

QuickStart Guide August, 2023

Preparation:

1. Unzip the zip file containing the MATLAB scripts (scripts_verN.M.zip) into a single initially empty directory.
2. Add this new directory (**including its subdirectories**) to your MATLAB path.
3. **Important! Place all the MATLAB or *netcdf* event set files <event_set_name>.zip that you acquired from WindRiskTech into the subdirectory *event_sets*. DO NOT UNZIP!**
4. If you have and wish to use the MATLAB mapping toolbox (not recommended), go to <http://www.ngdc.noaa.gov/mgg/shorelines/gshhs.html> and download the shapefile version of the GSHHG data into the (initially empty) shapefiles directory created in step 1 above. Unzip the GSHHG zip file. (After you have done this, you may want to discard the GSHHG zip file.) You should now have two subdirectories in the shapefiles subdirectory.
5. Download updated MATLAB binary versions of best track data from <ftp://texmex.mit.edu/pub/emanuel/HURR/tracks/> into the best tracks subdirectory. Make sure these binary files are unzipped.
6. Run the script *initialize.m*. This may take a few minutes, but you only need to do this **once** and for all, even if you add new event sets.
7. Open the MATLAB script *params.m*. **Note that the parameter values used by all the scripts are set in this file; it may prove handy to keep this open in the MATLAB editor.**
8. Run *prep.m*. When prompted, enter the event set file name (without any directory name and *without the ".zip"*). Note that running this script produces no plots. It need never be run again until/unless a new event set is used. If you wish to filter the tracks to particular sets of years, months, or regions, run *prepfiler.m* instead (see full Readme document). This operation does some preliminary calculations and stores them and the tracks in temporary files called *temp.mat* and *sorted.mat*. These are then read by the various scripts. It produces several new variables, including *vnet.mat*, the maximum ground-relative wind including the effects of background flow; these can be accessed by loading *temp.mat*. See README file for details.

Producing plots:

Type *gmenu* at the MATLAB prompt. This should open a window displaying plot menu choices; just choose a plot. Note that there are choices to display some output in Google Earth; to use these you must first install the free MATLAB "KML toolbox" [available on the web](#).

Note that most of the parameters that control the appearance of the graphs and the post-processing calculations are set in *params.m*. Please consult *MATLAB_Scripts_Users_Guide.pdf* for detailed information about each of the scripts. **Also consult**

In each plot, the variable on the x-axis is always called x, that on the y axis is called y, and for contour plots, the contoured variable is called z. For x-y plots with more than one y, the second variable is called y2, the third y3, etc. A few graphs have multiple x values: x, x2, x3, etc, and some best track contour plots have z2 as the contoured variable.