APPENDIX 14.1
CLIMATE PROJECTIONS DATA

Appendix 14.1: Summary of Evolving Baseline Climate Projections

This document summarises the UK Climate Change Projections 2018 (UKCP18), produced by the UK Met Office, under the RCP8.5 probabilistic land projections for the 25 km grid cell within which the Site is located (Grid Square 462500 212500). This document should be read alongside the Environmental Statement **Chapter 14 Climate Change**.

Average Climatic Norms

Temperature

Figure 14.1 and **Table 14.1** show the projections for annual average mean air temperature. The projections show an almost continuous increase in annual average temperature over the next 80 years.

Table 14.1: Mean average anomaly at 1.5 m (Â°C)

Date	Percentile						
	5th	10th	25th	50th	75th	90th	95th
2022	-0.50611	-0.21535	0.263084	0.801176	1.339528	1.82022	2.101882
2027	-0.37384	-0.08232	0.4096	0.942694	1.489357	1.975109	2.267263
2050	0.208234	0.56511	1.181768	1.872017	2.573909	3.215908	3.611981
2075	0.899174	1.391312	2.250327	3.240182	4.26517	5.17229	5.709723
2099	2.176598	2.79743	3.825539	5.006461	6.269697	7.407022	8.074216

Precipitation

Figure 14.2 and **Table 14.2** shows the projections for the annual average precipitation rate. The projections show that annual precipitation is likely to vary from year to year, with both increases and decreases over the next 80 years.

Table 14.2: Annual Precipitation rate anomaly (%)

Date	Percentile						
	5th	10th	25th	50th	75th	90th	95th
2022	-21.4269	-15.2476	-7.1956	1.672697	11.35847	20.88154	27.30342
2027	-19.5038	-14.737	-7.47878	1.353367	11.9277	21.32065	27.79603
2050	-22.7557	-18.904	-10.6375	-0.52143	9.989837	21.82226	28.41452
2075	-22.9974	-18.4882	-9.80234	1.239285	12.59446	21.92252	30.76455
2099	-26.5333	-22.3342	-15.1906	-5.49689	6.282604	19.41305	25.36112

Figure 14.1: Annual Average Mean Temperature

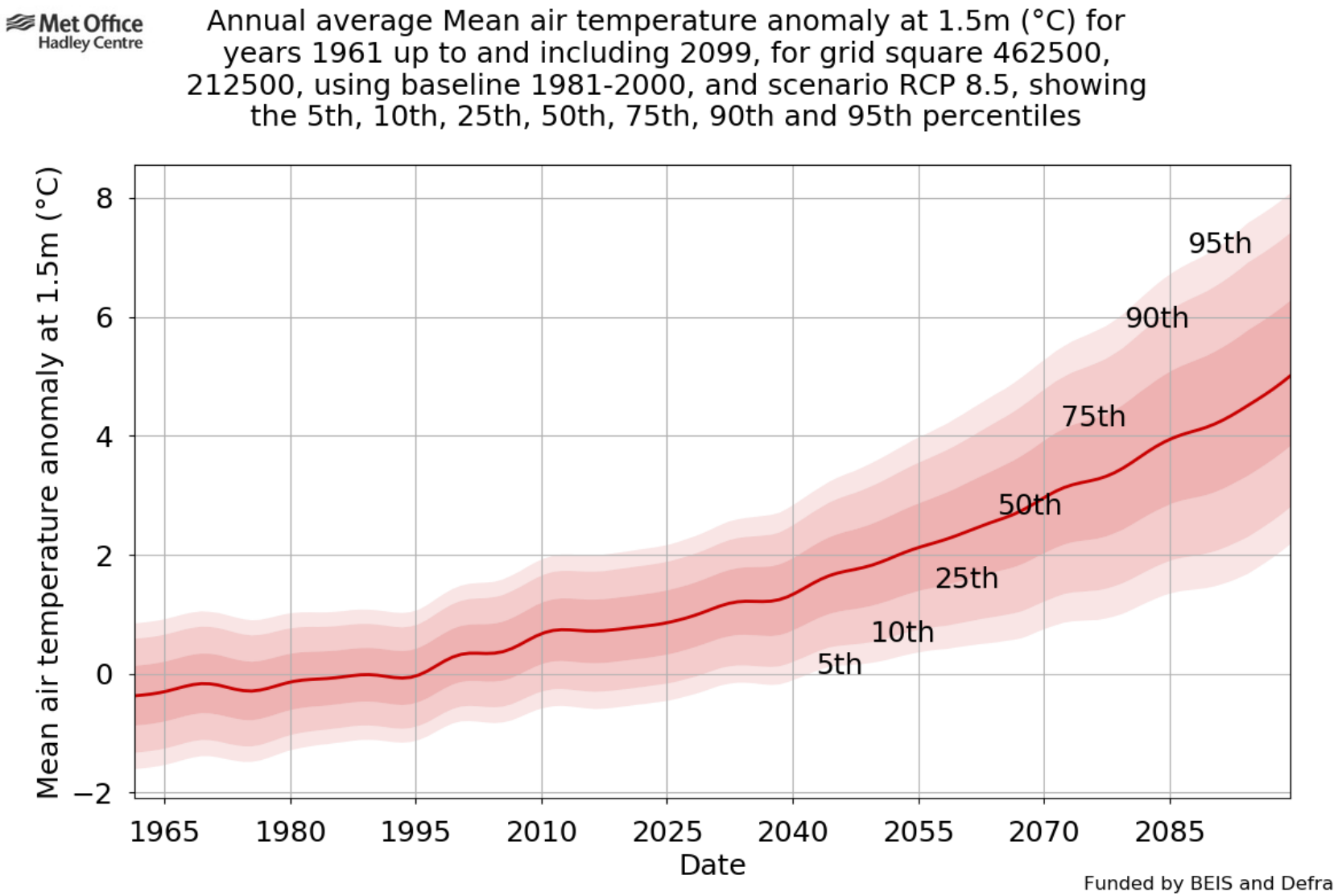
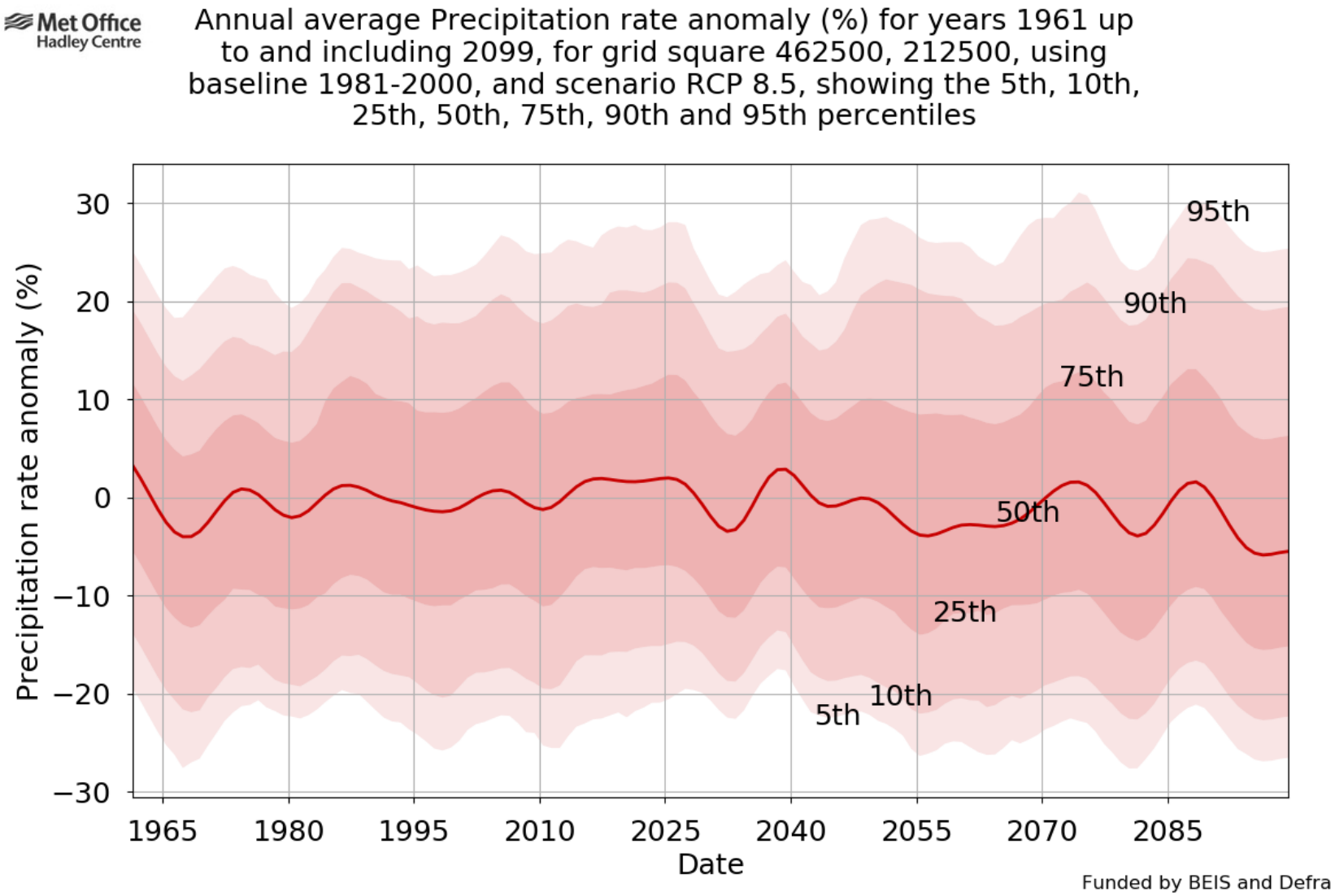


Figure 14.2: Annual Average Precipitation



Seasonal Changes

Summer

Figure 14.3 and Table 14.3 show the projections for average summer (June, July, August) maximum air temperature. The projections show an overall increase in maximum summer temperate over the next 80 years.

Table 14.3 Maximum Summer air temperature anomaly at 1.5m (Â°C)

Key Project Dates	Percentile						
	5th	10th	25th	50th	75th	90th	95th
2022	-2.17473	-1.4678	-0.27425	1.071238	2.429852	3.660586	4.385001
2027	-1.60235	-0.89213	0.322019	1.68098	3.04849	4.292897	5.034271
2050	-1.23305	-0.39596	1.059719	2.696645	4.357634	5.842411	6.742298
2075	-0.36137	0.782267	2.714231	4.867305	7.083215	9.108912	10.32039
2099	1.780969	3.07358	5.325491	7.820138	10.44564	12.89674	14.37724

Figure 14.4 and Table 14.4 show the projections for average summer precipitation rate. The projections show an overall decline in summer precipitation over the next 80 years.

Table 14.4: Average Summer Precipitation rate anomaly (%)

Date	Percentile						
	5th	10th	25th	50th	75th	90th	95th
2022	-67.8579	-55.8824	-35.2298	-7.27342	24.45672	55.41152	70.65112
2027	-71.2565	-59.5992	-37.4633	-7.29017	24.34277	54.46669	70.98768
2050	-81.7277	-70.4721	-50.3267	-24.6334	6.564664	37.8074	56.4402
2075	-89.7344	-77.3682	-56.339	-31.3524	-3.66665	23.56327	41.96323
2099	-100	-91.8755	-71.3181	-46.3142	-17.7716	9.019089	25.28243

Figure 14.3: Maximum Average Summer Temperature

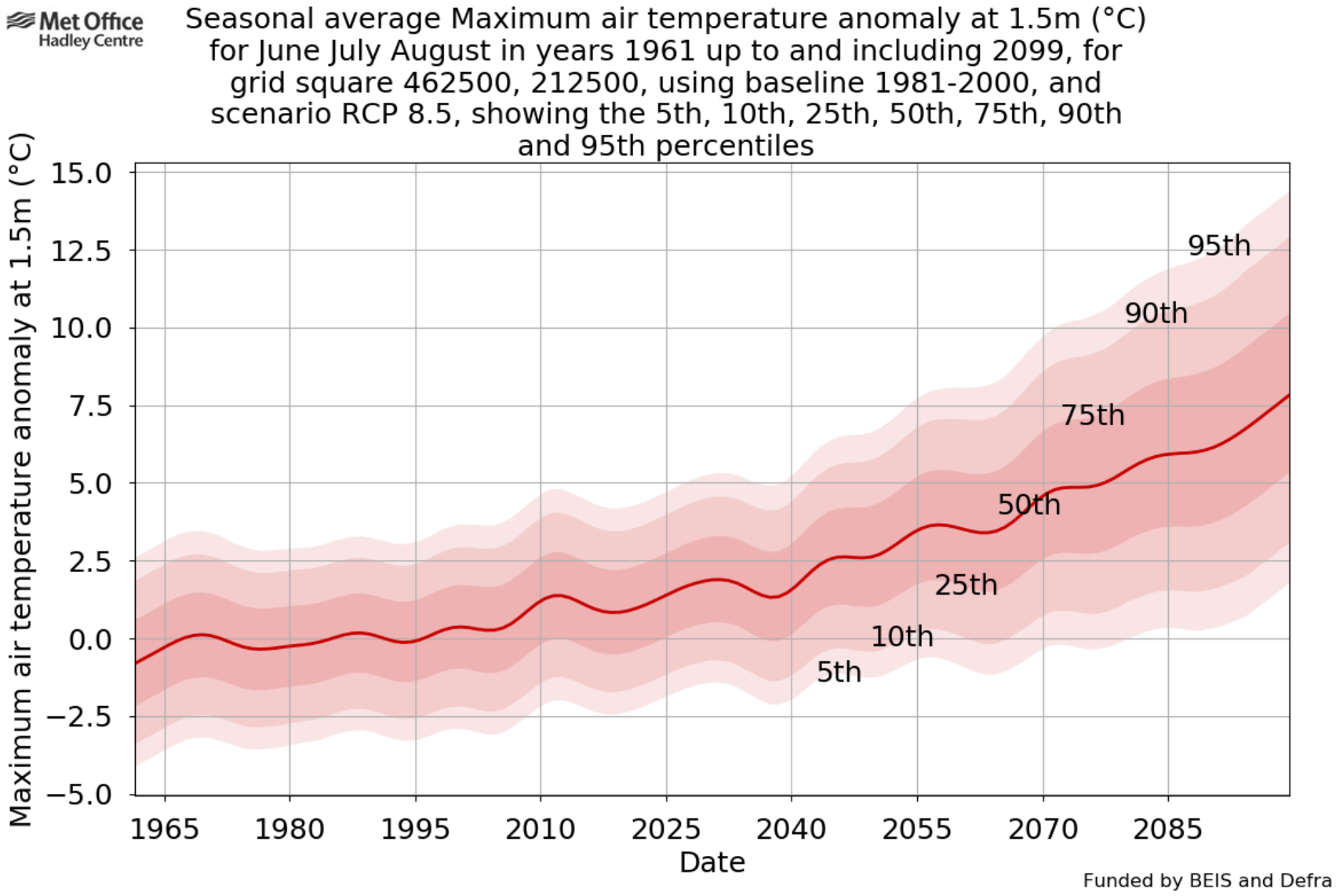
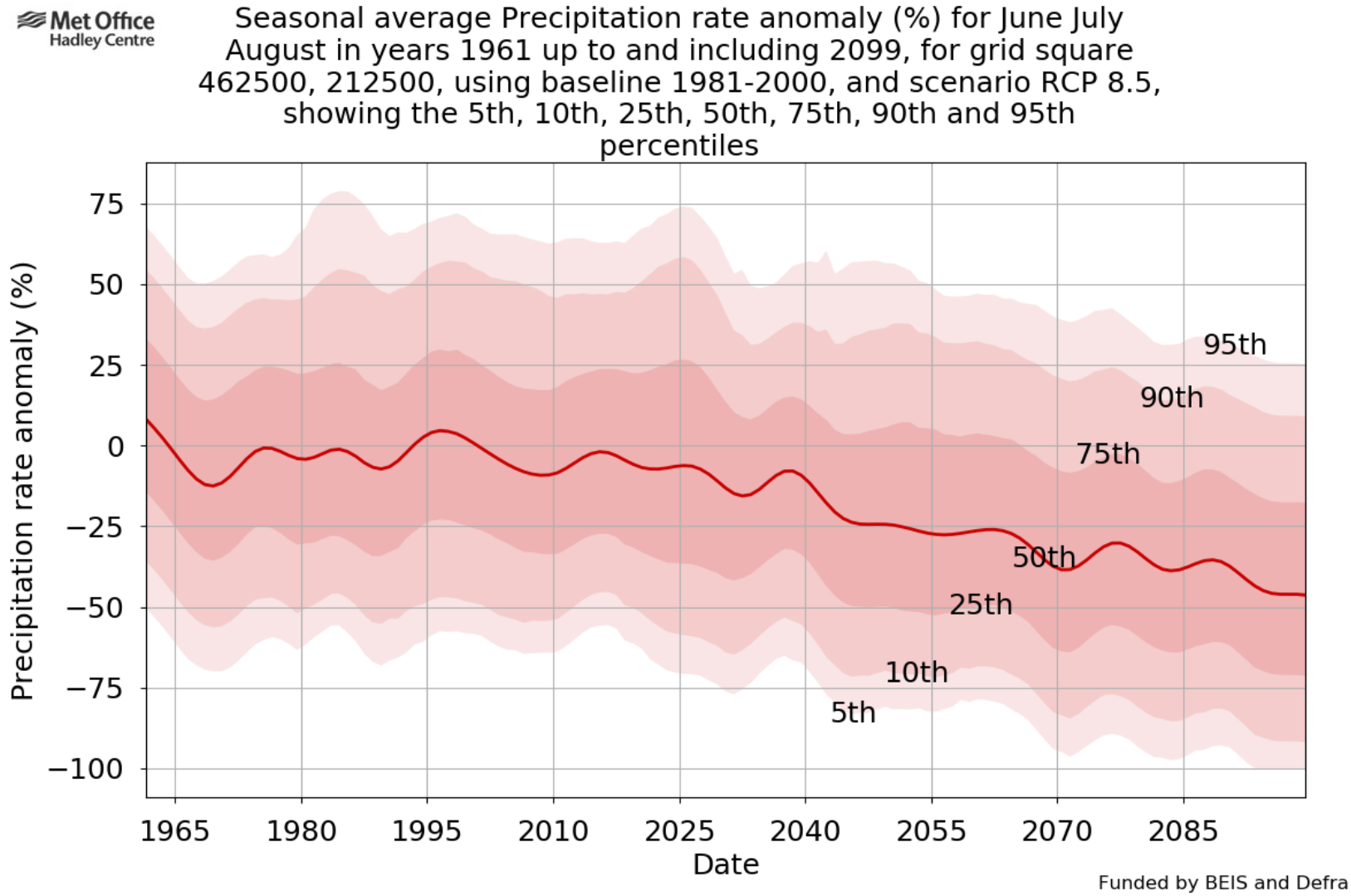


Figure 14.4: Average Summer Precipitation



Winter

Figure 14.5 and **Table 14.5** show the projections for average winter (December, January, February) minimum air temperature. The projections show an overall increase in minimum winter temperate over the next 80 years.

Table 14.5: Minimum Winter air temperature anomaly at 1.5m (Â°C)

Key Project Dates	Percentile						
	5th	10th	25th	50th	75th	90th	95th
2022	-1.64431	-1.13694	-0.30092	0.614798	1.540451	2.365755	2.878949
2027	-1.56469	-1.06057	-0.21378	0.729358	1.664346	2.508079	3.035885
2050	-0.94118	-0.39234	0.533781	1.57702	2.647455	3.625775	4.227742
2075	-0.29112	0.385442	1.500307	2.776158	4.080544	5.307608	6.105837
2099	0.401491	1.227016	2.619255	4.179261	5.827454	7.403983	8.374509

Figure 14.6 and **Table 14.6** shows the projections for average winter precipitation rate. The projections show an overall increase in winter precipitation over the next 80 years.

Table 14.6: Average Winter Precipitation rate anomaly (%)

Dates	Percentile						
	5th	10th	25th	50th	75th	90th	95th
2022	-30.3404	-20.7966	-5.17093	11.91392	29.07736	44.33762	52.9404
2027	-38.9443	-29.4745	-12.7953	5.0081	21.73193	36.55346	45.09831
2050	-36.4425	-25.4342	-8.13522	10.59672	28.44448	44.59613	54.99203
2075	-28.2927	-17.4109	2.075945	25.12766	48.11102	67.97148	79.72318
2099	-28.1297	-14.5154	6.534378	28.63548	51.77219	75.00593	90.74785

Figure 14.5: Minimum Average Winter Temperature

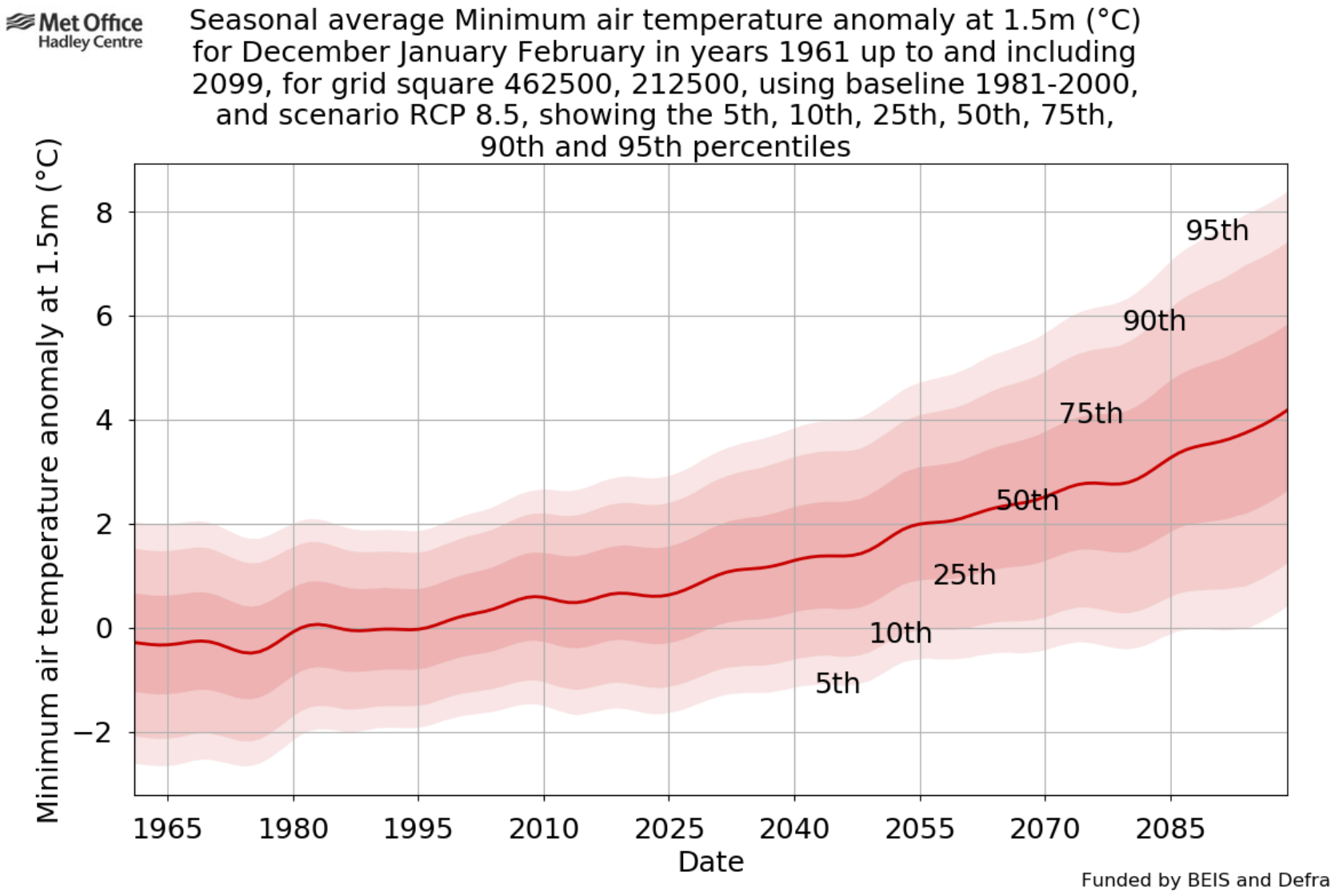


Figure 14.6: Average Winter Precipitation