

EARWIG Results			
Middlesbrough Council	Baseline	2050s	Change
TEMPERATURE			
Annual average daily temperature (°C)	9.2	10.9	+1.8
Winter average daily temperature (°C)	4.5	5.8	+1.3
Spring average daily temperature (°C)	7.7	9.3	+1.6
Summer average daily temperature (°C)	14.4	16.5	+2.1
Autumn average daily temperature (°C)	10.0	12.0	+2.1
Annual average average maximum temp (°C)	12.3	14.2	+1.9
Winter daily average maximum temp (°C)	7.2	8.4	+1.3
Spring daily average maximum temp (°C)	10.9	12.6	+1.7
Summer daily average maximum temp (°C)	17.9	20.3	+2.4
Autumn daily average maximum temp (°C)	13.0	15.2	+2.2
Annual average average minimum temp (°C)	6.1	7.7	+1.6
Winter daily average minimum temp (°C)	1.9	3.1	+1.2
Spring daily average minimum temp (°C)	4.5	6.0	+1.5
Summer daily average minimum temp (°C)	10.9	12.7	+1.8
Autumn daily minimum temp (°C)	6.9	8.9	+2.0
Winter extreme 5 th percentile (cold) temp (°C)	-3.1	-1.7	+1.4
Spring extreme 5 th percentile (cold) temp (°C)	-0.8	0.7	+1.5
Summer extreme 5 th percentile (cold) temp (°C)	6.5	7.8	+1.4
Autumn extreme 5 th percentile (cold) temp (°C)	0.6	2.3	+1.8
Winter extreme 10 th percentile (cold) temp (°C)	-1.9	-0.6	+1.3
Spring extreme 10 th percentile (cold) temp (°C)	0.3	1.8	+1.5
Summer extreme 10 th percentile (cold) temp (°C)	7.5	9.0	+1.4

Middlesbrough Council	Baseline	2050s	Change
Autumn extreme 10 th percentile (cold) temp (°C)	2.1	3.8	+1.7
Winter extreme 90 th percentile (hot) temp (°C)	10.9	12.2	+1.2
Spring extreme 90 th percentile (hot) temp (°C)	15.6	17.6	+2.0
Summer extreme 90 th percentile (hot) temp (°C)	21.3	24.1	+2.8
Autumn extreme 90 th percentile (hot) temp (°C)	18.0	20.8	+2.8
Winter extreme 95 th percentile (hot) temp (°C)	12.1	13.2	+1.1
Spring extreme 95 th percentile (hot) temp (°C)	16.8	19.0	+2.2
Summer extreme 95 th percentile (hot) temp (°C)	22.4	25.2	+2.8
Autumn extreme 95 th percentile (hot) temp (°C)	19.2	22.0	+2.8
RAINFALL			
Average annual rainfall (mm/year)	696	636	-8.6%
Average winter rainfall (mm/month)	56	63	+12.7%
Average spring rainfall (mm/month)	50	48	-3.6%
Average summer rainfall (mm/month)	62	42	-33.2%
Average autumn rainfall (mm/month)	64	59	-7.1%
1-hour extreme 50% AEP rainfall event (mm)	12	11	-8.8%
3-hour extreme 50% AEP rainfall event (mm)	17	16	-1.8%
6-hour extreme 50% AEP rainfall event (mm)	21	20	-5.4%
12-hour extreme 50% AEP rainfall event (mm)	23	22	-5.4%
1-hour extreme 10% AEP rainfall event (mm)	15	16	+10.1%
3-hour extreme 10% AEP rainfall event (mm)	23	25	+9.7%
6-hour extreme 10% AEP rainfall event (mm)	30	27	-7.9%
12-hour extreme 10% AEP rainfall event (mm)	35	34	-4.2%

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1-day extreme 50% AEP rainfall event (mm)	21	23	+13.6%
2-day extreme 50% AEP rainfall event (mm)	30	29	-4.8%
5-day extreme 50% AEP rainfall event (mm)	43	39	-8.3%
10-day extreme 50% AEP rainfall event (mm)	59	56	-5.0%
1-day extreme 5% AEP rainfall event (mm)	34	35	+3.2%
2-day extreme 5% AEP rainfall event (mm)	43	49	+13.4%
5-day extreme 5% AEP rainfall event (mm)	59	61	+3.1%
10-day extreme 5% AEP rainfall event (mm)	85	79	-7.4%
SNOWFALL			
Annual average daily snowfall (mm)	0.09	0.03	-71.6%
Winter average daily snowfall (mm)	0.33	0.11	-67.7%
Spring average daily snowfall (mm)	0.04	0.00	-98.8%
Summer average daily snowfall (mm)	0.00	0.00	0.0%
Autumn average daily snowfall (mm)	0.01	0.00	-87.8%
FROST			
Frost days (Tmin < 0) per year	33.9	16.4	-51.8%
WIND			
Average annual wind speed (m/s)	5.5	5.4	-0.1
Average winter wind speed (m/s)	6.3	6.2	-0.1
Average spring wind speed (m/s)	5.6	5.5	0.0
Average summer wind speed (m/s)	4.6	4.5	-0.2
Average autumn wind speed (m/s)	5.5	5.4	0.0
Mean annual maximum wind speed (m/s)	13.2	13.4	+0.2
SOIL MOISTURE CONTENT			
Winter soil moisture	80.2	80.4	+0.2

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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