

Quickstart for CoLM Version 2014

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1. Before start

- Download the source code (**colm2014_src.tar.gz**), land surface data (**data.tar.gz**), and atmospheric forcing data (**CRUNCEP** for simple) firstly.
- Uncompress the **colm2014_src.tar.gz** and **data.tar.gz**, the major directories are shown below

```
clm/          --- source code
  include/    --- include directory
  main/       --- CoLM main source code
  mksrfdata/  --- make surface data
  mkinidata/  --- make initial data
  [CaMa]/     --- coupled CaMa-Flood Model
  run/        --- job scripts
  postprocess/ --- post process

data/
  inputdata/  --- input data
               atm/    --- atmospheric forcing data
               srf/    --- land surface data
               [cama]/ --- CaMa-Flood model data
  CLMrawdata/ --- raw data for making land
                surface data
```

- Put the forcing data in the corresponding sub directories under directory **data/inputdata/atm**.

2. System environment setting

- Edit **clm/include/Makeoptions** to set compiler info and NetCDF library path.

3. Model setting

- Forcing data time range. Edit **clm/main/user_specified_forcing.F90** to set the available data time range (MARK #1 +3 lines for CRUNCEP).
- Edit **clm/run/jobclm.csh** to set
 - o case name (MARK #1)
 - o model running time (MARK #2 +4 lines)
 - o CoLM source code directory (MARK #3)
 - o input data directory (MARK #4)
 - o case directory (MARK #5)

4. Run model

- Go to directory **clm/run/** and **./jobclm.csh**

5. Model output

- Model running time information: go to case directory, check file **\${CASE_NAME}/exe.timeloop.log**
- Model results:
\${CASE_NAME}/output/\${CASE_NAME}_2D_Fluxes_YYYY-MM is the binary CoLM output. you could use program **clm/postprocess/bin2netcdf** (make first) to convert it to a NetCDF file.

```
$. /bin2netcdf ${CASE_NAME}_2D_Fluxes_YYYY-MM [ncar]
```

- **\${CASE_NAME}/output/CaMa/** includes the output of CaMa-Flood model.

6. Trouble shooting

- For compiling error, see **\${CASE_NAME}/xxx.log** files
- For job error at very beginning of running, check the input data file path first
- For any other problems or questions please feel free to contact us at yuanh25@mail.sysu.edu.cn