

## General Information

|                |                 |                             |              |
|----------------|-----------------|-----------------------------|--------------|
| River Name     | Cockhaise Brook | Catchment Area (km2)        | 36           |
| Station Name   | Holywell        | SAAR (mm) 61-90             | 852          |
| Station Number | 41026           | Mean Annual Rain (mm) 62-91 | 853          |
| Grid Reference | TQ376262        | Mean Annual PE (mm) 62-91   | 531          |
| EA Region      | EA-SE           | Observed flow record        | 1971 to 2005 |



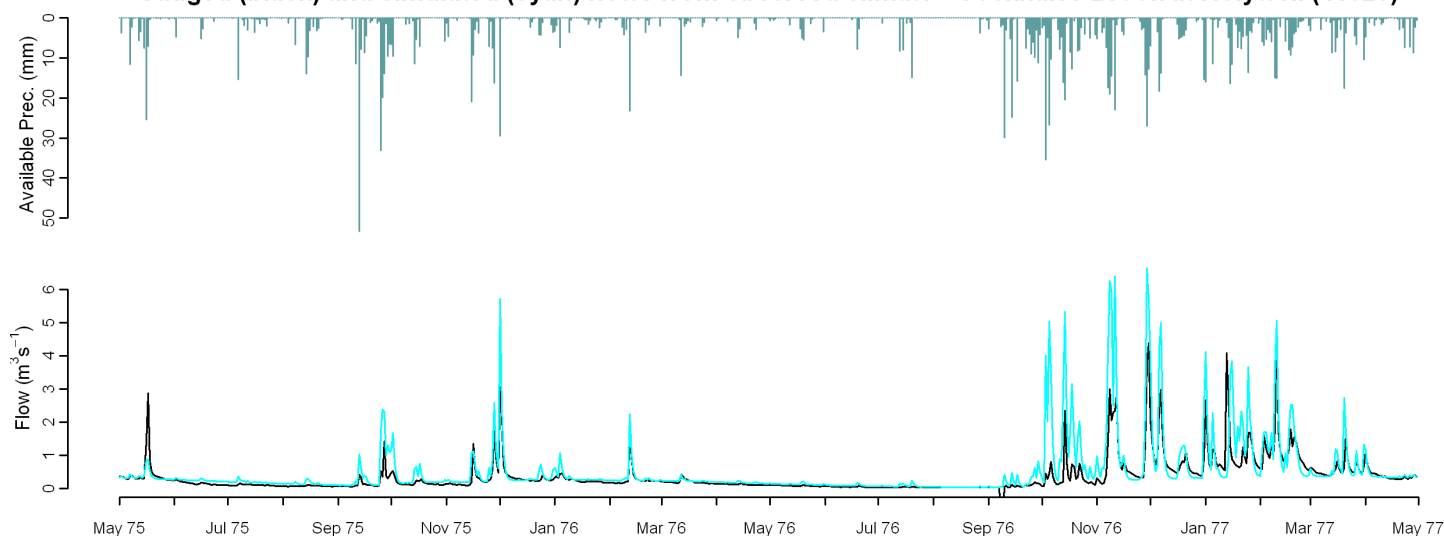
## Observed Data

## Comparison of gauged and simulated flow

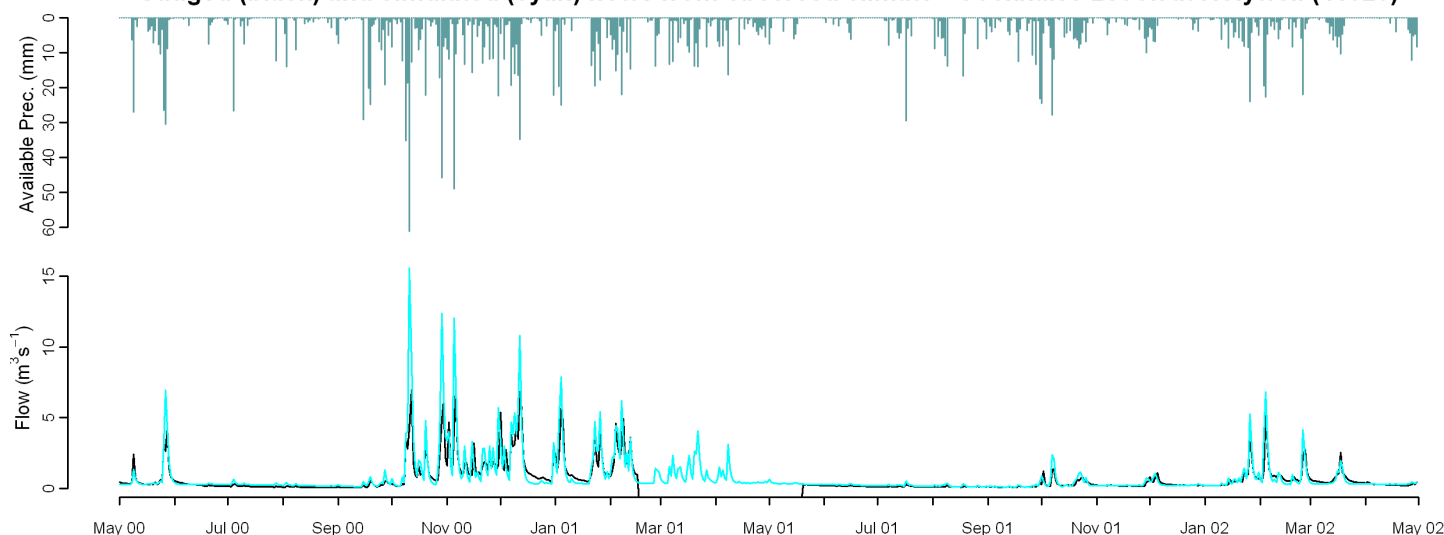
## Model used: CERF

|                    | Mean Annual | J    | F    | M     | A     | M    | J    | J    | A    | S    | O    | N    | D    | Nash Sutcliffe |
|--------------------|-------------|------|------|-------|-------|------|------|------|------|------|------|------|------|----------------|
| MORECS (1971-2005) | 18.2        | 17.0 | 3.8  | -1.7  | -12.2 | -0.8 | 24.7 | 49.4 | 47.2 | 59.0 | 59.0 | 34.8 | 25.4 | 0.40           |
| Performance Band   | 2           | 2    | 1    | 1     | 2     | 1    | 2    | 3    | 3    | 3    | 3    | 2    | 2    | 2              |
| MORECS (1962-1991) | 19.5        | 23.7 | 5.9  | 1.1   | -12.4 | -1.2 | 24.2 | 51.0 | 44.9 | 64.4 | 67.7 | 35.3 | 29.3 | 0.28           |
|                    | Q90         | Q75  | Q50  | Q25   | Q5    | RP2  | RP5  | RP10 | RP20 |      |      |      |      |                |
| MORECS (1971-2005) | 52.8        | 62.9 | 19.3 | -20.2 | 31.3  |      |      |      |      |      |      |      |      |                |
| Performance Band   | 1           | 1    | 1    | 2     | 3     |      |      |      |      |      |      |      |      |                |
| MORECS (1962-1991) | 53.2        | 66.5 | 21.1 | -21.1 | 32.8  |      |      |      |      |      |      |      |      |                |

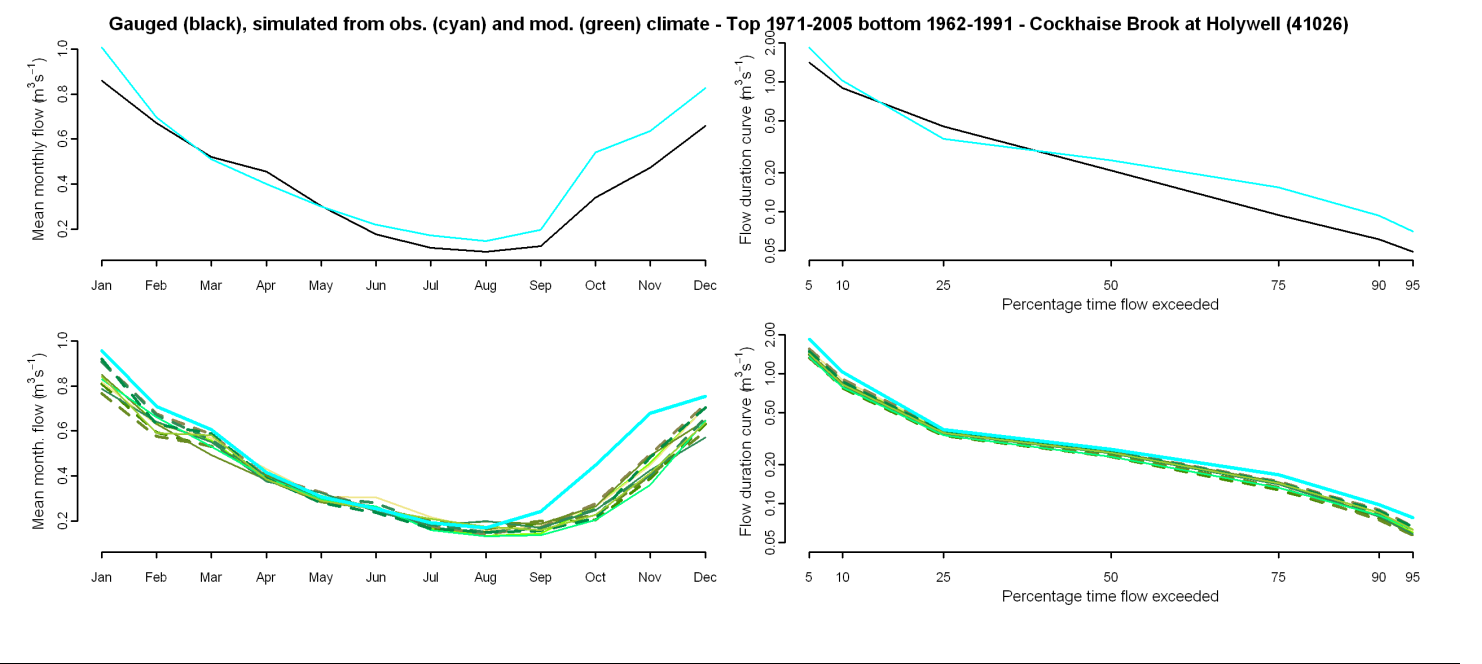
Gauged (black) and simulated (cyan) flows from observed climate - Cockhaise Brook at Holywell (41026)



Gauged (black) and simulated (cyan) flows from observed climate - Cockhaise Brook at Holywell (41026)



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  | -13   | -17   | -13   | -10   | -15   | -19   | -17   | -12   | -19   | -13   | -15   |
| January | -11   | -19   | -11   | -6    | -10   | -19   | -20   | -3    | -13   | 2     | -11   |
| April   | -7    | -5    | 8     | 0     | -7    | -5    | -5    | -2    | -3    | -6    | -3    |
| July    | -11   | -12   | 17    | -6    | -7    | 6     | -4    | -2    | -13   | -12   | 9     |
| October | -39   | -53   | -41   | -33   | -48   | -50   | -44   | -44   | -51   | -52   | -49   |
| Q90     | -17   | -22   | -16   | -7    | -22   | -24   | -18   | -14   | -19   | -11   | -14   |
| Q75     | -15   | -24   | -16   | -10   | -15   | -21   | -16   | -13   | -22   | -14   | -16   |
| Q50     | -7    | -13   | -4    | -2    | -6    | -11   | -7    | -4    | -11   | -7    | -7    |
| Q25     | -2    | -11   | -1    | 1     | -6    | -8    | -7    | -2    | -9    | -3    | -7    |
| Q5      | -22   | -24   | -17   | -15   | -23   | -29   | -24   | -16   | -26   | -18   | -23   |
| RP2     | -17   | -2    | -12   | -4    | -9    | -12   | -11   | -3    | -10   | 6     | -9    |
| RP10    | -22   | -4    | -11   | -8    | -15   | -1    | -19   | -15   | -20   | -6    | -6    |

Climate change graphs for 2050s

