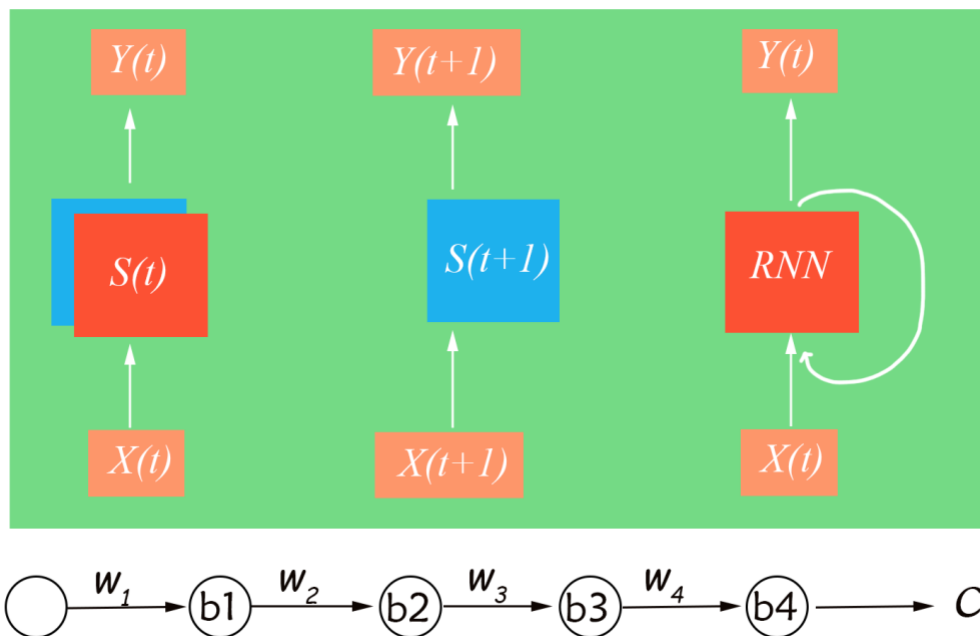
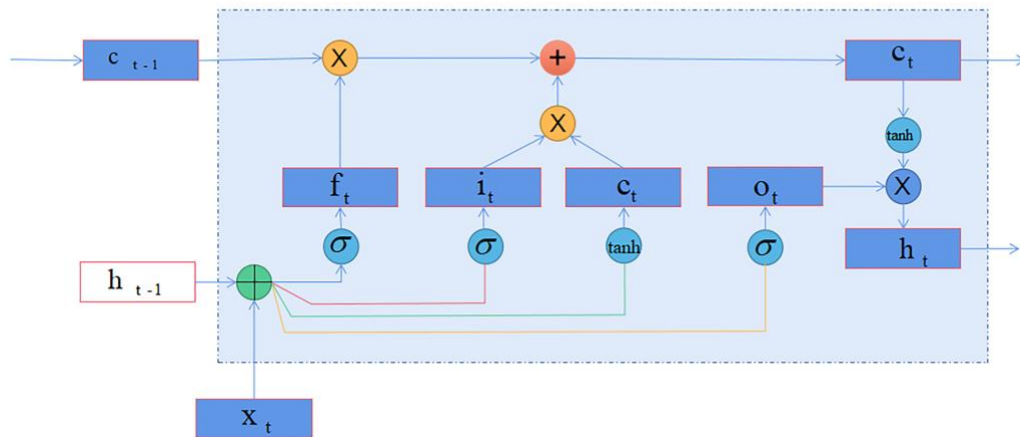


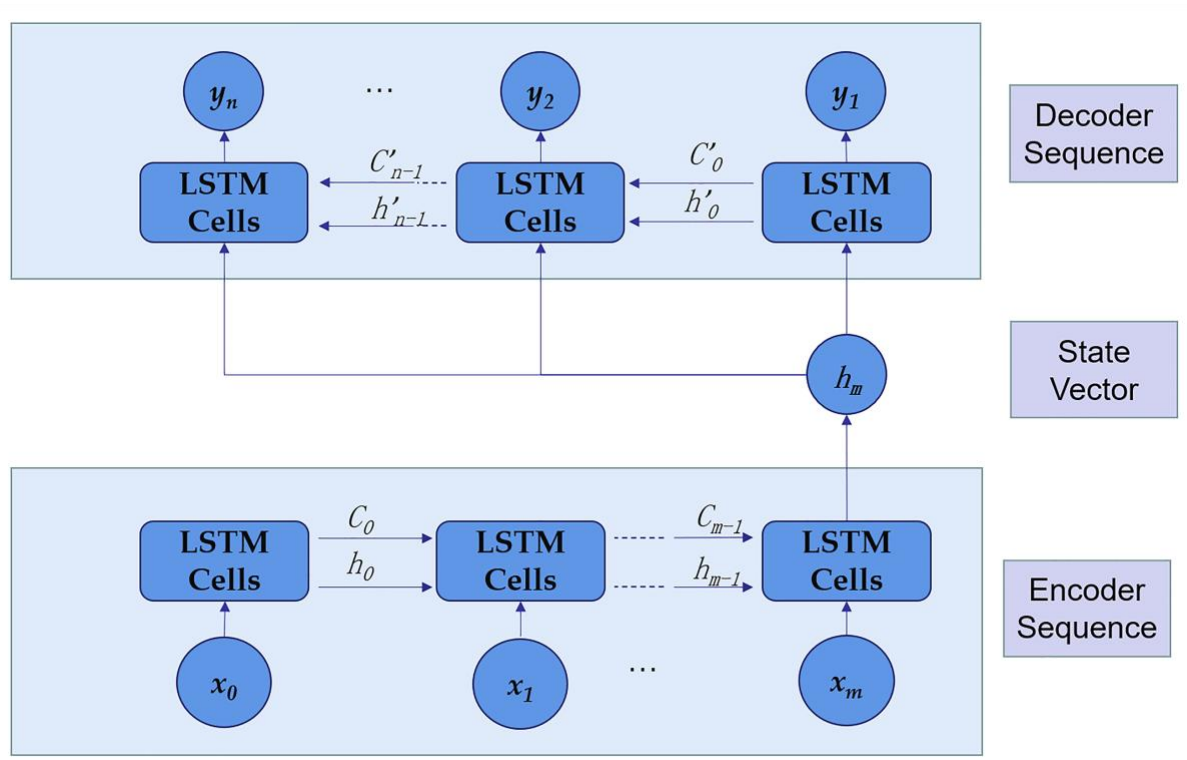
**Fig.1** Study area



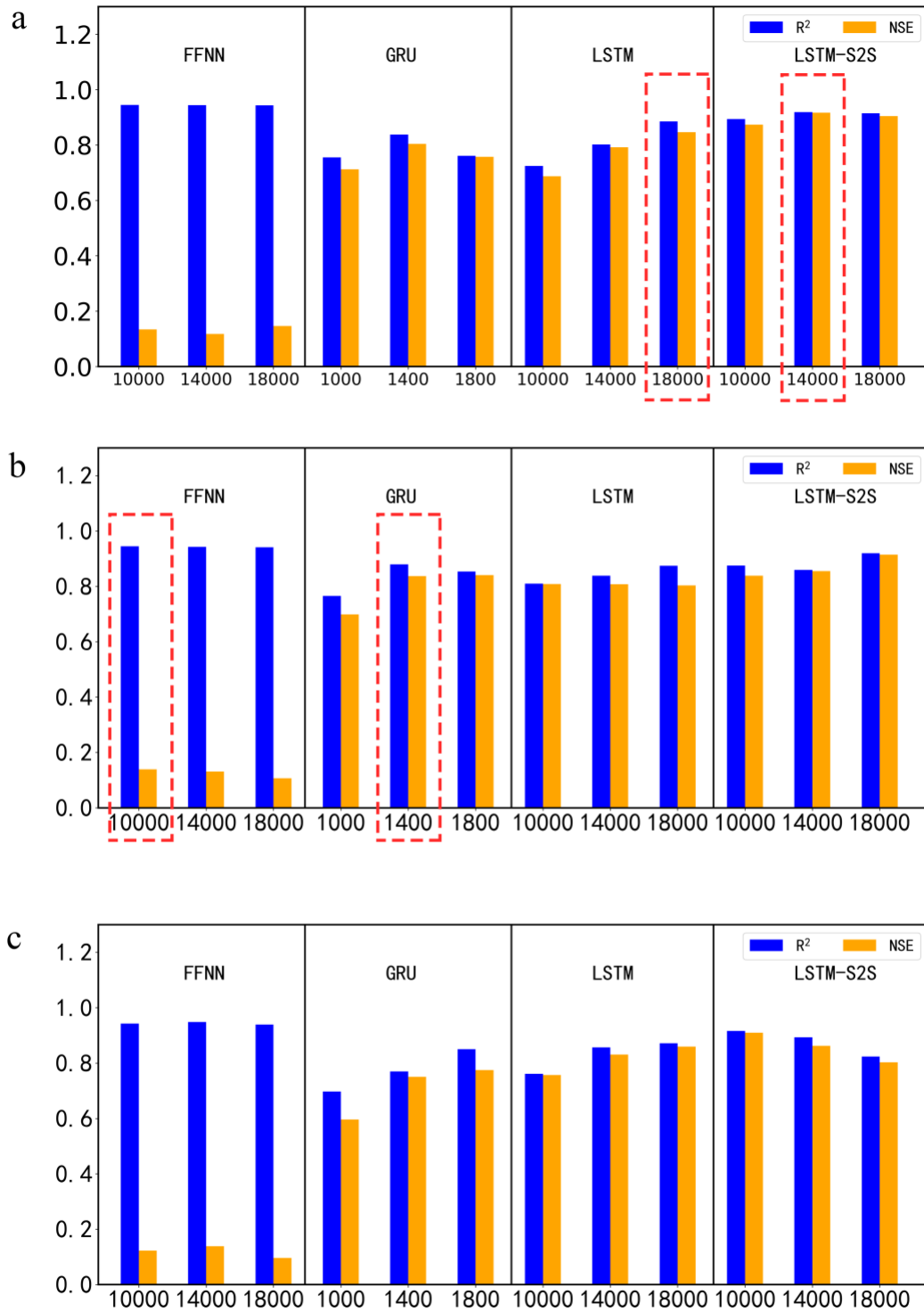
**Fig.2** RNN network



**Fig. 3** LSTM network

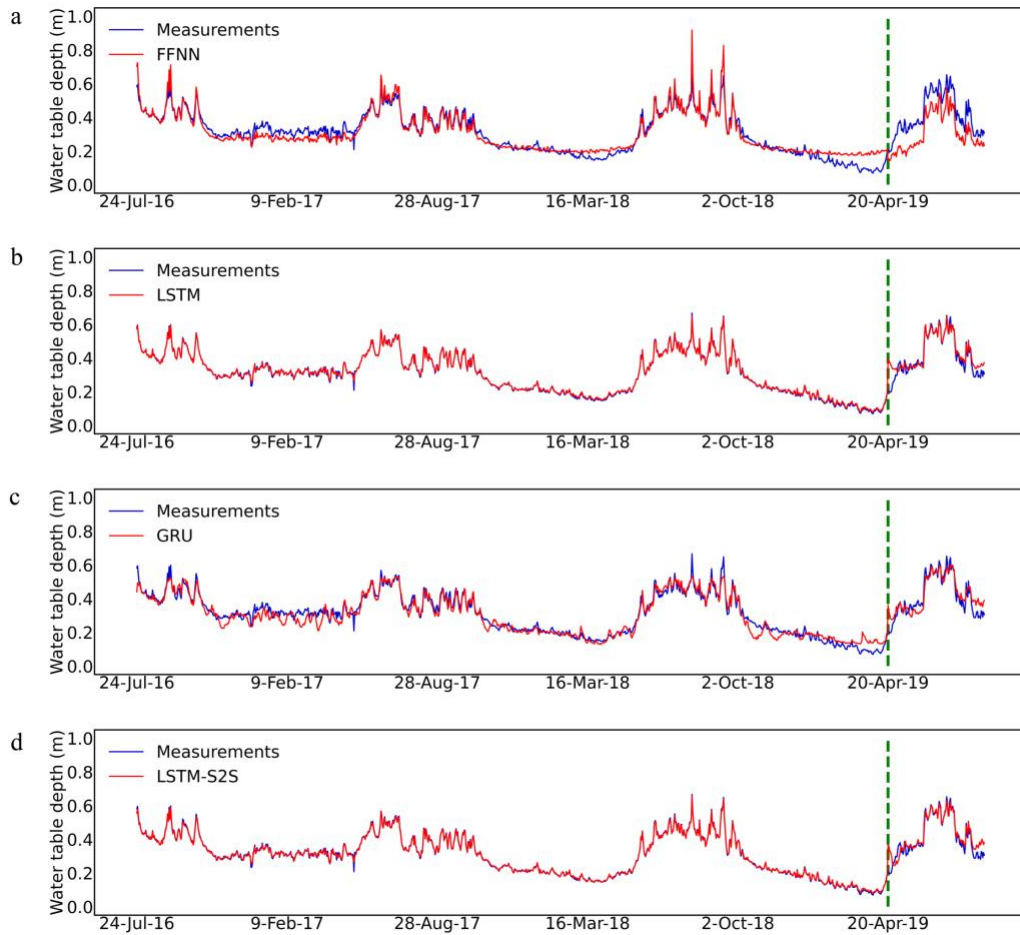


**Fig. 4** LSTM-S2S network

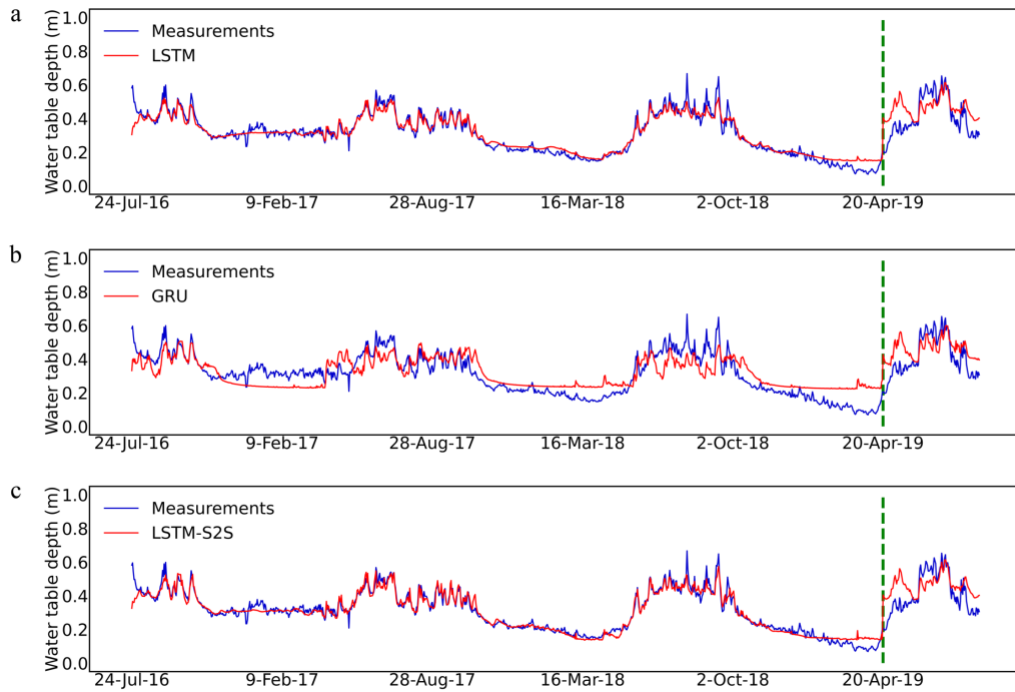


**Fig. 5** Sensitive analysis on daily measured and simulated water table depth using the proposed models: FFNN, LSTM, GRU, LSTM-S2S. a) dropout was 0.3, b) dropout was 0.5,

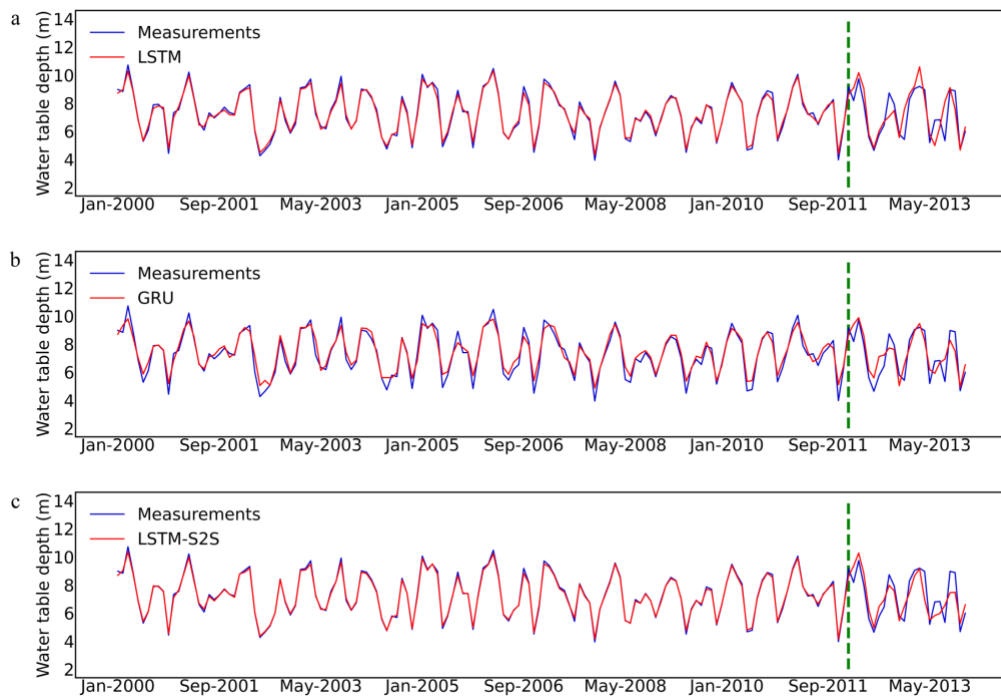
c) dropout was 0.8. The red dashed line selected the best performance in four models. The y label was the iterations in different simulated round.



**Fig. 7** Comparison of daily measured and simulated water table depth using the proposed models based on S1. a) LSTM b) GRU c) LSTM-S2S. The green dash line separates the data into two sets: the training and validating sets.



**Fig. 8** Comparison of daily measured and simulated water table depth using the proposed models based on S2. a) LSTM b) GRU c) LSTM-S2S, the green dash line separates the data into two sets: the training and validating sets.



**Fig.9** Comparison of monthly measured and simulated water table depth using the proposed models. a) GRU b) LSTM c) LSTM-S2S. The green dash line separates the data into two sets: the training and validating sets.