

<b>EARWIG Results</b>			
<b>Sunderland City Council</b>	<b>Baseline</b>	<b>2050s</b>	<b>Change</b>
<b>TEMPERATURE</b>			
Annual average daily temperature (°C)	8.8	10.6	+1.8
Winter average daily temperature (°C)	4.1	5.4	+1.3
Spring average daily temperature (°C)	7.4	9.0	+1.6
Summer average daily temperature (°C)	14.0	16.2	+2.2
Autumn average daily temperature (°C)	9.6	11.8	+2.1
Annual average average maximum temp (°C)	11.9	13.9	+1.9
Winter daily average maximum temp (°C)	6.8	8.1	+1.3
Spring daily average maximum temp (°C)	10.7	12.4	+1.8
Summer daily average maximum temp (°C)	17.6	20.1	+2.5
Autumn daily average maximum temp (°C)	12.7	14.9	+2.2
Annual average average minimum temp (°C)	5.7	7.3	+1.7
Winter daily average minimum temp (°C)	1.5	2.8	+1.3
Spring daily average minimum temp (°C)	4.1	5.6	+1.5
Summer daily average minimum temp (°C)	10.4	12.3	+1.9
Autumn daily minimum temp (°C)	6.6	8.6	+2.0
Winter extreme 5 <sup>th</sup> percentile (cold) temp (°C)	-3.5	-2.2	+1.4
Spring extreme 5 <sup>th</sup> percentile (cold) temp (°C)	-1.2	0.4	+1.6
Summer extreme 5 <sup>th</sup> percentile (cold) temp (°C)	5.9	7.5	+1.5
Autumn extreme 5 <sup>th</sup> percentile (cold) temp (°C)	0.1	2.1	+2.0
Winter extreme 10 <sup>th</sup> percentile (cold) temp (°C)	-2.3	-1.0	+1.3
Spring extreme 10 <sup>th</sup> percentile (cold) temp (°C)	-0.1	1.5	+1.5
Summer extreme 10 <sup>th</sup> percentile (cold) temp (°C)	7.0	8.6	+1.6

Sunderland City Council	Baseline	2050s	Change
Autumn extreme 10 <sup>th</sup> percentile (cold) temp (°C)	1.6	3.5	+1.8
Winter extreme 90 <sup>th</sup> percentile (hot) temp (°C)	10.7	11.9	+1.2
Spring extreme 90 <sup>th</sup> percentile (hot) temp (°C)	15.4	17.4	+2.0
Summer extreme 90 <sup>th</sup> percentile (hot) temp (°C)	21.1	24.0	+2.9
Autumn extreme 90 <sup>th</sup> percentile (hot) temp (°C)	17.8	20.6	+2.7
Winter extreme 95 <sup>th</sup> percentile (hot) temp (°C)	11.8	13.0	+1.2
Spring extreme 95 <sup>th</sup> percentile (hot) temp (°C)	16.6	18.7	+2.1
Summer extreme 95 <sup>th</sup> percentile (hot) temp (°C)	22.3	25.1	+2.8
Autumn extreme 95 <sup>th</sup> percentile (hot) temp (°C)	19.0	21.8	+2.8
<b>RAINFALL</b>			
Average annual rainfall (mm/year)	709	641	-9.6%
Average winter rainfall (mm/month)	55	66	+20.8%
Average spring rainfall (mm/month)	54	50	-7.6%
Average summer rainfall (mm/month)	63	39	-37.4%
Average autumn rainfall (mm/month)	66	59	-9.9%
1-hour extreme 50% AEP rainfall event (mm)	12	12	-2.4%
3-hour extreme 50% AEP rainfall event (mm)	17	17	+0.9%
6-hour extreme 50% AEP rainfall event (mm)	21	23	+7.1%
12-hour extreme 50% AEP rainfall event (mm)	25	26	+4.4%
1-hour extreme 10% AEP rainfall event (mm)	17	16	-6.2%
3-hour extreme 10% AEP rainfall event (mm)	26	27	6.3%
6-hour extreme 10% AEP rainfall event (mm)	30	38	23.1%
12-hour extreme 10% AEP rainfall event (mm)	36	43	21.3%

Sunderland City Council	Baseline	2050s	Change
1-day extreme 50% AEP rainfall event (mm)	25	24	-6.4%
2-day extreme 50% AEP rainfall event (mm)	33	32	-2.8%
5-day extreme 50% AEP rainfall event (mm)	48	45	-7.0%
10-day extreme 50% AEP rainfall event (mm)	64	61	-4.6%
1-day extreme 5% AEP rainfall event (mm)	40	37	-6.2%
2-day extreme 5% AEP rainfall event (mm)	48	46	-3.2%
5-day extreme 5% AEP rainfall event (mm)	68	68	0.0%
10-day extreme 5% AEP rainfall event (mm)	94	91	-3.0%
<b>SNOWFALL</b>			
Annual average daily snowfall (mm)	0.13	0.06	-50.0%
Winter average daily snowfall (mm)	0.45	0.25	-44.8%
Spring average daily snowfall (mm)	0.04	0.00	-92.1%
Summer average daily snowfall (mm)	0.00	0.00	0.0%
Autumn average daily snowfall (mm)	0.04	0.01	-70.6%
<b>FROST</b>			
Frost days (Tmin < 0) per year	41.3	19.7	-52.2%
<b>WIND</b>			
Average annual wind speed (m/s)	5.4	5.3	-0.1
Average winter wind speed (m/s)	6.1	6.1	+0.0
Average spring wind speed (m/s)	5.5	5.4	-0.1
Average summer wind speed (m/s)	4.6	4.4	-0.2
Average autumn wind speed (m/s)	5.3	5.4	+0.0
Mean annual maximum wind speed (m/s)	13.2	13.3	+0.1
<b>SOIL MOISTURE CONTENT</b>			
Winter soil moisture	80.2	80.4	+0.2

Sunderland City Council	Baseline	2050s	Change
content (mm)	80.2	80.4	+0.2
Spring soil moisture content (mm)	85.3	87.7	+2.4
Summer soil moisture content (mm)	35.2	31.2	-4.0
Autumn soil moisture content (mm)	32.7	27.8	-4.9