SWAT+ modeling

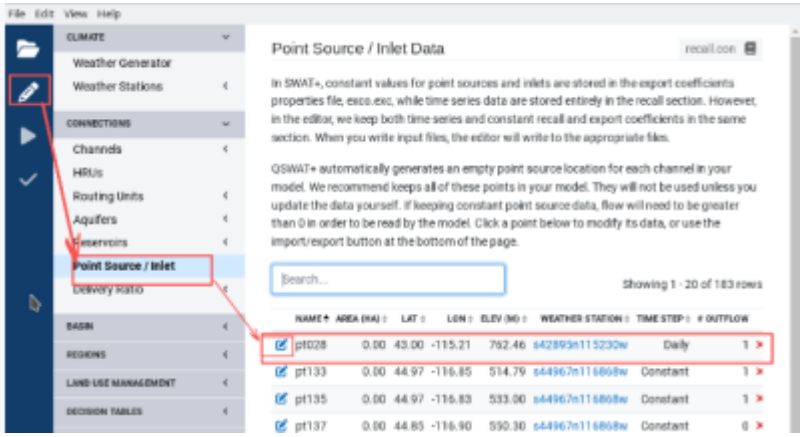
How to add inflow hydrograph

PointID selection for the inlet

The point ID for the inlet is defined when we prepare the SWAT+ model in QSWAT+. We can verify it in QGIS using the Identify Features tool.

Implementation workflow using SWAT+ Editor

Edit SWAT+ Inputs → Point Source/Inlet → Edit Inlet Point → Set the time step to **“Daily”** and import the CSV file prepared for that specific inlet point.



To prepare the input file, we can export the empty recall file in .csv format, add the flow data (in volume, m^3), and then import the updated file back into SWAT+.

Table: sample input file format for the inlet

jday	mo	day_mo	yr	ob_typ	ob_name	flo	sed	orgn	sedp	no3	solp	chla	nh3	no2	cbod	dox	sand	silt	clay	sag	lag	gravel	tmp
1	1	1	2005	pt_day	pt028	16343154.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	1	2	2005	pt_day	pt028	16465483.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

File that are generated or changed in the model

- file.cio: define *recall.con* in *connect* and *recall.rec* in *recall*
- recall.rec
- recall.con
- pt028.rec (Example for inlet with point id 028)

How to visualize or print output changes after defining an inflow

- Run the model before and after defining the inflow file, but save the outputs in different Textinout files. Make sure the model prints the channel output so that we can validate it at the

downstream channel section.
- Identify the channel downstream of the inlet.(using QGIS)
- Use the following awk command to extract the flow rate (m³/s) at the downstream channel.

```
awk '$7=="cha121" {printf "%.10f\n", $48}'
TxtInOut_withinflow/channel_sd_day.txt | head -n 10
```

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