International Institute for Applied Systems Analysis
IIASA www.iiasa.ac.at

# Exercise 1: Hands on CWatM

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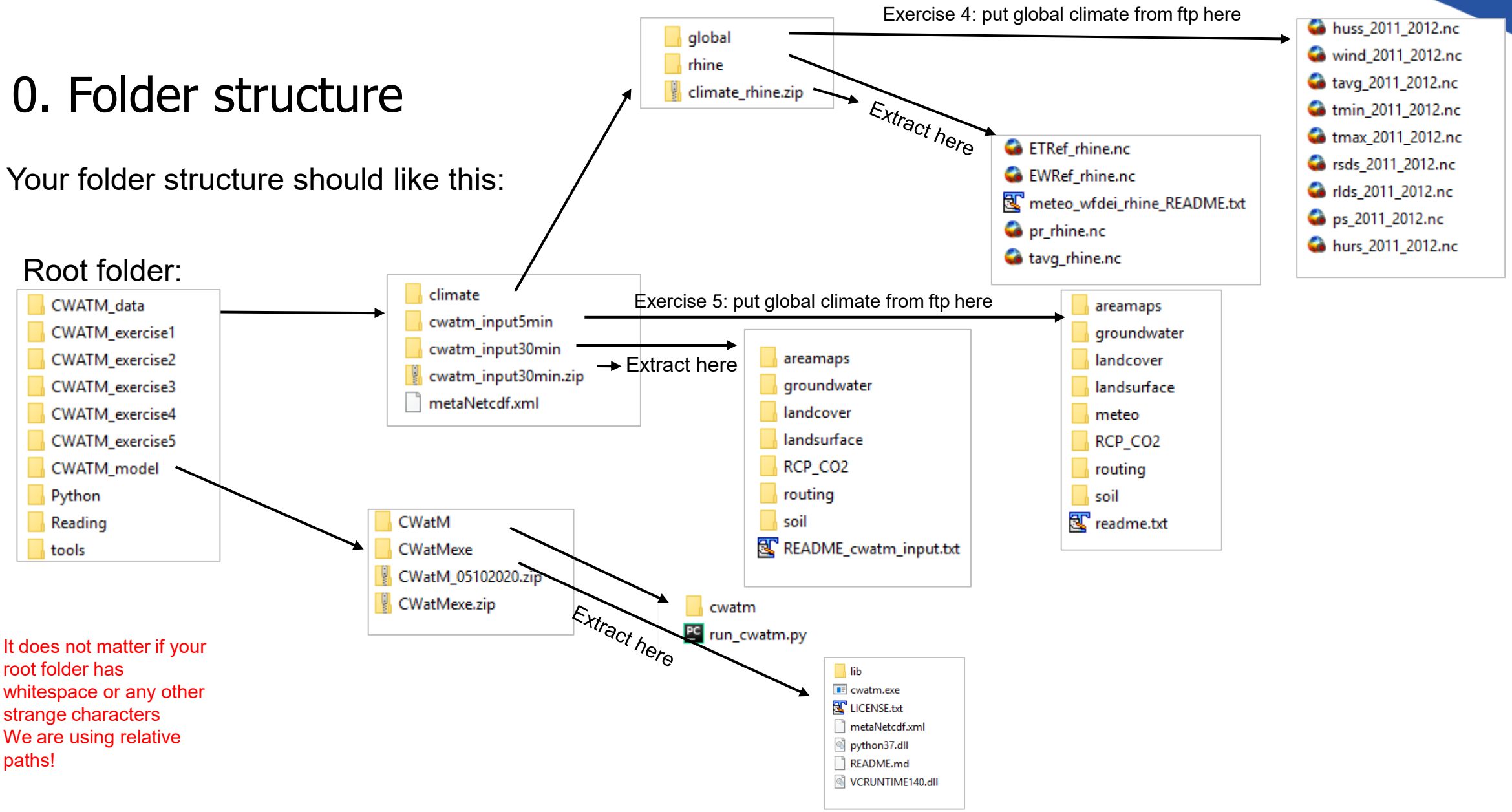
# Hands on CWatM

1. Running CWatM for the first time
2. Run CWatM with a settings file
3. Test the options –l , -t
4. Take a look at the settings file

# Hands on CWatM

## 0. Folder structure

Your folder structure should like this:




It does not matter if your root folder has whitespace or any other strange characters
We are using relative paths!

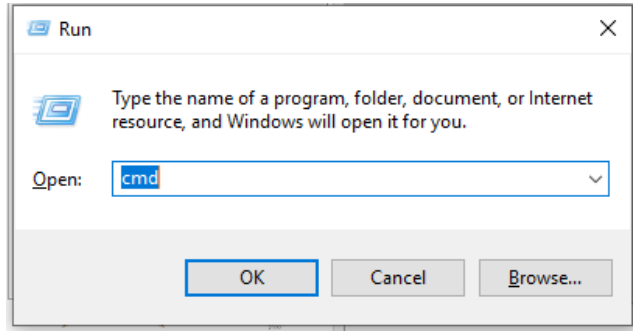
# Hands on CWatM

## 0. Running batch files

- Go to folder CWATM_exercise1
- Start: 01_exe_example.bat

  or open a DOS command prompt

  - press Windows+R
  - type cmd + return
  - change directory: e.g.: cd c:/CWATM/CWATM_exercise1
    (or cd "c:/directory with white space/CWATM/CWATM_exercise1")




- Type ..\CWATM_model\CWatMexe\cwatm.exe

# Hands on CWatM

## 1. Running CWatM for the first time

- Go to folder CWATM_exercise1
- Start: 01_exe_example.bat
- Or use the command line (slide before)

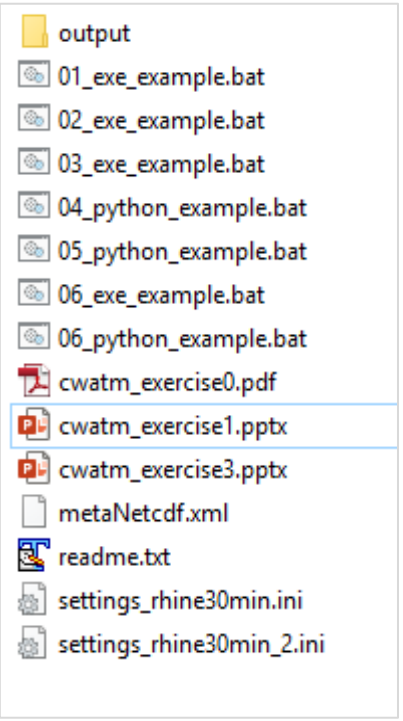
```
cd c:/CWATM/CWATM_exercise1
..\CWATM_model\CWatMexe\cwatm.exe
```

```
F:\CWATM_exercise2\rhine30min>..\CWatMexe\cwatmexe\cwatm.exe
CWatM - Community Water Model
Authors:  WATER Program, IIASA
Version:  Version: 1.04
Date:  06/08/2019
Status:  Development

        Arguments list:
        settings.ini     settings file

        -q --quiet       output progression given as .
        -v --veryquiet   no output progression is given
        -l --loud        output progression given as time step, date and discharge
        -c --check       input maps and stack maps are checked, output for each input map BUT no model run
        -h --noheader    .tss file have no header and start immediately with the time series
        -t --printtime   the computation time for hydrological modules are printed
        -w --warranty    copyright and warranty information
```

CWAT_exercise1



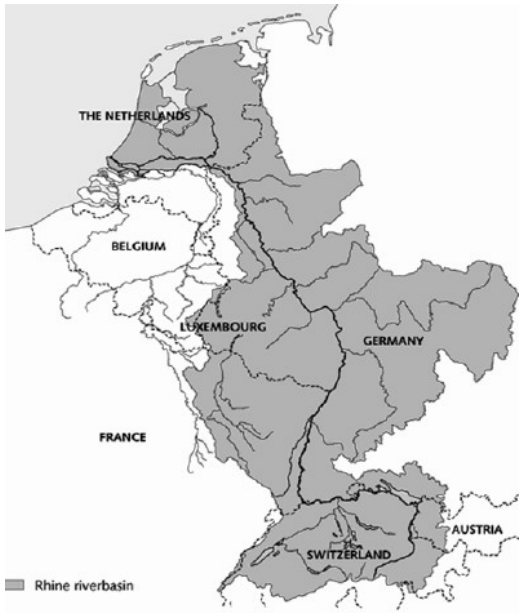
# Hands on CWatM

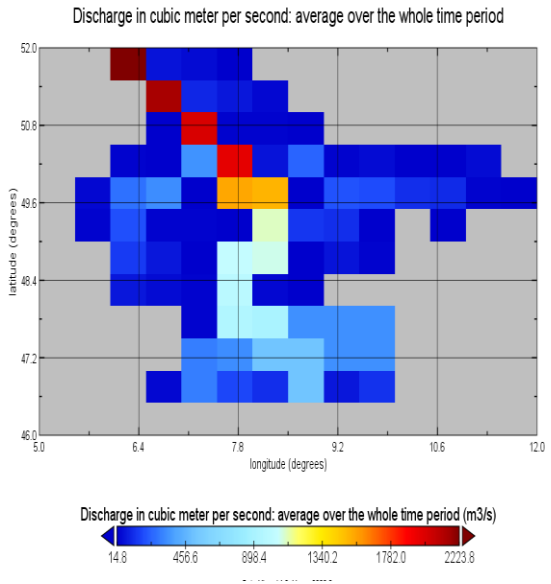
## 2. Run CWatM with a settings file

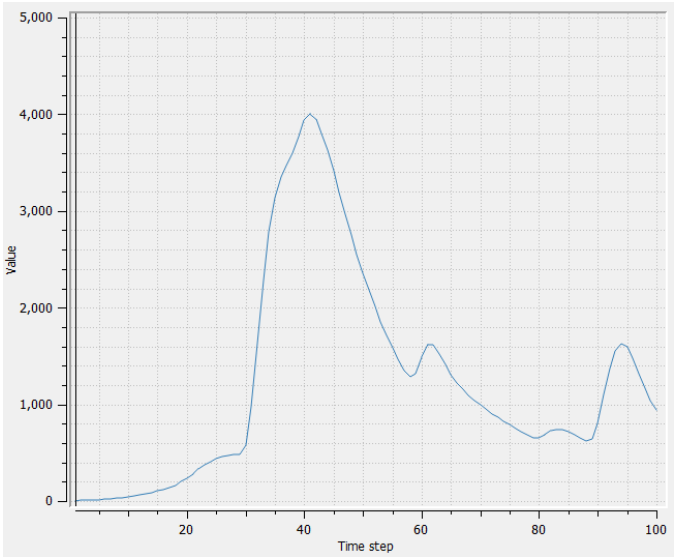
- Start 02_exercise.bat

  ../CWATM_model/CWatMexe/cwatm.exe settings_rhine30min.ini –l

- Use a text editor e.g. notepad, textpad, notepad++
- Look at ./output/discharge_daily.tss



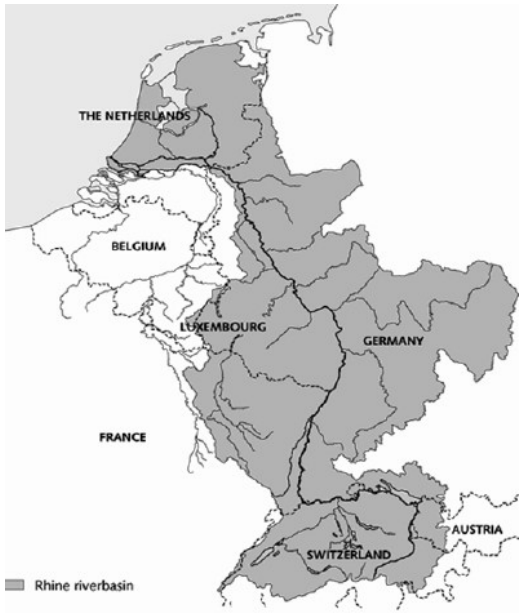
# Hands on CWatM

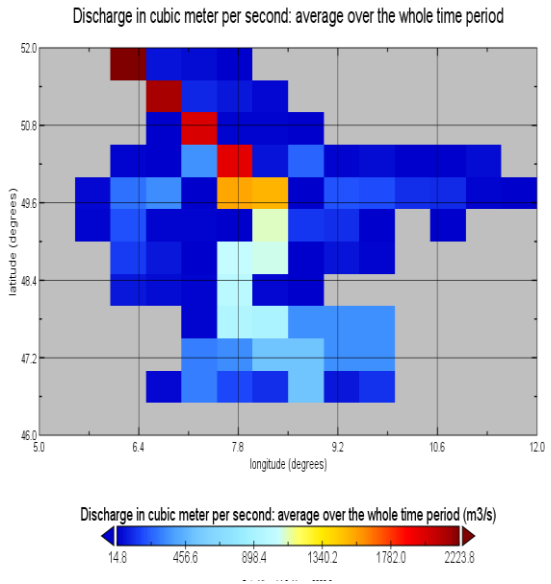
## 3. Run CWatM with a settings file

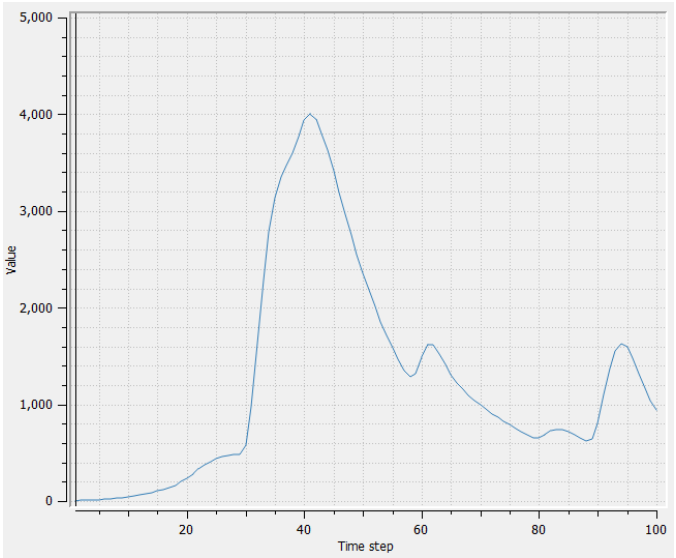
- Start 03_exercise.bat

  ../CWATM_model/CWatMexe/cwatm.exe settings_rhine30min.ini –l -t

- Use a text editor e.g. notepad, textpad, notepad++ to change 03_exercise.bat



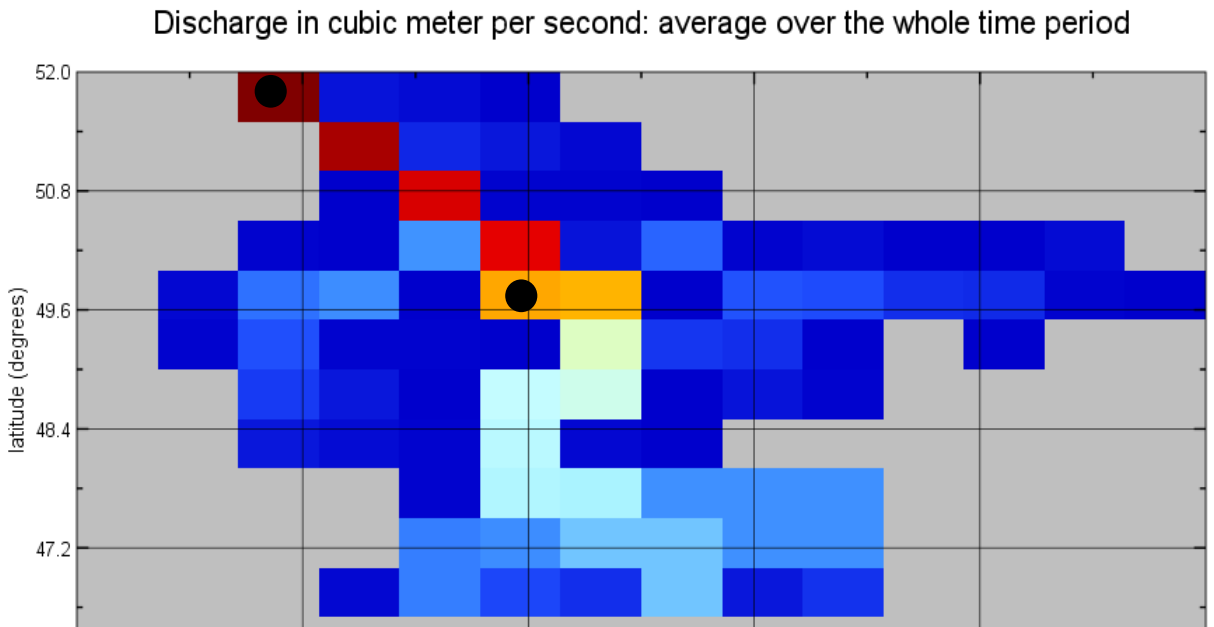



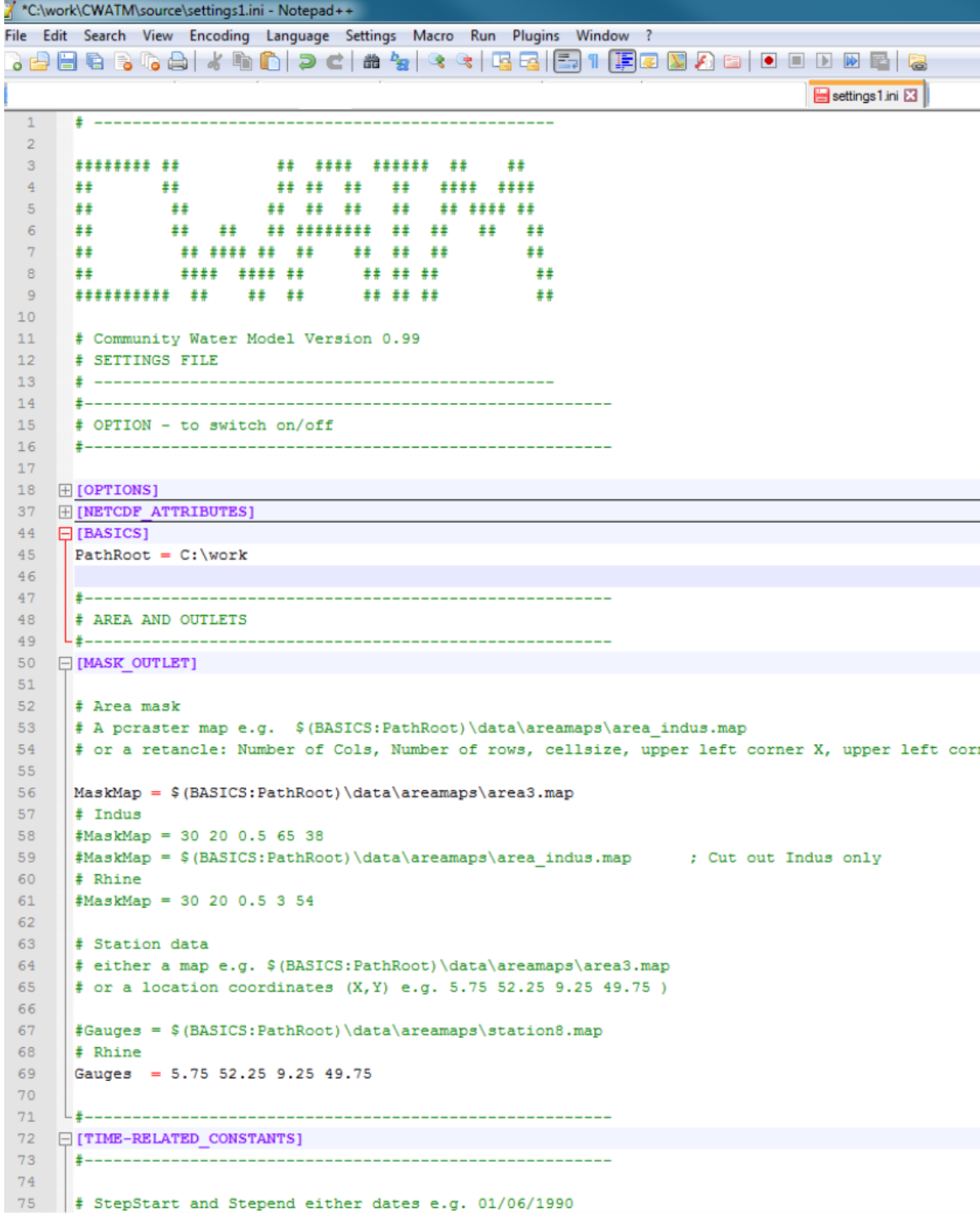



# Exercise 3: Hands on CWatM

## 4. Take a look at the settings file

- Change settings_rhine30min.ini with a text editor
- Look for gauges in settings_rhine30min.ini
- Change it to Gauges = 6.25 51.75 7.75 49.75
- Change StepEnd = 100
- Start 02_exercise.bat



# 9. Homework

- Play around with the Rhine catchment

  change the settings file: settings_rhine30min.ini
  - Run for different times
  - Produce different outputs

- What catchment are you interested?
  - Find out the coordinates (lat/lon) of the outlet point
  - Find out coordinates of gauges
  - Send me the coordinates for next lesson

# Problems

Most problems come from different file systems, folder structures

We try to set up everything with relative path.

1. Please make sure that your folders have a similar structure like in slide 3 in cwatm_exercise1.ppt
2. The settings file has a part:

```
[FILE_PATHS]
PathRoot = ../cwatm_data
PathOut = ./output
PathMaps = $(PathRoot)/cwatm_input30min
PathMeteo = $(PathRoot)/climate/rhine
```

../ jumps back to the previous folder
./ uses the folder output in the same folder as the settings file or the directory you are in

3. If this is not working you can use also absolute path (also with white space)

```
PathRoot = C/root directory/second.root/cwatm/cwatm_data
```

4. If you execute cwatm you can also use absolute path

instead

```
../CWATM_model/CWatMexe/cwatm.exe settings_rhine30min.ini –l
"C/root directory/second.root/cwatm/CWATM_model/CWatMexe/cwatm.exe" settings_rhine30min.ini –l
```

(mind the " if there are white spaces)

5. Some other errors we address in:
https://cwatm.iiasa.ac.at/tutorial.html#test-the-python-model-version