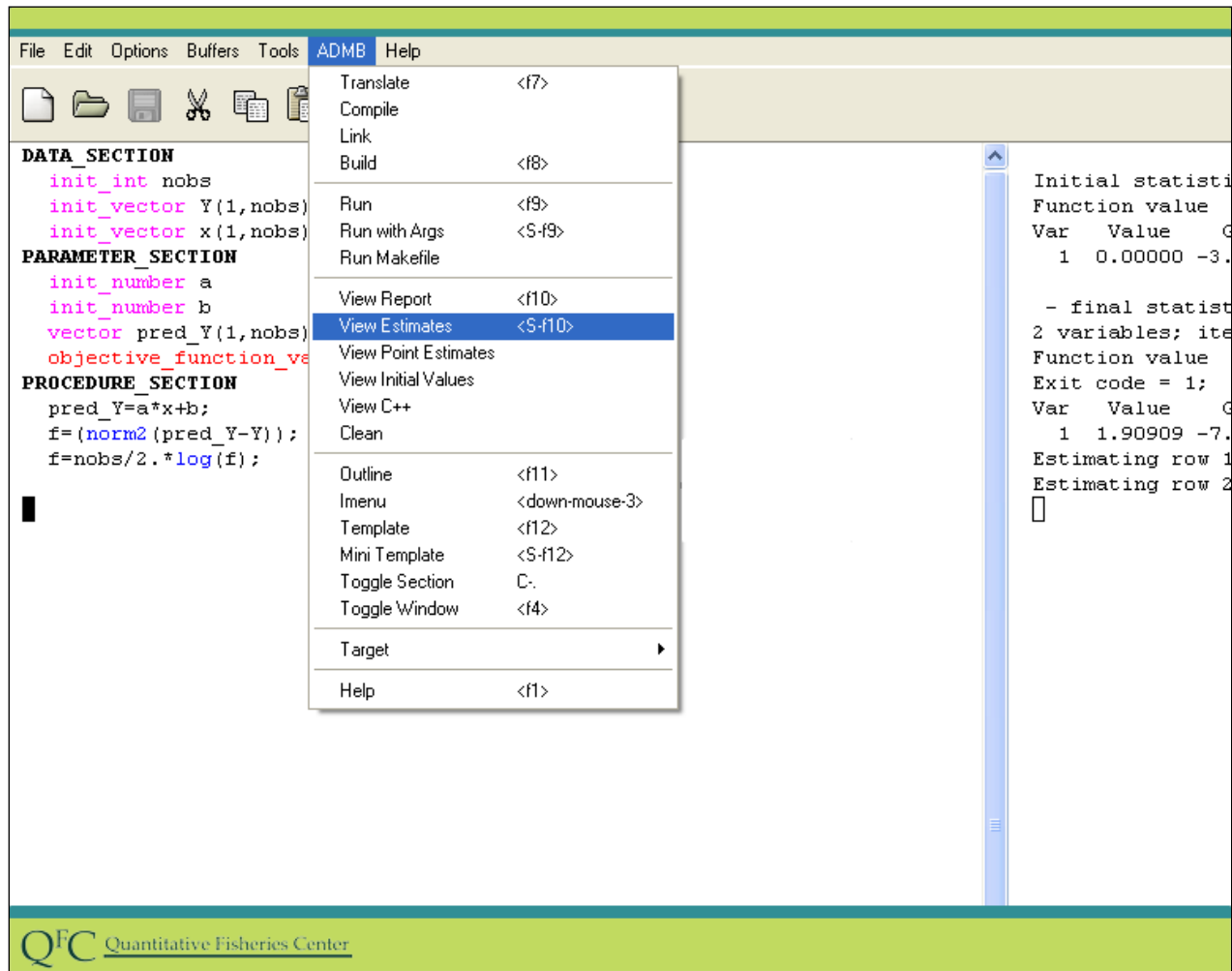
You can see that the original template file that holds the model is here along with the newly created standard deviations file

and parameters file along with the cor file containing the correlation matrix.

We can open this correlation file by double-clicking it.

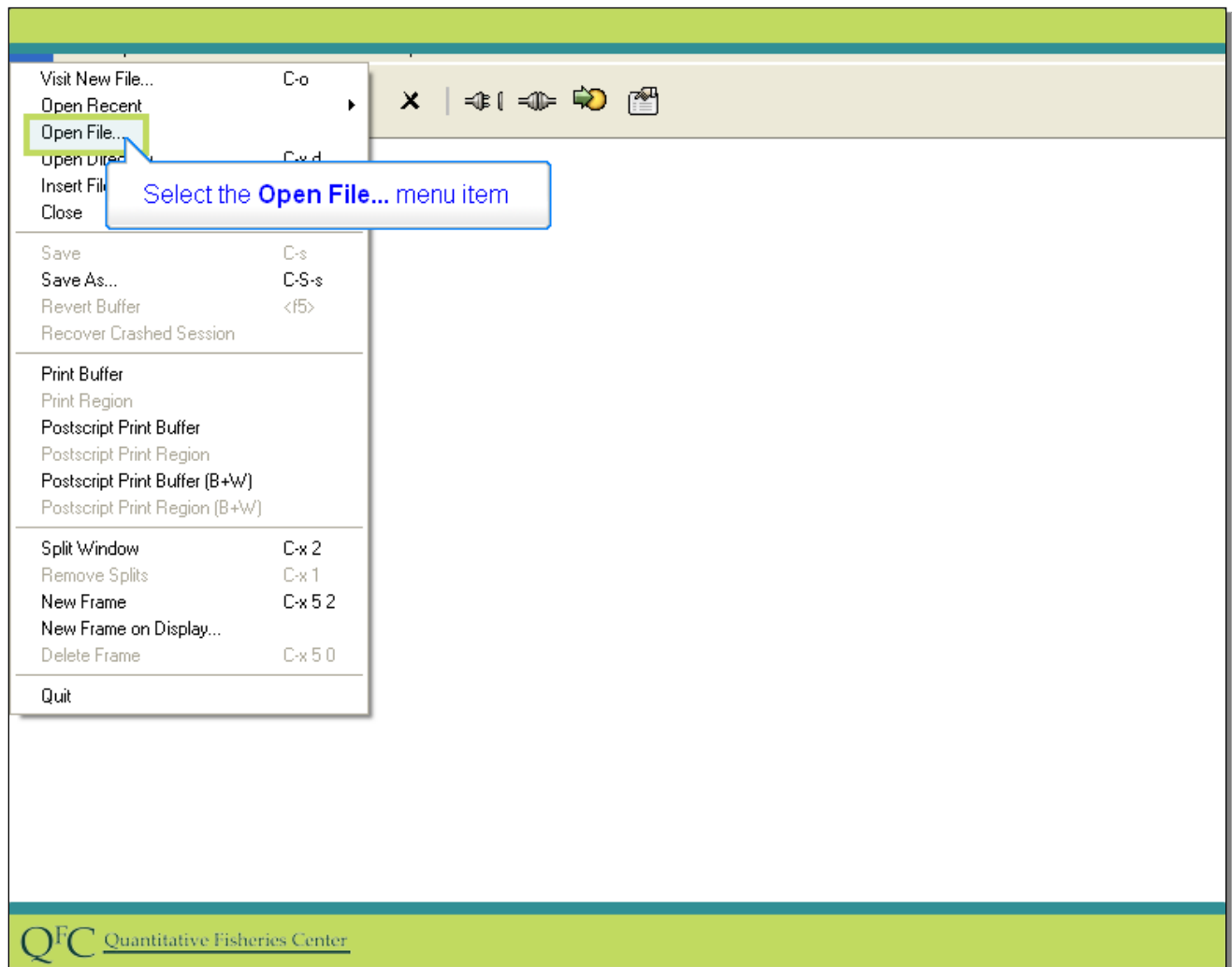


Here is the cor file. We can close this file by clicking the x.



You would also be able to open admb results files within emacs using the admb menu. The admb menu appears when the active window is a .tpl file. When a .tpl file is open in the active window the window is in admb-mode. You can also switch a window to admb mode by pressing f2.

- Select view estimates to see the correlation file
- Select view point estimates to view the parameter estimates file.
- You would also be able to access your report file through the ADMB menu.



Remember you can also open files within Emacs by going to file then open file and browse for your file then hit open.

In this video we have shown you the absolute basics for using admb-ide on an existing tpl file and examining results. You may want to peruse the admb-IDE manual to learn more.” This manual should be available in a tab on your programs menu near where you click to start admb-IDE. If you cannot find it there it is available from the same downloads tab at the admb site where you downloaded admb-IDE.”