**How to generate/update CaMa-Flood package**

For CaMa-Flood v4.00 on 9 Jan, 2020

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# This manual is for Yamazaki lab internal use.

When we release the CaMa-Flood new version, the “model package” which contains both model codes and sample data should be created.

The “original model package” is currently managed in Yamazaki’s working directory (both rainbow & iMacPro). (e.g. /home/yamadai/work/CaMa\_v400 for version 4.00)

The code is managed on GitHub, while the data (e.g. map, sample input) is managed on lab servers.

1. **Source code management on GitHub**

The latest version of CaMa-Flood source code is managed on GitHub.

When making a new release version, create a branch “release\_v4.00” to make sure which branch is used as the code included in the release package.

Copy the codes from GitHb to the directory “CaMa\_v400/cmf\_v400\_src/”

1. **Model data**

The model data is managed in the lab server. We have to prepare “basic map data”, “sample input data”, “runoff climatology data for channel parameter calculation”.

**(2.1) CaMa-Flood map**

The original CaMa-Flood map is generated by FLOW upscaling method.

The original map data (e.g. glb\_15min, jpn\_1min) is copied from FLOW directory to CaMa\_v400\_data/map/.

This can be done by m01-copy\_FLOW.sh.

As the data size of the original map is very large because of the 3sec high-res data, smaller data-size maps for distribution should be created (by removing 3sec & 15sec data). Also, tar.gz archive should be prepared for data distribution.

The reduced-size map data is stored in CaMa\_v400\_data/dat\_map/

This can be done by m03-map4download.sh

**(2.2) Runoff climatology for channel param calculation**

The standard runoff climatology data based on ELSE\_GPCC (Kim et al., 2009) should be prepared for the CaMa-Flood package. If there is no critical change, please copy this data from previous CaMa-Flood version. This should be located to cmf\_v400\_data/dat\_map/data

It contains below files

ELSE\_GPCC\_coastmod\_dayclm-1981-2010.one

ELSE\_GPCC\_dayclm-1981-2010.one

runoff\_1981-2000\_day.bin

runoff\_1981-2000\_day.ctl

NOTE: script for runoff pre-processing is available in CaMa-Flood/etc/

**(2.3) Sample input data**

Sample input data should be located in cmf\_v400\_data/inp directory. If no critical bug exist, please copy it from the previous version.

It contains below files:

test\_15min\_nc/

test\_1deg/

test\_jpn\_1hr/

1. **Creating CaMa-Flood package & execute test simulations**

**(3.1) Please copy cmf\_v400\_src to cmf\_v400\_pkg.**

**(3.2) Copy or link required data from cmf\_v400\_data**

- Basic map data, sample input runoff

The above steps (3.1) (3.2) can be done by make\_package.sh script.

**(3.3) Compile codes**

- Go to adm/, and edit Mkinclude

- Go to gosh/, and execute compile.sh

**(3.4) Prepare and execute test simulations**

**[3.4a] test1-glb\_15min.sh simulation**

- Go to map/glb\_15min/src\_param

- Compile codes and execute s01 & s02 scripts.

- Go to gosh/

- Edit test1-glb\_15min.sh, and execute. Confirm the results are OK.

**[3.4b] test2-conus\_06min.sh simulation**

- Go to map/conus\_06min/src\_regions

- Check the regionalization domain in s01 script is OK.

- Compile codes. Execute s01 script.

- Confirm the conum\_06min map data is generated.

- Go to map/conus\_06min/src\_param

- Compile codes and execute s01 & s02 scripts.

- Go to gosh/

- Edit test2-conus\_06min\_netcdf.sh, and execute. Confirm the results are OK.

**[3.4c] test3-jpn\_fcast.sh simulation**

- Go to map/tej\_01min/src\_regions

- Edit the regionalization domain in s01 script (sample prepared).

- Compile codes. Execute s01 script.

- Confirm the tej\_01min map data is generated.

- Go to map/tej\_01min/src\_param

- Edit s02 script for Japan-domain input runoff.

- Compile codes and execute s01 & s02 scripts.

- Go to gosh/

- Edit test3-jpn\_fcast.sh, and execute. Confirm the results are OK.

1. **Making package**

When everything works, go to $CaMa directory. Execute archive\_pkg.sh.