This package computes maximum peak surge values at 20 bridges along the Texas Coast based on hurricane information.

The package contains the following 6 files:

**srfcalc.exe**

**srfcalctable.ext**

**pslope.dat**

**srfparamsTxDot.dat**

**20SRFNo_Map_Tables.pdf**

**readme.txt**

To run the programs, you need to put all the files in the package in the same directory. There are two programs to computer the maximum surge values.

1. Run (double click) "**srfcalc.exe**" to calculate *peak surge value* based on hurricane information.

Input: You will be asked to enter parameters related to a hurricane and bridge of interest, including the bridge site (check **20SRFNo_Map_Tables.pdf** for the bridges), hurricane central pressure (in mb), hurricane radius (in Km), and distance from the hurricane landfall to the bridge (in Km).

Output: Peak surge value on the screen.

2. Run (double click) "**srfcalctable.exe**" to calculate the *peak surge values in a table format* for different hurricane size, intensity, and associated landfall distance.

Input: You will be asked to enter the bridge of interest (check **20SRFNo_Map_Tables.pdf** for the bridges).

Output: A table (file name **MaxSurgeTB_brg(n).txt**) containing surge level for 3 different hurricane intensities. For each intensity, maximum surge levels are listed based on hurricane radius and the corresponding landfall location.

Note:

1. Detailed information about the surge prediction methodology can be found in the TxDOT Report "Site Specific Wave Parameters for Texas Coastal Bridges" (2009).

2. For bridge numbers 18, 19, and 20, only hurricane landfalls at the right (west) side of the bridges are available so *negative* surge values will be obtained if the entered landfall locations are on the right (east) side of the bridge when running **surfcalc.exe**.