Supplementary Material

for von Trentini et al.: “Comparing internal variabilities in three regional single model initial-condition large ensembles (SMILE) over Europe”

Figure S1: Standard deviation of tas-HW-Nr over five members of the CRCM for the original 0.11° data (left side) and aggregated 0.44° data (right side), for the whole CRCM domain (top row), and a cut-out over central Europe (lower row, see rectangle in top row). The spatial mean for each domain is given in the headings.

Figure S2: Anomalies from 1980-2009 of the 6 indicators over the British Isles (BI) for E-OBS (circles 1957-2015) and the three ensembles (1957-2099), represented by the minimum/maximum (solid lines) of the ensemble and an area from the 12.5th and 87.5th percentile, spanning the range of the inner 75 % of the members (shadings).

Figure S3: Anomalies from 1980-2009 of the 6 indicators in France (FR) for E-OBS (circles 1957-2015) and the three ensembles (1957-2099), represented by the minimum/maximum (solid lines) of the ensemble and an area from the 12.5th and 87.5th percentile, spanning the range of the inner 75 % of the members (shadings).

Figure S4: Anomalies from 1980-2009 of the 6 indicators in the Alps (AL) for E-OBS (circles 1957-2015) and the three ensembles (1957-2099), represented by the minimum/maximum (solid lines) of the ensemble and an area from the 12.5th and 87.5th percentile, spanning the range of the inner 75 % of the members (shadings).

Figure S5: Probability density functions of the annual anomalies in the period 1957-2015 in E-OBS and each ensemble member for all 6 indicators in British Isles (BI).

Figure S6: Probability density functions of the annual anomalies in the period 1957-2015 in E-OBS and each ensemble member for all 6 indicators in France (FR).

Figure S7: Projected change of inter-member variability (IMV) for the British Isles (BI). IMV is sampled as the standard deviation over each ensemble for each year and is smoothed with a moving average of ± 10 years.

Figure S8: Projected change of inter-member variability (IMV) for France (FR). IMV is sampled as the standard deviation over each ensemble for each year and is smoothed with a moving average of ± 10 years.

Figure S9: Projected change of inter-member variability (IMV) for the Alps (AL). IMV is sampled as the standard deviation over each ensemble for each year and is smoothed with a moving average of ± 10 years.

Figure S10: Summer temperature scatter plots for the correlation of the multi-member mean (MEAN) and the inter-member variability (STD) together with a least squares regression line; shown is the same moving average data as used for the IMV change analysis; the correlation coefficient is displayed in the upper left corner for each subplot;

Figure S11: Summer precipitation scatter plots for the correlation of the multi-member mean (MEAN) and the inter-member variability (STD) together with a least squares regression line; shown is the same moving average data as used for the IMV change analysis; the correlation coefficient is displayed in the upper left corner for each subplot;