

## Appendix 3.3: UKCP18 Climate Change Projections

Over land the projected general trends of Climate Change in the 21st century shows a progressive increase in mean air temperatures during summer and winter, a reduction in the rate of precipitation during the summer months but an increase during the winter months, with a slight reduction in average wind speed in the summer and a small increase during the winter.

### UKCP data for Wales using RCP 8.5 (change from baseline 2010)

| Season | Variable                            | Period | Percentile       |                  |                  |
|--------|-------------------------------------|--------|------------------|------------------|------------------|
|        |                                     |        | 10 <sup>th</sup> | 50 <sup>th</sup> | 90 <sup>th</sup> |
| Summer | Mean air temperature °C             | 2020s  | 0.2              | 0.8              | 1.5              |
|        |                                     | 2050s  | 0.7              | 2.1              | 3.6              |
|        |                                     | 2080s  | 2.0              | 4.5              | 7.1              |
|        | Average precipitation rate (%)      | 2020s  | -21.9            | -8.5             | 3.9              |
|        |                                     | 2050s  | -41.1            | -21.1            | -2.0             |
|        |                                     | 2080s  | -64.1            | -35.4            | -8.1             |
|        | Average wind speed (m/s) at 10m (%) | 2020s  | -0.2             | -0.1             | 0.0              |
|        |                                     | 2050s  | -0.4             | -0.2             | -0.1             |
|        |                                     | 2080s  | -1.1             | -0.7             | -0.4             |
| Winter | Mean air temperature °C             | 2020s  | 0.0              | 0.6              | 1.3              |
|        |                                     | 2050s  | 0.5              | 1.6              | 2.8              |
|        |                                     | 2080s  | 1.1              | 3.0              | 4.9              |
|        | Average precipitation rate (%)      | 2020s  | -4.9             | 3.9              | 12.5             |
|        |                                     | 2050s  | -3.9             | 8.9              | 23.8             |
|        |                                     | 2080s  | -1.5             | 19.4             | 43.9             |
|        | Average wind speed (m/s) at 10m (%) | 2020s  | -0.2             | 0.0              | 0.1              |
|        |                                     | 2050s  | -0.1             | 0.1              | 0.2              |
|        |                                     | 2080s  | 0.0              | 0.2              | 0.4              |