

Validation process

Validation process consists of three component: (1) WSC, (2) ILM, (3) validation.

Validation data includes two parts of data: (1) **policy files (each company/hurricane pair)** for both wind speed calculation (**WSC**) and modeled loss calculation (**ILM**), (2) **claim file (same pairs as the policy files)** for modeled loss and actual loss comparison (validation).

The validation results will be used to complete Submission Form-S4, two tables in Standard S5 (refer to the submission document (page 184-187) at http://fphlm.cs.fiu.edu/files/wind_certification/v6.2Submission/FCHLPM/FPHLM_2015_Submission_Document_RevJan2017_Track_Changes.pdf)

All the codes related to the validation process can be found in the **code** directory:

```
/home/mitch-a/dmis-projects/fphlm/proc/2017_standards_v7.0/code/validation
```

The last submission's runs and environments can be found in the **validation_runs** directory:

```
/home/mitch-a/dmis-projects/fphlm/proc/2015_standards_v6.2/validation_runs/
```

1.- Prepare the files and folders in the new submission's folder (/home/mitch-a/dmis-projects/fphlm/proc/201X_standards_vX.X/validation_runs) (**one copy for all members**)

- Autovalidation code

```
/home/mitch-a/dmis-projects/fphlm/proc/2015_standards_v6.2/validation_runs/autovalidation
```

- Policy files (**Exposures** for each company/hurricane pair)

```
/home/mitch-a/dmis-projects/fphlm/proc/2015_standards_v6.2/validation_runs/policies_bak
```

- Claim files (**Actual losses** for each company/hurricane pair)

```
/home/mitch-a/dmis-projects/fphlm/proc/2015_standards_v6.2/validation_runs/claim_file_bak
```

Note: Each person who processes a set of validation companies should create their own autovalidation running environment with specific config files

2.- List of policies you plan to run (Can be modified to rerun specific companies/hurricanes)

```
/home/mitch-a/dmis-projects/fphlm/proc/2015_standards_v6.2/validation_runs/policies.txt
```

3.- Update demand surge factors in the excel file Load_all_correct_V5.0_DS.xls using the new simulation_ds_all.txt

- Excel files:

autovalidation/Data/Validation/[PLH]R/Results/Load_all_correct_V5.0_DS.xls

- Update values can be found in (please make sure to use the updated file in the **new submission folder**):

/home/mitch-a/dmis-projects/fphlm/proc/2015_standards_v6.2/demand_surge_factors/catfundPR2007_v6.2_validation_ds/pr_unmatched/env/Results/simulation_ds_all.txt

[1-11].dat refer to the following hurricanes:

1. Andrew
2. Charley
3. Dennis
4. Erin
5. Frances
6. Ivan
8. Jeanne
9. Katrina
10. Rita
11. Wilma

Note: Data folder contains (1) all the excel files for validation post-processing result (2) WSC setups and (3) ILM setups for creating the running environment of each company/hurricane pair.

4.- Edit the configure file (/home/mitch-a/dmis-projects/fphlm/proc/2015_standards_v6.2/validation_runs/autovalidation/Configure/Config.xml)

Autovalidation integrate the codes for WSC, ILM and validation (post-processing)

- /home/mitch-a/dmis-projects/fphlm/proc/2017_standards_v7.0/code/validation/v6.0_wsc_environment
- /home/mitch-a/dmis-projects/fphlm/proc/2017_standards_v7.0/code/validation/v6.0_validation_env_PR/pre_clean_2008zips/
- /home/mitch-a/dmis-projects/fphlm/proc/2017_standards_v7.0/code/validation/v6.0_validation_env_HR/pre_clean
- /home/mitch-a/dmis-projects/fphlm/proc/2017_standards_v7.0/code/validation/v6.0_validation_env_LR/pre_clean

- /home/mitch-a/dmis-projects/fphlm/proc/2017_standards_v7.0/code/validation/VLDCode/code

Keep all the paths not change, except:

UserDir: The directory you create for run validation

CollectionDir: The directory of policies

ClaimDir: The directory of claim files

SourceFile: The list of policy names

UserFileName: Same as the name of SourceFile

PRStart, PReEnd, HRStart, HREnd, LRStart, LREnd: the starting and end line number in the source file

- Update output directory with a new folder name: /home/mitch-a/dmis-projects/fphlm/proc/2015_standards_v6.2/validation_runs/[name of an empty folder]
- Location of policy files: /home/mitch-a/dmis-projects/fphlm/proc/2015_standards_v6.2/validation_runs/policies
- Location of claim files: /home/mitch-a/dmis-projects/fphlm/proc/2015_standards_v6.2/validation_runs/claim_file
- List of policies need to be processed: /home/mitch-a/dmis-projects/fphlm/proc/2015_standards_v6.2/validation_runs/policies.txt
- Specific the PR/HR/LR policies' start and end line numbers in the policies.txt
 - 1
 - 73
 - 86

- 95
- 74
- 85
- should be ordered continuously for each policy type (PR policies, HR policies, and LR policies)

5.- Edit WSCSetup.xml in the same directory

- **Note:** WSC code for validation is modified to use only two servers. 3 files are different from the regular WSC code. (**servers.txt, merge_multiserver.sh, wsc_multiserver.sh**)

-

```
WSCRoot: /WSC
```

```
EmailToNotify: input your email
```

```
check RoughTiles, DistanceFolder, SwathFiles for each submission
```

- Same new folder name as specified in configure.xml and add 'WSC' at the end: /home/mitch-a/dmis-projects/fphlm/proc/2015_standards_v6.2/validation_runs/[UserDir]/WSC
- /home/mitch-a/dmis-projects/fphlm/proc/2011_standards_v5.0/met/20120702_filesSentByDrCocke/code.20120702/rough_popwt_2012
- /home/mitch-a/dmis-projects/fphlm/proc/2011_standards_v5.0/met/20120702_filesSentByDrCocke/code.20120702/distance_popwt_2012
- /home/mitch-a/dmis-projects/fphlm/proc/2013_standards_v6.0/met/swath_files/baseset_20120806_validation_storms_swaths

6.- Edit ILMSetup.xml in the same directory

-

```
EmailToNotify: input your email
```

```
PRFlag, HRFlag, LRFlag: Set up the type of validation you want to run
```

Matrices: Update matrices directory for each submission

No Demand Surge applied during ILM

PR policy flag set to 0

- Match with the line index specified in configure (Which type of company you are going to process). The java program will provide the options for company type with 1 flag only.
 - 1
 - 1
 - 1
- Update matrices for PR, HR, and LR
 - /home/mitch-a/dmis-projects/fphlm/proc/2015_standards_v6.2/data/matrices_curves/v6.2_pr_matrices/

7.- type ./autovalid.sh

- Select available option (E.g., process PR policies)
- Start with manipulating the running environment.
- Note: validation process needs **python2**
- If the autovalidation program has no output for a long time after step 3 (ILM) has finished
 - terminate the program
 - go into the validation folder in your running environment, use ./run_validation.sh to generate the validation results
 - restart the autovalidation program:
 - select 3. execute HR task (if you are running HR policies for example)
 - select 5. to continue generating the final results.

8.- Post processing (1)use the result files from LR and HR to manually generate the CR combined result. (2)use template to create form S4, validation results /home/mitch-a/dmis-projects/fphlm/proc/2015_standards_v6.2/forms/s4 validation PR: update sheet1, Loss Data Complete, and Loss Data validation CR: update both sheets formS4 temp and plot:template for PR and CR plots using highlighted company files update formS4 using corresponding data