

5.3.6 Foshan

The GHG emissions of Foshan was 2.5 MtCO₂e in 1975, that escalated to 5.3 MtCO₂e in 1990 and 25.8 MtCO₂e in 2015. A majority of the GHG emissions in 2015 (Figure 5.16, top) were contributed by the energy sector (46%) and industry sector (35%), followed by transport sector (10%) and residential sector (9%). As per the ICLAP model estimates (Figure 5.16, below), there would be an increase in emissions at 6% per annum, leading to 30.9 MtCO₂e in 2030 and 41.1 MtCO₂e in 2050.

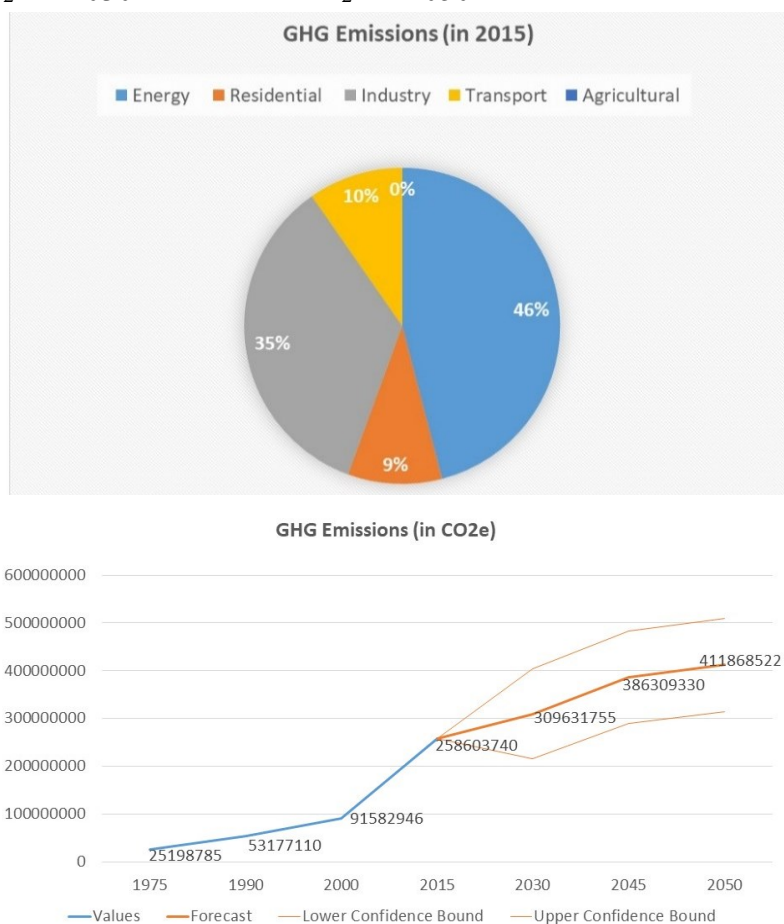


Figure 5.16: GHG contributions from different sectors in Beijing (top); ICLAP model estimates for Foshan's GHG emissions till 2050 (bottom)

The results for climate variability in Foshan indicate that depending on the emission scenarios, there would be a temperature increase of 1.0–3.1 degC from 2030-80s (Figure 5.17, top). The scenario corresponding to the pathway with moderate GHGs (SSP245_MIROC6) exhibits an increase of 1.0 degC in 2030s (above the 1980 baseline temperature), 1.5 degC in 2050s, peaking to 1.8 degC in 2080s. The spatial results for moderate scenario over 2010-80s are mapped in Figure 5.17 (middle). Meanwhile, the scenario corresponding to the pathway with the highest GHGs (SSP585_MIROC6) exhibits an increase of 1.0 degC in 2030s (above the 1980 baseline temperature), 2.0 degC in 2050s further rising sharply to 3.1 degC above normal up to 2080s. The spatial results for high emission scenario over 2010-80s are mapped in Figure 5.17 (bottom). Meanwhile, the precipitation change for Foshan shows a very high variability in the long run, ranging from -220 to 180 mm from the normal (Figure 5.18, top) depending on the emission scenarios. The scenario corresponding to the pathway with moderate GHGs (SSP245_MIROC6) exhibits a decrease of about -80 mm in 2030s (above the 1980 baseline rainfall), rising to

20 mm in 2050s, rising again to 180 mm in 2080s. The spatial results for moderate scenario over 2010-80s are mapped in Figure 5.18 (middle). Meanwhile, the scenario corresponding to the pathway with the highest GHGs (SSP585_MIROC6) shows Foshan's city rainfall decrease to around -30 mm (above the 1980 baseline rainfall) in 2030s, remaining same in 2050s, increasing to 110 mm in 2080s. The spatial results for high emission scenario over 2010-80s are mapped in Figure 5.18 (bottom).

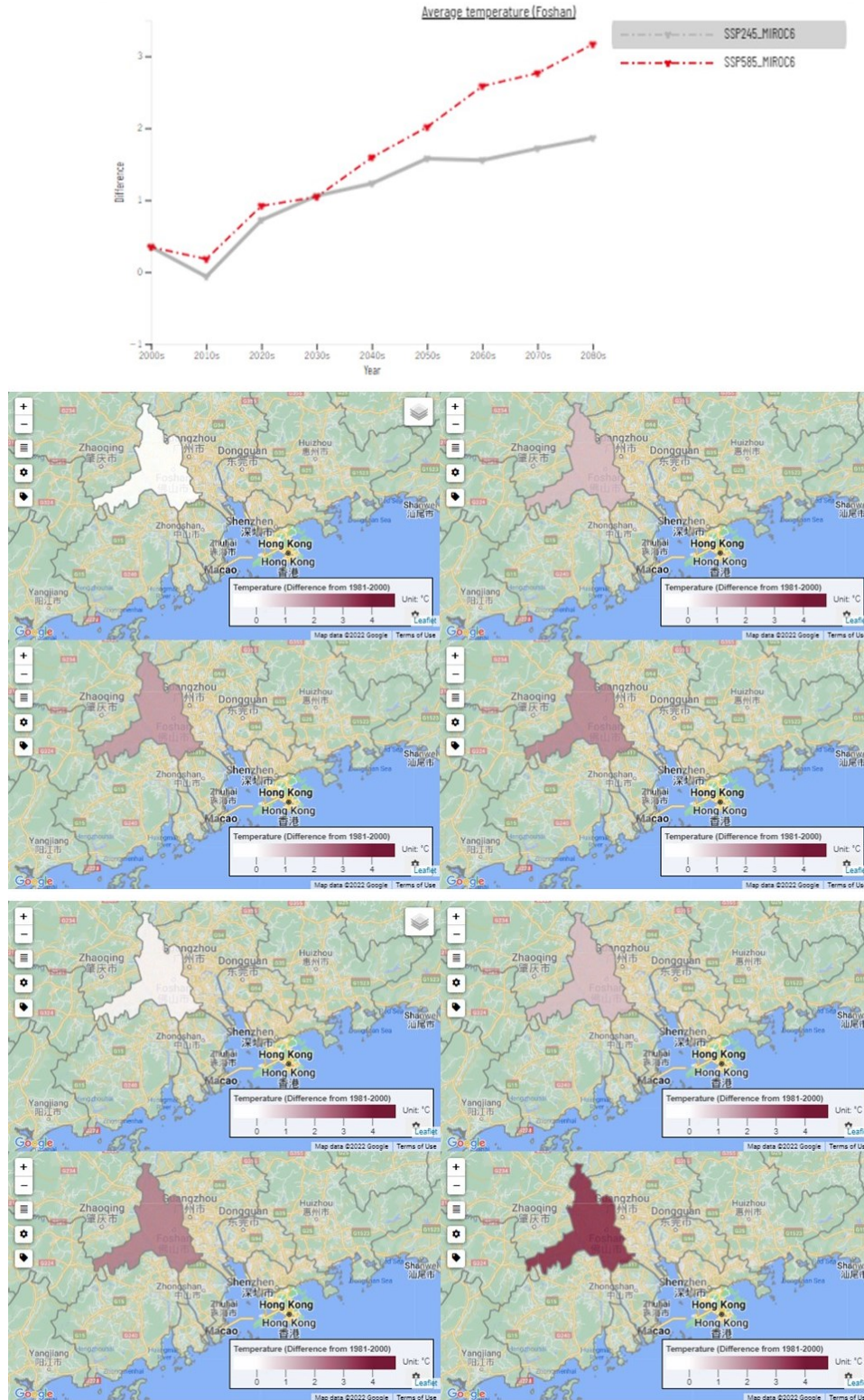


Figure 5.17: Temperature increase in Foshan under medium (grey) and high (red) emission scenario till 2080s (top); Spatial results for medium scenario for 2010s, 2030s, 2050s, 2080s (middle); Spatial results for high scenario for 2020s, 2030s, 2050s, 2080s (bottom)

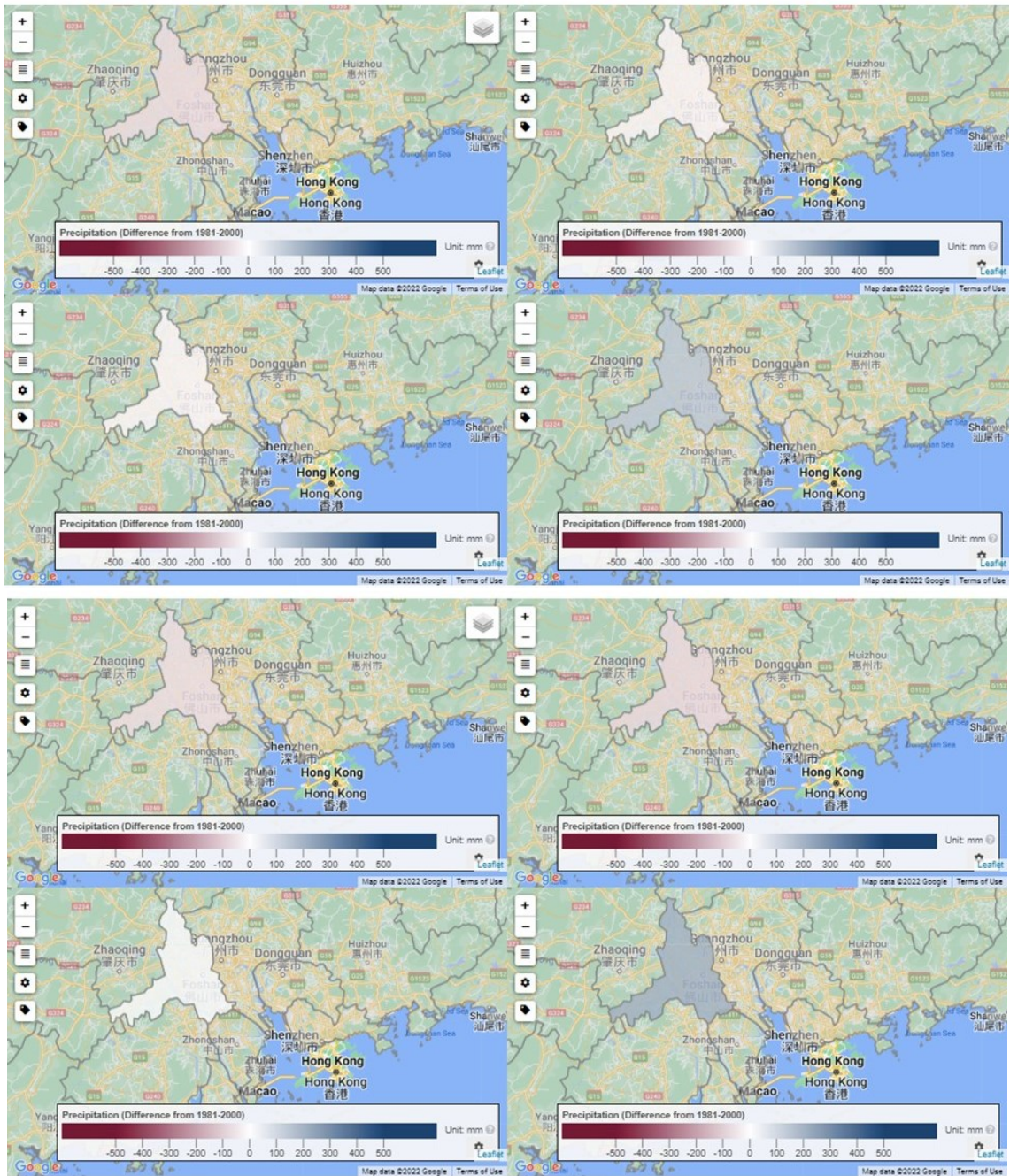
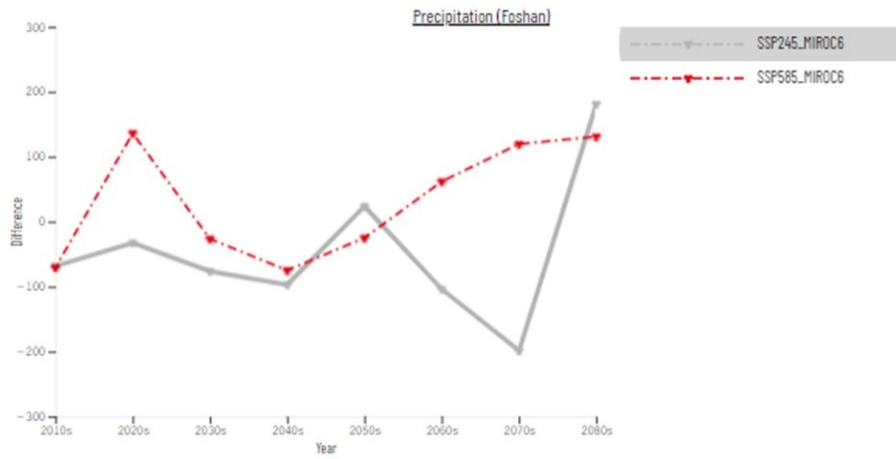


Figure 5.18: Precipitation variation in Foshan under medium (grey) and high (red) emission scenario till 2080s (top); Spatial results for medium scenario for 2010s, 2030s, 2050s, 2080s (middle); Spatial results for high scenario for 2020s, 2030s, 2050s, 2080s (bottom)