

## General Information

|                |             |                                   |              |
|----------------|-------------|-----------------------------------|--------------|
| River Name     | Great Stour | Catchment Area (km <sup>2</sup> ) | 345          |
| Station Name   | Horton      | SAAR (mm) 61-90                   | 747          |
| Station Number | 40011       | Mean Annual Rain (mm) 62-91       | 754          |
| Grid Reference | TR115553    | Mean Annual PE (mm) 62-91         | 552          |
| EA Region      | EA-SE       | Observed flow record              | 1964 to 2006 |



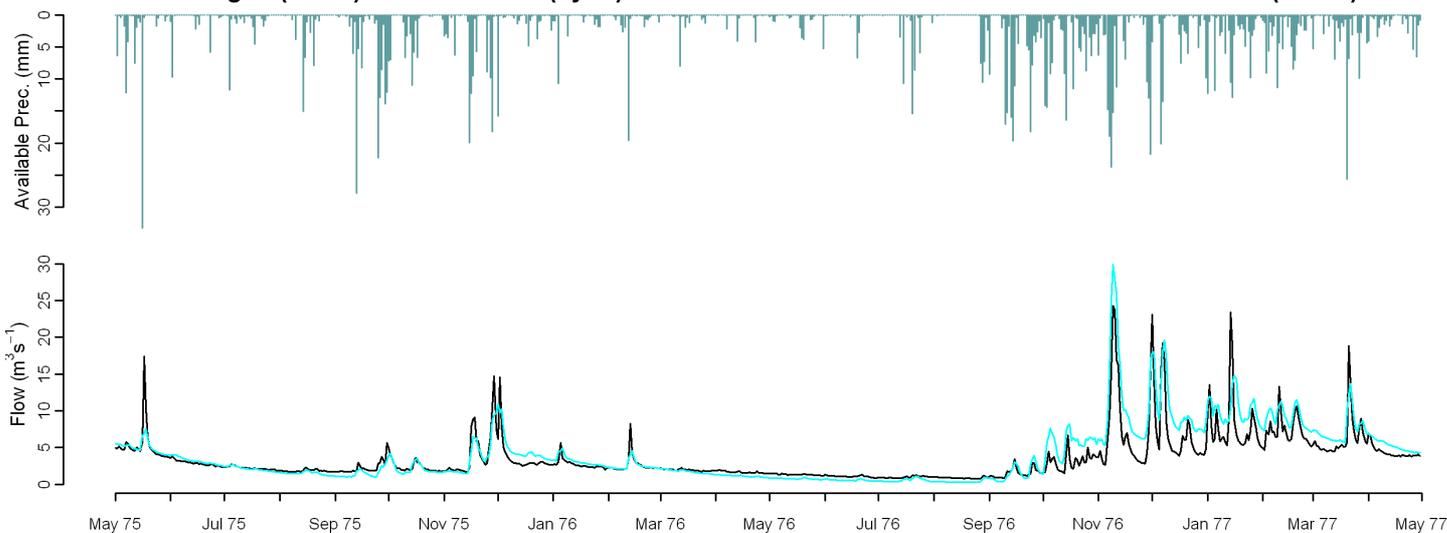
## Observed Data

## Comparison of gauged and simulated flow

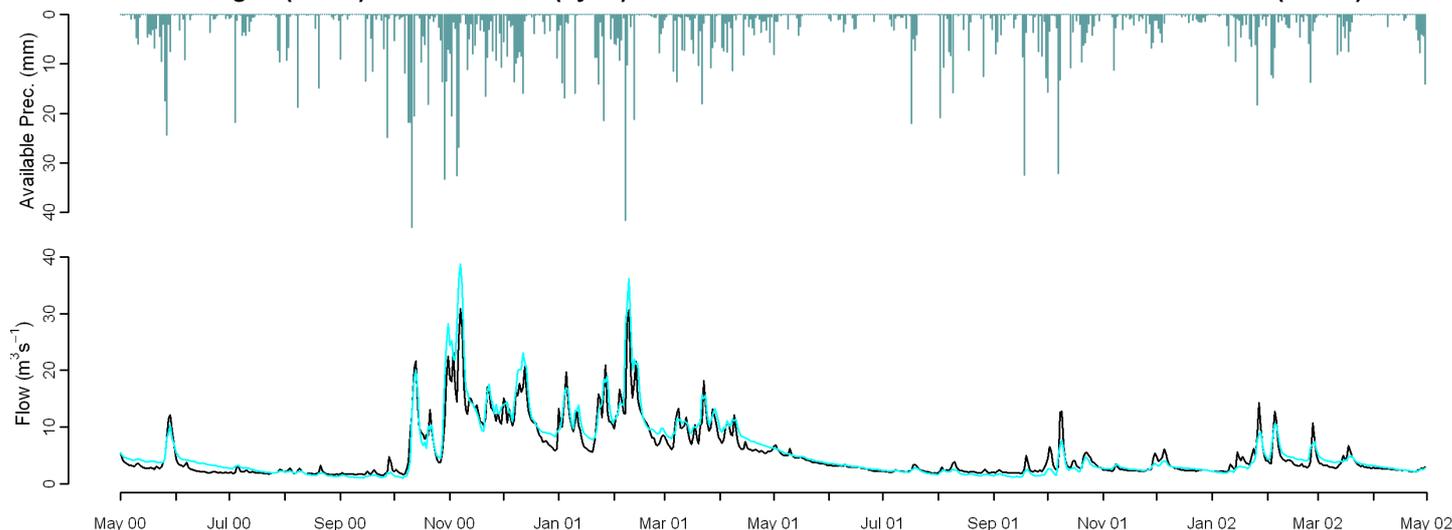
## Model used: CERF

|                    | Mean Annual | J     | F    | M    | A   | M    | J    | J     | A     | S     | O     | N    | D    | Nash Sutcliffe |
|--------------------|-------------|-------|------|------|-----|------|------|-------|-------|-------|-------|------|------|----------------|
| MORECS (1971-2005) | 5.7         | 17.9  | 25.0 | 12.7 | 8.4 | 0.3  | -2.4 | -14.7 | -24.1 | -27.7 | -12.0 | 3.1  | 11.1 | 0.75           |
| Performance Band   | 1           | 2     | 2    | 2    | 1   | 1    | 1    | 2     | 2     | 2     | 2     | 1    | 1    | 1              |
| MORECS (1962-1991) | 1.1         | 11.9  | 21.2 | 9.9  | 7.9 | -2.6 | -6.8 | -18.7 | -28.0 | -29.5 | -13.2 | -2.2 | 6.1  | 0.72           |
|                    | Q90         | Q75   | Q50  | Q25  | Q5  | RP2  |      | RP5   |       | RP10  |       | RP20 |      |                |
| MORECS (1971-2005) | -34.3       | -21.4 | -1.1 | 19.0 | 9.9 |      |      |       |       |       |       |      |      |                |
| Performance Band   | 1           | 1     | 1    | 1    | 1   |      |      |       |       |       |       |      |      |                |
| MORECS (1962-1991) | -40.5       | -24.9 | -1.3 | 14.8 | 6.1 |      |      |       |       |       |       |      |      |                |

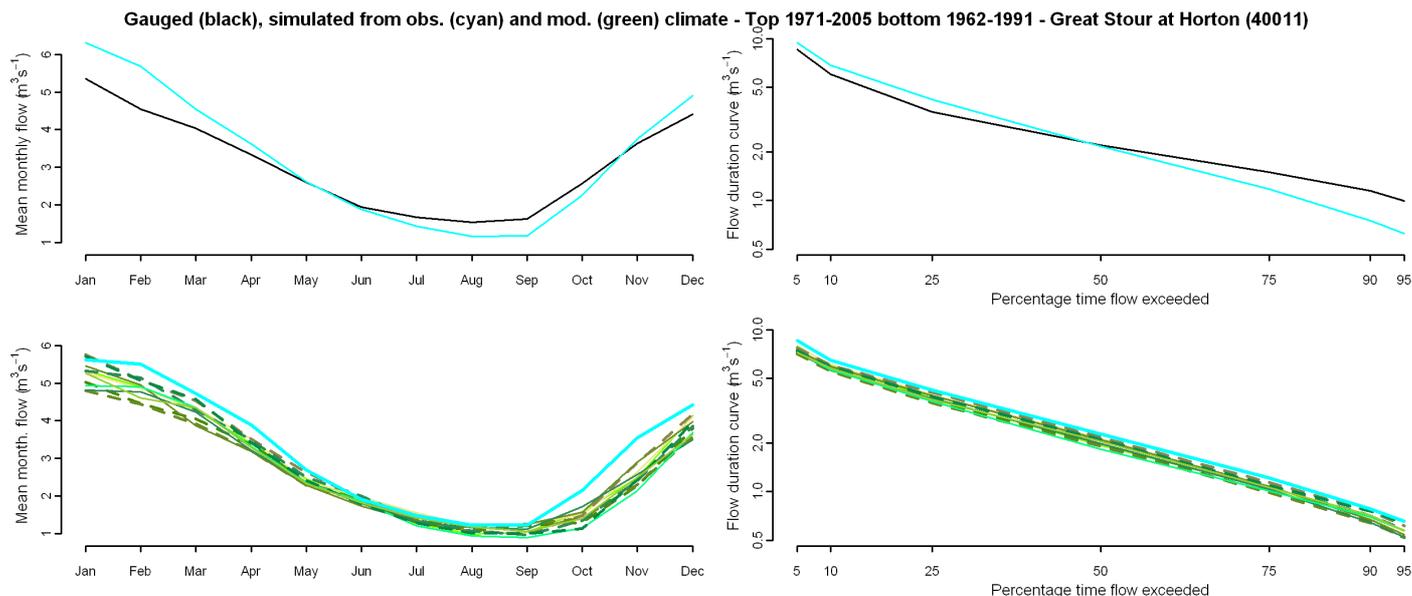
Gauged (black) and simulated (cyan) flows from observed climate - Great Stour at Horton (40011)



Gauged (black) and simulated (cyan) flows from observed climate - Great Stour at Horton (40011)



## 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  | -10   | -14   | -10   | -7    | -12   | -17   | -15   | -10   | -17   | -10   | -13   |
| January | -6    | -13   | -4    | 3     | -2    | -16   | -17   | -3    | -12   | 6     | -6    |
| April   | -10   | -14   | -6    | -6    | -16   | -17   | -15   | -6    | -14   | -11   | -12   |
| July    | -12   | -10   | 9     | -6    | -10   | -5    | -8    | -5    | -15   | -12   | -4    |
| October | -23   | -38   | -29   | -27   | -36   | -34   | -18   | -34   | -38   | -46   | -34   |
| Q90     | -9    | -16   | -13   | -1    | -15   | -19   | -17   | -8    | -11   | -4    | -8    |
| Q75     | -13   | -19   | -14   | -5    | -14   | -20   | -15   | -10   | -17   | -10   | -13   |
| Q50     | -15   | -14   | -7    | -3    | -11   | -17   | -13   | -5    | -18   | -9    | -11   |
| Q25     | -10   | -15   | -6    | -2    | -9    | -17   | -12   | -7    | -13   | -9    | -12   |
| Q5      | -8    | -16   | -9    | -9    | -13   | -18   | -16   | -11   | -15   | -11   | -15   |
| RP2     | -18   | -17   | -19   | -17   | -23   | -20   | -24   | -25   | -25   | -14   | -22   |
| RP10    | -20   | -1    | -17   | -16   | -22   | -11   | -14   | -22   | -23   | -13   | -8    |

## Climate change graphs for 2050s

