

XXXXXXX.txt (basin output)

HYPE basin output files are one of the standard result files for time series output from HYPE, the other are [map output files](#), [time output files](#) and [region output files](#).

Basin output files each contain results for multiple variables of a single HYPE subbasin. This makes it different from time and map output files which always contain results for the whole model domain. Basin output files are intended for model analyses at the subbasin scale, and they are arguably the most commonly used HYPE output type. To write basin output files, specify a `basinoutput` for the variables of interest in the [info.txt](#) file.

Example snippet of a `info.txt` file:

```
!! time outputs for measured and simulated discharge
basinoutput variable rout cout prec temp snow evap upcrun
basinoutput subbasin 2452 2353 1244 2424
basinoutput meanperiod 1
basinoutput decimals 3
```

Basin output files are written to the [resultdir](#) folder. **XXXXXXX** in the file name is substituted by the subbasin ID (same ID as used in [info.txt](#) with leading zeros for SUBID with less than 7 digits), for example `0002452.txt`.

Basin output files contain tab-separated data with column-wise HYPE variables and row-wise time periods. All HYPE variable IDs are described in the [list of HYPE variables](#). In addition upstream aggregated variables (e.g. `upcrun`) may be included in the basin output.

Basin output files are tab-separated and contain two header rows. The first header contains HYPE variable IDs. The second header contains variable units. Below the headers follow the model results. The first column contains a date-time string (format depending on `meanperiod` and `writetimeformat` specified in [info.txt](#)), following columns contain model results of the given variable for all subbasins in the model set-up. Missing values are given as -9999.

Example structure of a basin output file with daily variables, corresponding to the [info.txt](#) file example above:

| DATE | rout | cout | prec | temp | snow | evap | upcrun |
|------------|------|-------|------|------|------|-------|--------|
| UNITS | m3/s | m3/s | mm | degC | mm | mm | mm |
| 2003-01-01 | 0.51 | 0.482 | 0 | 7.2 | 1.2 | 1.543 | 0.23 |
| 2003-01-02 | 0.40 | 0.319 | 1 | 6.9 | 0 | 1.140 | 0.31 |
| 2003-01-03 | 0.31 | 0.273 | 0 | 5.4 | 0 | 0.98 | 0.08 |
| 2003-01-04 | 0.24 | 0.247 | 0.1 | 5.0 | 0 | 0.87 | 0.1 |
| 2003-01-05 | 0.22 | 0.226 | 0 | 4.5 | 0 | 0.75 | 0.05 |
| ... | ... | ... | ... | ... | ... | ... | ... |

It is possible to print out `basinoutput` files for several mean periods at the same time. This is controlled from the `info`-file by numbering the different output information rows for the different types (see [info.txt](#) for example). If this option is used the `basinoutputs` will be separated by adding the mean period as a code in the file name, e.g. `0000748_YR.txt` holds yearly average (or sum) of variables specified for subbasin 748.

When ensemble or sequence simulations are made, the results from simulations ($l = 1 \dots n$ or $l =$ sequence number > 0) are written to files named `XXXXXXX_00l.txt`, where n is defined by `num_ens` in [optpar.txt](#). Alternatively, if a Monte Carlo simulation is done with task set to write all simulations (task `WS` in [optpar.txt](#)) files will be named `XXXXXXX_000000l.txt`. In this case up to 9999999 simulations can be saved.

[Class output files](#) may also be called `XXXXXXX`, but they are followed by a suffix naming the class group, e.g. `0000748_DD_past.txt` for the past class group's daily data in subid 748. The file has an extra comment row that normal subbasin files do not have. In that comment is specified which classes are included in the group. Otherwise the file is similar to the ordinary basin-files. Only variables with data for the classes will have values in the file.