Class output

Class output files are a special case of time series output from HYPE. It is similar to basin output files and time output files.

Class output contains values of HYPE variables for a single class or for a group of classes (a `classgroup`). Not all HYPE variables have class values. Class groups are defined for output in the info-file.

Class output files comes in the form of multple variables in a single subbasin similar to basin output files and as a single HYPE variable for all simulated subbasins similar to a time output file. The first are similar to basin output, and are as them named after the subbasin, the second type are named timeXXXX like time output files. To separate them from ordinary basin- and time-files the filename have a suffix consisting of the class group name.

Similar to other output files you specify the variables of interest in the info.txt file. To write class output files of the basin output type, specify a `classoutput` with the wanted subbasins (`subbasin`). To write class output files of the time output type instead specify `allbasin`.

Example snippet of a info.txt file:

```
classoutput definegroup A 1 2 3 4
classoutput definegroup B 5 6 7 8 9
classoutput 1 variables cprc crun
classoutput 1 subbasin 101 105
classoutput 1 group A B
classoutput 2 variables cprc crun
classoutput 2 subbasin 103 105
classoutput 2 group A
```

Class output files are written to the resultdir folder. XXXXXXX in the file name is substituted by the subbasin ID (with leading zeros for SUBID with less than 7 digits), for example 0002452. XXXX in the file name is substituted by the variable ID, for example timeCRUN.

Class output files will always be named with a suffix for the chosen period. It is possible to print out classoutput 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.

Class output files contain tab-separated data with column-wise HYPE variables or subbasins and row-wise time periods. All HYPE variable IDs are described in the list of HYPE variables. Upstream or regional aggregated variables (e.g. upcrun) may not be included in the class output.

Class output files have a comment on the first row defining the class group. After the first row comes one (time file) or two (subbasin file) header rows. The headers contains subbasins (time file), or HYPE variable IDs and variable units (subbasin file). Below the headers follow the model results. The first column contains a date-time string (format depending on meanperiod specified in info.txt), following columns contain model results of the given variable/subbasins. Missing values are given as -9999.

Example structure of a class output file with daily variables, corresponding to the first classoutput in the info.txt file example above (0000101_DD_A.txt):

```
!!This is a file with variables grouped for classes (  1  2  3  4)
DATE    cprc    crun
UNITS   mm    mm
1961-01-01  0    0
1961-01-02  12.200    0.013
1961-01-03  2.300    0.682
```

When ensemble or sequence simulations are made, the results from simulations (I = 1 .. n or I = sequence number > 0) are written to files with an additional suffix for the sequence/ensemble number, e.g. XXXXXXX_DD_A_00I.txt.