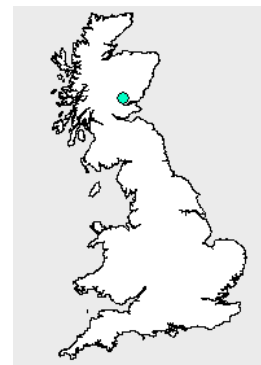


## General Information

|                |           |                             |              |
|----------------|-----------|-----------------------------|--------------|
| River Name     | Tay       | Catchment Area (km2)        | 4587         |
| Station Name   | Ballathie | SAAR (mm) 61-90             | 1425         |
| Station Number | 15006     | Mean Annual Rain (mm) 62-91 | 1322         |
| Grid Reference | NO147367  | Mean Annual PE (mm) 62-91   | 458          |
| EA Region      | SEPA-NE   | Observed flow record        | 1961 to 2005 |



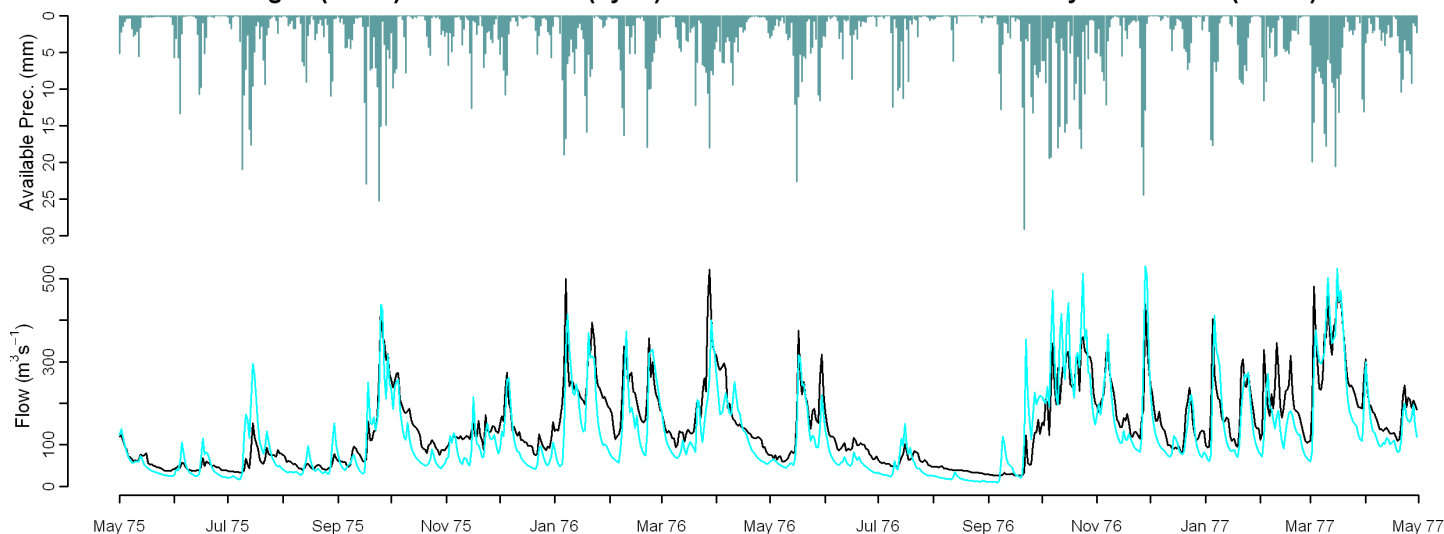
## Observed Data

## Comparison of gauged and simulated flow

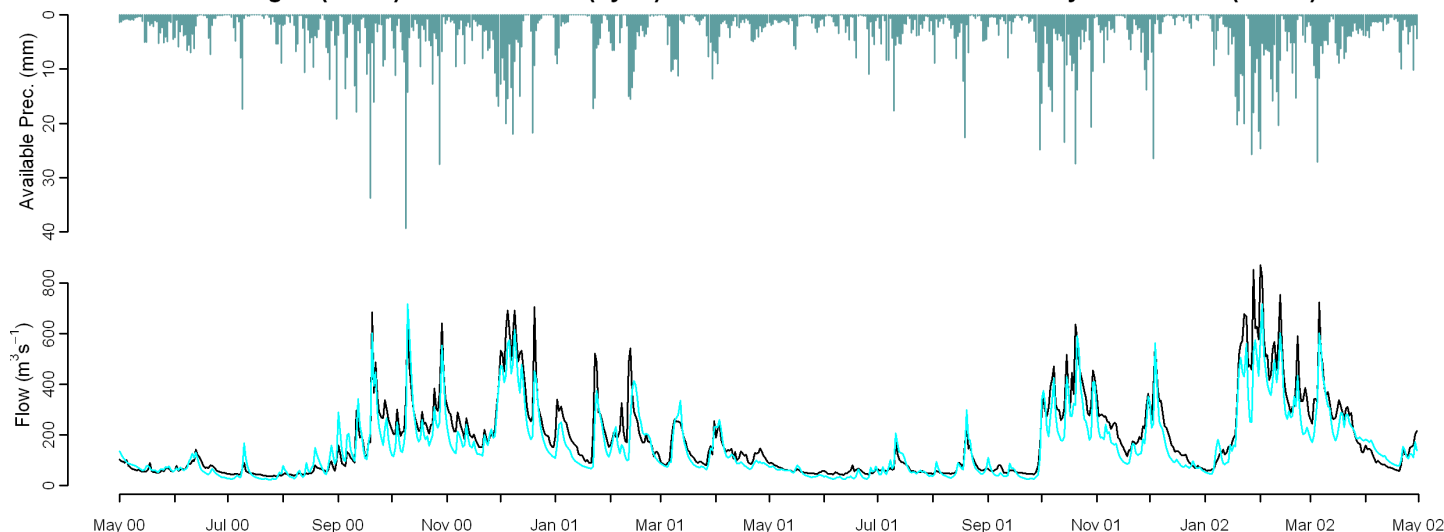
## Model used: CLASSIC

|                    | Mean Annual | J     | F     | M     | A     | M     | J     | J     | A     | S     | O     | N     | D     | Nash Sutcliffe |
|--------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------|
| MORECS (1971-2005) | -15.4       | -21.4 | -18.8 | -15.6 | -11.2 | -11.3 | -14.8 | -7.3  | -5.9  | -10.2 | -13.9 | -15.7 | -18.1 | 0.80           |
| Performance Band   | 2           | 2     | 2     | 2     | 2     | 2     | 2     | 1     | 1     | 2     | 2     | 2     | 2     | 1              |
| FAO (1962-1991)    | -13.6       | -18.0 | -17.2 | -16.4 | -10.0 | -11.0 | -12.7 | -8.5  | -5.8  | -7.4  | -12.8 | -11.8 | -15.6 | 0.79           |
|                    | Q90         | Q75   | Q50   | Q25   | Q5    |       |       | RP2   | RP5   | RP10  | RP20  |       |       |                |
| MORECS (1971-2005) | -29.5       | -19.3 | -18.9 | -14.2 | -10.1 |       |       | -14.3 | -20.8 | -26.7 | -32.9 |       |       |                |
| Performance Band   | 1           | 1     | 2     | 1     | 1     |       |       |       |       |       |       |       |       |                |
| FAO (1962-1991)    | -26.8       | -23.2 | -19.6 | -9.9  | -5.8  |       |       | -16.0 | -21.1 | -24.8 | -28.3 |       |       |                |

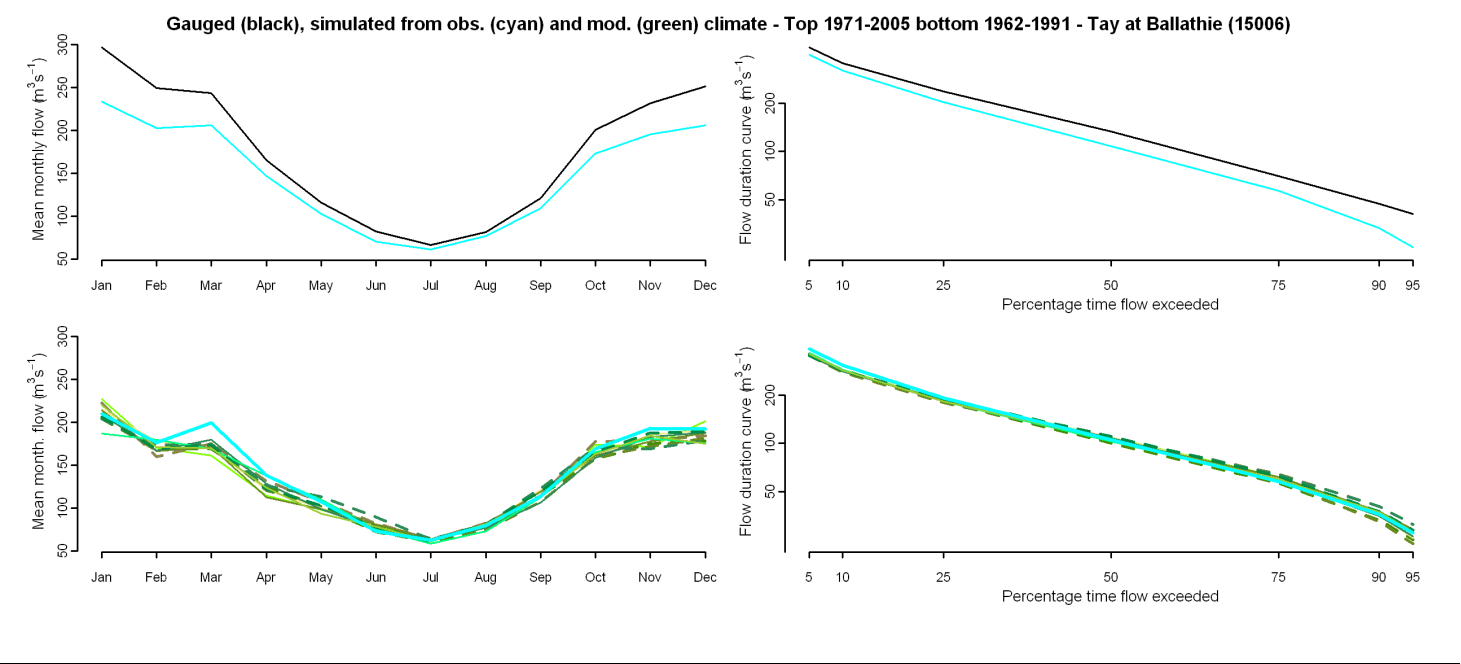
Gauged (black) and simulated (cyan) flows from observed climate - Tay at Ballathie (15006)



Gauged (black) and simulated (cyan) flows from observed climate - Tay at Ballathie (15006)



Comparison of gauged and simulated flow (observed and modelled climate)



Percentage difference between flow simulated from observed climate and Future Flows Climate

|         | afgcx | afixa | afixc | afixh | afixi | afixj | afixk | afixl | afixm | afixo | afixq |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Annual  | -2    | -4    | -2    | 1     | -4    | -5    | -3    | -1    | -3    | -3    | -3    |
| January | 10    | -2    | 3     | 5     | 2     | 1     | -3    | -1    | -9    | -3    | 7     |
| April   | -18   | -10   | -13   | -1    | -17   | -12   | -7    | -7    | 2     | -10   | -13   |
| July    | 3     | 3     | 1     | 7     | 2     | -2    | 7     | 2     | -2    | -1    | -2    |
| October | 4     | -4    | -6    | 10    | -4    | -3    | -1    | 0     | 1     | -2    | 1     |
| Q90     | 2     | -7    | -4    | 15    | 0     | -10   | -3    | 10    | 1     | 3     | 2     |
| Q75     | 6     | -2    | 3     | 13    | 4     | -1    | 1     | 9     | 1     | 6     | 2     |
| Q50     | 3     | -3    | 3     | 6     | -1    | 1     | 3     | 5     | -2    | 4     | 0     |
| Q25     | -3    | -5    | -1    | 0     | -6    | -6    | -2    | -3    | -4    | -2    | -5    |
| Q5      | -7    | -7    | -6    | -7    | -9    | -8    | -8    | -8    | -5    | -10   | -6    |
| RP2     | 2     | 1     | -2    | 5     | 4     | 5     | 2     | -3    | 0     | -4    | 8     |
| RP10    | 9     | 2     | -2    | 11    | 10    | 4     | 10    | 2     | 1     | -7    | 7     |

Climate change graphs for 2050s

