INSTALLATION AND USERS GUIDE FOR CALTRACKGUI.EXE
VIEWER FOR COMPARING HYDRODYNAMIC MODEL TO VESSEL-MOUNTED ADCP DATA

Below are instructions to install and run the code:

INSTALLATION

1. Execute the file MCRInstaller.exe and follow the instructions.
2. Copy the remaining files to a directory on your hard-drive. Note: Code can be run from any directory if you add *.exe and *.ctf to a directory on your system path.

EXECUTION

1. Double-click caltrackgui.exe. A DOS window will come up initially. This has to stay open for the interface to run. You can minimize the DOS window, but don't close.

2. The gui will prompt you to select an ADCIRC mesh, solution file, and ADCP file.

A. ADCIRC mesh. Select the .14 file.

B. Direct Access ADCIRC solution. Select the *.da file.

C. ADCP file. Each day of the ADCP surveys is located in the noaa2002 directory. The files are named by start date of the survey. For instance to select data from August 14, select the file raw0814.mat.

3. Once the files are selected, the interface will appear.

4. Controls are located in the upper panel, followed by a display panel, and a status panel at the bottom.

CONTROLS

R.Vect mag - The magnitude of the scaled reference vector. This is a vector plotted in the upper right of the display indicating the vector length of a vector with the specified magnitude (m/s).

R.Vect scale - This is the scaling applied to the vectors. Vector length = Vector Magnitude (m/s) * Vector Scale (deg latitude/(m/s))

ADCP avg - Specifies the number of raw ADCP data ensembles averaged to produce one vector in the display. Note that the raw data is already averages of 4 pings. Specifying a value of 1 for ADCP avg gives averages of 4 pings, setting ADCP avg to 4 averages 16 pings in the display.

Dec. ADCIRC - reduces the number of ADCIRC vectors in the display by the factor specified.

Load ADCP - allows you to load another ADCP dataset.

Display Control - Toggles on/off the display of ADCIRC vectors, ADCIRC boundaries, and ADCP vectors.

Zoom - Drag a box to zoom in on a region. Left-click to zoom in by factor 2, right-click to zoom out by factor 2, double-click to reset the view to full extent of the data.

Pan - Drag the window to move around. Left-click to set the center of the view to the position clicked. Double-click to reset the view to the full extent of the data.

Refresh- I don't redraw all of the ADCIRC vectors following a Pan/Zoom action, so to redraw the vectors, press the Refresh button. This also repositions the reference vector.

Time Control. Clicking on the slider buttons advances the ADCIRC results by one timestep in the direction of the slider. Dragging the slider moves the current timestep to the position released. Clicking in the trough (between the buttons and slider) advances by 4 timesteps (one-hour in this case). Also, you can edit the date/time above the slider to advance to a particular location in the solution.

Status Window. The status window provides information about the ADCIRC and ADCP data. If matching ADCP data is found for the current ADCIRC timestep, the transect and ensemble numbers are given. If no matching data are found, the range of dates/times for the ADCP dataset IS provided.

DISPLAY

ADCIRC vectors are shown in red.
ADCIRC open boundaries are blue.
ADCIRC land boundaries are black.
ADCIRC island boundaries are green.
ADCP vectors are blue.
ADCP tracklines are gray, the current ADCP trackline(s) are highlighted blue.
Bad ADCP data are indicated by open circles.

NOTES

Bad ADCP data. These are caused by poor correlations in the Doppler estimate, deep or very turbid water, or high vessel speed (relative to the water column).