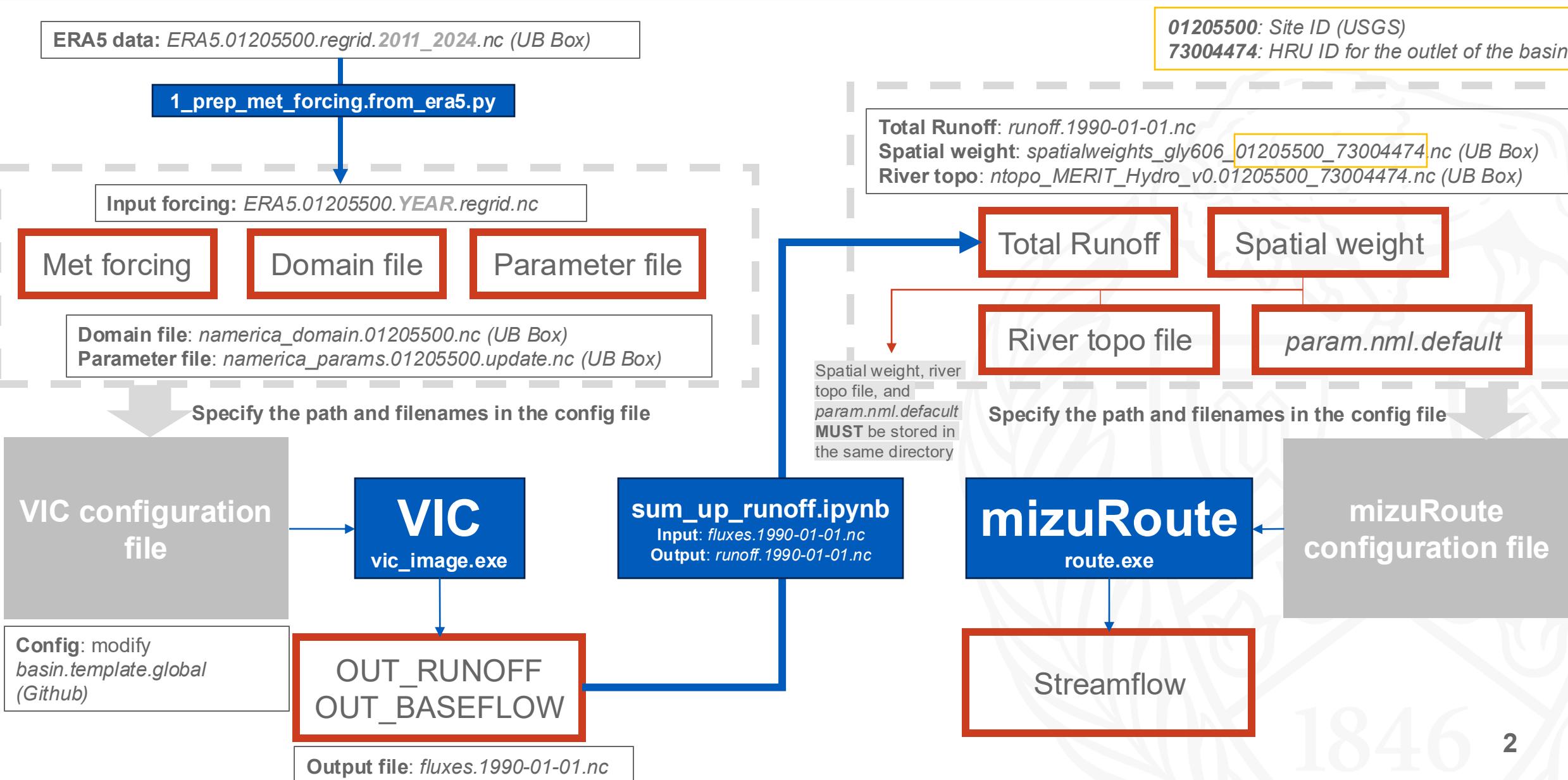


# SET UP VIC

ERT 474/574

Nov 12<sup>th</sup> 2025





# Step 0: Download all necessary files to local machine

- I would recommend using the desktop
- All input files are shared with you on UB Box (ERT574\_Fall25)
  - shp
  - met\_data
  - vic\_data
  - Mizuroute\_ancillary
- You would only need to download the data for your target domain.

# Step 1: Create a model run folder

- `cd /workspaces/homework_<id>/project_submission`
- `mkdir vic mizuroute`
- `cd vic`
- `mkdir met_data config param state output output/log`

## Example folder structure

- `vic`
  - `met_data`
  - `config`
  - `param`
  - `state`
  - `output`
    - `log`
  - `mizuroute`

## Step 1-1: Update the .gitignore

Edit this following file:

/workspaces/homework\_yifan/.gitignore

We will need to add the following line

project\_submissions/vic/met\_data/

```
157 # PyCharm
158 # JetBrains specific template is maintained
159 # be found at https://github.com/github/gitignore
160 # and can be added to the global gitignore
161 # option (not recommended) you can uncomment
162 #.idea/
163
164 | project_submissions/vic/met_data/|
```

We do not want github to track this file because they are too large!

## Step 2: Move files to the targeted folders

- vic/param
  - namerica\_domain.<siteid>.nc
  - namerica\_params.<siteid>.nc
- vic/config
  - basin.template.global
- vic/met\_data
  - ERA5.<siteid>.2011\_2024.nc



We need to replace the entire string including the bracket with the targeted site ID. For example, for the basin with site ID 01205500, the domain file would be

namerica\_domain.01205500.nc

**basin.template.global** is located in Github: [CourseMaterials25/ final\\_project/vic\\_config\\_template](#)

## Step 3: Prepare meteorological forcing data

```
# first step aims to calculate the required variables with correct units as VIC input
```

```
mv
```

```
/workspaces/CourseMaterials/final_project/met_prep_python_code/1_prep_met_forcing.from_era5.py /workspaces/homework_yifan/project_submissions/vic/met_data
```

- python **1\_prep\_met\_forcing.from\_era5.py** <#1\_site\_id> <#2\_era5\_met\_dir>  
<#3\_vic\_met\_dir>

In this case, <#2> and <#3> are both

```
/workspaces/homework_yifan/project_submissions/vic/met_data
```

This script is located in Github: **[CourseMaterials25/final\\_project/met\\_prep\\_python\\_code](#)**

## Step 4: Prepare configuration file

- cd /workspaces/homework\_yifan/project\_submissions/vic/config
- cp **basin.template.global** **basin.<siteid>.global**
- vim **basin.<siteid>.global**
  - <STARTYEAR>
  - <ENDYEAR>
  - <SITEID>
  - <FORCING\_DIR>

Example  
input  
values

2011

2024

01205500

/workspaces/homework\_yifan/project\_submissions/vic/met\_data

If you followed the folder structure as I suggested, you only need to modify the four types of placeholders on the left.

Otherwise, you will need to make sure that the configuration file contains the correct path to 1) the domain file and 2) the parameter file.

You may need to replace each type of placeholder multiple times.

**basin.template.global** is located in Github: [CourseMaterials25/ final\\_project/vic\\_config\\_template](#)

## Step 5: Run the model

- cd /workspaces/homework\_yifan/project\_submissions/vic/config
- ./workspaces/VIC/vic/drivers/image/vic\_image.exe -g basin.<siteid>.global

# Model spin-up

- The land surface model “spin-up” process is used to generate a reasonable initial state from which the model can proceed.
- For example, if we want to conduct a 10-year model spin-up and our official model run to start from **2010-01-01**. How should we set up?