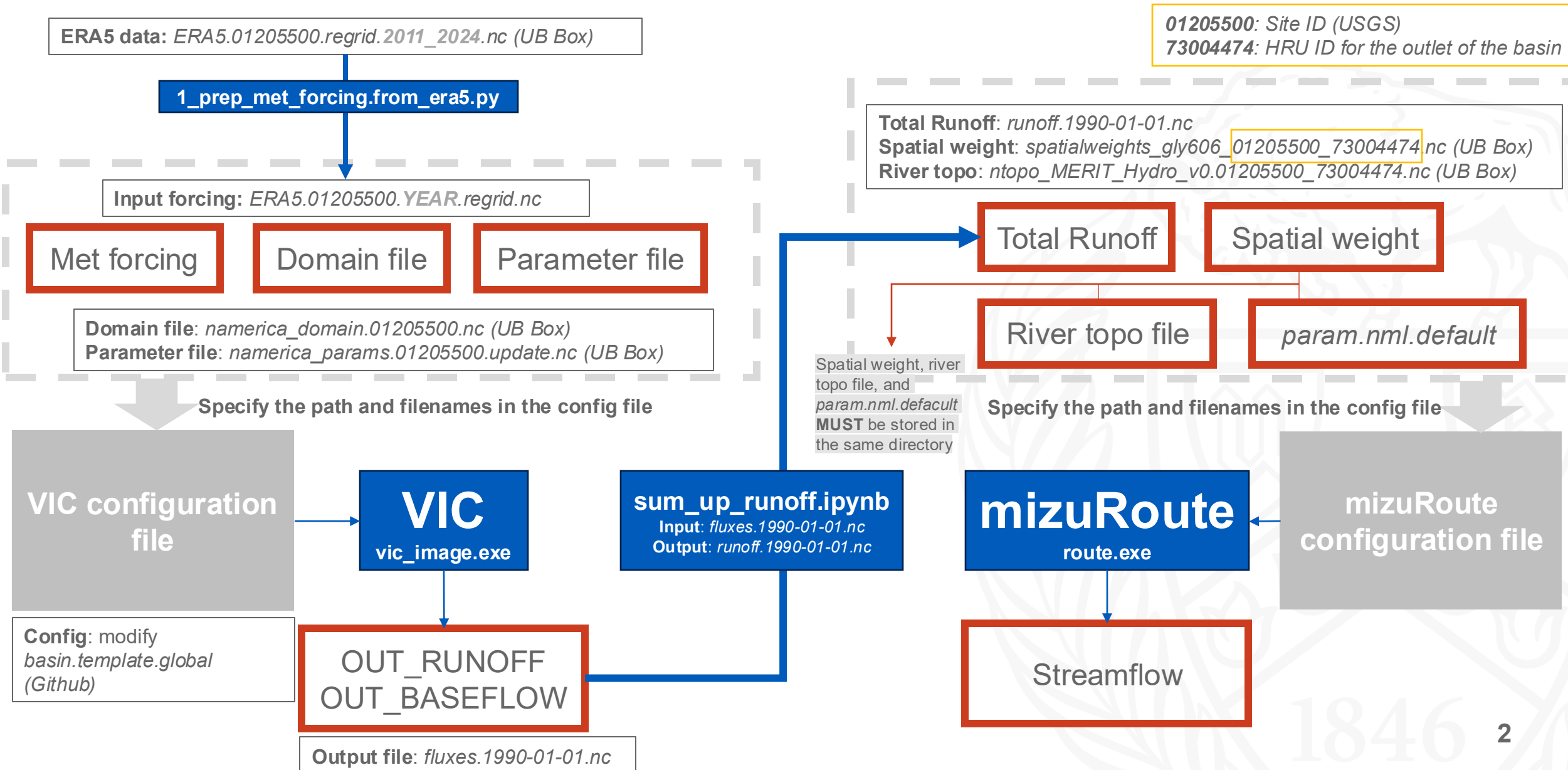


# SET UP VIC

ERT 474/574

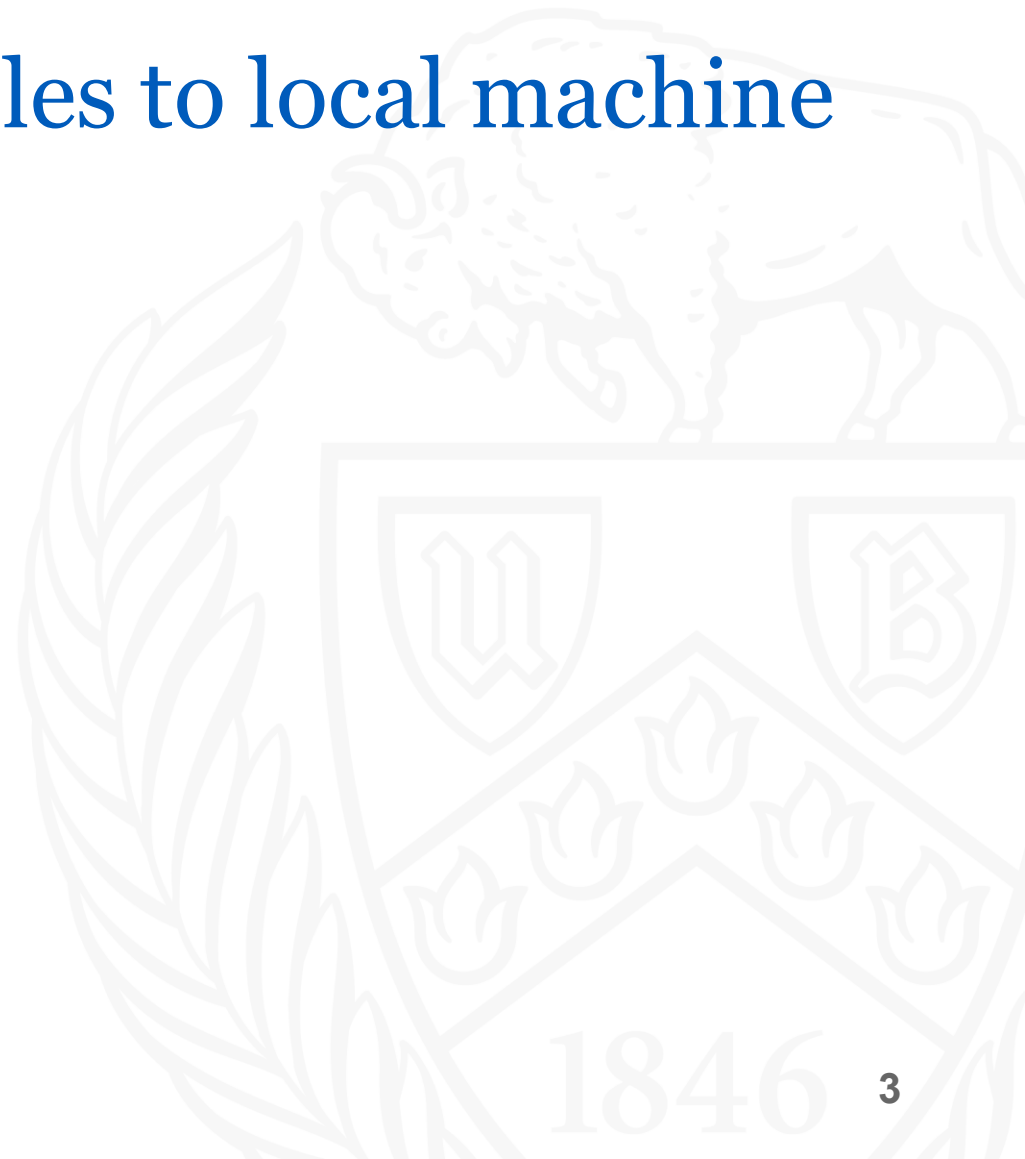
Nov 12<sup>th</sup> 2025





# 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>

2011

- <ENDYEAR>

2024

- <SITEID>

01205500

- <FORCING\_DIP>

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

Example  
input  
values

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?

