POST TROPICAL CYCLONE REPORT GENERATOR (PSH) PROGRAM

VERSION 1.3

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PSH GENERATOR USER'S GUIDE
LAST UPDATE: SEPTEMBER 2011

ABOUT VERSION 1.3

This revised version of the PSH GUI generator consolidates the changes from version 1.2 with the latest additions and fixes, which include the following:

- Added setup entry for proper LSR database access.
- Capability of including Nodes for METAR observations (NWSFO CWA's with multi-state responsibilities).
- Fixed bug in METAR 24/48/72 hour retrieve function.
- Access to user's guide via added "Help" button.
- Incorporated new setup window for the Central Pacific/Hawaii CWA (experimental).
- LSR import capability expanded into the "Storm Effects" section.
- Capability of labeling systems as 'Depressions' with corresponding number.
- Auto-scrolling list of selected counties.
- Basic spell checking for narrative sections.
- Sorting of rainfall values in descending order.
- Capability of importing rainfall reports from a user-defined comma-delimited text file.
- Added capability to import reports from a user-selected LSR product.
- Added capability to handle repeated city names in different counties.
- Expanded display format for data entries in the preview window.

IMPORTANT NOTE REGARDING BACKUP OF FILES WHEN RE-INSTALLING OR UPGRADING THE PSH PROGRAM:

The **Appendix** section on page 34 contains some useful tips and facts about installation and usage of the PSH GUI. Note **A.4** shows where to find a backup of your configuration files, and the location of the storm data folders. These backup and storm data folders should be saved **before** performing a re-installation or an upgrade that may delete the current PSH database.

POST TROPICAL CYCLONE REPORT GENERATOR PROGRAM VERSION 1.3

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INSTALLATION:

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The Post Tropical Cyclone Report Generator (PSH) program was developed to provide an automated method to gather post storm data and create the report in a nationally standardized format. The user-friendly program works for all NWS offices in the Atlantic and East Pacific basins. The program uses a notebook style interface for collecting, editing, and minimize potential for errors when transmitting the Post Storm Report via AWIPS.

To install the PSH program:

1. Login into AWIPS as “FXA”. This is required to retain permissions from the original files (fxalpha) contained in “psh_13.tar”.

   Note: the “psh_13.tar” file may not decompress in an OS other than Linux

2. Copy “psh_13.tar” into ***“/data/local”***, then change directories to ***“data/local”***:

   ```
   cp psh_13.tar /data/local
   cd /data/local
   ```

3. Decompress/extract psh_13.tar which will create the “PSH” directory:

   ```
   tar –xzvf psh_13.tar
   ```

4. Change directories to ***“/data/local/PSH”*** and run the following tcl setup program:

   ```
   cd PSH
   ./SetupPsh.tcl
   ```

5. A small window titled “PSH SETUP PROGRAM” will appear (see Figure 1). This window includes 7 setup steps which must be performed in order to run the PSH Generator properly.

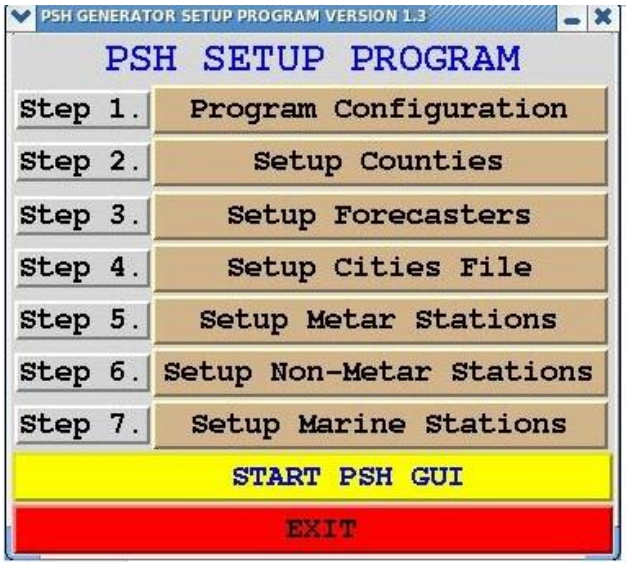


Figure 1. *Setup Program* window.

Step 1. Program Configuration

The *Program Configuration* window contains the basic headers, directories, local time, TC basin settings, LSR Header and WMO Node information (see Figure 2).

a. Click the “*Get Current*” button to retrieve the current headers. Click on “*Example Form*” to see the example configuration for WFO TBW and simply substitute the information with your local WFO equivalents. Specific information on how to configure the **LSR/Cities Directory** entry can be found in Step 4: Setup Cities File (page 8).

b. Click on “*Create/Edit Shapefile*”. This window will create or update the shapefile used by several features in the GUI which are able to determine geographical positions and reference cities using latitude/longitude coordinates (see Figure 3). Add up to 5 CWA names and click “*Save*”. These CWA’s will be your primary backup, secondary backup, etc. once the backup capabilities are incorporated into the GUI. Clicking on “*Get Current CWA(s)*” will show the current CWA shapefiles being used. Enter the 3 letter identifier for the desired CWAs.

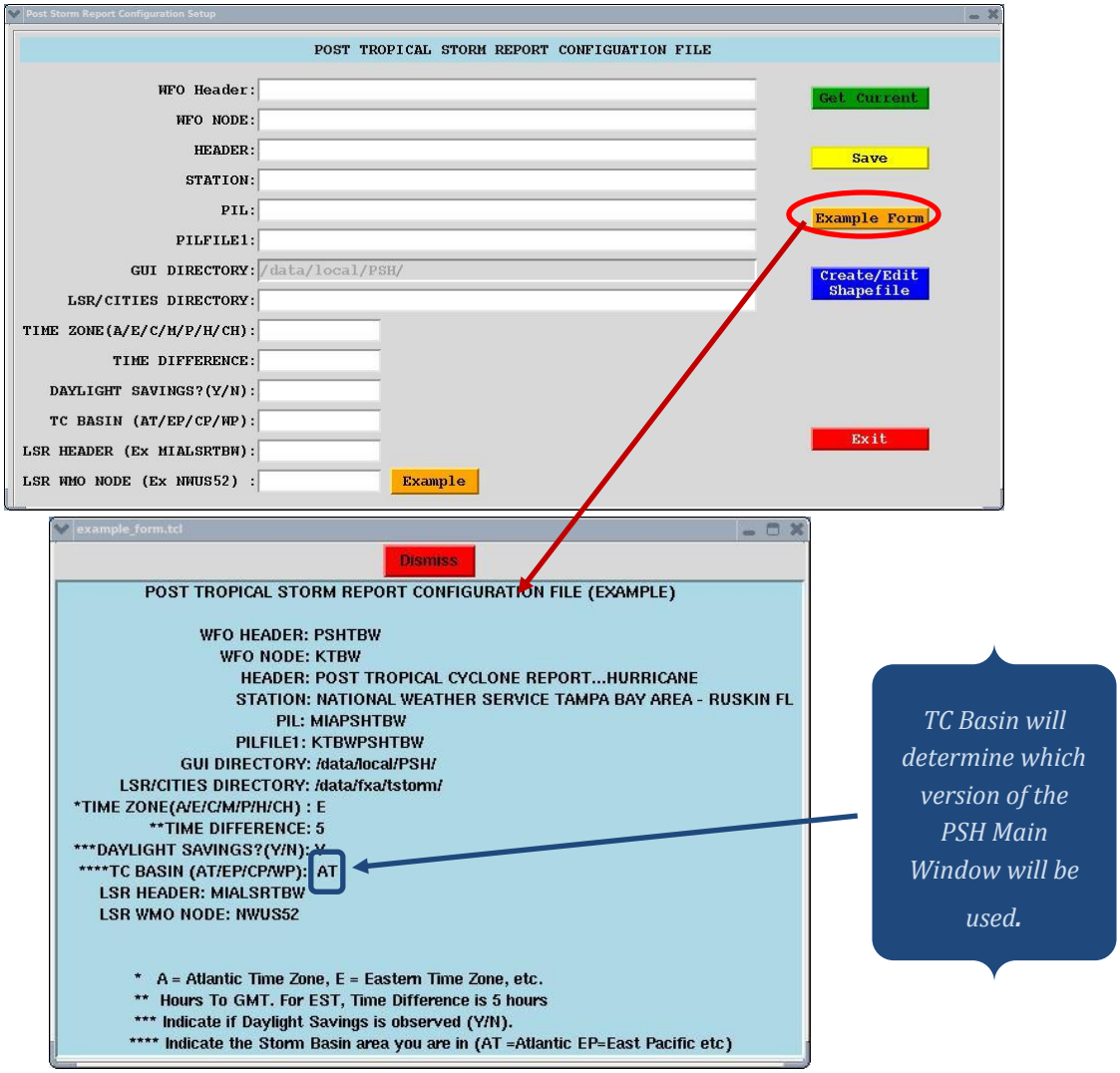


Figure 2. Top: *Configuration File* window. Bottom: Example form for TBW. Depending on the "TC Basin" setting the GUI will run the *Main Menu* window for the Atlantic (AT) and Eastern Pacific (EP), or the version for the Central and Western Pacific (CP/WP).

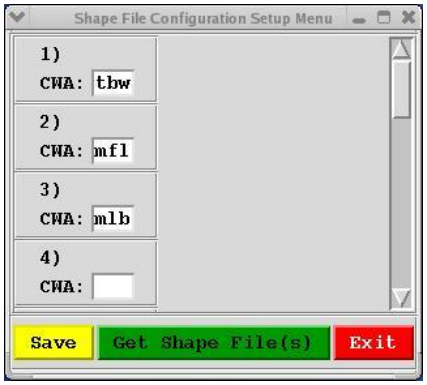


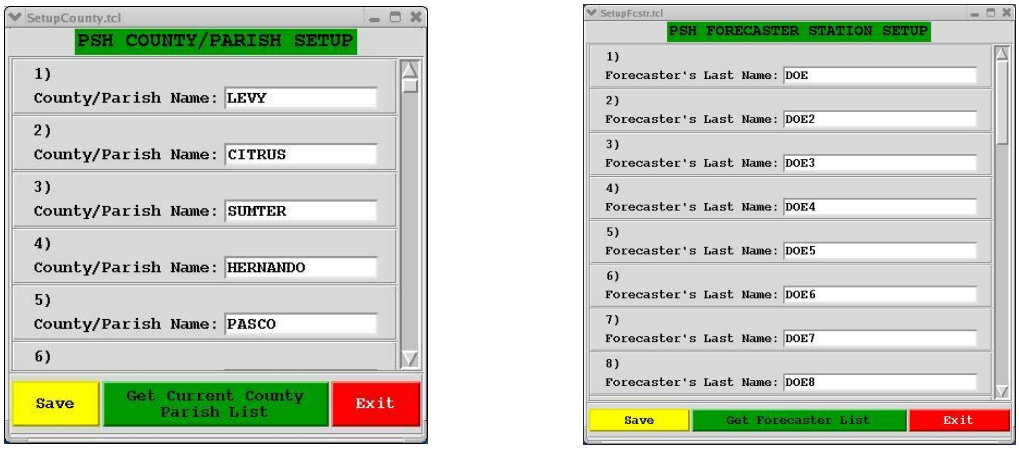
Figure 3. *Shape File* configuration window.

Step 2. Setup Counties

Click on the "*Get Current County/Parrish List*" button to retrieve the current list of counties being used (see Figure 4a). Otherwise, the *County/Parrish* setup window will allow entering up to 100 County or Parrish names. Names can be either lower or upper case. It is recommended to hit "*Save*" often if your list of counties is long.

Step 3. Setup Forecasters

Enter up to 30 forecaster/operator names in the *Forecaster Station Setup* window. Click on "*Get Forecaster List*" to retrieve the current list of forecasters being used (see Figure 4b). In general, only the last name is required.



a. b.

Figure 4. Configuration windows for (a) *County/Parish*, and (b) for the *Forecaster* list.

Step 4. Setup Cities File

a. The PSH GUI will utilize the same file used by the Local Storm Report program (LSR) to correctly identify cities in your CWA, and their corresponding latitude/longitude coordinates, called "**LSRcities.txt**". The path for this file must be set in Step 1 on the **LSR/Cities Directory** line. For most WFOs this file is found in "/data/fxa/tstorm/", but your local LSR configuration might be different since a locally customized file might have been created and placed in a different location. Consult your IT or AWIPS

focal point regarding the locations of the LSR files, documents, and the cities file that is currently being used by your system. The GUI can be directed to any desired cities file as long as the data is in the proper line format. The list of cities will open in the *Setup* window. This file will not exist the first time you run the *Setup* program, and an error indicating so will appear. This is normal. To create the cities files for the first time, click on "*Retrieve LSR Cities*", which will retrieve **LSRcities.txt** containing the list of cities and their respective county, state, and lat/lon coordinates (see Figure 5). The format for each entry line is very important, including the pipe (|) characters separating each field:

CITY NAME|COUNTY|STATE|LAT|LON

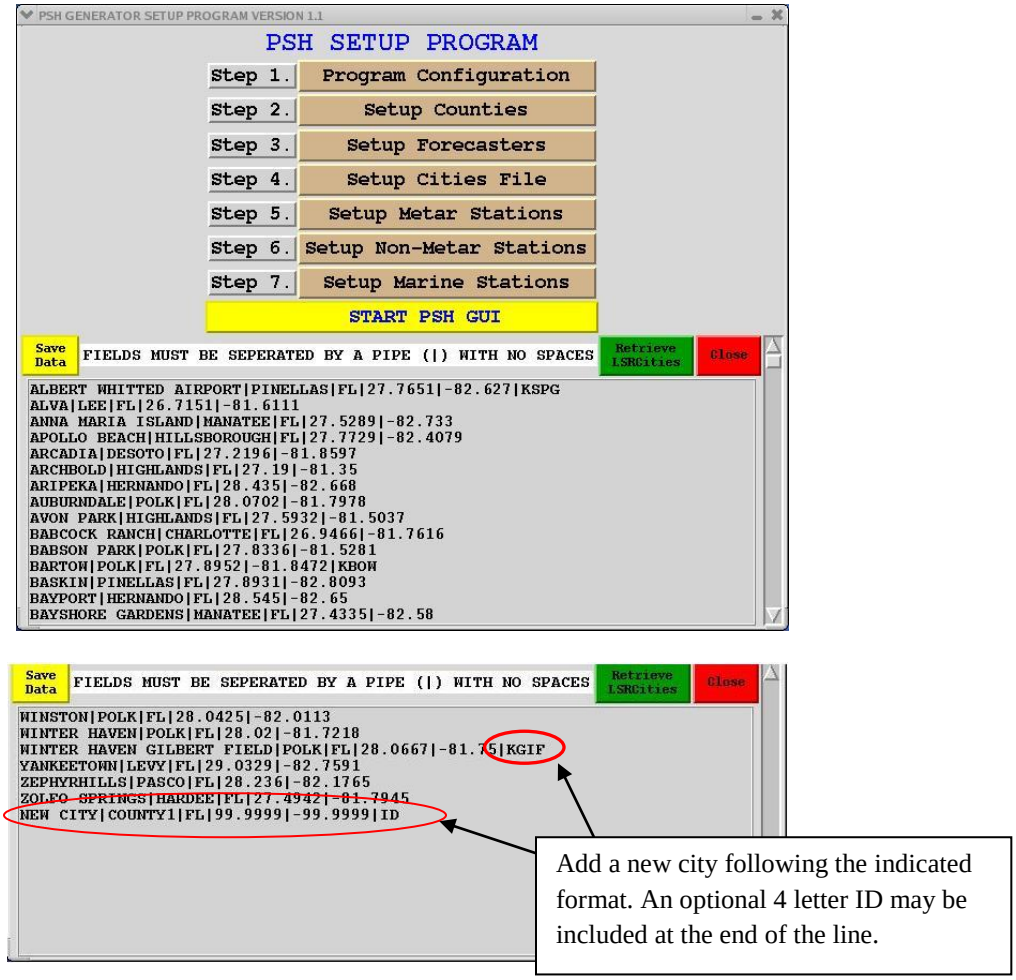


Figure 5. *Cities* configuration window. Additional cities can be added at the bottom of the list. Ensure using a pipe character separating each field.

An additional field indicating a station identifier can be added at the end of the line. Normally this will be a 4 letter ID like KTPA or similar:

CITY NAME|COUNTY|STATE|LAT|LON|ID

In some cases this additional field is already in use with an "Urban Indicator", mainly utilized by WarnGen, which carries a number from 1 to 3:

TAMPA|HILLSBOROUGH|FL|27.9810|-82.5216|1

If this number is present the GUI will ignore it. If you wish to add the station identifier, simply delete the number and replace it with the desired ID.

TAMPA|HILLSBOROUGH|FL|27.9810|-82.5216|KTPA

Remember to preserve the pipe character between fields. Yet another field could be added if the site has an official tide gauge. Simply add an additional field with a capital "G" after the ID or urban category number:

TAMPA|HILLSBOROUGH|FL|27.9810|-82.5216|KTPA|G

The GUI will read this field and automatically activate the "*Official Tide Gauge*" check button in the *Storm Surge/Tide* Tab. If the site has no ID or Urban Category indicator,

SIESTA KEY|SARASOTA|FL|27.2771|-82.5665|

then simply add a field after the longitude with just a dash and then add the "G":

SIESTA KEY|SARASOTA|FL|27.2771|-82.5665|-|G

b. If you wish to add cities, go to the bottom of the document and add the information following the required format. Latitude and Longitude values can be entered with up to 4 decimal points, and a negative (-) sign in front of the longitude value if necessary (locations behind Greenwich, ahead of the 180 degrees west of longitude including North America and Hawaii).

c. Save the changes by clicking "*Save Data*". The original LSR file will not be overwritten. Reload the original LSR Cities file at any moment to restore the initial cities list, but keep in mind that by doing so all changes and additions made to the cities information will be lost.

d. In the case of having two cities with the same name, but in different counties within the same CWA, the program will open a small temporary window with all the alternatives to choose from.

Step 5. METAR Station Setup

Click on "*Get Current Stations*" to retrieve the current list of METAR stations. Otherwise the *METAR Station Setup* window will allow you to enter each METAR observing station (ASOS, AWOS, Military, LAWRS/SAWRS) in your CWA up to 50 stations (see Figure 6). Version 1.3 incorporated an important change by adding a column for the NODE of each METAR station, which allows for proper access to the database in CWAs with observations from multiple states. Enter the 3 letter identifier for the Node of each station. The station name contains a 4 letter identifier followed by a dash and the full name (ex. KTPA-TAMPA INTERNATIONAL FL). Click on "*Example Form*" to view the example for the ASOS station at the Tampa Int. Airport. Enter the Latitude and Longitude coordinates for each station with the negative sign (-) ahead of the longitude if needed.

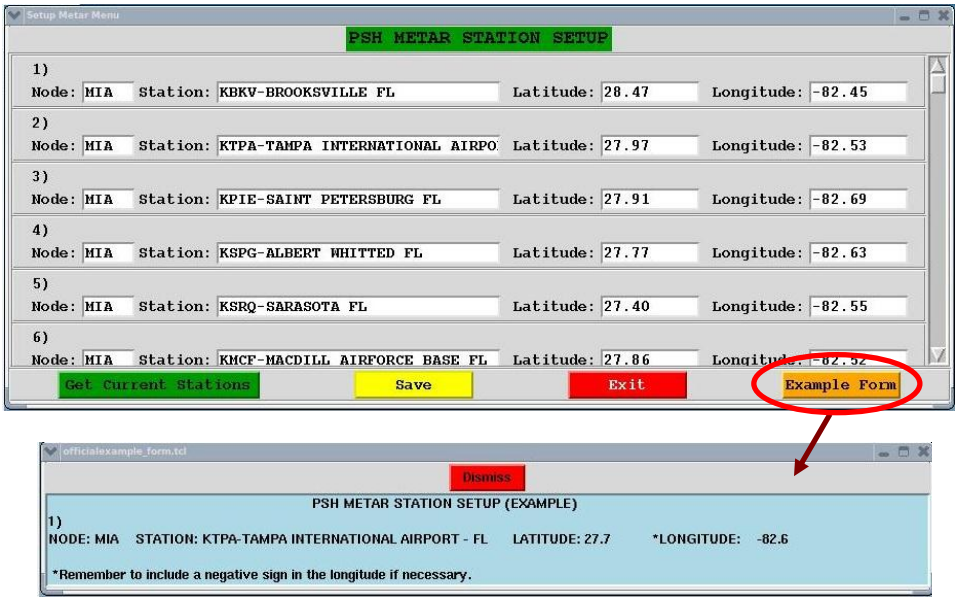


Figure 6. *METAR Stations Setup* window and corresponding example form.

Step 6. Non-METAR Station Setup

The *Non-METAR Station Setup* window is similar to the one shown in Figure 6 (METAR Stations). Add each Non-METAR observing station (ex. a WeatherBug or Mesonet site) in your CWA up to 50 stations. The station name normally contains a 4 or 5 letter identifier followed by a dash and the full name (ex. KVVG–VILLAGES, FL). Click on *"Example Form*" to view the example for the Non-METAR station (in this case, KVVG Meso Net Station) at The Villages in Central Florida. Enter the Latitude and Longitude coordinates for each station up to 4 digits after the decimal, and with the negative sign (-) ahead of the longitude if needed. Click on "*Get Current Stations*" to retrieve the current list of Non-METAR stations. The station Node is not required.

Step 7. Marine Station Setup

The *Marine Station Setup* window is similar to the one shown in Figure 6 (*METAR Stations*). Click on "*Get Current Stations*" to retrieve the current list of Marine stations being used. Otherwise, add each marine observing station (buoys, etc) in your CWA. For buoys, the name normally contains a 5 digit identifier followed by a dash and the full description (ex. 42036-BUOY WEST OF BAYPORT FL). Click on *"Example Form*" to view the full example for this buoy. Enter the Latitude and Longitude coordinates for each station with the negative sign (-) ahead of the longitude if needed. Up to 50 stations can be added.

Once you are finished with all the configuration steps, the GUI is ready to run. Click on the "*START PSH GUI*" yellow bar at the bottom of the *PSH Setup Program* window to launch the *Main Menu* window. You can return to the *PSH Setup Program* at any time by clicking "*Run Setup*" on the *Main Menu* window.

The **Appendix** section on page 34 contains some useful tips and facts about installation and usage of the PSH GUI. Note **A.4** shows where to find a backup of your configuration data in case reinstallation or upgrades are required.

RUNNING THE PSH REPORT GENERATOR PROGRAM

After completing all the steps in the installation section click on "*Start PSH GUI*" to launch the *Main Menu* window.

MAIN MENU WINDOW

There are two versions of the PSH *Main Menu* window; one for the Tropical Cyclone Basins in the Atlantic, Caribbean, Gulf of Mexico, and the Eastern Pacific, and a second version for the Central Pacific. The program will automatically choose the *Main Menu* window version depending on the Basin settings in the *Program Configuration* window (see Figure 2 on page 7). The *Active/Archive Season* value will always default to the current year.

When the *Main Menu* window is invoked for the first time after installing the program, a message will appear indicating that there are no existing storm files. Answer "*Yes*" to the request for creating them. On the Atlantic and Eastern Pacific basins version this step will only have to be repeated when the calendar year changes, or if the directories containing the storm files are physically deleted. On the Central Pacific basin version this step will have to be repeated every time a new storm is added to the active season, or if the storm files are physically deleted.

Atlantic and Eastern Pacific Basins Main Menu Window

The *Main Menu* window for the Atlantic (AT) and Eastern Pacific (EP) basins is shown in Figure 7. The A*ctive/Archive Season* year is shown in the first column. The second column shows the list of *Storm Names* for the active year, and the third column shows the list of *Forecasters/Operators*.

These option buttons follow:

Run Setup: will return the user to the *PSH Setup Program*.

Load Storm Directories: choose either the current or a previous archived season. Years beyond the current season are not available.

Open/Edit PSH: open the PSH GUI after selecting a Storm and a Forecaster's name.

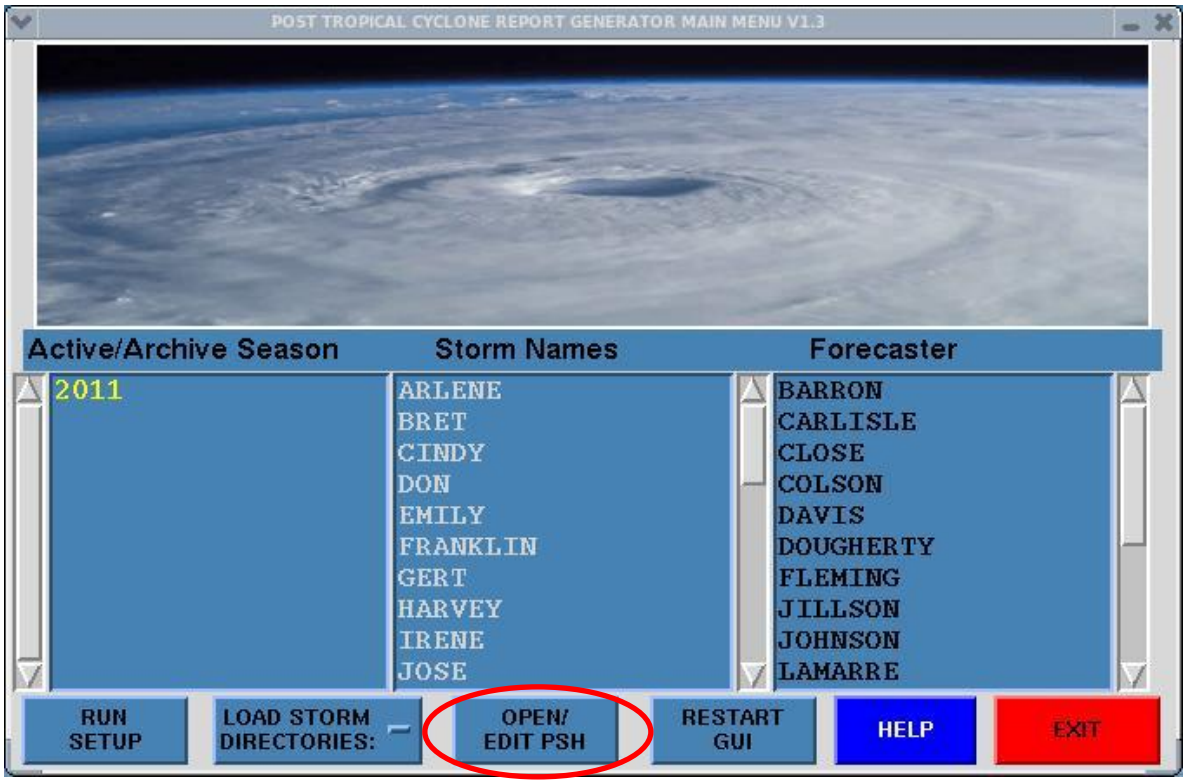


Figure 7. Main Menu window for the Atlantic and Eastern Pacific basins. After selecting a storm and a forecaster's name click on "*Open/Edit PSH*". Prior seasons can also be invoked by clicking on "*Load Storm Directories*:" and selecting the desired year.

Restart GUI: reset the *Main Menu* window.

Help: open the User's Guide.

Exit: close all windows.

After selecting the desired storm and forecaster's name click on "*Open/Edit PSH*" to launch the PSH Generator**.**

Central Pacific Basin Main Menu Window

The Central Pacific (CP) basin *Main Menu* window is shown in Figure 8. The A*ctive/Archive Season* year is shown in the first column. The second column shows the available *Storm Names* which includes all four lists of names for the CP basin. The third column shows the list of *Forecasters*.

The following option buttons follow:

Run Setup: will return the user to the *PSH Setup Program*.

Select Season: choose either the current or a previous archived season. Years beyond the current season are not available. If you choose the current year, the list of storms will display the names selected for the season so far.

Open/Edit PSH: open the PSH GUI after selecting a Storm and a Forecaster's name.

Restart GUI: reset the *Main Menu* window.

Eastern Pacific/Central Pacific Storm Names: allows toggling between the CP and the EP names. Any EP name chosen will be added to the active year.

Exit: close all windows.

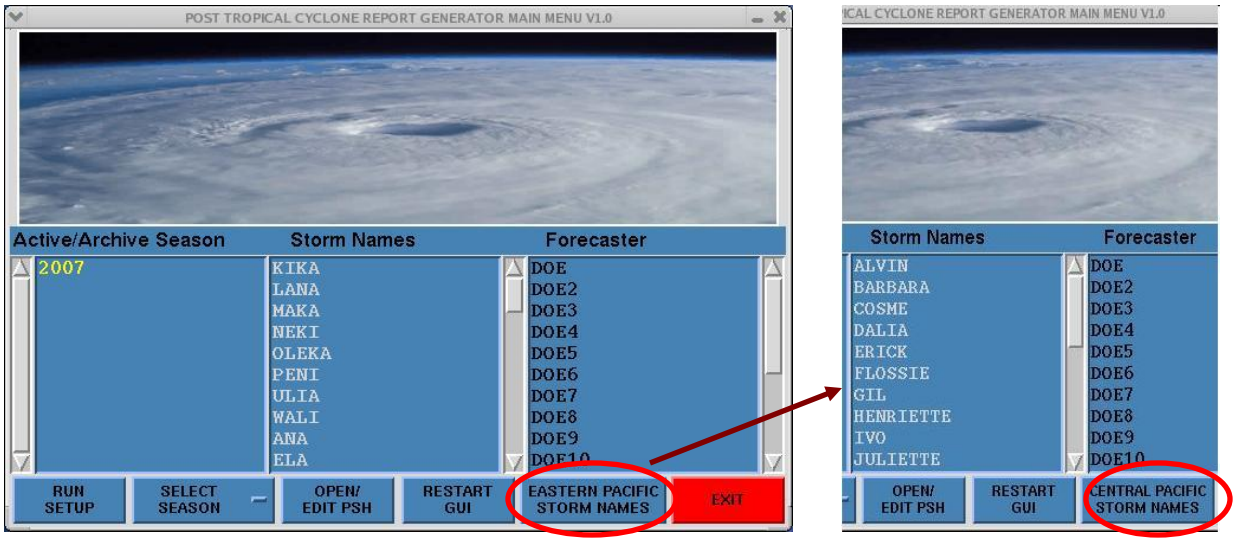


Figure 8. *Main Menu* window for the Central Pacific basin. The *Storm Names* column can toggle between the Local and the Eastern Pacific names by clicking on the "*Eastern/Central Pacific Storm names*" button. The label on the button will also alternate between basins.

After selecting the desired storm and forecaster's name click on "*Open/Edit PSH*" to launch the PSH Generator**.**

POST TROPICAL CYCLONE REPORT GENERATOR (PSH GUI)

The *PSH GUI* window is shown in Figure 9. The top fields and buttons are described as follows:

Storm Name: this field cannot be changed in this window. To change the storm name go back to the *Main Menu* window by clicking on the "*Main Menu"* green button.

Included Counties: choose/displays the counties to be included in the PSH report. This field can only be set once per session. Go back to the *Main Menu* to restart the PSH GUI in order to change/update the selected counties.

Forecaster: shows the selected forecaster/operator responsible for the PSH report.

Backup Site: set for current or backup operations. This feature is **currently inactive.**

Help: open the User's Guide (PDF file must be in /data/local/PSH).

Main Menu: go back to the *Main Menu* window.

Print PSH: sends current PSH product to a printer.

Exit: close all windows.

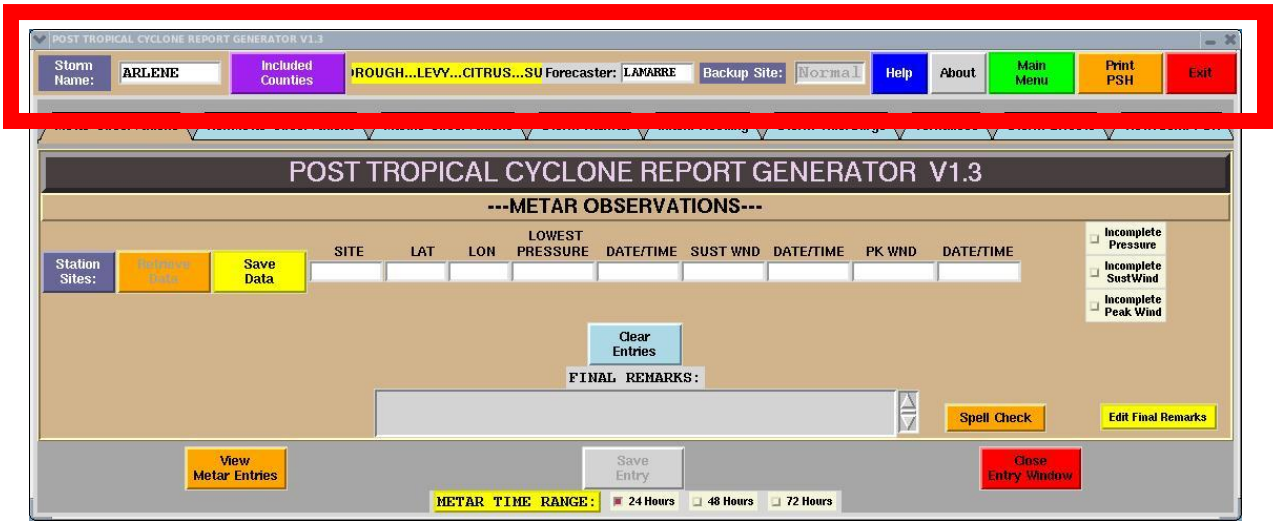


Figure 9. PSH GUI. The GUI default opening window is the "*METAR Obs*" tab. The top fields and buttons are always visible from every tab.

TAB FIELDS

There are eight data tabs available which describe the following categories:

***METAR Land Obs**:* the *METAR Land Observations* tab is shown in Figure 10.

Station Sites: click to select an official observing site from the drop down menu. The lat/lon fields will fill automatically for any station in the menu list.

Retrieve Data: retrieve the past 24, 48 or 72* hours of METAR and SPECI observations, and display the lowest pressure in mb, the maximum sustained wind, and the highest gust/peak wind if available. Choose the time range to be searched on the "*METAR Time Range"* line (*see **Appendix A.5** on page 28 regarding cross-checking with the DSMxxx product, and **limitations of the METAR database beyond 48 hours**).

Save Data/Save Remarks: click to save the observation data. A pop-up window will appear asking if you want to "*Add another Station*". Choose "*Yes*" if you wish to add more observations. When all observations for this PSH report are done, choose "*NO*", which will allow for an optional final line of remarks to be written. These remarks will appear at the bottom of the *METAR Observations* section of the PSH product. The data in each field can also be manually entered, but the proper format must be followed (a pop-up example window will appear if proper format is not followed).

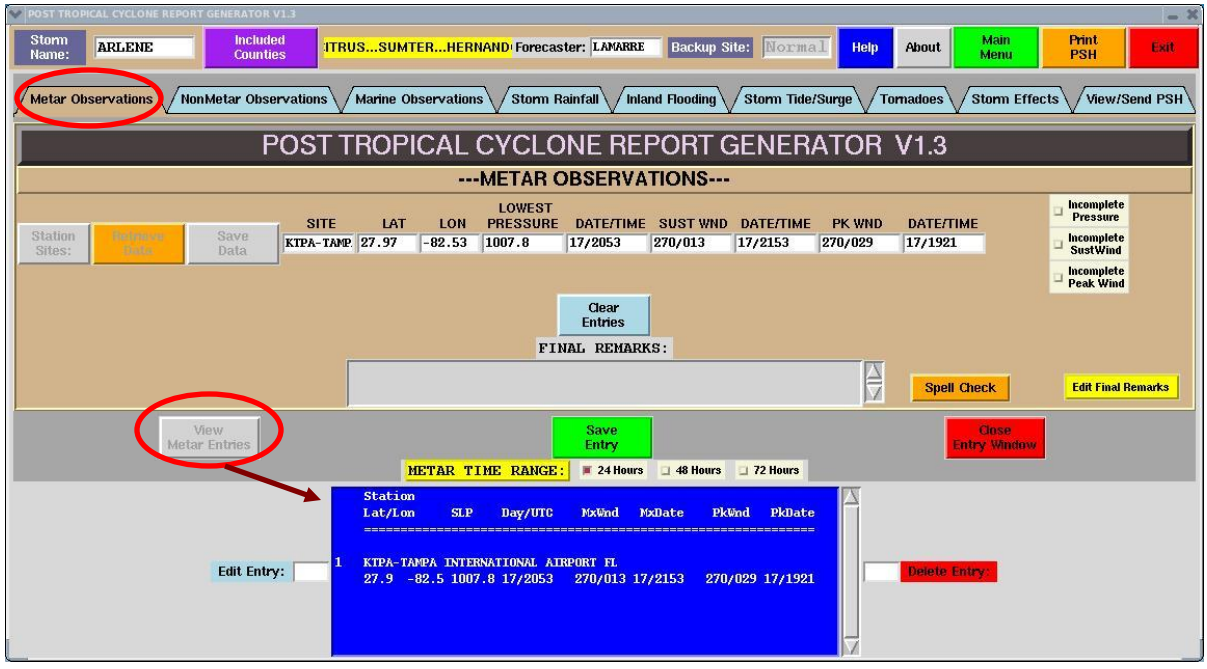


Figure 10. *METAR Land Obs* tab. Reports can be viewed for editing or deletion by clicking on "*View METAR Entries*" which opens a blue window in the bottom of the GUI. Each report is assigned an entry number.

Incomplete Pressure / Sust Wind / Peak Wind: will indicate if the data in the corresponding field is incomplete. An "I" will appear next to the corresponding field in the PSH product.

Final Remarks: include final remarks if necessary after all observations are entered (ex: *Sensor stopped reporting at KRSW at 1738Z*.).

View METAR Entries: a blue window will open at the bottom of the PSH GUI showing all the reports so far included in the *METAR Observations* tab. You can edit or delete any of the reports by entering the report entry number in the *Edit* or *Delete* window and pressing "enter". Close the blue entries window by clicking on *"Close Entry Window".*

Save Entry: will appear active only when editing an existing entry.

Clear Entries: clear all data currently being displayed.

Spell Check: basic word spell checking for the *final remarks* section.

Edit Final Remarks: retrieve the final remarks for editing/spell checking.

Non-METAR Land Obs & Marine Observations*:* these two tabs look basically the same as shown in Figure 11, except for the "*Estimated Winds*" option which is not available on the *Marine Observations* Tab. Also, there is no *METAR Time Range* option for either tab.

Station Sites: click to select a Non-METAR or marine site from the drop down menu. The lat/lon fields will fill automatically if the station is in the list.

Retrieve Data: not available for Non-METAR land or marine observations. Button appears inactive.

Save Data/Save Remarks: click to save the report data. A pop-up window will appear asking if you want to "*Add another Station?*". Choose "*Yes*" if you wish to add more reports. When all reports for this PSH product are completed, choose "*NO*" which will allow for an optional final line of remarks to be written. These remarks will appear at the bottom of the *Non-METAR Observations* or *Marine Observations* section of the PSH product. The data in each field can also be manually entered, but the proper format must be followed.

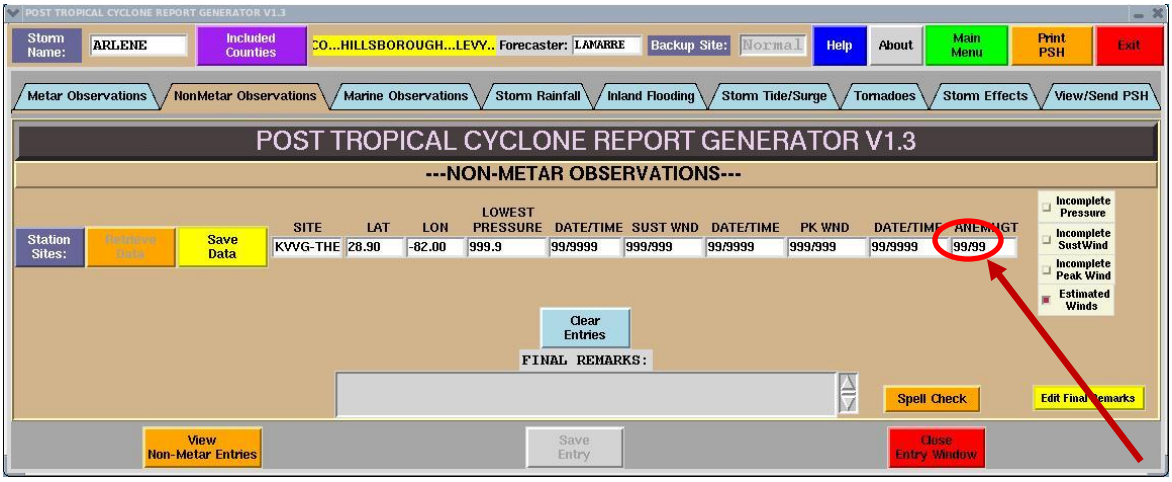


Figure 11. *Non-METAR* tab. Similar to the METAR *Obs.* tab except for an additional field for *the Anemometer Height,* and an *"Estimated Winds"* check button*.* Also, there is no *METAR Range* option line.

Incomplete Pressure / Sust Wind / Peak Wind / Estimated: will indicate if the data in the corresponding field is incomplete or estimated. An "I" or an "E" will appear next to the corresponding field in the PSH product.

Final Remarks: include final remarks if necessary after all observations are entered.

View Non-METAR (or Marine) Entries: a blue window will open at the bottom of the PSH GUI showing all the reports so far included in the *Non-METAR* or *Marine Observations* tab. You can edit or delete any of the reports by entering the report entry number in the *Edit* or *Delete* window and pressing "enter". Close the blue entries window by clicking on *Close Entry Window.*

Save Entry: will appear active only when editing an existing entry.

Clear Entries: clear all data currently being displayed.

Edit Final Remarks: recall the saved remarks for editing. The button changes to "*Save Final Remarks*" once the final remarks are displayed.

Spell Check: basic word spell checking for the *final remarks* section.

Storm Rainfall: Figure 12 shows the window for the *Storm Rainfall* tab.

Start / End Month, Day, Hour: choose the start and end month, day and hour indicating when the rain started and ended through the entire event. It is only necessary to set this section once, and must be completed before proceeding any further. The most recent values will be saved even after closing the program. The *Rainfall* tab will not save any report data unless this section is completed, therefore, it is recommended to fill this section first.

City/Town: type the city or town name. For cities in the AWIPS LSR cities file, the lat/lon, and county information will be filled automatically after pressing "enter". If not, the GUI will ask for the lat/lon values. Some locations may have an optional "*ID*" label (see *Step 4: Setup Cities File*, page 9).

Rainfall: enter the total amount of rain with up to two decimal figures.

Direction / Distance from City: choose a location's cardinal direction, and enter the distance to a reference city. The lat/lon values and the county will be adjusted accordingly. Always press "enter" after entering the distance value in order to refresh the lat/lon fields. ***THIS PROCEDURE ONLY WORKS WITH CITIES THAT ARE LISTED IN THE CITIES CONFIGURATION FILE** (see *Step 4: Setup Cities File* on page 8).

Lat / Long Entry: enter specific latitude and longitude coordinates. The PSH GUI will determine the closest reference city, and the corresponding county.

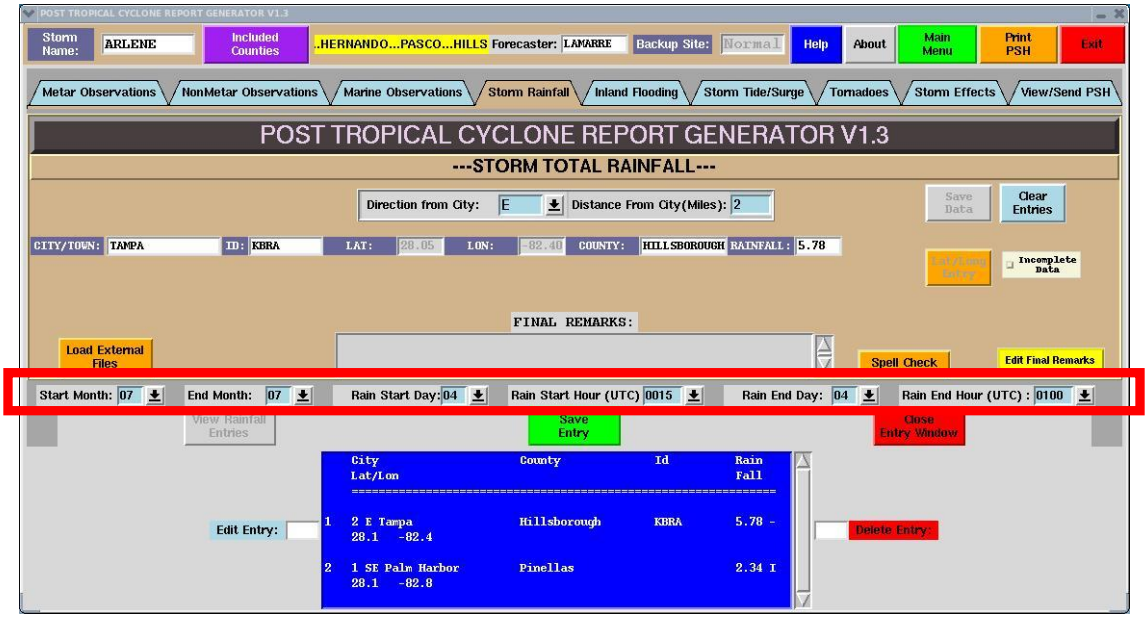


Figure 12. *Storm Rainfall* tab. Fill or update the rain *Start/End* information section first.

Incomplete Data: indicates if the entry data are incomplete. An "I" will appear at the end of the rainfall report line in the PSH product.

Save Data/Remarks: click to save the rainfall data. A pop-up window will appear asking if you want to "*Add another Report*". Choose "*Yes*" if you wish to add more reports. When all rainfall observations for this PSH product are done choose "*NO*", which will allow for an optional final line of remarks to be written. These remarks will appear at the bottom of the *Storm Total Rainfall* section of the PSH product.

Edit Final Remarks: recall the saved remarks for editing. The button changes to "*Save Final Remarks*" once the final remarks are displayed.

Spell Check: basic word spell checking for the *final remarks* section.

Load External File: in the *Rainfall* tab this button currently allows for two types of file imports*: "User File"*, and "*LSR"*.

Loading a "*User (text) File"*: a "comma-delimited" file can be created with the proper format. Each station report must be contained in a single line with fields separated by c*ommas*. An example file with the required format is shown in Figure 13. From left to right: *City or Location*, *latitude* (deg/decimals), -*longitude* (deg/decimals, include a negative for west of Greenwich), *Distance from Location* in whole miles if applicable, *Cardinal Direction from Location* if applicable, *County*, *Station ID* if available, *Rainfall* amount (inches), and the Incomplete Data remark "*I*". If the "*I*" remark is not necessary then a dash (-) must be used instead. Do not include blank spaces except in compound City or County names. After clicking *"User File",* a window will appear for browsing your directories. Search for the file and press "*Open".* If the file has no formatting errors, it will be loaded directly into the database. Click on "View Rainfall Entries" to verify that the rainfall reports were uploaded correctly.

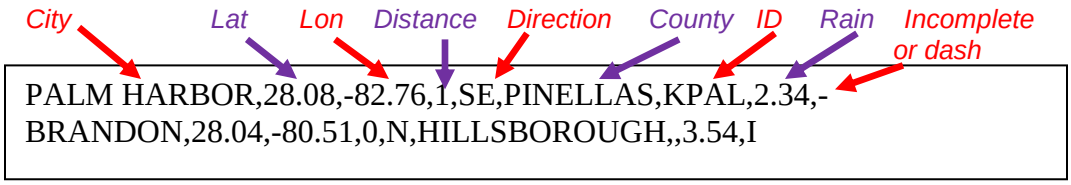


Figure 13. Example of a "Comma-Delimited " Text file for rainfall reports. From left to right: *CITY* (or Location name), *LATITUDE, LONGITUDE* (negative sign west of Greenwich), *DISTANCE FROM CITY* (to the nearest mile if available), *CARDINAL DIRECTION FROM CITY* (if available, ex: N SE WNW etc.), *COUNTY*, *STATION ID* (if available), *TOTAL RAINFALL* (in inches), and the "*I*" for incomplete remark (otherwise enter a dash).

The “Browse” window will default to the following directory:

/data/local/PSH/CustomFile

The file can be placed anywhere in your hard drive, and can be named with any reasonable file name, but the root must be ”.txt” (ex: user_rainfile.txt).

“LSR File Manager” for rain*:* rain reports can be uploaded into the rainfall reports using the *LSR File Manager* window (Figure 14). A list of all the LSR products available in AWIPS is displayed in the left-hand side menu window. The products are in descending order following the date of issuance. After selecting an LSR product, click *View LSR* in order to display the product on the large right-hand side screen. If the LSR contains at least one (1) report of “*HEAVY RAIN*”, proceed by clicking on “*Save LSR File*”. The manager will automatically scan the LSR product for all rain reports and ingest them into the PSH database. If no reports are found, a pop-up window message will indicate that no data was saved. Otherwise, a pop-up window will appear showing how many reports were found. After closing the “*LSR File Manager*”, click on “*View Rainfall Entries”* to verify that the rainfall report(s) was (were) properly loaded.

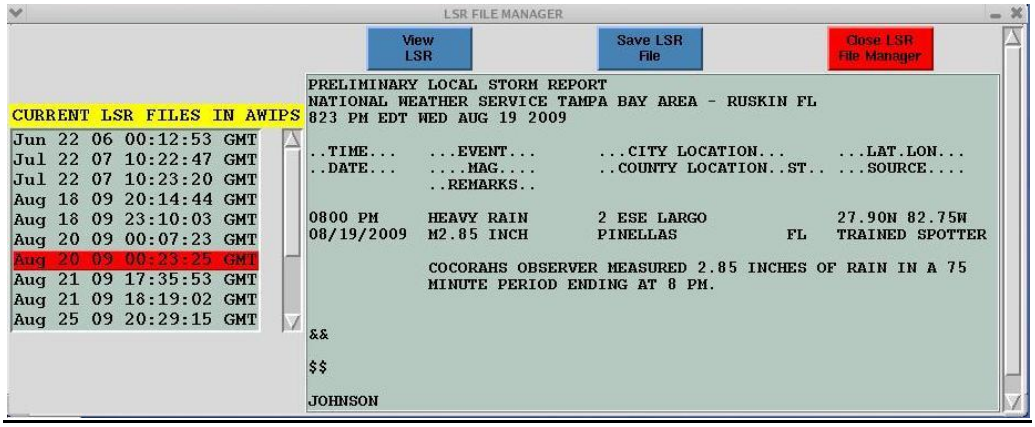


Figure 14. *LSR File Manager window*. Choose an LSR product, then click on *View LSR* to display the product. Heavy Rain reports will be automatically saved into the PSH database by clicking *Save LSR File*.

View Rainfall Entries: a blue window will open at the bottom of the PSH GUI showing all the reports so far included in the *Storm Total Rainfall* tab. You can edit or delete any of the reports by entering the report entry number in the *Edit* or

Delete window and pressing “enter”. Close the blue entries window by clicking on *Close Entry Window.*

Save Entry: will appear active only when editing an existing entry.

Clear Entries: clear all data currently being displayed.

Inland Flooding: the window for the *Inland Flooding* tab is shown in Figure 15.

County Selection: opens the *County Selection* menu. Only one county may be selected per report.

Flooding Input: enter the text describing the flood report following the county name. It is not necessary to hit enter at the end of each text line.

Save Data: save current text in the *Flooding Input* window. There is no “*Additional*” or “*Final Remarks*” option in the *Flooding* tab.

Clear Entries: clear all text currently being displayed.

View Flood Entries: a blue window will open at the bottom of the PSH GUI showing all the reports so far included in the *Inland Flooding* tab. You can edit or delete any of the reports by entering the report entry number in the *Edit* or *Delete* window and pressing “enter”. Close the blue entries window by clicking on *Close Entry Window.*

Spell Check: basic word spell checking for the “*Flooding Input*” section.

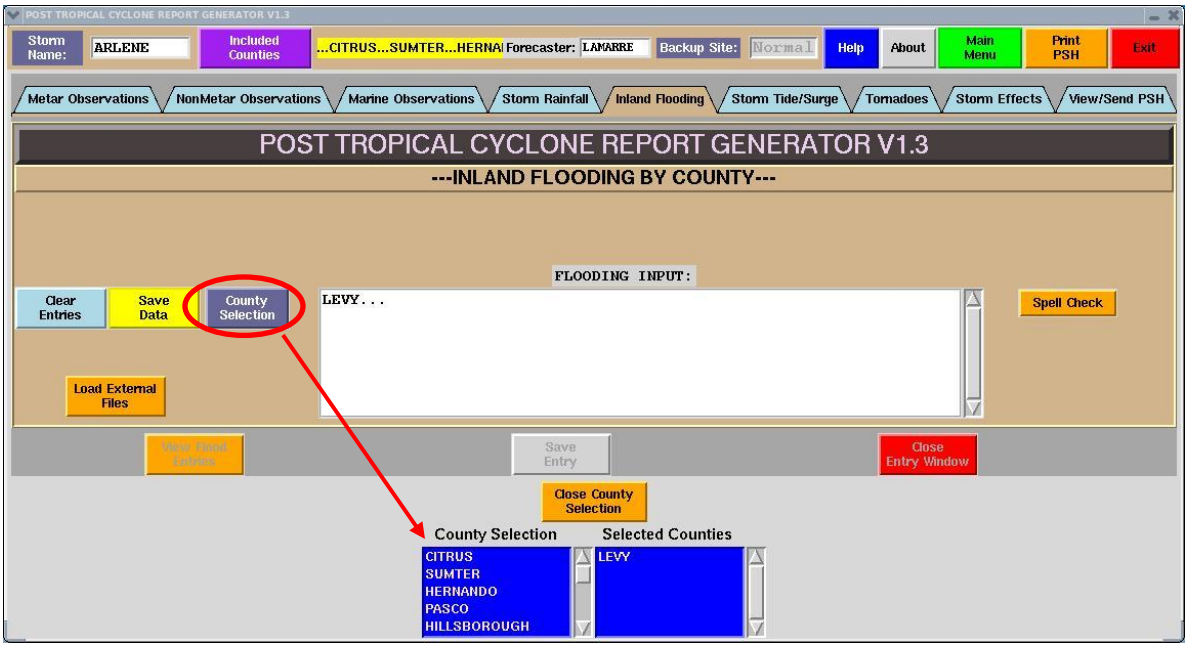


Figure 15. *Inland Flooding* tab. Select one county per report and type the information as free-text format in the input window. It is not necessary to hit "enter" at the end of each line.

Load External File: in the "*Inland Flood"* tab this button currently allows for importing *LSR* flood and flash flood reports.

> *"LSR File Manager" for flood:* flood and flash flood reports can be uploaded from the "*Inland Flood*" tab using the *LSR File Manager* window (shown in figure 14). A list of all the LSR products available in AWIPS is displayed in the left-hand side menu window. The products are in descending order following the date of issuance. After selecting an LSR product, click *View LSR* in order to display the product on the large right-hand side screen. If the LSR contains at least one (1) report of "Flood", proceed by clicking on "*Save LSR File*". The manager will automatically scan the LSR product for all reports of "FLOOD" and "FLASH FLOOD", and ingest them into the PSH database. If no reports are found, a pop-up window message will indicate that no data was saved. Otherwise, a pop-up window will appear showing how many reports were found. After closing the "*LSR File Manager*", click on "*View Flood Entries"* to verify that the flood report(s) was (were) properly loaded.

Storm Tide / Surge: the window for the *Storm Tide/Surge* tab is shown in Figure 16.

Location: enter the city, town or reference location. If the city is in the LSR cities file the county will be filled automatically.

Storm Surge: enter the storm surge reported in feet, up to two decimal places. For reports such as "3 to 4 feet", use the *highest* value.

Storm Tide: enter the storm tide reported in feet, up to two decimal places. For reports such as "3 to 4 feet", use the *highest* value.

Beach Erosion: select from the drop down menu the type/severity of any beach erosion associated with a report.

Date / Time (UTC): enter the date and time for the report. It must be entered with the following format: dd/hhmm, where dd, hh, and mm are the UTC day, hour and minutes respectively. The slash character between the day and the time digits is required.

Tide Gauge: marks the location with a "G" in the PSH product, which indicates an official gauge station (see *Step 4: Setup Cities File*, page 9).

Incomplete Data: indicates if the entry data is incomplete. An "I" will appear at the end of the surge/tide report line in the PSH product.

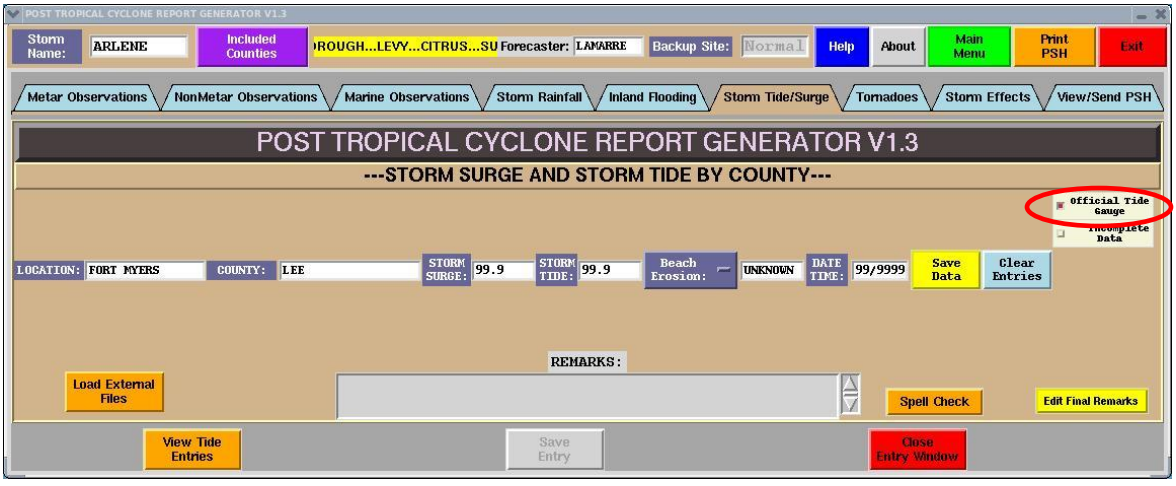


Figure 16. *Storm Tide/Surge* tab. Use the "*Official Tide Gauge*" button to label the location with a preceding "G"in the PSH product, indicating that the site has an official instrument.

Save Data / Remarks: save current report data in the *Tide/Surge* window, including any r*emarks* included for the report. A pop-up window will appear asking if you want to "*Add another Report*". Choose "*Yes*" if you wish to add more reports. When all tide/surge reports for this PSH product are done choose "*NO*" which will allow for an optional final line of *Remarks* to be written. These remarks will appear at the bottom of the *Storm Tide/Surge* section of the PSH product.

Clear Entries: clear all text currently being displayed.

View Tide/Surge Entries: a blue window will open at the bottom of the PSH GUI showing all the reports so far included in the *Tide/Surge* tab. You can edit or delete any reports by entering the report entry number in the *Edit* or *Delete* window and pressing "enter". Close the blue entries window by clicking on *Close Entry Window.*

Edit Final Remarks: recall the saved remarks for editing. The button changes to "*Save Final Remarks*" once the final remarks are displayed.

Spell Check: basic word spell checking for the *final remarks* section.

Load External File: in the "Storm Surge*"* tab this button currently allows for importing *LSR storm surge* reports.

> *"LSR File Manager" for storm surge:* surge reports can be uploaded from the "Storm Tide/Surge" tab using the *LSR File Manager* window (shown in figure 14). A list of all the LSR products available in AWIPS is displayed in the left-hand side menu window. The products are in descending order following the date of issuance. After selecting an LSR product, click *View LSR* in order to display the product on the large right-hand side screen. If the LSR contains at least one (1) report of "Storm Surge", proceed by clicking on "*Save LSR File*". The manager will automatically scan the LSR product for all reports of "STORM SURGE" and ingest them into the PSH database. If no reports are found a pop-up window message will indicate that no data was saved. Otherwise, a pop-up window will appear showing how many reports were found. After closing the "*LSR File Manager*", click on "*View Surge Entries"* to verify that the surge report(s) was (were) properly loaded.

Tornadoes: Figure 17 shows the window for the *Tornadoes* tab.

City / Town: type the city or town of the report. If the city name is in the AWIPS LSR cities file the county and lat/lon information will fill automatically.

Tornado Strength: choose the tornado intensity from the ef-scale drop down menu. You can also manually enter a value, but it must follow the ef-scale format.

Date / Time (UTC): enter the date and time for the report. It must be entered with the following format: dd/hhmm where dd, hh, and mm are the UTC day, hour and minutes respectively. The slash character between the day and the time digits is required.

Lat & Lon: these fields can not be manually entered or changed. If lat/lon pair info is available for the location of the report use the "*Lat/Lon Entry*" orange button instead.

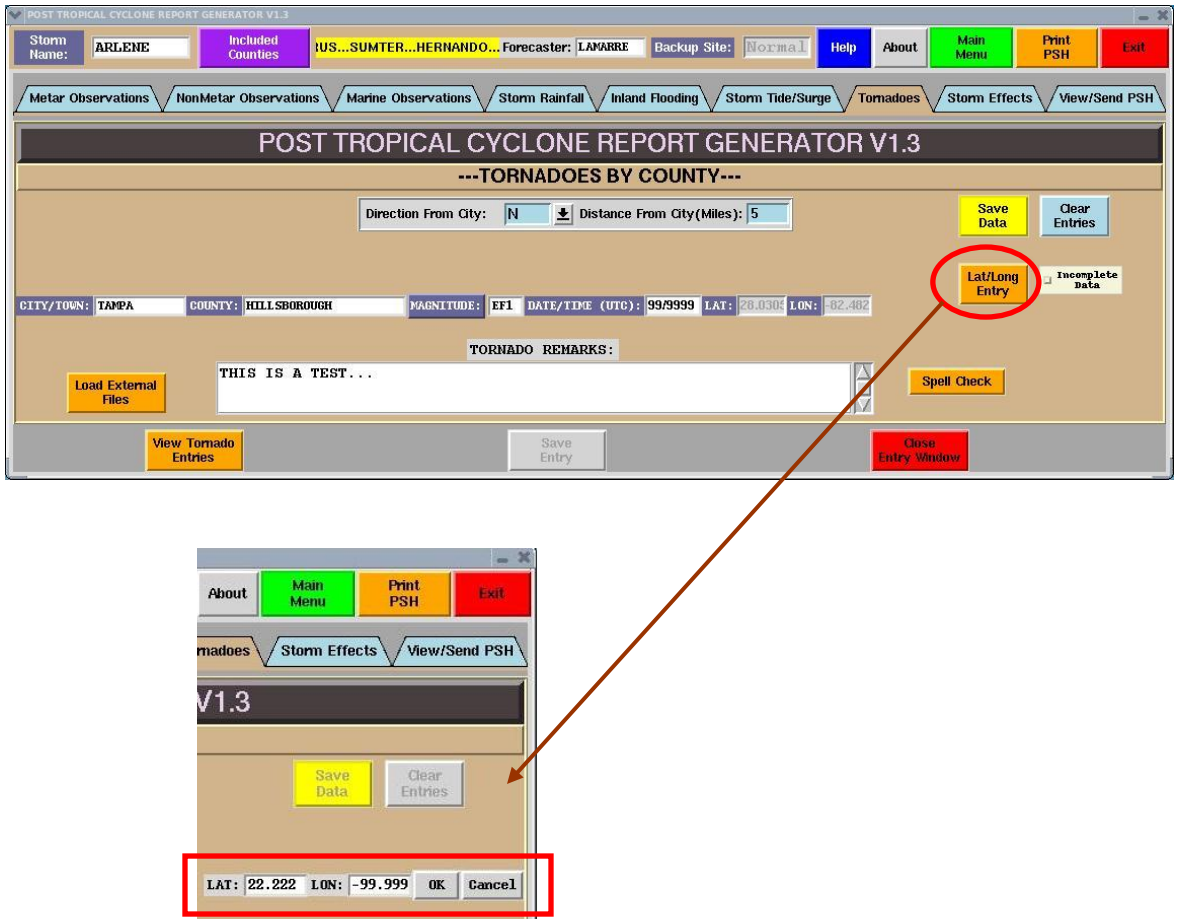


Figure 17. *Tornadoes* Tab. Use the "*Lat/Lon Entry*" button to manually enter a location's coordinate points.

Lat / Long Entry: enter specific latitude and longitude coordinates for the report. The PSH GUI will determine the closest reference city, and the corresponding county.

Incomplete Data: indicates if the report data is incomplete. An "I" will appear at the end of the tornado report line in the PSH product.

Save Data: save current data in the Tornado window, including any remarks for the report.

Spell Check: basic word spell checking for the "*Tornado remarks"* section.

Load External File: in the "*Tornadoes"* tab this button currently allows for importing *LSR* tornado reports.

> *"LSR File Manager" for tornadoes: tornado* reports can be uploaded from the "*Tornado*" tab using the *LSR File Manager* window (shown in figure 14). A list of all the LSR products available in AWIPS is displayed in the left-hand side menu window. The products are in descending order following the date of issuance. After selecting an LSR product, click *View LSR* in order to display the product on the large right-hand side screen. If the LSR contains at least one (1) report of "Tornado", proceed by clicking on "*Save LSR File*". The manager will automatically scan the LSR product for all reports of "Tornado" and ingest them into the PSH database. If no reports are found a pop-up window message will indicate that no data was saved. Otherwise, a pop-up window will appear showing how many reports were found. After closing the "*LSR File Manager*", click on "*View Tornado Entries"* to verify that the tornado report(s) was (were) properly loaded.

Clear Entries: clear all text currently being displayed.

Direction / Distance from City: choose a location's cardinal direction, and distance from a reference city. The lat/lon values and the county will be adjusted accordingly. Always press "enter" after entering the distance value in order to refresh the lat/lon fields. *** THIS PROCEDURE ONLY WORKS WITH CITIES THAT ARE LISTED IN THE CITIES CONFIGURATION FILE** (see *Step 4: Setup Cities File* on page 8).

View Tornado Entries: a blue window will open at the bottom of the PSH GUI showing all reports so far included in the *Tornadoes* tab. You can edit or delete any report by entering the report entry number in the *Edit* or *Delete* window and pressing "enter". Close the entries window by clicking on *Close Entry Window.*

Storm Effects: the last data entry tab is the *Storm Effects* window (also referred to as Storm Impacts), shown in Figure 18.

County Selection: opens the *County Selection* menu. Only one county per report may be selected. You can also enter the county name manually.

Deaths / Injuries / Evacuations: enter the number of fatalities, injuries and total number of people evacuated in the county. A drop down menu will allow for reporting up to 20 in each field. Greater numbers may be entered manually.

Save Data / Remarks: save current report data in the *Storm Effects* window, including any r*emarks* included for the report.

Clear Entries: clear all text currently being displayed.

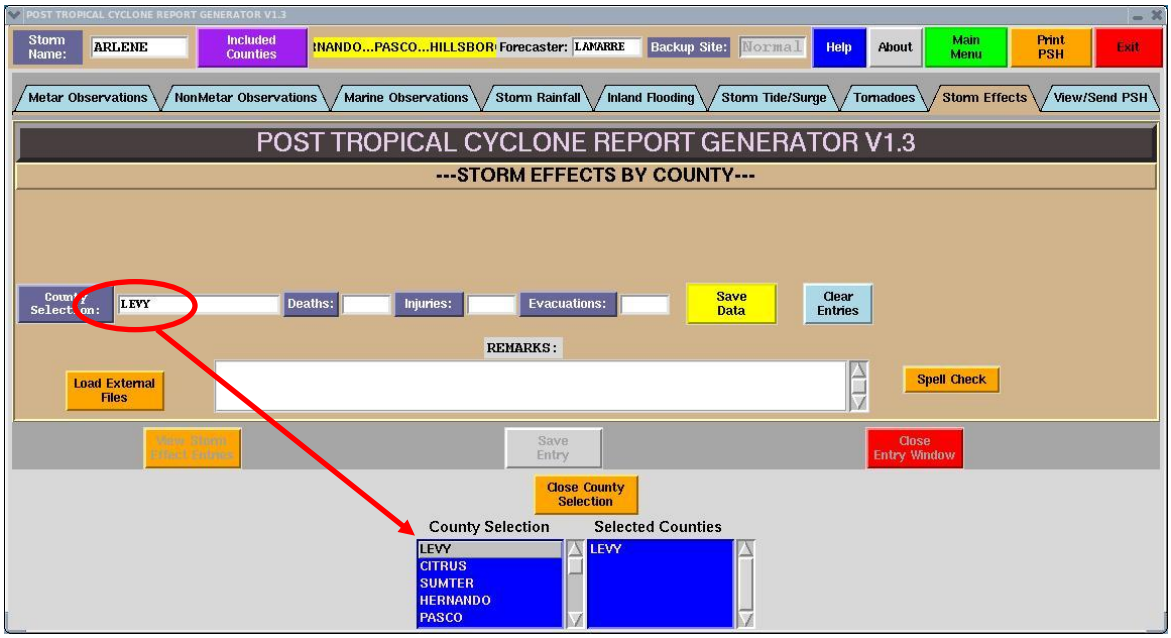


Figure 18. *Storm Effects* tab. Select one county per report and enter the data either manually or by choosing from the drop down menu in each field button.

View Storm Effects Entry: a blue window will open at the bottom of the PSH GUI showing all the reports so far included in the *Storm Effects* tab. You can edit or delete any reports by entering the report entry number in the *Edit* or *Delete* window and pressing "enter". Close the blue entries window by clicking on *Close Entry Window.*

Spell Check: basic word spell checking for the "*Remarks"* section.

Load External File: in the "*Storm Effects"* tab this button currently allows for importing several *LSR* reports.

> *"LSR File Manager" for impacts:* reports can be uploaded into the effects/impacts reports using the "hazards version" of the *LSR File Manager* window (Figure 19). A list of all the LSR products available in AWIPS is displayed in the left-hand side menu window. The products are in descending order following the date of issuance. After selecting an LSR product, click *View LSR* in order to display the product on the large right-hand side screen. Then proceed to the menu at the bottom half of the Manager GUI and select the desired hazards to be saved into the PSH database. The program can handle a request with multiple hazards for one LSR report, but at least one matching hazard must be selected in order for data to be saved. This is illustrated in Figure 19 where a report for TSTM WND DMG is matched with its equivalent expression in the "Hazards Menu". If the LSR contains at least one (1) report matching at least one (1) of the selected hazards, proceed by clicking on "*Save LSR File*". The manager will automatically scan the LSR product for all reports matching the selected hazard(s) and ingest the data into the PSH storm effects database. If no reports are found a pop-up window message will indicate that no data was saved. Otherwise, a pop-up window will appear showing how many reports were found. After closing the "*LSR File Manager*", click on "*View Storm Effects Entries"* to verify that the report(s) was (were) properly loaded.
>
> Note: since the LSR reports do not contain a dedicated field for "Evacuations", it will always appear as "0" in the PSH database when using the LSR File Manager tool. This value can be changed through the "Edit" window.

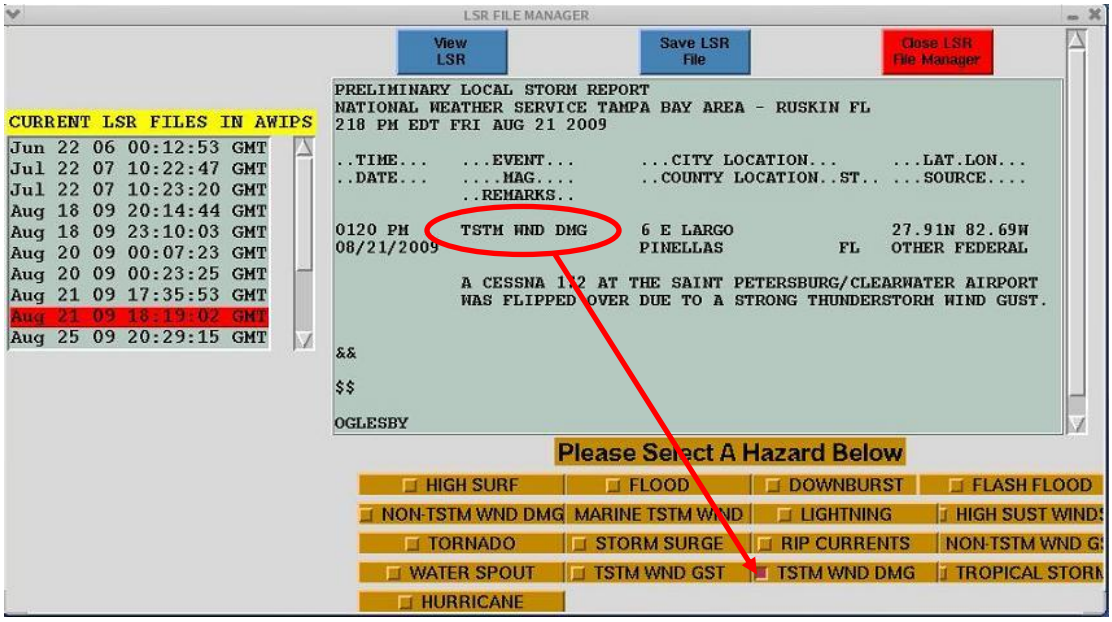


Figure 19. *LSR File Manager window, Storm Effects version*. Choose an LSR product, then click on *View LSR* to display the product. Once the LSR is displayed on the screen use the "Hazard Below" menu in order to select the hazards to be retrieved. Multiple hazards can be selected, however, the chosen LSR product must contain one or more of the selected hazards. Reports will be automatically saved into the PSH database by clicking *Save LSR File*.

VIEW AND SEND PSH

The *View/Send PSH* tab (see Figure 20) is used to display the most recent version of the PSH product. It also allows for updating the classification of the tropical cyclone, and transmitting the PSH.

Open / Close PSH Viewer: open/close the latest version of the PSH product. This window is **non-editable**, except for the storm classification at the top which can be changed outside of the document. This allows for a final inspection of the PHS document prior to official dissemination.

Change Storm Type: allows changing the storm type classification in the first header line of the PSH product (see Figure 21). You can toggle between Tropical Depression, Storm, Hurricane, or Subtropical Storm.

Tropical Depression (No Names): select the corresponding number for a Tropical Depression event. The number will be displayed in the contiguous white window. This value can not be entered or edited manually (see Figure 22).

Route: default is set to all (see Figure 20).

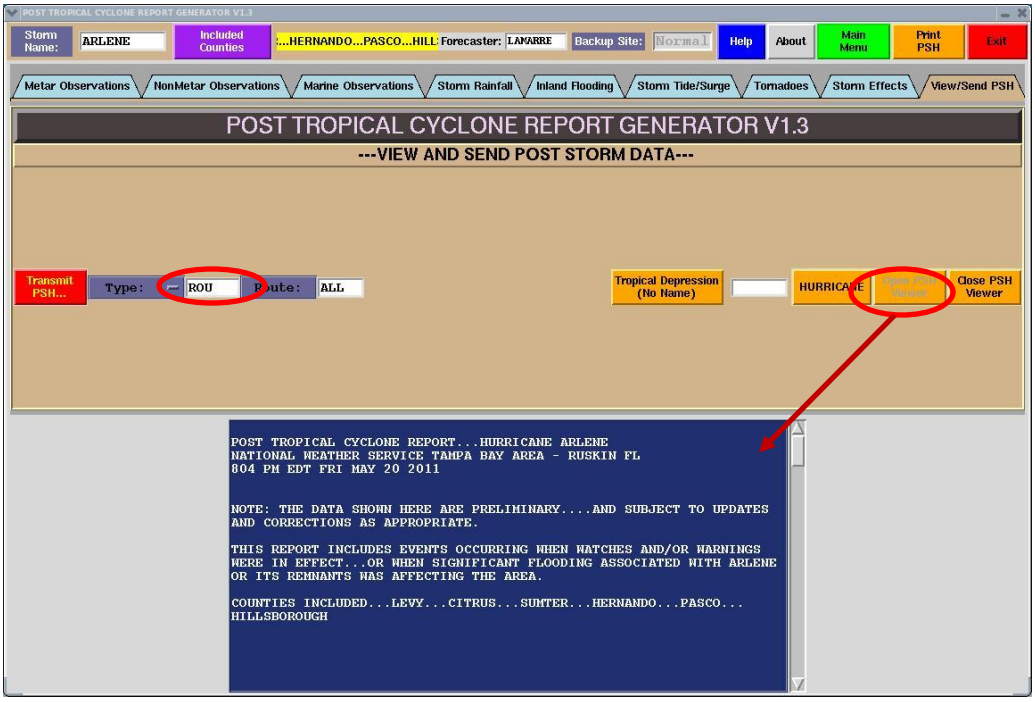


Figure 20. *View/Send PSH* tab. The final version of the PSH product can be browsed prior to transmission. The viewing window is not editable but additional changes can be made at any time prior to transmission by clicking on any of the other tabs. The "*Type*" field allows for sending the product as amended or as a correction.

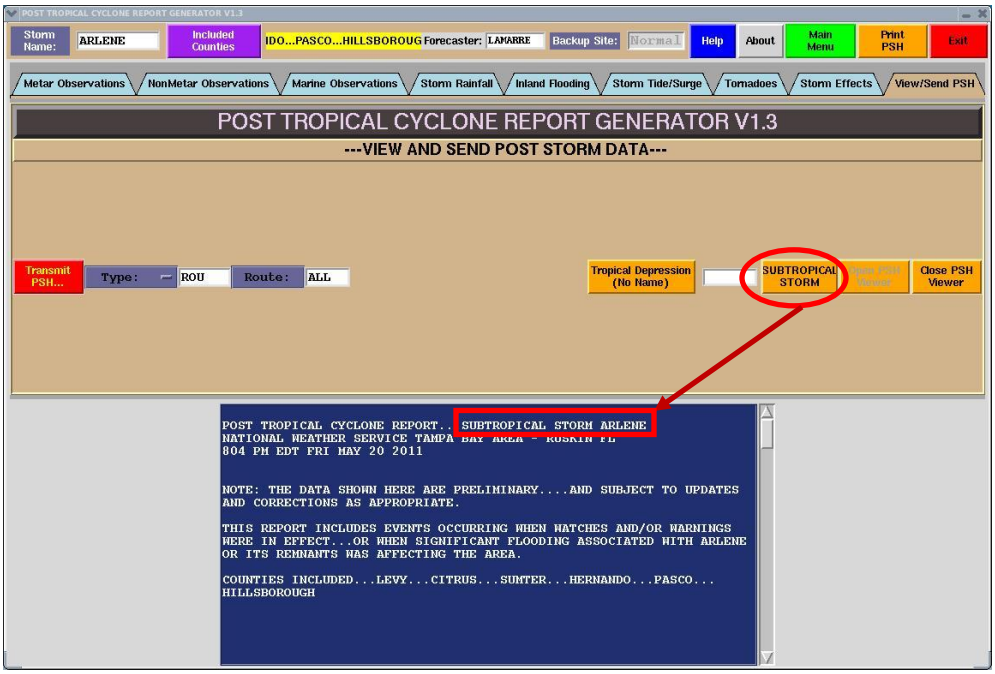


Figure 21. Use the "*Change Storm Type*" button to toggle between different storm categories. In this example, the storm category was changed from "Hurricane" to "Subtropical Storm".

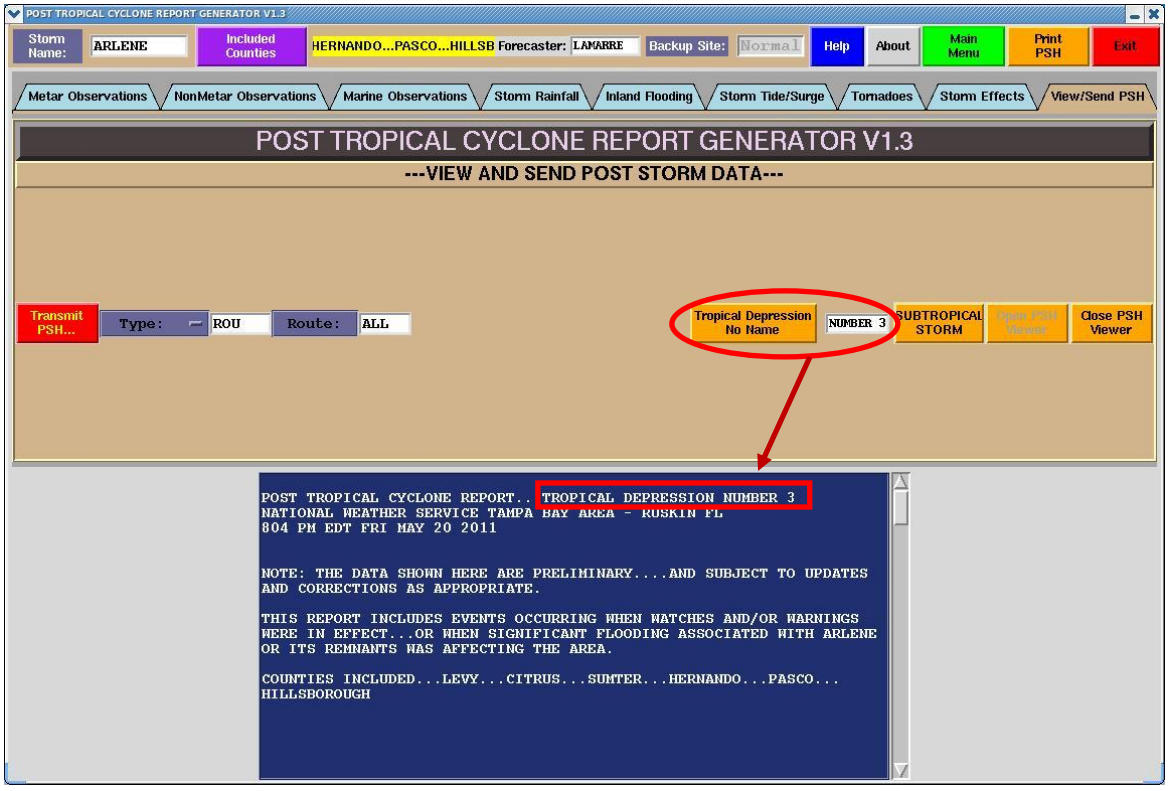


Figure 22. Use the "*Tropical Depression No Name*" button to identify the event as a tropical depression with its corresponding number. In this example, the event was named Tropical Depression Number 3. This value can not be changed manually.

Type: choose the transmission designator:

ROU : routine product.

AAx : amendment.

CCx : correction.

Transmit PSH: disseminates the latest PSH product. Once transmission is completed the background color of the view PSH window will change to white.

APPENDIX A

1. Point your shortcut to the following file located in “/data/local/PSH”:

   SetupPsh.tcl

2. This version of the PSH GUI Generator can only handle one storm at a time. Running the program in multiple workstations may cause runtime errors which could ruin the storm database integrity.

3. The Perl scripts were created with “Perl version 5.8.5”. This version package should be installed in the current operational Red Hat Linux systems throughout the NWS. It can also be obtain as free shareware in the CPAN organization website. Older versions of Perl may also work provided the POSIX mathematical functions are available.

4. The GUI will automatically create a backup folder containing a recent copy of all seven configuration files. The backup folder and its content are:

   /data/local/PSH/**ConfigBackup/…**

cities_pipe.txt	customized cities file
config_headers.txt	customized headers info
county2.dat	list of counties
fcstr.dat	list of forecasters/operators
marine_stationinfo.txt	list of marine stations
official_stationinfo.txt	list of METAR stations
unofficial_stationinfo.txt	list of Non-METAR stations

   If the PSH GUI needs to be re-installed, the configuration files above, and the storm data files for each year can be saved and reloaded once the reinstallation and/or upgrade procedure is finished. The storm data files are kept in the following directories:

/data/local/PSH/atlantic/...	* Atlantic basin storms by year
/data/local/PSH/eastpac/…	* East Pacific basin storms by year
/data/local/PSH/centralpac/…	* Central Pacific basin storms by name

   Just save a copy of the folder containing your corresponding hurricane basin, then reload it into the same working directory “/data/local/PSH/” once the re-installation/upgrade procedure is finished. A pop-up window indicating that the folders already exist may appear. Just say “yes” when asked if you want to overwrite the existing files. Afterward, you should be able to access your old PSH data and configuration files as usual.

5. While the “Retrieve Data” function will search for the highest sustained wind, wind gust and peak wind group (if available) up to the previous 72 hours, the actual highest wind reading for the day could be missed entirely by both METAR and SPECI observations. This value may be included in the DSMxxx product at the end of the day, or on the following day. It is a good idea to cross-check with the DSM in case the highest wind occurred between observations.

   The METAR retrieve function will stop at the observation closest to the selected time range choice (24, 48 or 72 hours) and grab the lowest pressure and highest wind values, even if there are missing observations in the database for the requested time period. **Typically, the AWIPS database is highly unreliable beyond 48 hours (skip / intermittent / missing observations)**. Such information can be added in the “Remarks” section:

   Ex: *Sensor stopped reporting at KRSW at 1738Z.*
   Wind data missing/gaps beyond 48 hours.

6. Do not alter any files inside the “/data/local/PSH/bin” folder, or any files labeled as “wish” (ex. pshWish). No portion of the PSH GUI will be able to run if any of these files is corrupted or missing.

7. It is now necessary to have a copy of the psh user’s guide pdf file in the PSH directory in order to allow for easy access via the ‘help” button. It can also be opened on any computer or terminal with Adobe Reader or any other software capable of reading .pdf files.

8. West Pacific Basin Users: the PSH GUI will not work on the West Pacific Basin at this time. The WestPac version of the Main Menu window is currently being developed and should be available soon.