DSM2 Learning Series: DSM2 Planning Studies

Session 1: Input pre-processing, running DSM2

The goals for this session include:

1. Running the pre-processor for DSM2 planning studies
2. Plotting input with Jupyter notebook
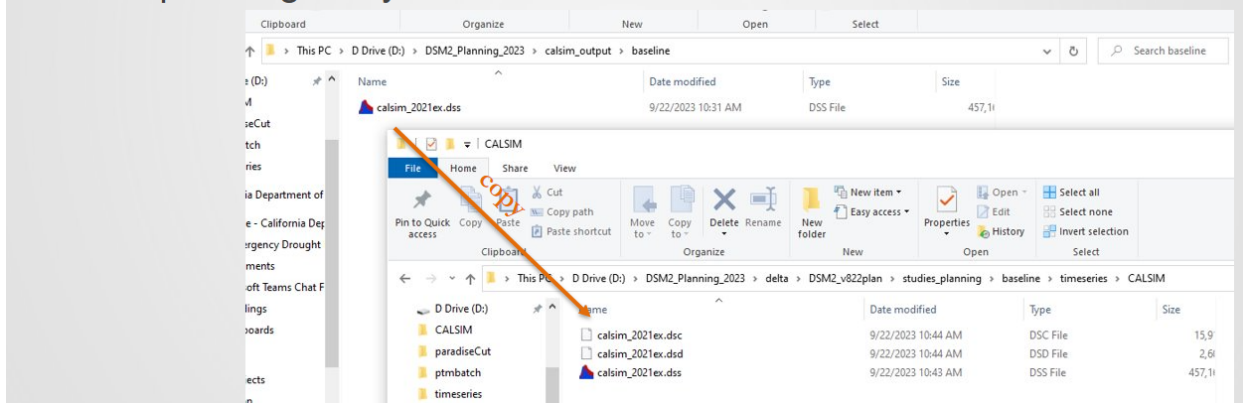3. Running DSM2 planning studies

Instructions

For the <u>baseline</u> and <u>alternative</u> scenarios, copy the CalSim output file for the scenario into the DSM2 planning study folder:
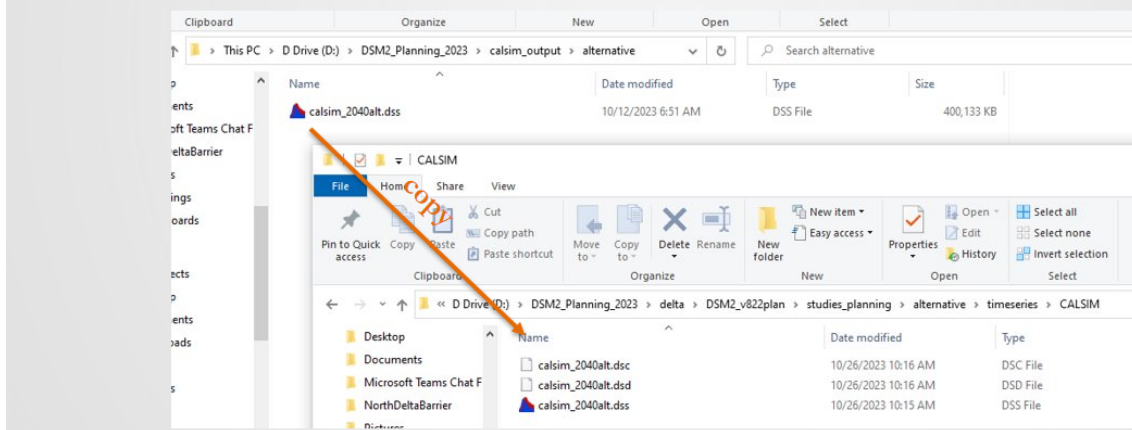
For the baseline and alternative scenarios, execute the following command:
prepro.bat config.inp

Running the DSM2 Pre-processor baseline study

- For each scenario <mark>(only pre-process one run at a time)</mark>,
  - Run the pre-processor create DSM2 DSS input
    - Prepro.bat config.inp

Starting the script

```
Command Prompt

D:\DSM2_Planning_2023\delta\DSM2_v822plan\studies_planning\baseline>prepro.bat config.inp

D:\DSM2_Planning_2023\delta\DSM2_v822plan\studies_planning\baseline>if {config.inp} == {} (
echo "usage:   prepro config-file"
```

```
  or: python postpro.py *.dss {pathname} {out}.dss
read DSM2 15-MIN output file: timeseries/2021ex.dss
postprocess pathnames:
/DWR/RSAC054/STAGE/01DEC1920 - 01OCT2015/15MIN/HARMONIC_NGVD_20230413/
/DWR/RSAC054/STAGE/01JAN1921 - 01SEP2015/15MIN/PLAN_DETREND_NAVD_20230413/
/FILL+CHAN/RSAC054/EC/01JAN1921 - 01SEP2015/15MIN/PLAN_2021EX/
all process done

D:\temp\DSM2_Planning_2023\delta\DSM2_v822plan\studies_planning\baseline>
```

done

Running the DSM2 Pre-processor alternative study

- For each scenario <mark>(only pre-process one run at a time)</mark>,
  - Run the pre-processor create DSM2 DSS input
    - Prepro.bat config.inp

Starting the script

```
Command Prompt - prepro.bat  config.inp

D:\DSM2_Planning_2023\delta\DSM2_v822plan\studies_planning\alternative>prepro.bat config.inp
Prepro is needed only when the CALSIM file changes.
Extending flows
C_SAC048
```

```
  or: python postpro.py *.dss {pathname} {out}.dss
read DSM2 15-MIN output file: timeseries/2040alt.dss
postprocess pathnames:
/DWR/RSAC054/STAGE/01DEC1920 - 01OCT2015/15MIN/HARMONIC_NGVD_20230413/
/DWR/RSAC054/STAGE/01JAN1921 - 01SEP2015/15MIN/PLAN_2040ALT/
/FILL+CHAN/RSAC054/EC/01JAN1921 - 01SEP2015/15MIN/PLAN_2040ALT/
all process done

D:\DSM2_Planning_2023\delta\DSM2_v822plan\studies_planning\alternative>
```

done

Jupyter notebook for plotting model input

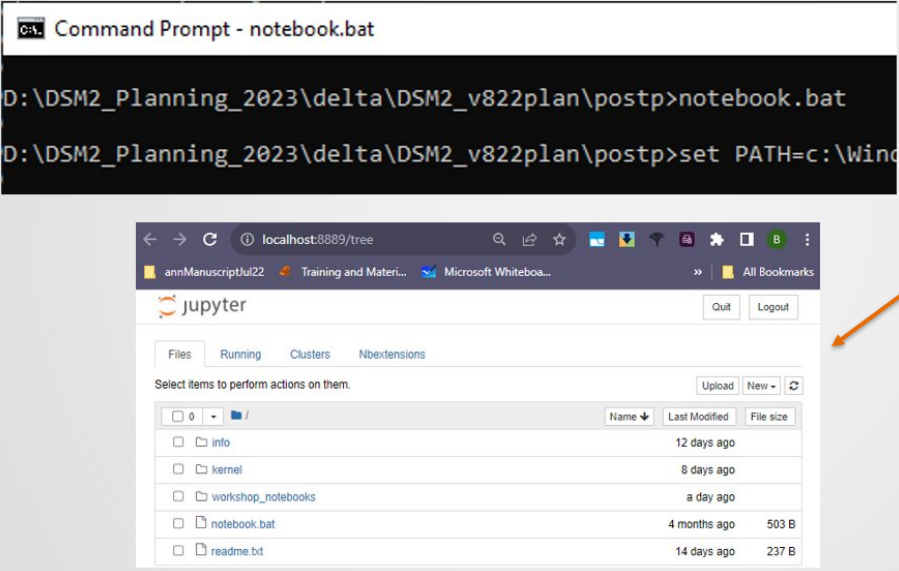| Notebook filename	Purpose
2021_example_bnd.ipynb	Compare DSM2 boundary inputs (flow, stage, EC) from multiple scenarios.

Plotting input with Jupyter notebook

Start the jupyter notebook application, by executing the batch file "notebook.bat".

The Jupyter notebook application will open in your web browser.

1. Click "workshop_notebooks"
2. Open the file *2021_example_bnd.ipynb*
3. Edit or add lines to point to your study folders

Make sure the notebook is loading data files from the correct locations.
Make sure the variable "period93" is set to the 4 year time window from 2020-10-1 to 2014-9-30.

To run every cell in the notebook, select *Cell-Run All*.
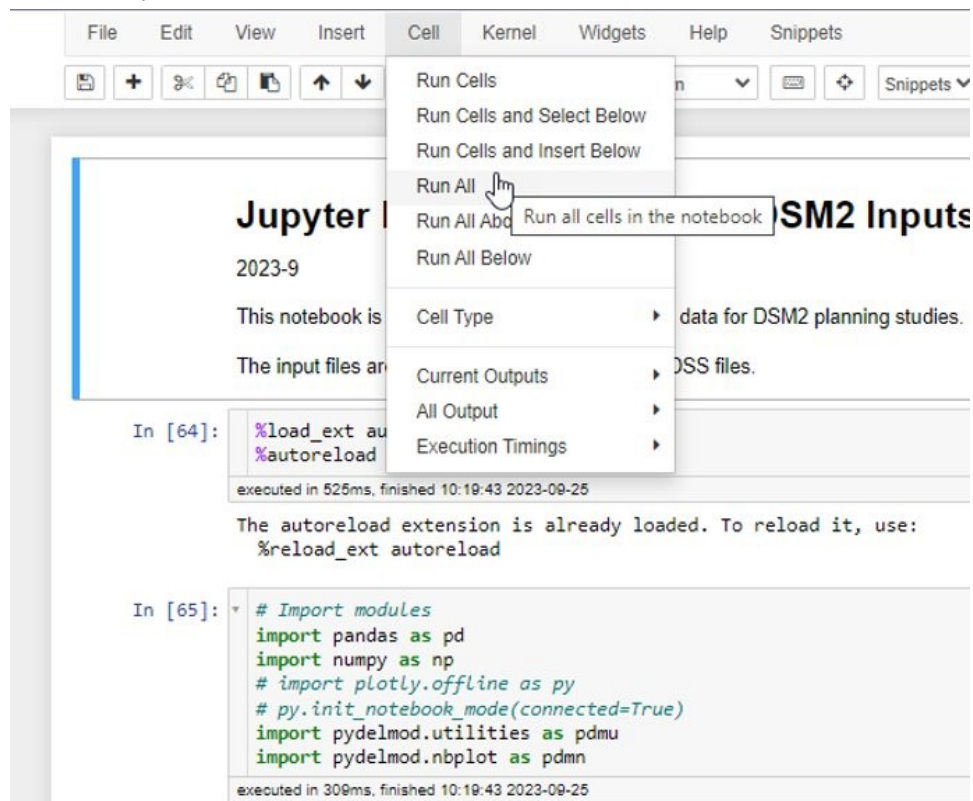
Some plots allow you to select a different variable or station, using the dropdowns.

Running the studies

For the <u>baseline</u> and <u>alternative</u> studies, open the config.inp file and comment/uncomment the following lines to define a four year simulation period: START_DATE, QUAL_START_DATE, and END_DATE.

Run the studies, using a command prompt window.

Setting up and running DSM2
baseline study: running DSM2

- For each scenario,
  - Run the studies
    - dsm2_batch.bat

Setting up and running DSM2
alternative study: running DSM2

- For each scenario,
  - Run the studies
    - dsm2_batch.bat