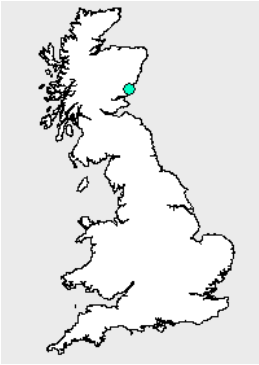


General Information

| | | | |
|----------------|--------------|-----------------------------|--------------|
| River Name | Lunan Water | Catchment Area (km2) | 124 |
| Station Name | Kirkton Mill | SAAR (mm) 61-90 | 771 |
| Station Number | 13005 | Mean Annual Rain (mm) 62-91 | 779 |
| Grid Reference | NO655494 | Mean Annual PE (mm) 62-91 | 525 |
| EA Region | SEPA-NE | Observed flow record | 1981 to 2005 |



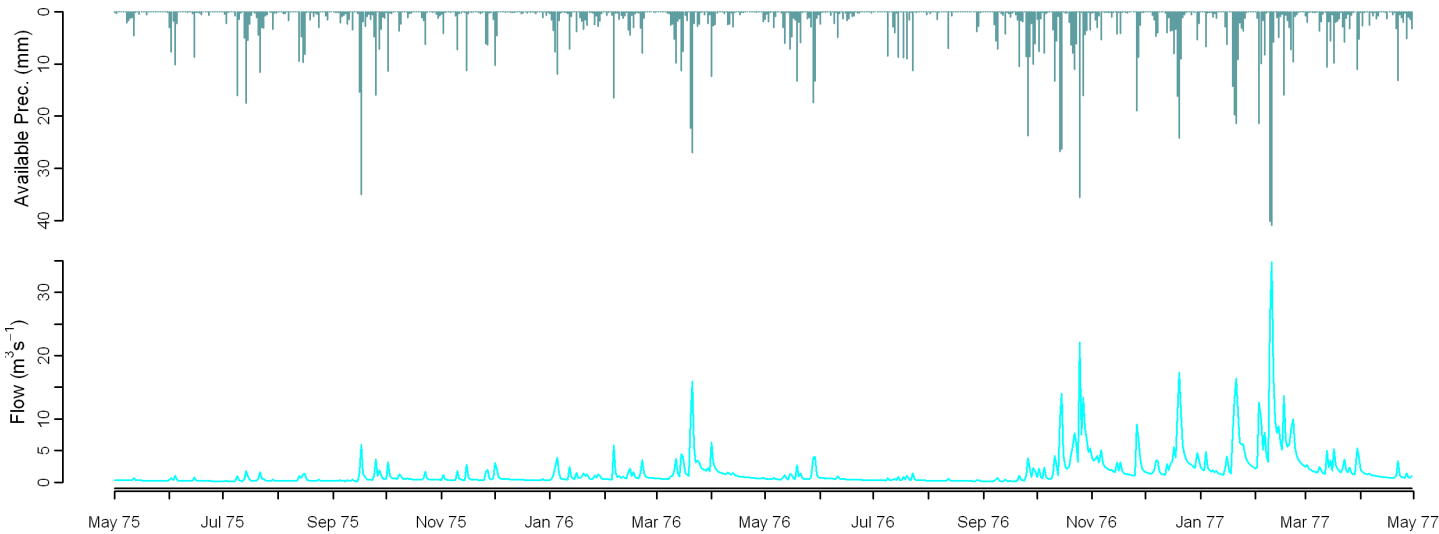
Observed Data

Comparison of gauged and simulated flow

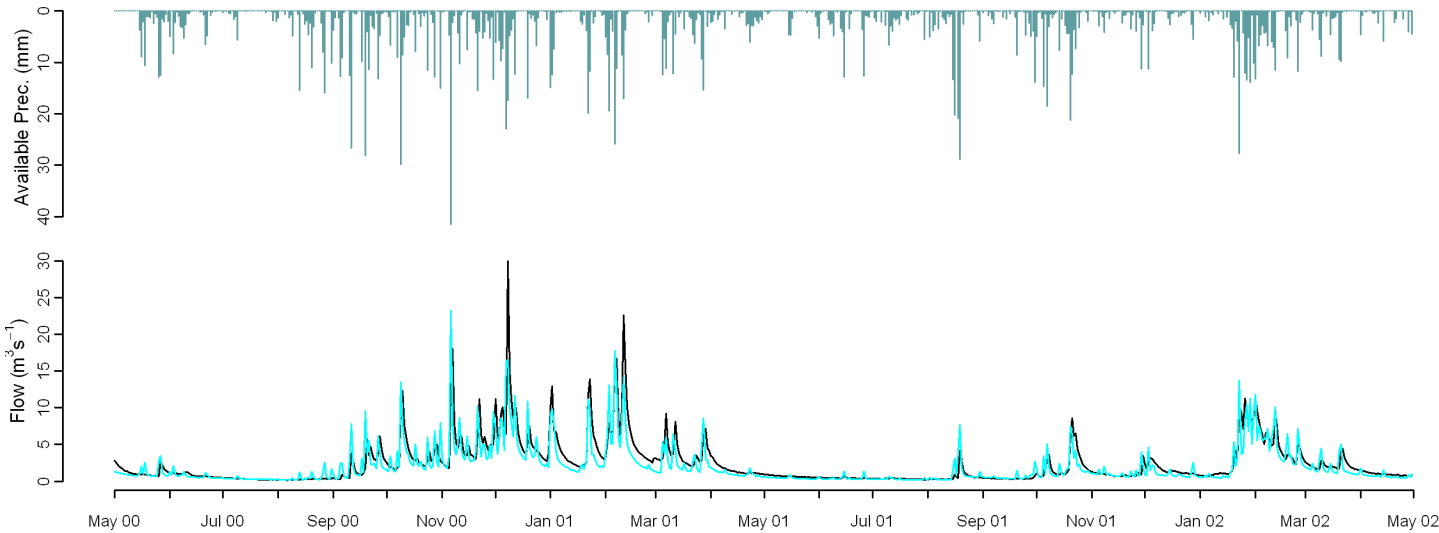
Model used: PDM

| | Mean Annual | J | F | M | A | M | J | J | A | S | O | N | D | Nash Sutcliffe |
|--------------------|-------------|-------|-------|-------|-------|-------|------|------|------|------|------|------|-------|----------------|
| MORECS (1971-2005) | -8.8 | -12.1 | -10.9 | -13.5 | -19.8 | -4.2 | 4.8 | 22.9 | 12.7 | 13.3 | -6.3 | -7.5 | -14.6 | 0.65 |
| Performance Band | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 2 | 1 |
| FAO (1962-1991) | -3.2 | -6.3 | -7.1 | -9.6 | -9.5 | -3.1 | 6.9 | 12.5 | 5.6 | 16.7 | 5.8 | 2.2 | -8.8 | 0.63 |
| | Q90 | Q75 | Q50 | Q25 | Q5 | RP2 | RP5 | RP10 | RP20 | | | | | |
| MORECS (1971-2005) | 10.8 | 4.0 | -9.8 | -11.2 | -7.6 | -10.2 | -6.3 | -3.4 | -0.6 | | | | | |
| Performance Band | 1 | 1 | 1 | 1 | 1 | | | | | | | | | |
| FAO (1962-1991) | 12.1 | 9.9 | -4.3 | -7.8 | 0.6 | -3.2 | 4.7 | 10.0 | 14.5 | | | | | |

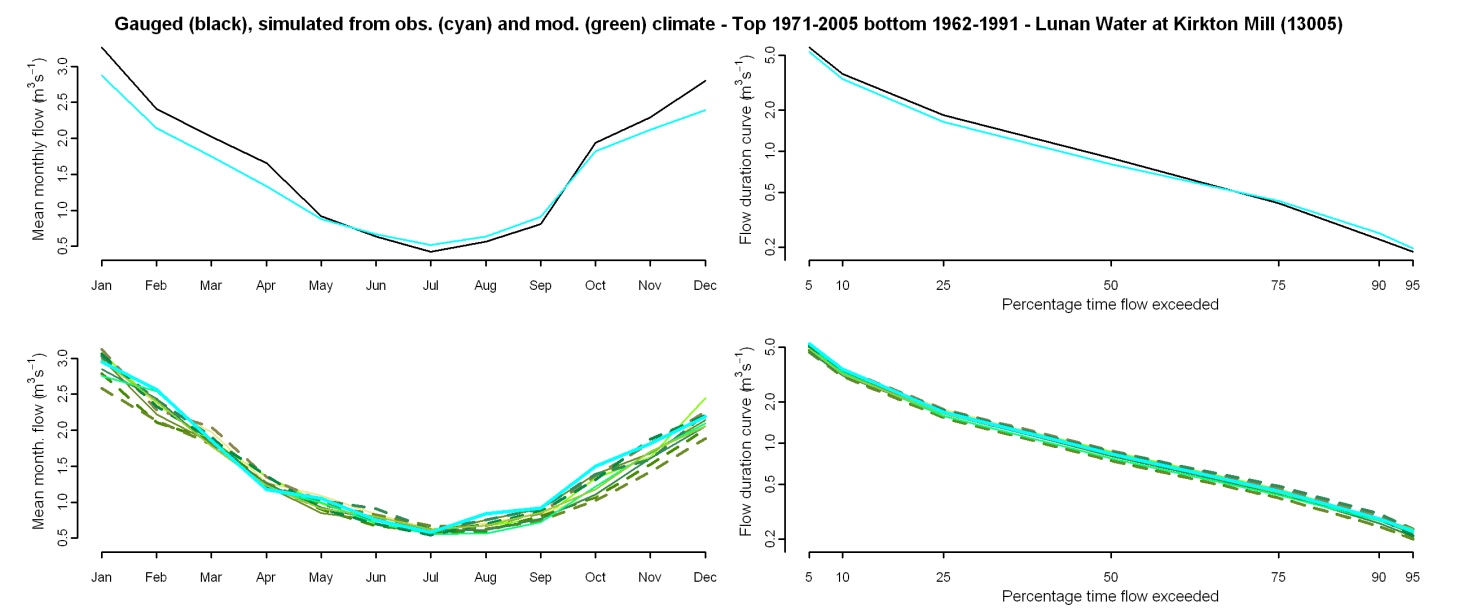
Gauged (black) and simulated (cyan) flows from observed climate - Lunan Water at Kirkton Mill (13005)



Gauged (black) and simulated (cyan) flows from observed climate - Lunan Water at Kirkton Mill (13005)



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 | -1 | -10 | -3 | 2 | -6 | -12 | -7 | -1 | -7 | -3 | -7 |
| January | 7 | -6 | 7 | 9 | 5 | -6 | -2 | 5 | -6 | 7 | 2 |
| April | 14 | 5 | 6 | 17 | 2 | 7 | 5 | 2 | 3 | 15 | 3 |
| July | 8 | 4 | 9 | 8 | -3 | -3 | 4 | 4 | -5 | -9 | 3 |
| October | -9 | -29 | -27 | -5 | -11 | -29 | -23 | -15 | -20 | -13 | -7 |
| Q90 | 2 | -8 | -6 | 8 | -6 | -13 | -8 | 5 | -3 | -3 | -1 |
| Q75 | 4 | -9 | -1 | 7 | -6 | -12 | -4 | 7 | -7 | -5 | -4 |
| Q50 | 4 | -10 | 0 | 8 | -6 | -11 | -1 | 3 | -8 | -3 | 0 |
| Q25 | 2 | -8 | 4 | 7 | -2 | -8 | -2 | 3 | -6 | 2 | -4 |
| Q5 | -2 | -10 | -5 | 0 | -6 | -13 | -11 | -5 | -5 | -4 | -12 |
| RP2 | -13 | -13 | -13 | -10 | -9 | -17 | -15 | -10 | -13 | -9 | -8 |
| RP10 | -17 | -18 | -6 | -10 | 0 | -18 | -12 | -18 | -6 | -16 | -6 |

Climate change graphs for 2050s

