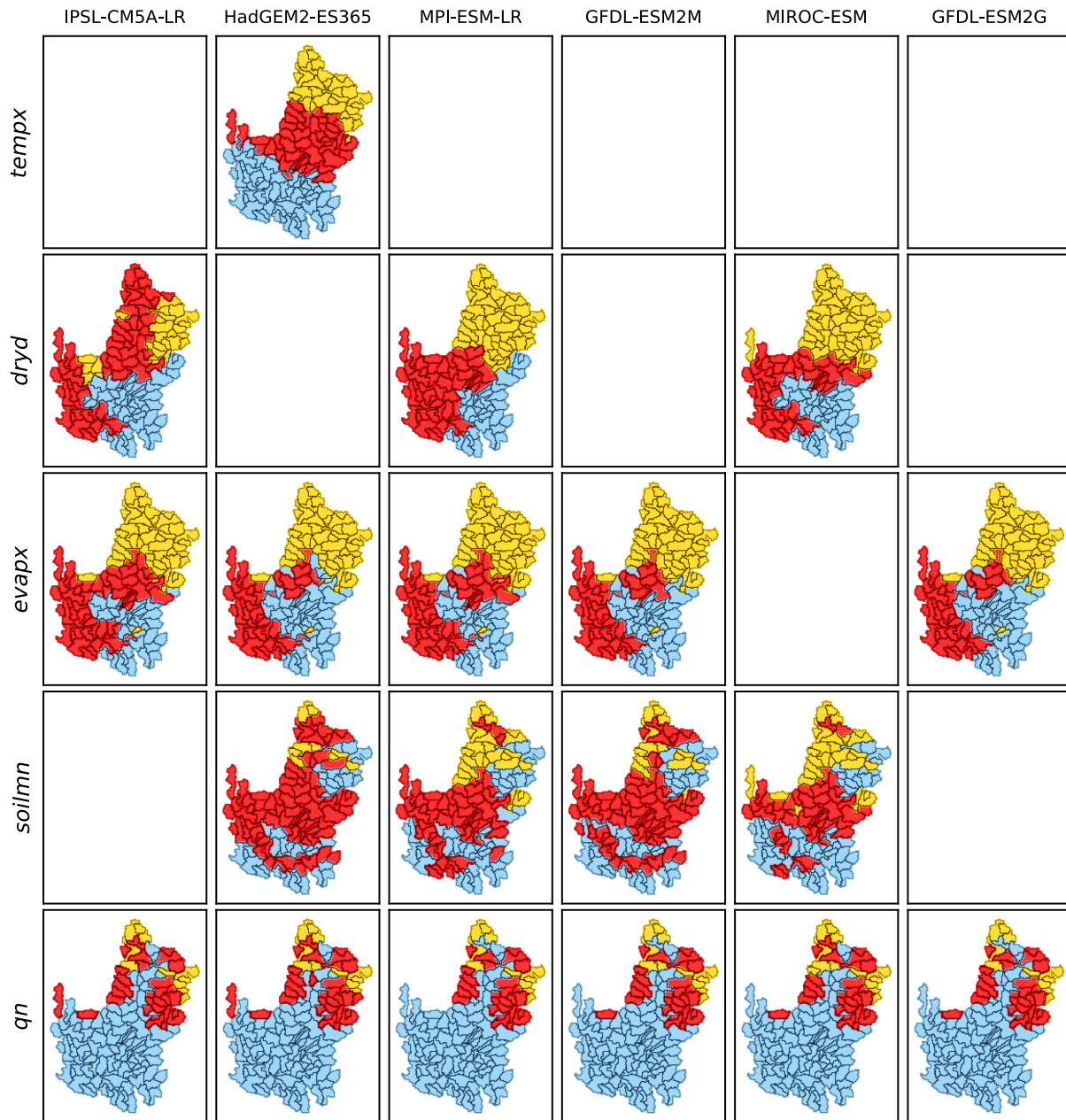# Supplementary Materials: Characterizing Drought Behavior using Unsupervised Machine Learning for Improved Understanding of Future Drought in the Colorado River Basin

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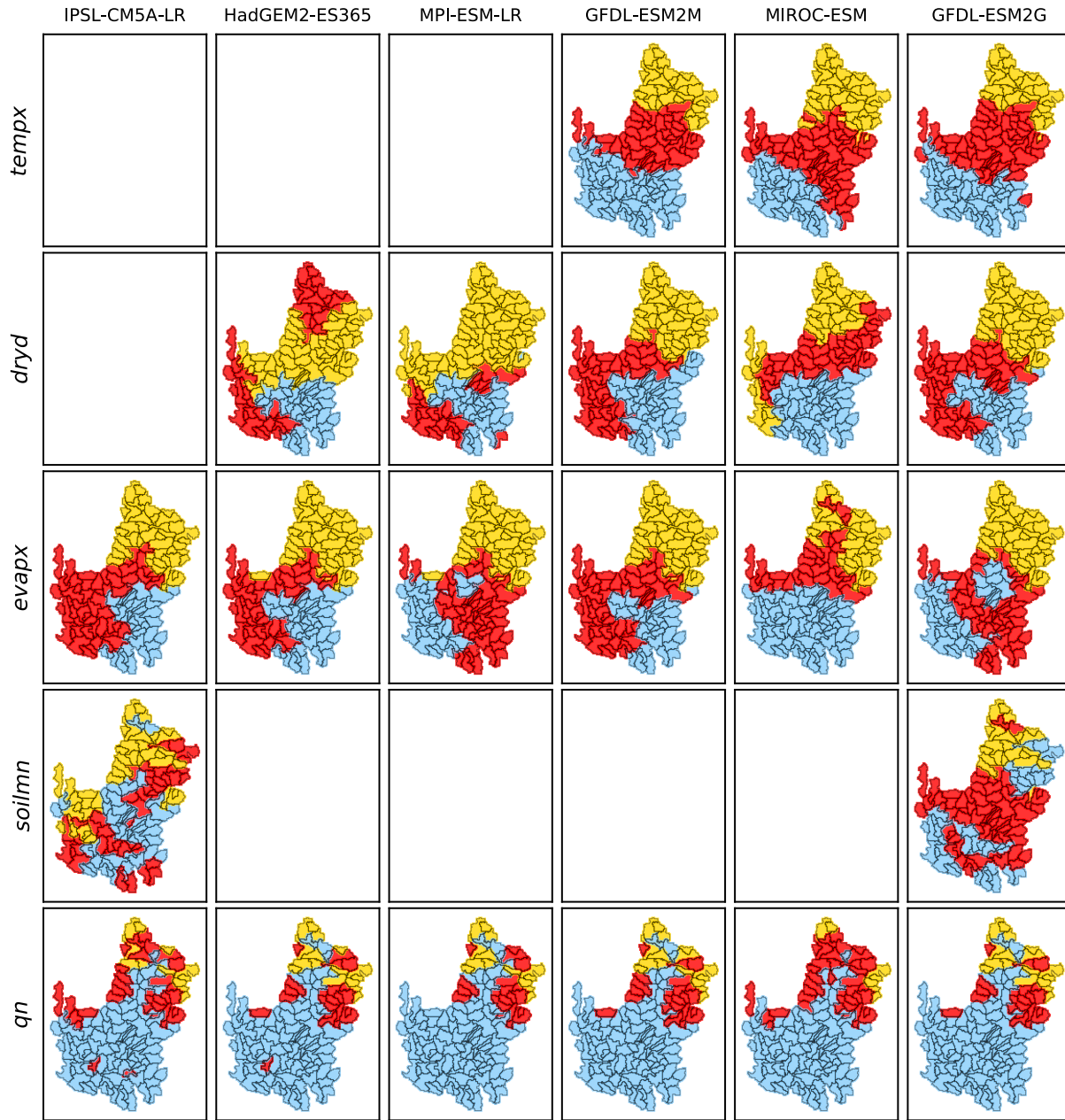
Corresponding authors: Carl J. Talsma(talsmac83@lanl.gov), Velimir V. Vesselinov (vvv@lanl.gov)
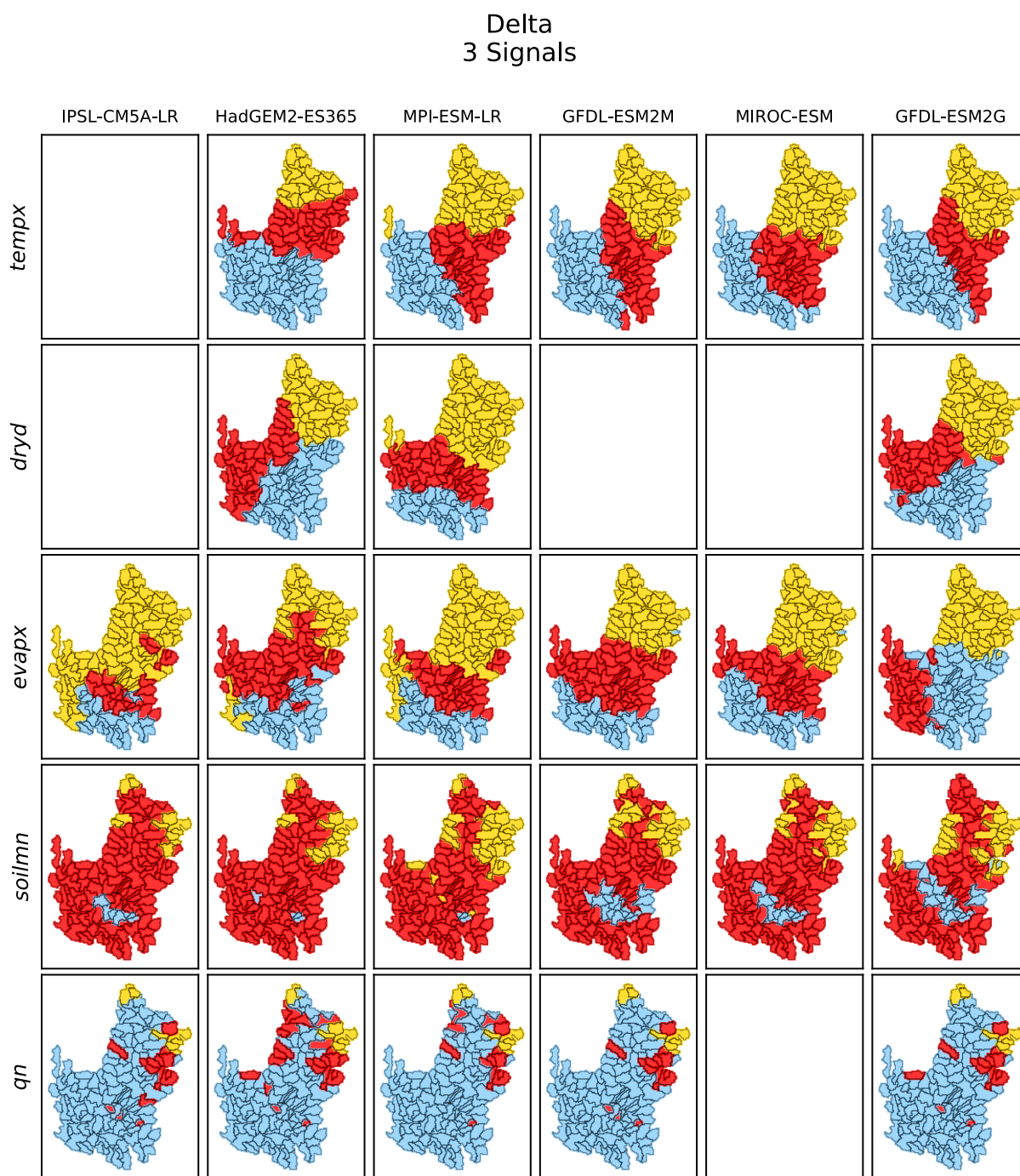
Historical
3 Signals

S1: Spatial results of historical NMFk clustering algorithm of each drought indicator for each of six ESMs at 3 signals and ordered from driest (left) to wettest (right) future projection.

Future
3 Signals

S2: Spatial results of future NMFk clustering algorithm of each drought indicator for each of six ESMs at 3 signals and ordered from driest (left) to wettest (right) future projection.
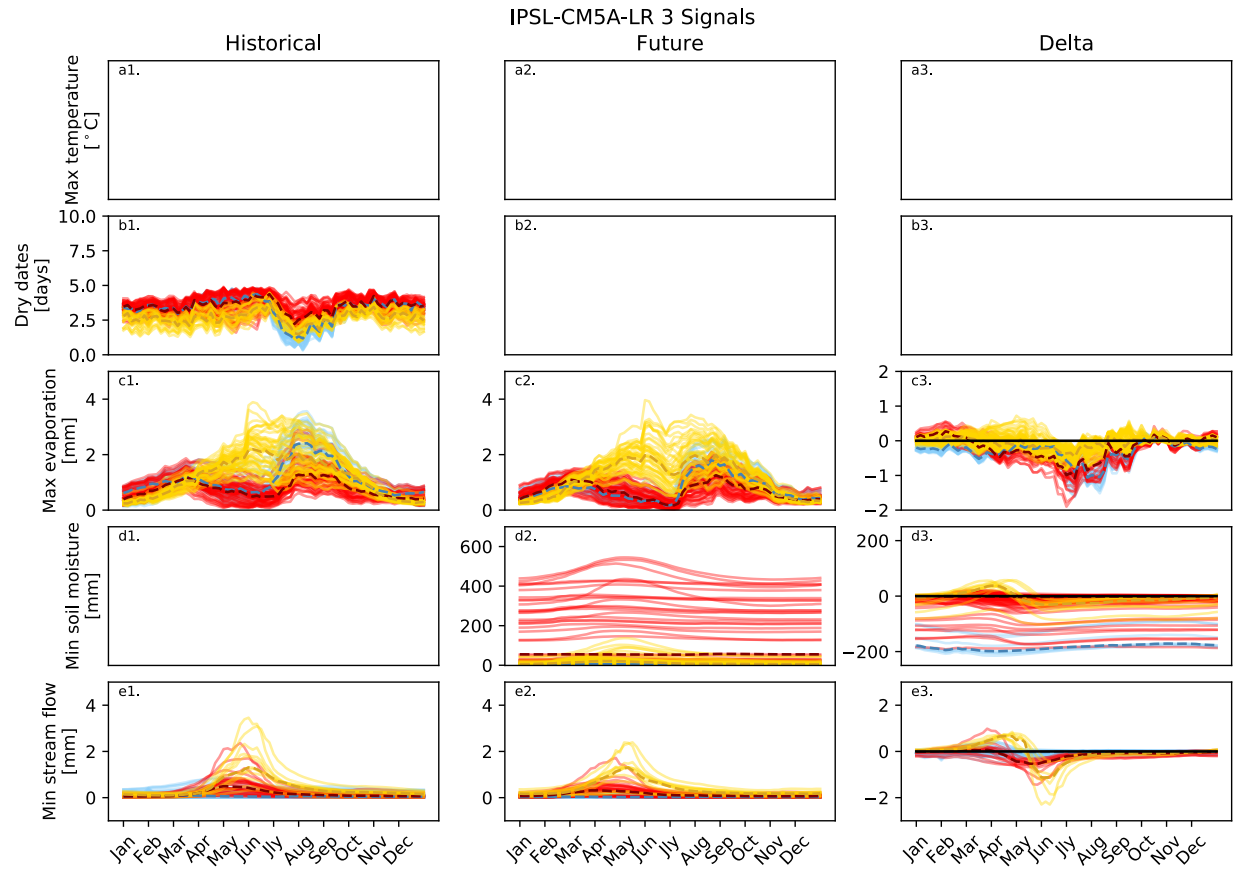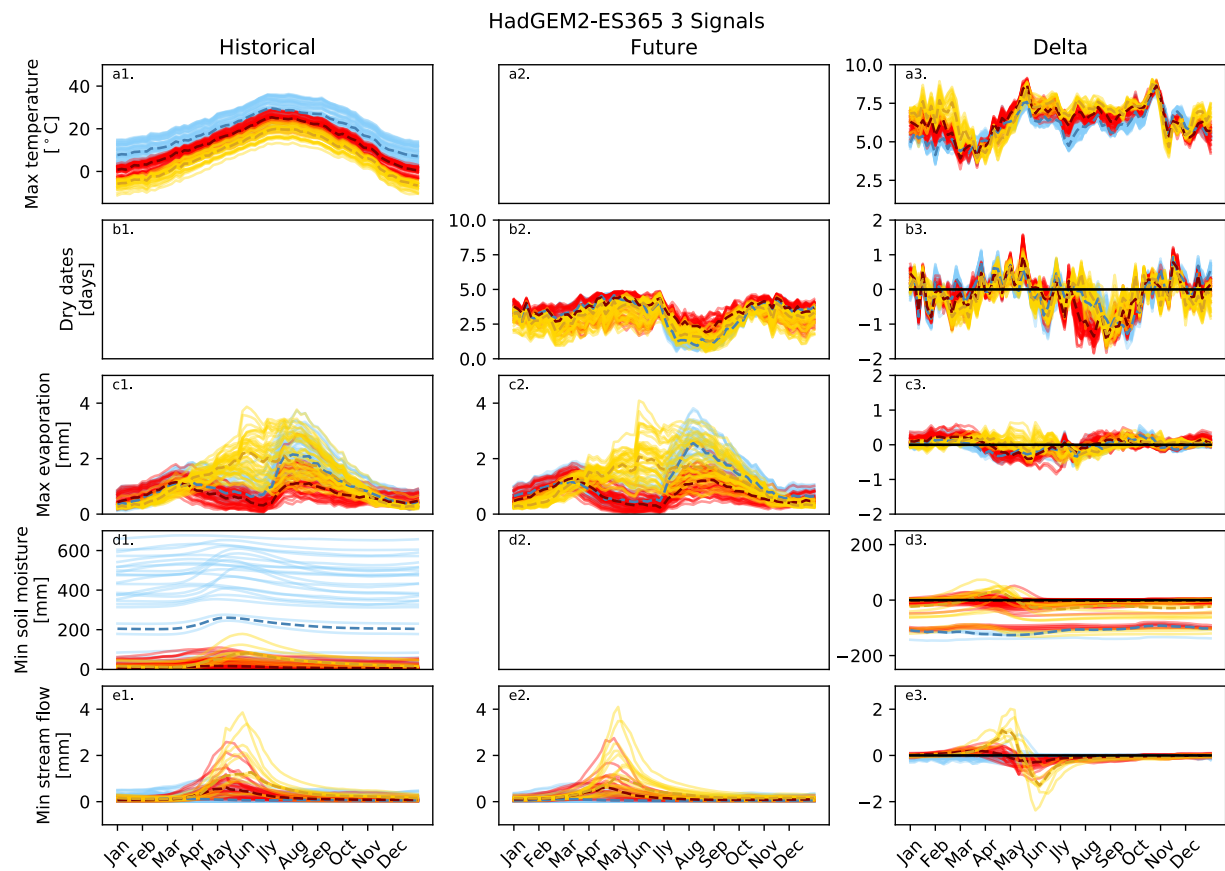
S3: Spatial results of the 'delta' NMFk clustering algorithm of each drought indicator for each of six ESMs at 3 signals and ordered from driest (left) to wettest (right) future projection.
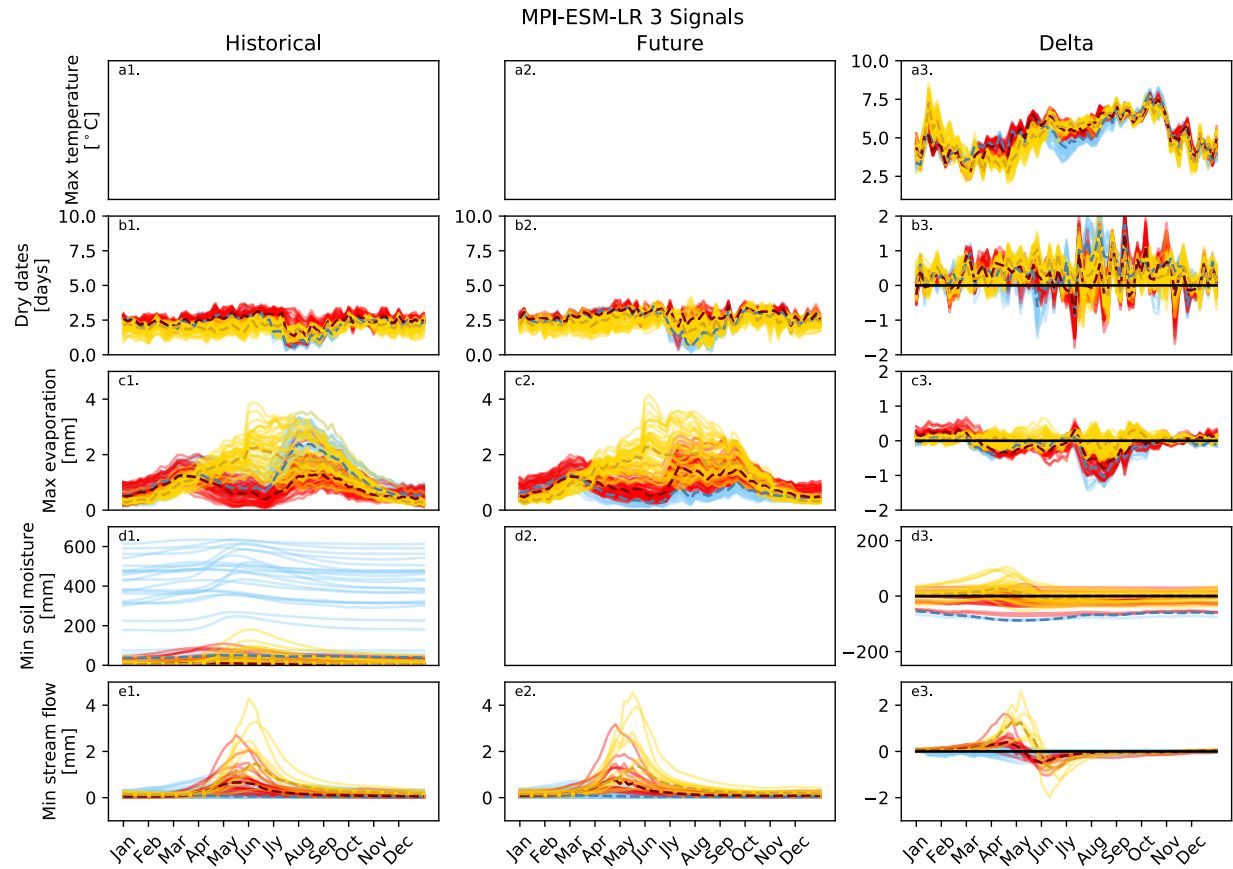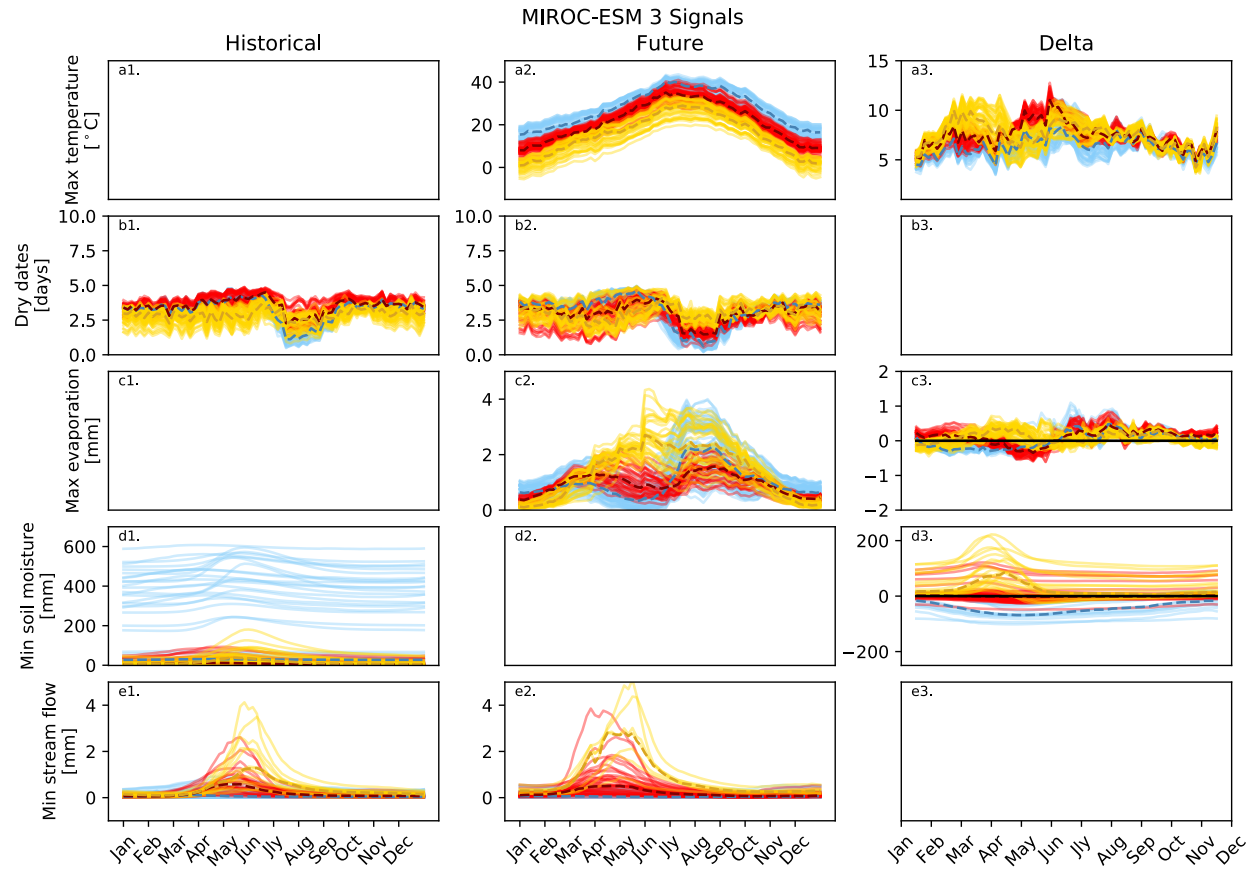
S4: Temporal results of the NMFk clustering at 3 signals for the IPSL-CM5A-LR model for each time period and the 'delta' between historical and future.
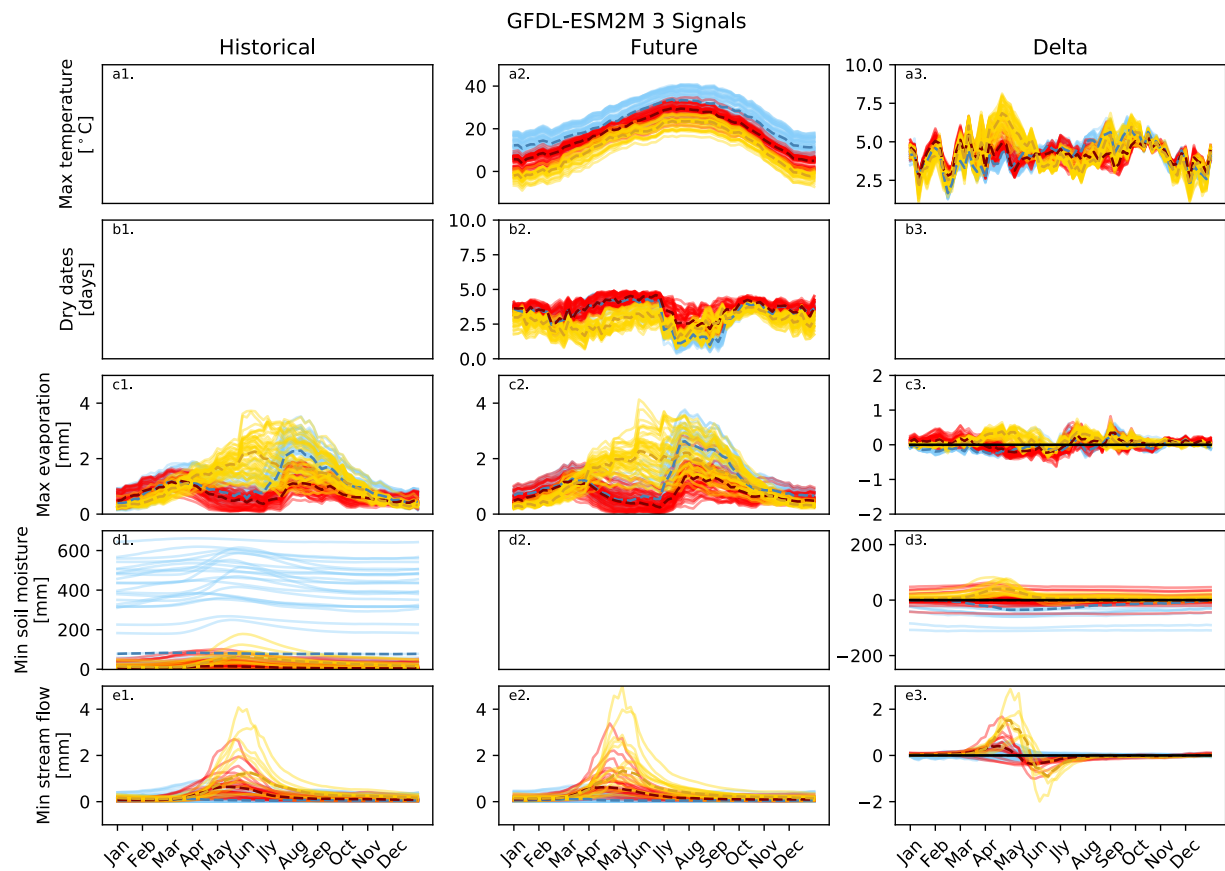
S5: Temporal results of the NMFk clustering at 3 signals for the HadGEM2-ES365 model for each time period and the 'delta' between historical and future.
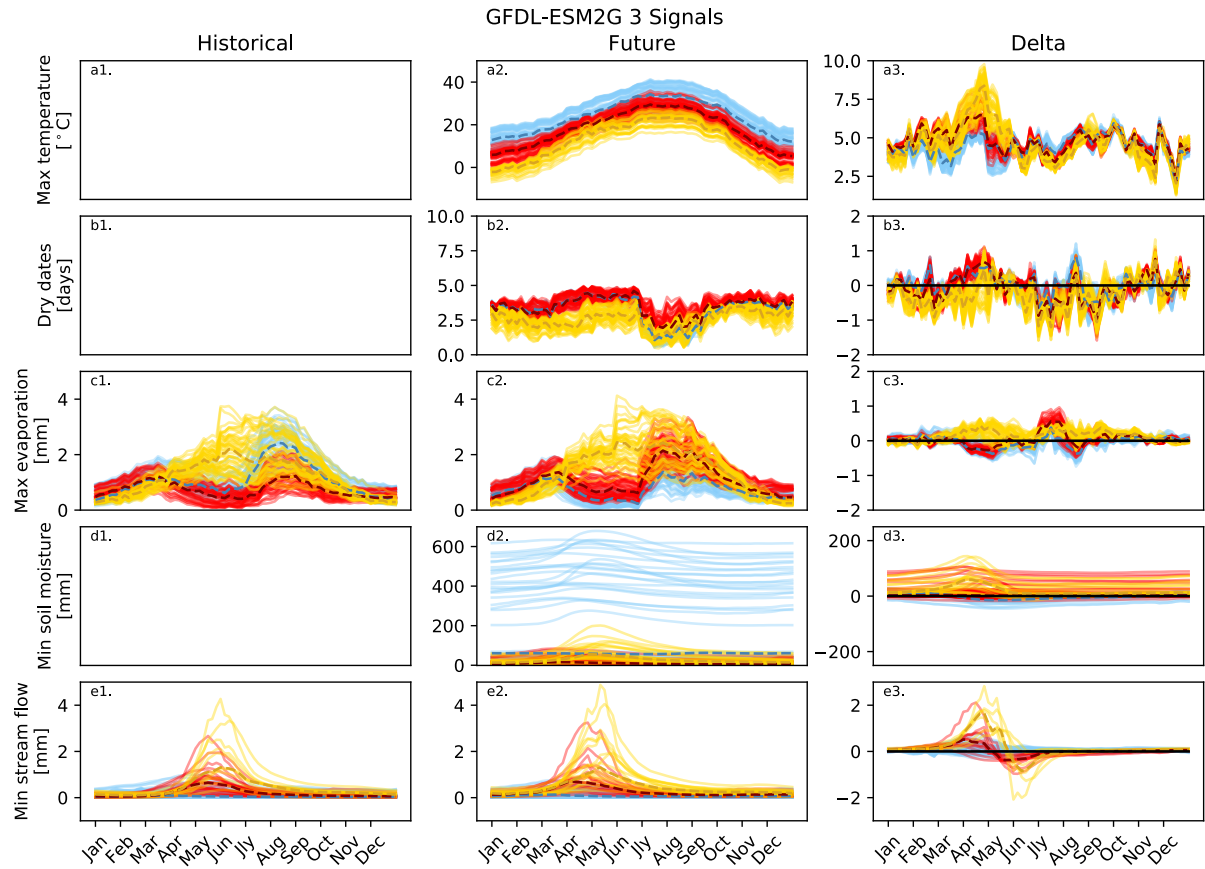
S6: Temporal results of the NMFk clustering at 3 signals for the MPI-ESM-LR model for each time period and the 'delta' between historical and future.

S7: Temporal results of the NMFk clustering at 3 signals for the MIROC-ESM model for each time period and the 'delta' between historical and future.

S8: Temporal results of the NMFk clustering at 3 signals for the GFDL-ESM2M model for each time period and the 'delta' between historical and future.

S9: Temporal results of the NMFk clustering at 3 signals for the GFDL-EMS2G model for each time period and the 'delta' between historical and future.