Setting Environment for Real-time Skew-T Plotting

This process runs on tsunami as the joss user (sudo su - joss to become the joss user).

Necessary software:
  anaconda2 (already installed on tsunami in /opt/local/anaconda2).
  SHARPpy (version 1.4.0a4 was used).

SHARPpy software requires the NumPy library. This library is installed by default with anaconda2. Running the full_gui.py requires the PySide library, but the plotting software does not run the full_gui.py.

To download the SHARPpy software:
  git clone https://github.com/sharppy/SHARPpy.git
  into some directory.

To install the SHARPpy software:
  cd to the directory where the software was downloaded and into the SHARPpy directory.
  python setup.py install (Use the python binary in /opt/local/anaconda2/bin).
    This should install directories named sharppy and runsharp under
    /opt/local/anaconda2/lib/python2.7/site-packages

To update the SHARPpy software:
  cd to the directory where the software was downloaded
  git pull origin master
Follow the directions above for installing the SHARPpy software to update to the latest version.

Note: python 2.7 may not be maintained after 1/1/20. (Not sure if this is still accurate). The SHARPpy software is still using python 2.7. There is a development branch named Andover that is to be used with python 3. See: https://github.com/sharppy/SHARPpy for more information on the SHARPpy software.

The following changes were made to the SHARPpy software:
Changed /opt/local/anaconda2/lib/python2.7/site-packages/sharppy/plot/skew.py
  In draw_title routine - changed font from 14 to 10
  In draw_hodo_inset routine - changed width and height from 1.7 to 1.4
python -m compileall . (to compile the new versions of skew.py. Use python binary in /opt/local/anaconda2/bin).

Downloaded example code for plotting a skew-t from:
https://sharppy.github.io/SHARPpy/auto_examples/plot_sounding.html

During development ran:
 jupyter notebook --no-browser --port=8895 (on tikal, same /opt/local disk is also mounted on tsunami).
On personal mac ran:
   ssh -L 8015:localhost:8895 anstett@tikal
   In local browser:
     localhost:8015
(enter token given when starting jupyter on tikal)

After development was finished, the jupyter notebook was converted to a python script:
   Ipython nbconvert --to python plot_sounding.ipynb (run python from /opt/local/anaconda2/bin).
where plot_sounding.ipynb is the name of the jupyter notebook. This command created plot_sounding.py.
Changes made after ipython nbconvert was run:
   Add:
     #!/opt/local/anaconda2/bin/python (as the first line)
     for the correct matlab libraries to be included.
   Change plot_sounding.py to executable.
   Comment out magic line (first line in file before #! line was added).
   Add the following before any matplotlib "from" statements:
     import matplotlib
     matplotlib.use('Agg')
   Add:
     plt.ioff() (To turn interactive plotting off).