

Supplementary Materials: This section reports the results also for case study 1, in terms of forecasting in **Error! Reference source not found.** and in terms of variability of the error in **Error! Reference source not found.**

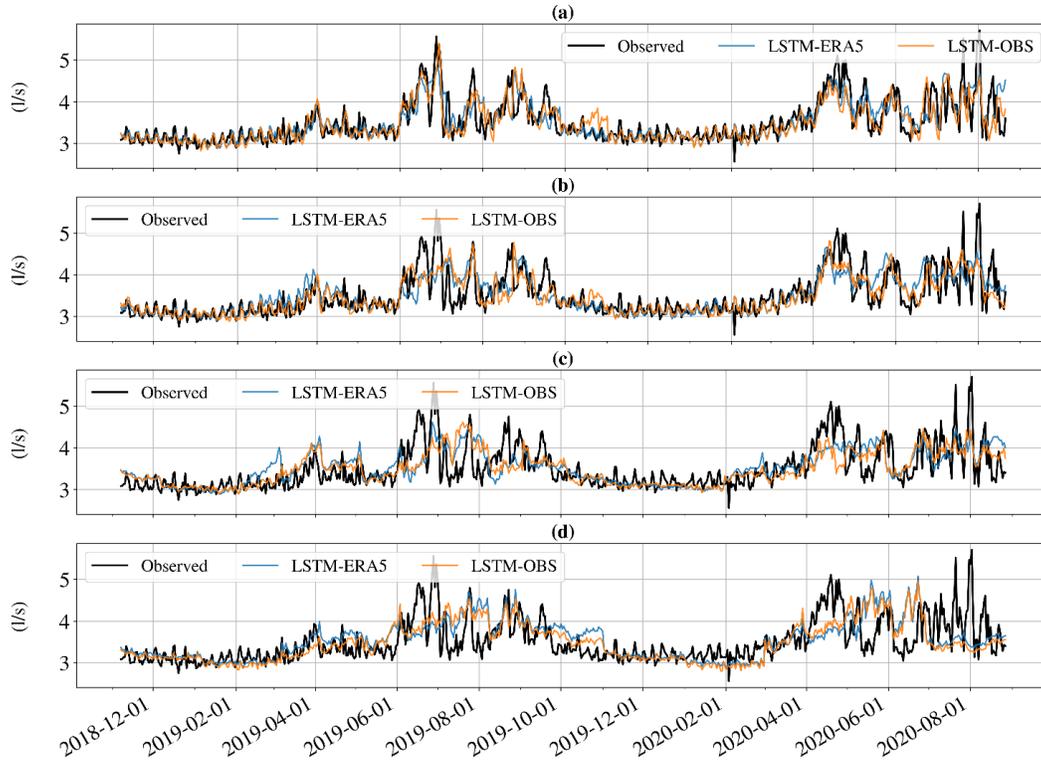


Figure S1. Observed water demand (black) and modelled water demand for LSTM-OBS (orange) and LSTM-ERA5 data (blue) for testing period for case study 1. **(a)** 7 days horizon **(b)** 14 days horizon **(c)** 30 days horizon **(d)** 60 days horizon

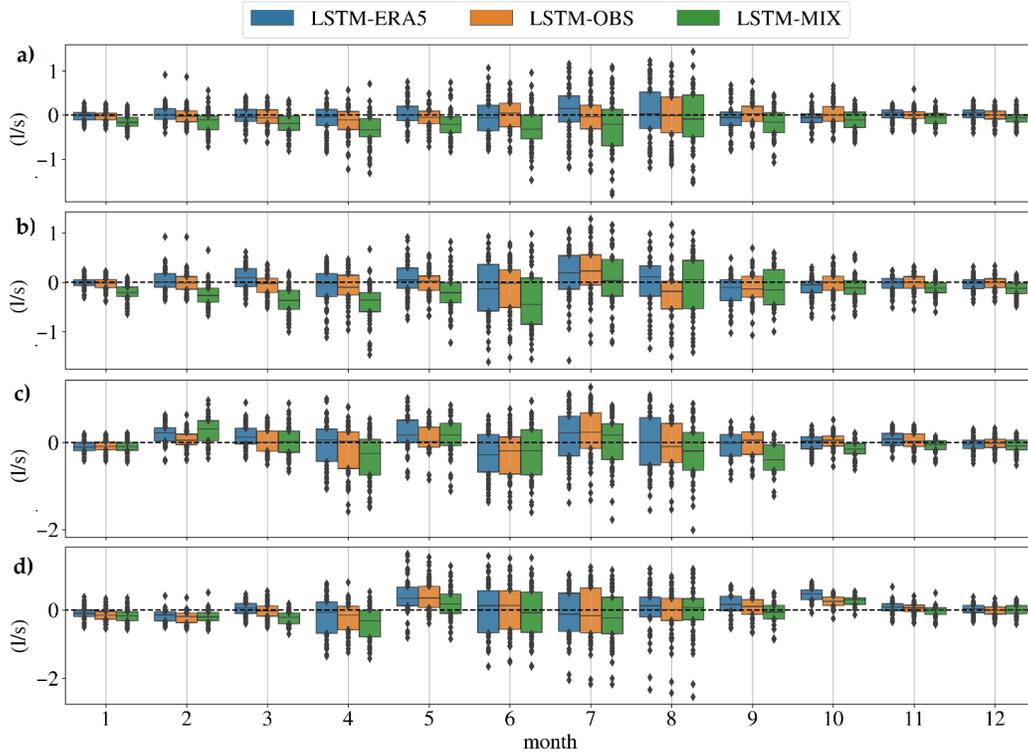


Figure S2. Absolute errors aggregated to the month for case study 1. Modelled absolute errors for LSTM-ERA5 (blue), LSTM-OBS (orange) and LSTM-MIX (green). **(a)** 7 days horizon **(b)** 14 days horizon **(c)** 30 days horizon **(d)** 60 days horizon.