

1 *Supplementary Information for*

2 **Hydrological early warning system based on deep**
3 **learning runoff model coupled with a meteorological**
4 **forecast**

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10 **1. Introduction**

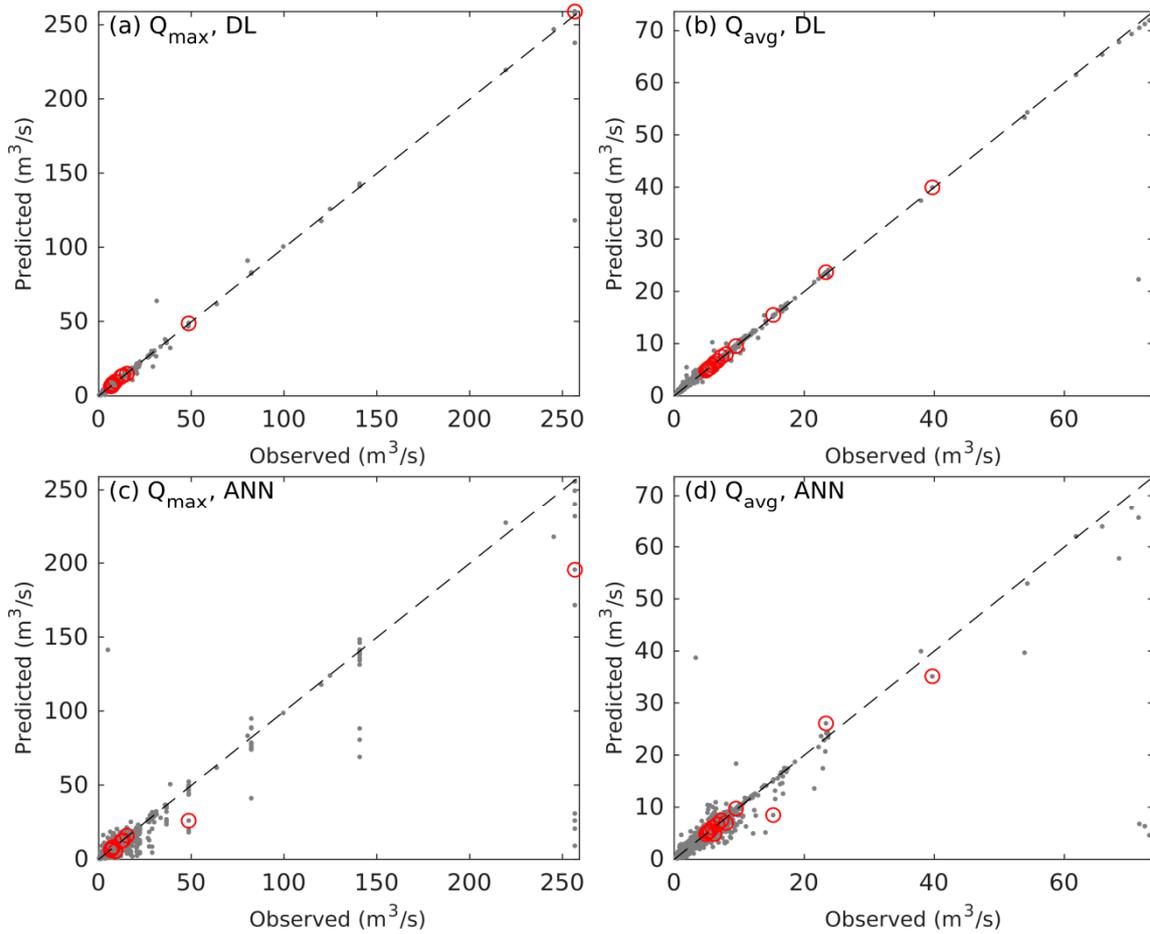
11 In this document we provide the following information:

- 12 • Figures S1 to S8 are to Figures 11 of the manuscript, but for stations 2 to 9.
13 • Figures S9 to S16 are equivalent to Figure 12 of the manuscript, for stations 2 to 9.

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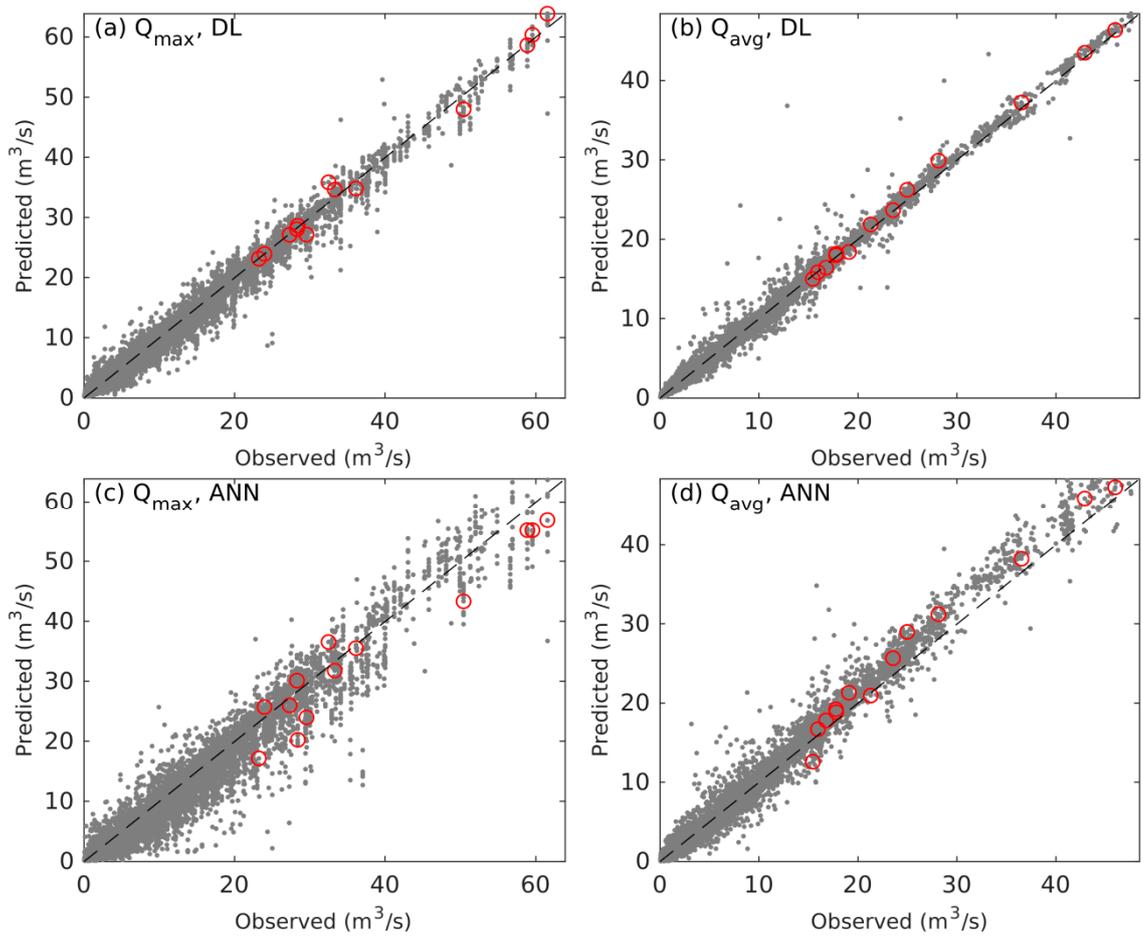
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Figure S1. Station 2. (a) Comparison between observed and predicted Q_{max} for flow station 1 and the DL model. (b) Same as (a) for the average flow Q_{avg} . (c) and (d) same as (a) and (b) for the ANN model. Red open circles define examples plotted in Figure S9.



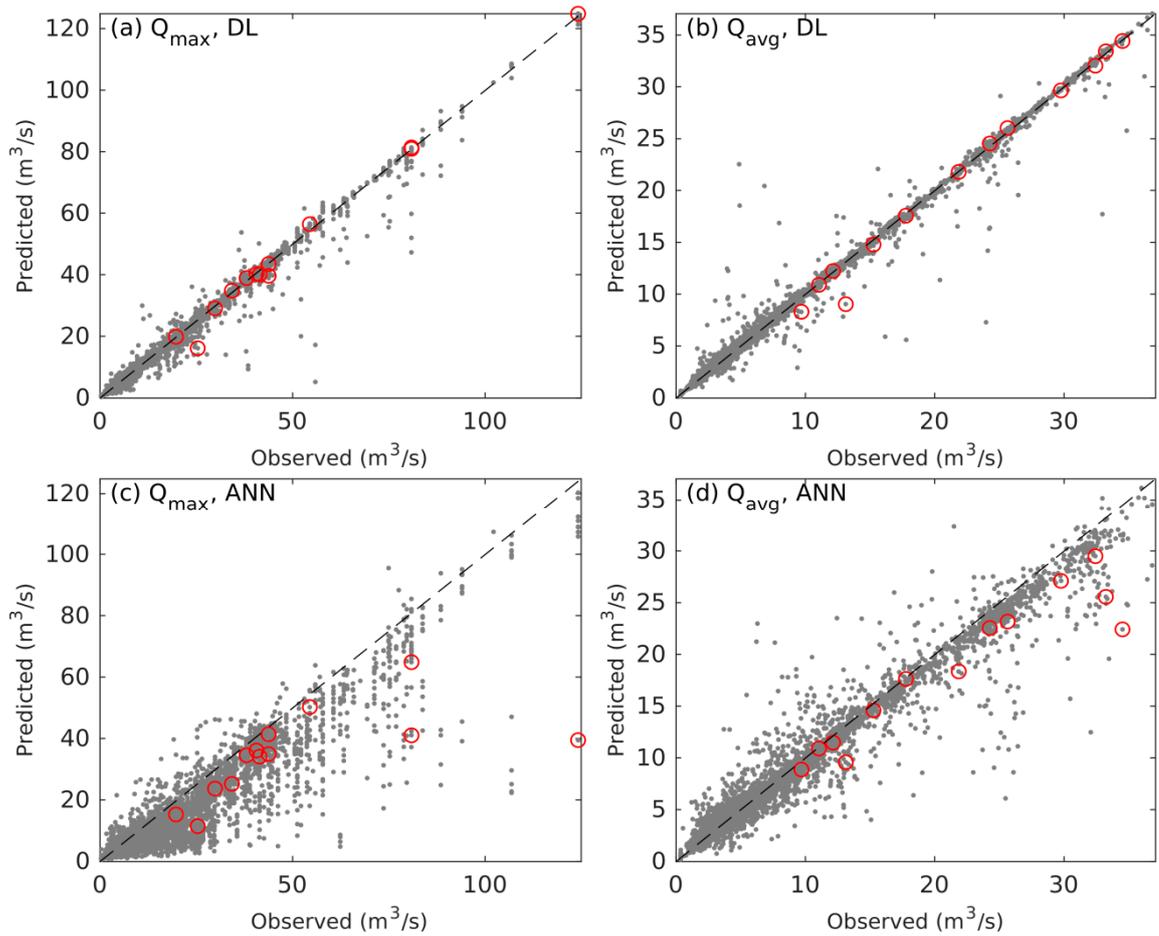
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Figure S2. Station 3. (a) Comparison between observed and predicted Q_{max} for flow station 1 and the DL model. (b) Same as (a) for the average flow Q_{avg} . (c) and (d) same as (a) and (b) for the ANN model. Red open circles define examples plotted in Figure S10



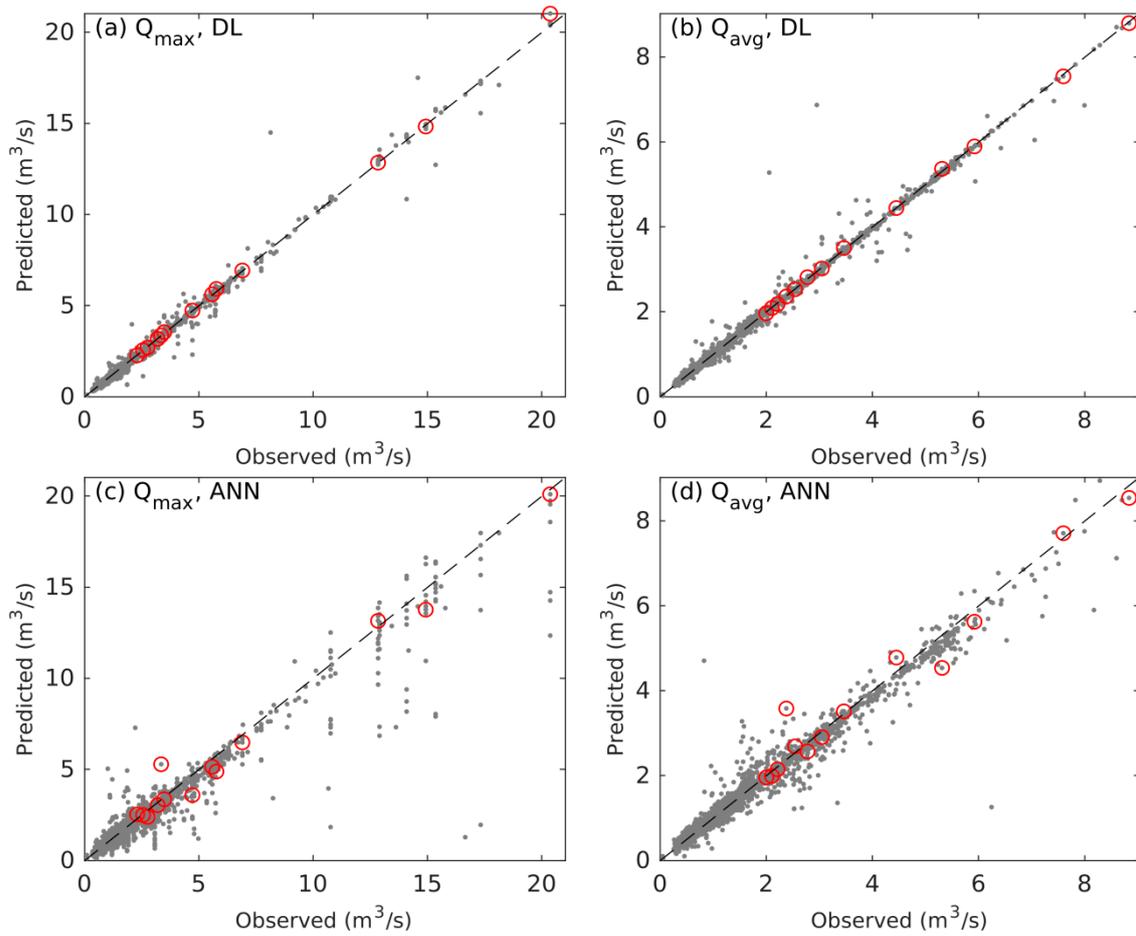
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Figure S3. Station 4. (a) Comparison between observed and predicted Q_{max} for flow station 1 and the DL model. (b) Same as (a) for the average flow Q_{avg} . (c) and (d) same as (a) and (b) for the ANN model. Red open circles define examples plotted in Figure S11.



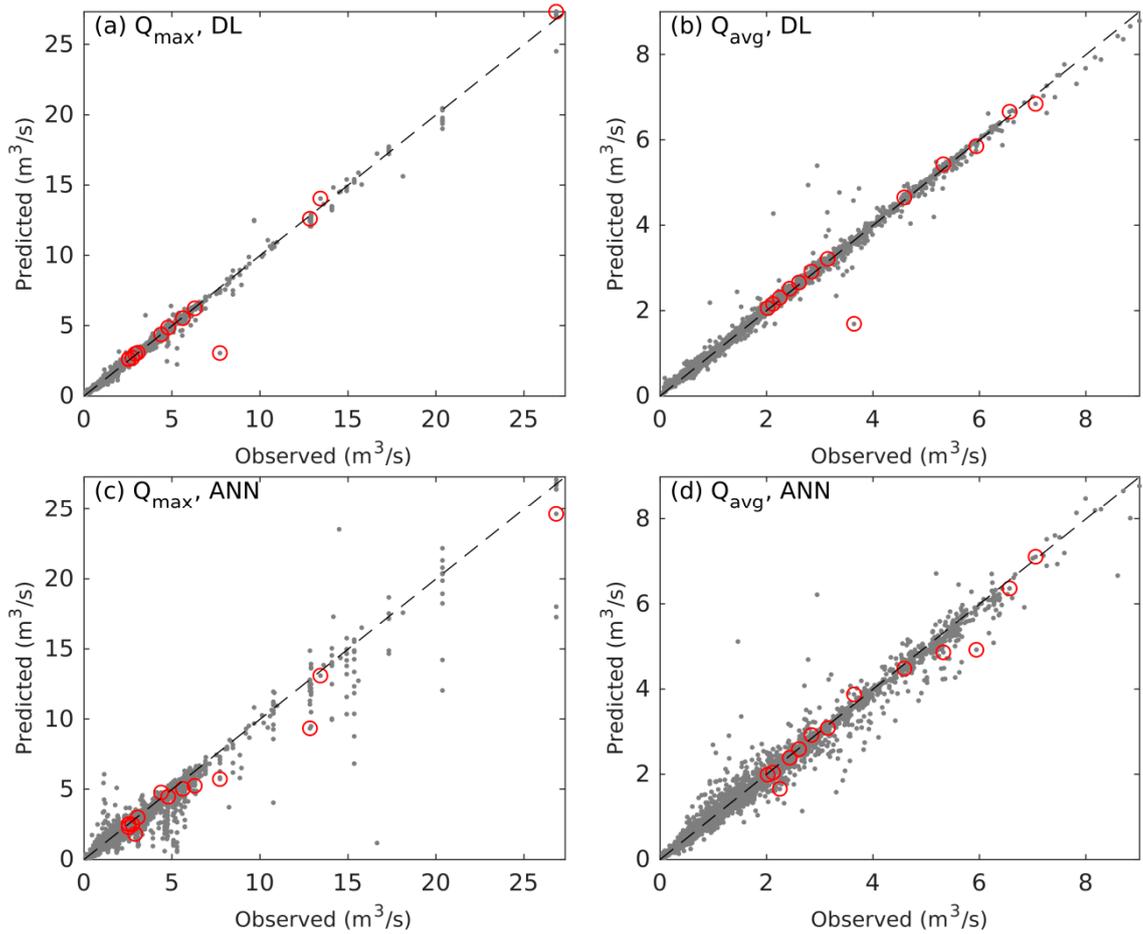
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Figure S4. Station 5. (a) Comparison between observed and predicted Q_{max} for flow station 1 and the DL model. (b) Same as (a) for the average flow Q_{avg} . (c) and (d) same as (a) and (b) for the ANN model. Red open circles define examples plotted in Figure S12



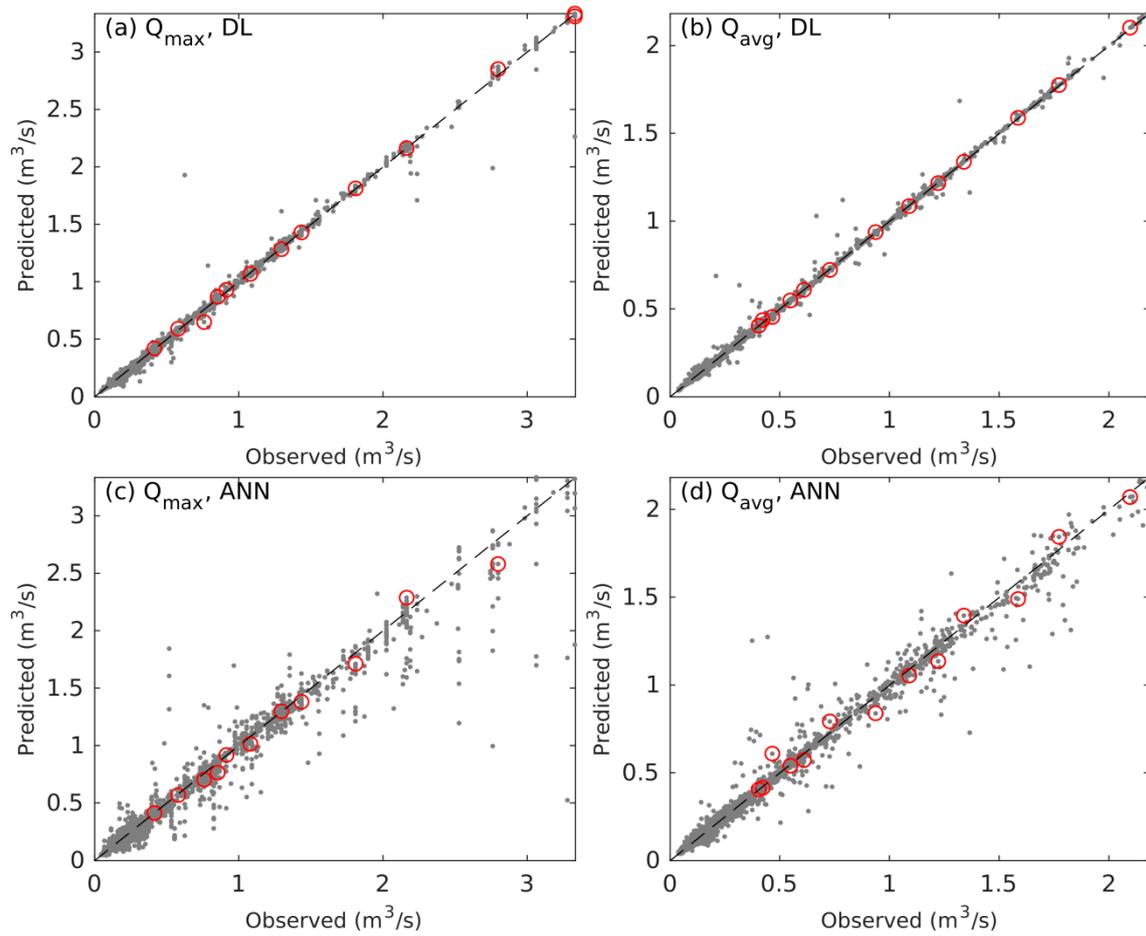
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Figure S5. Station 6. (a) Comparison between observed and predicted Q_{max} for flow station 1 and the DL model. (b) Same as (a) for the average flow Q_{avg} . (c) and (d) same as (a) and (b) for the ANN model. Red open circles define examples plotted in Figure S13.



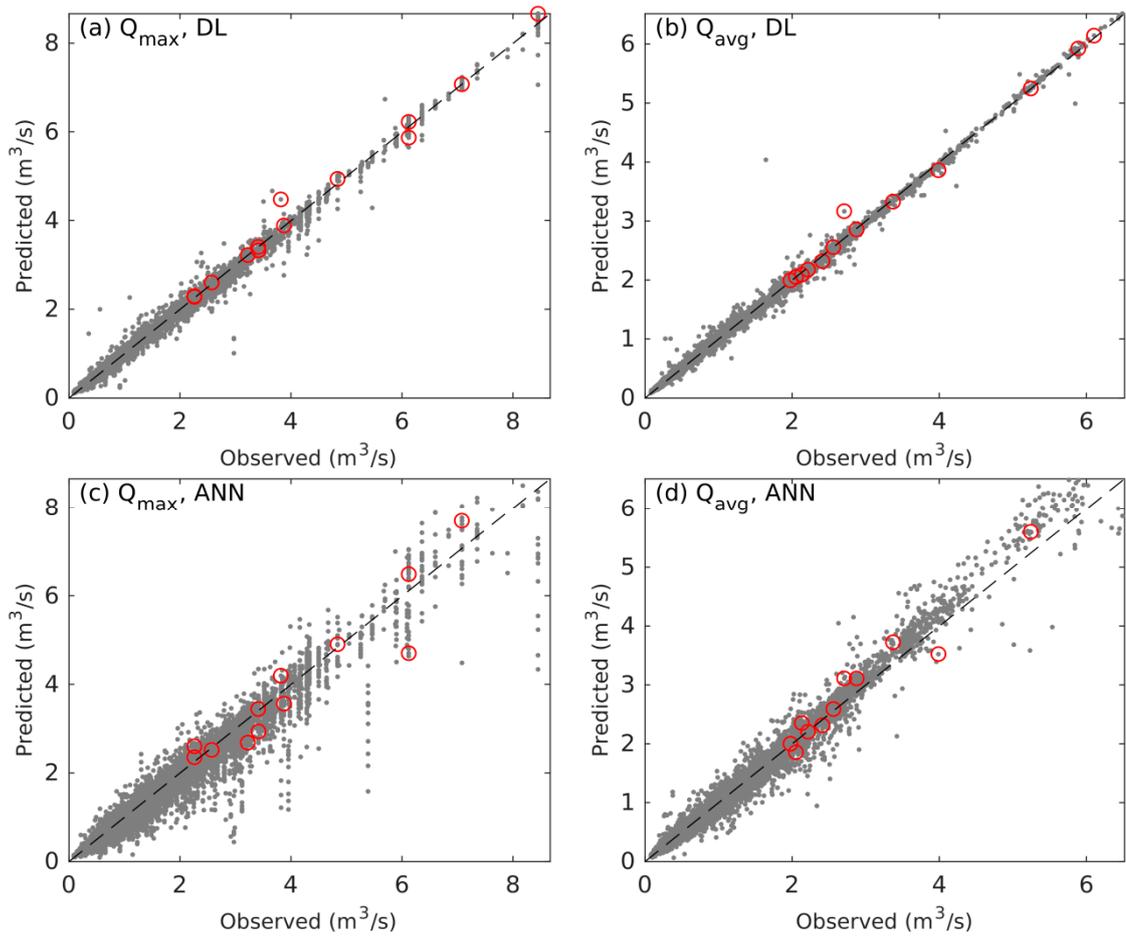
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Figure S6. Station 7. (a) Comparison between observed and predicted Q_{max} for flow station 1 and the DL model. (b) Same as (a) for the average flow Q_{avg} . (c) and (d) same as (a) and (b) for the ANN model. Red open circles define examples plotted in Figure S14.



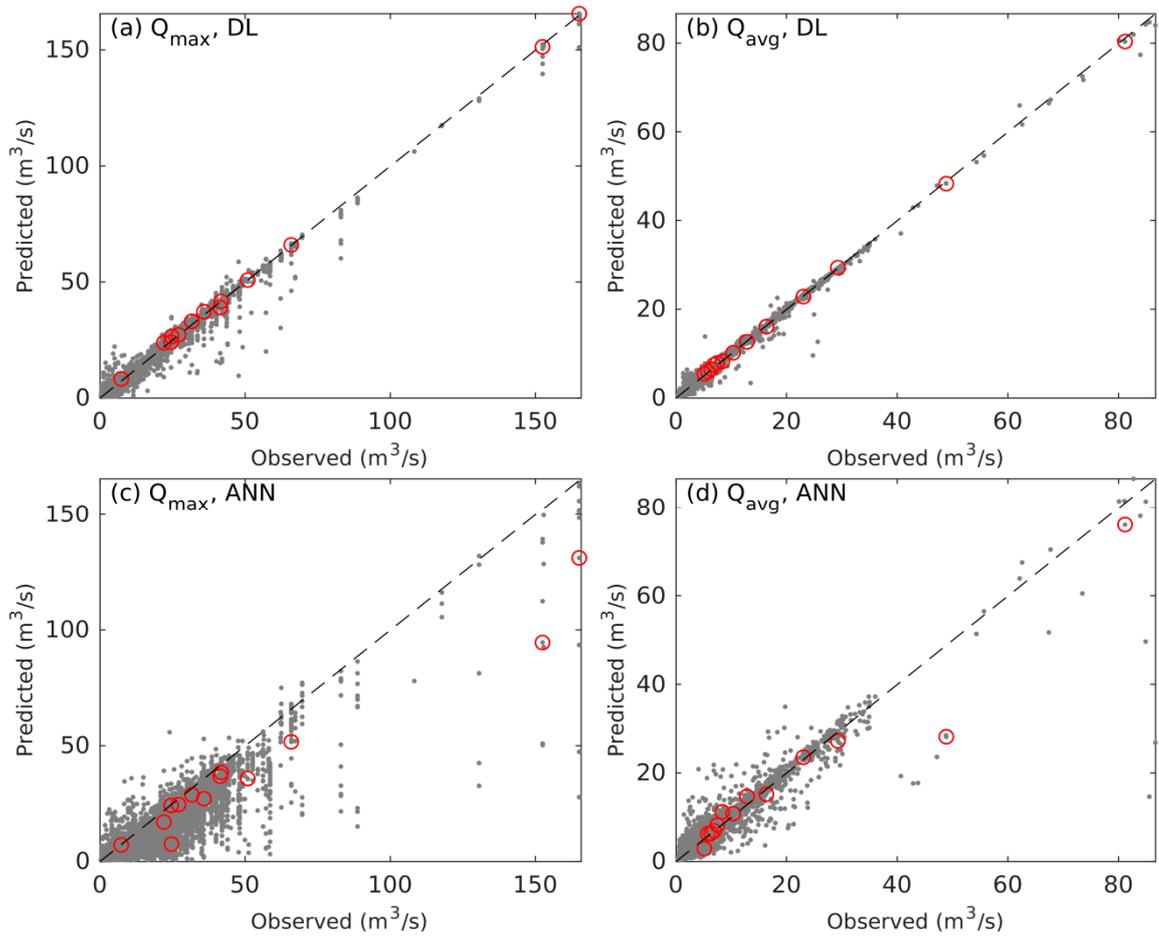
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Figure S7. Station 8. (a) Comparison between observed and predicted Q_{max} for flow station 1 and the DL model. (b) Same as (a) for the average flow Q_{avg} . (c) and (d) same as (a) and (b) for the ANN model. Red open circles define examples plotted in Figure S15.



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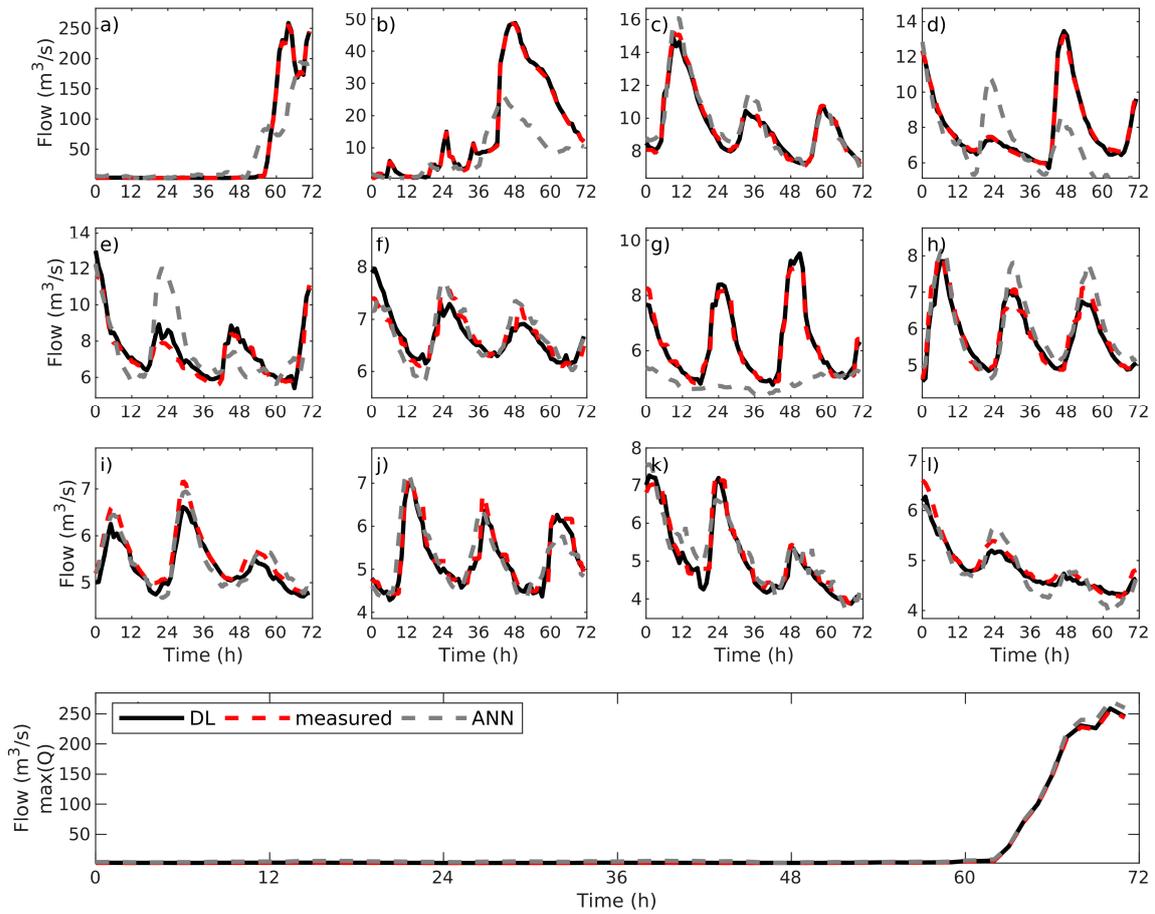
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Figure S8. Station 9. (a) Comparison between observed and predicted Q_{max} for flow station 1 and the DL model. (b) Same as (a) for the average flow Q_{avg} . (c) and (d) same as (a) and (b) for the ANN model. Red open circles define examples plotted in Figure S16.

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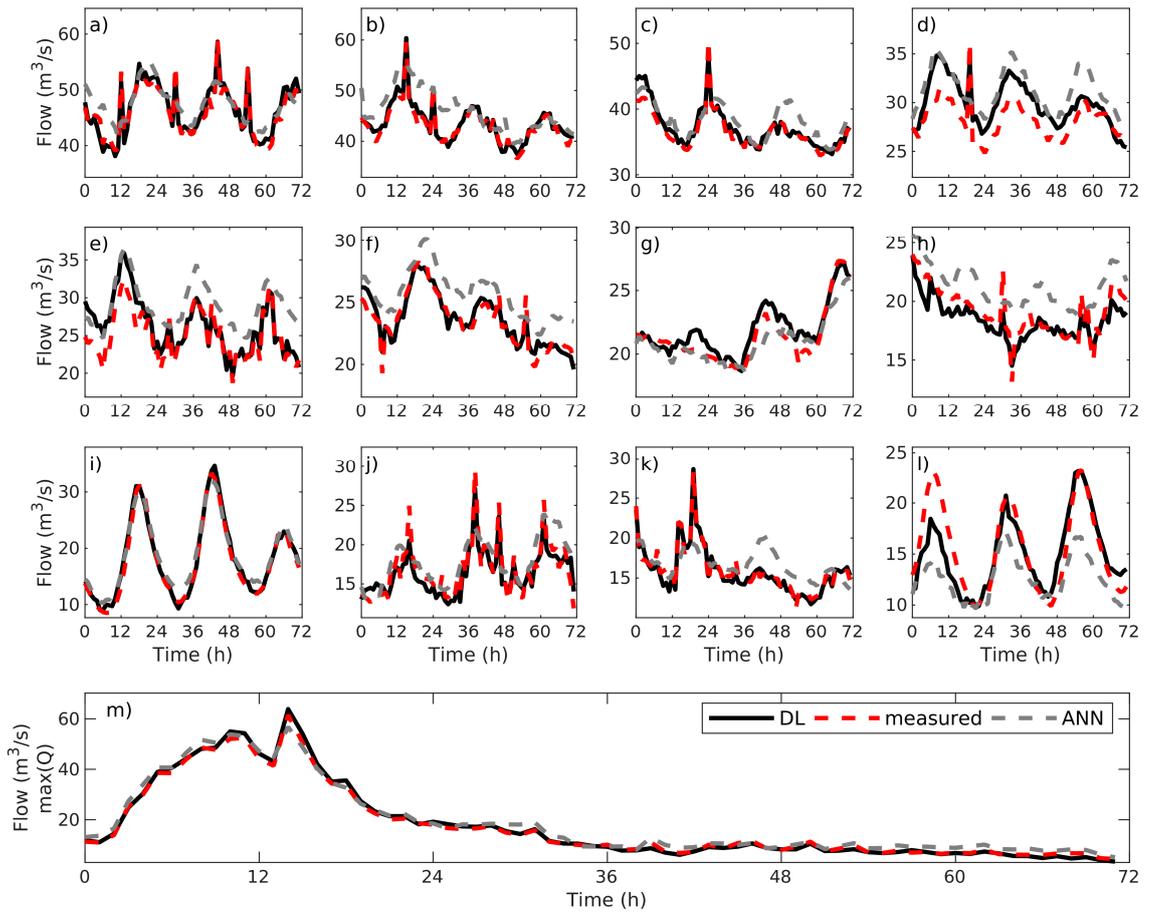
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Figure S9. Station 2. Comparison between predicted and observed flow for different cases identified with red open circles in Figure S1. (m) plots predicted and observed time-series for the event with maximum flow.



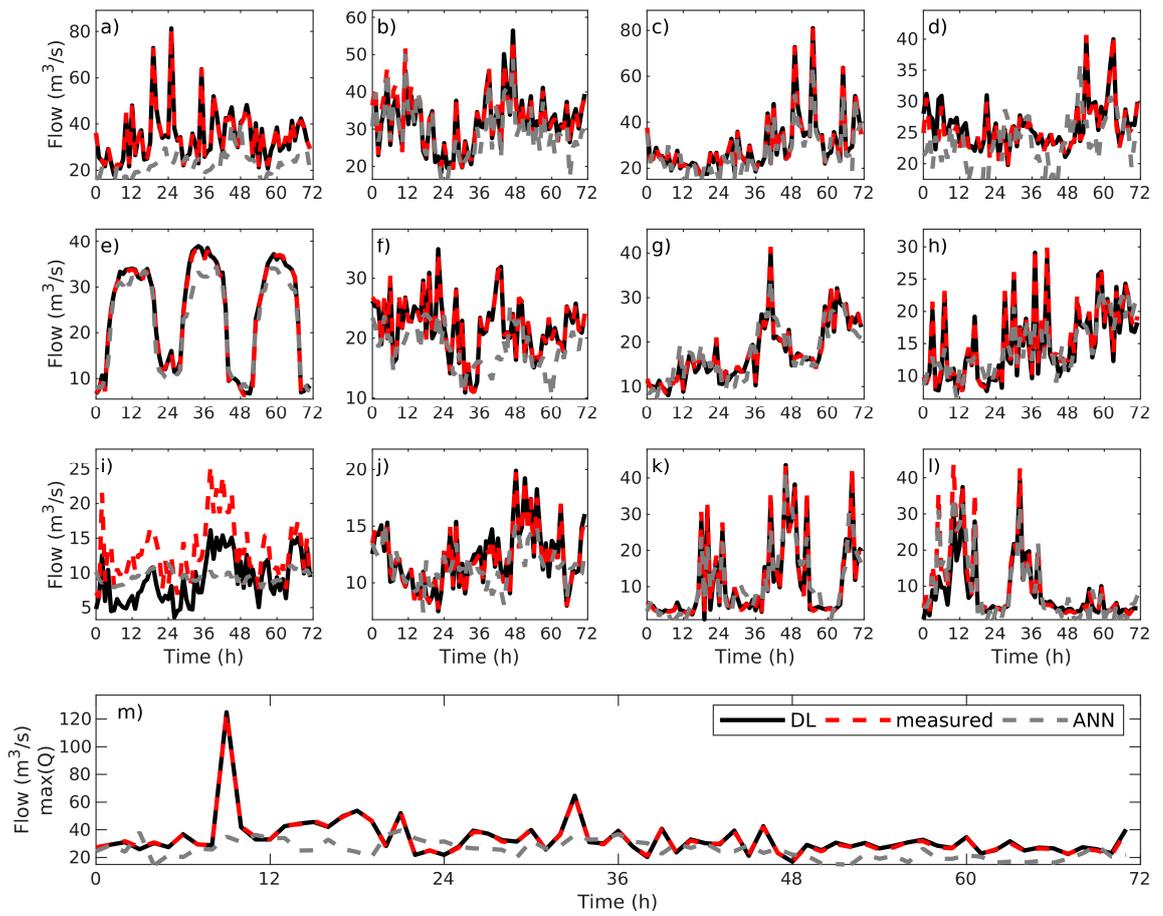
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Figure S10. Station 3. Comparison between predicted and observed flow for different cases identified with red open circles in Figure S2. (m) plots predicted and observed time-series for the event with maximum flow.



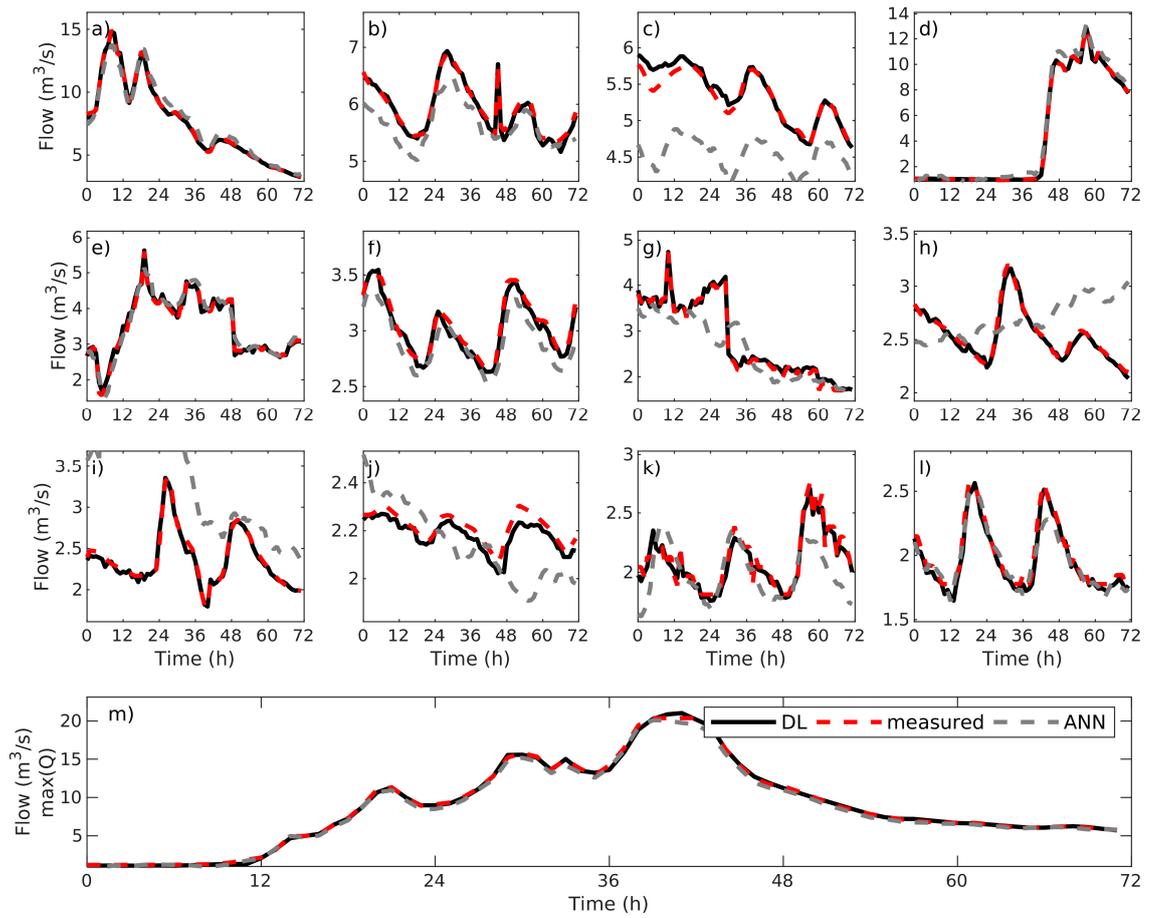
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Figure S11. Station 4. Comparison between predicted and observed flow for different cases identified with red open circles in Figure S3. (m) plots predicted and observed time-series for the event with maximum flow.



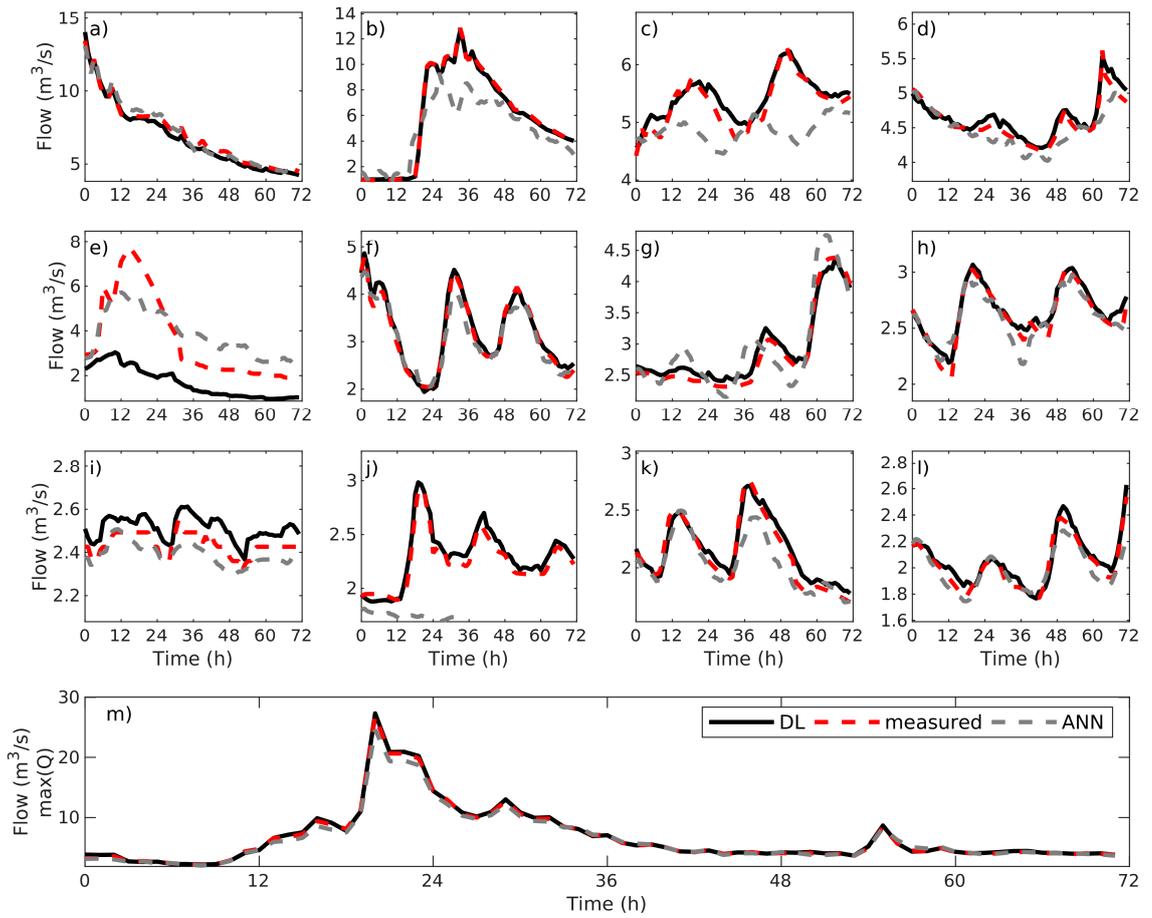
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Figure S12. Station 5. Comparison between predicted and observed flow for different cases identified with red open circles in Figure S4. (m) plots predicted and observed time-series for the event with maximum flow.



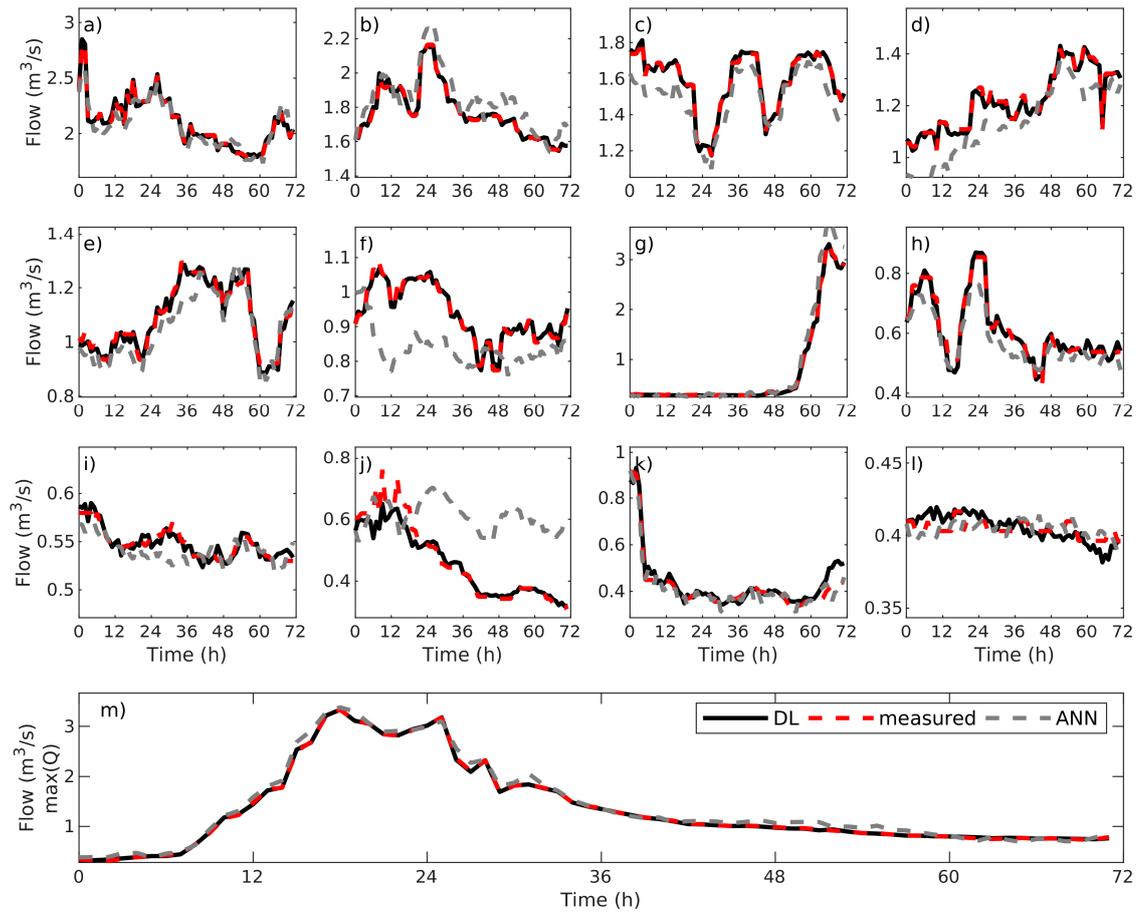
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Figure S13. Station 6. Comparison between predicted and observed flow for different cases identified with red open circles in Figure S5. (m) plots predicted and observed time-series for the event with maximum flow.



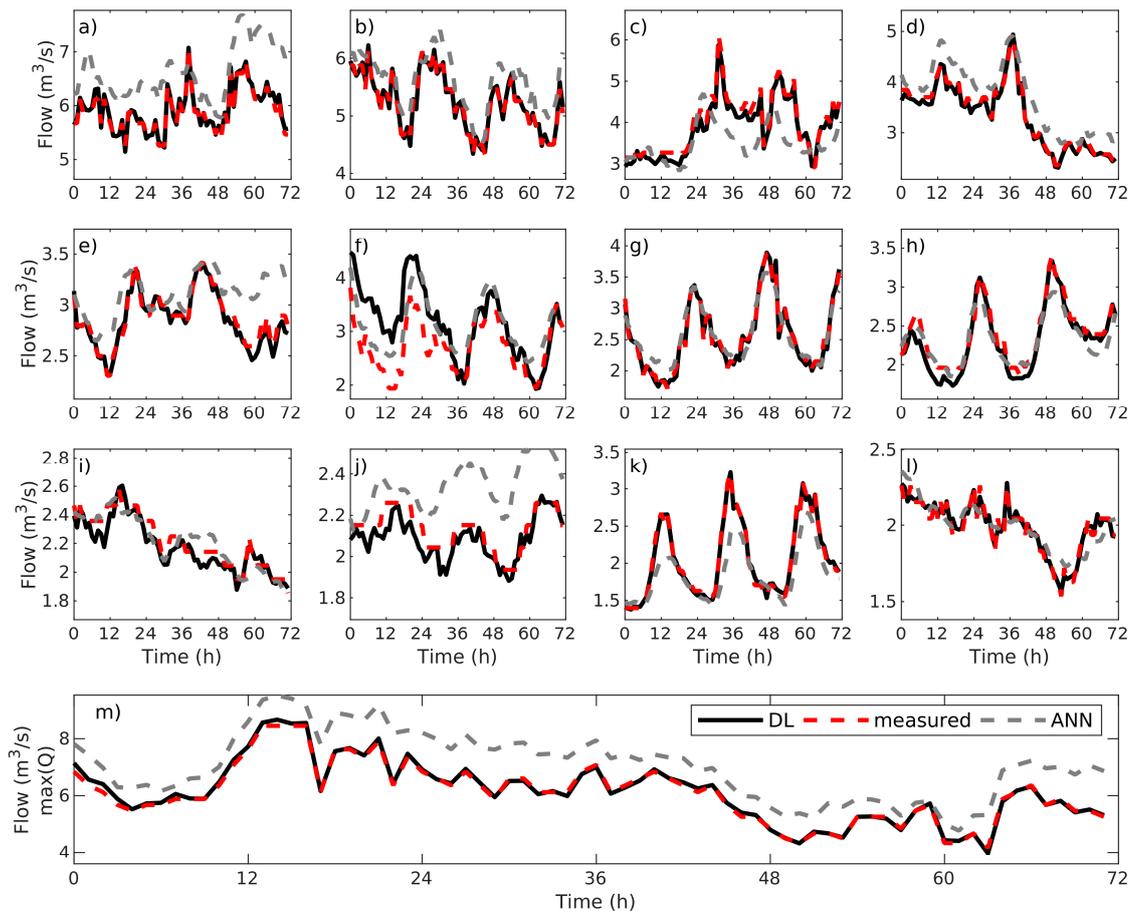
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Figure S14. Station 7. Comparison between predicted and observed flow for different cases identified with red open circles in Figure S6. (m) plots predicted and observed time-series for the event with maximum flow.



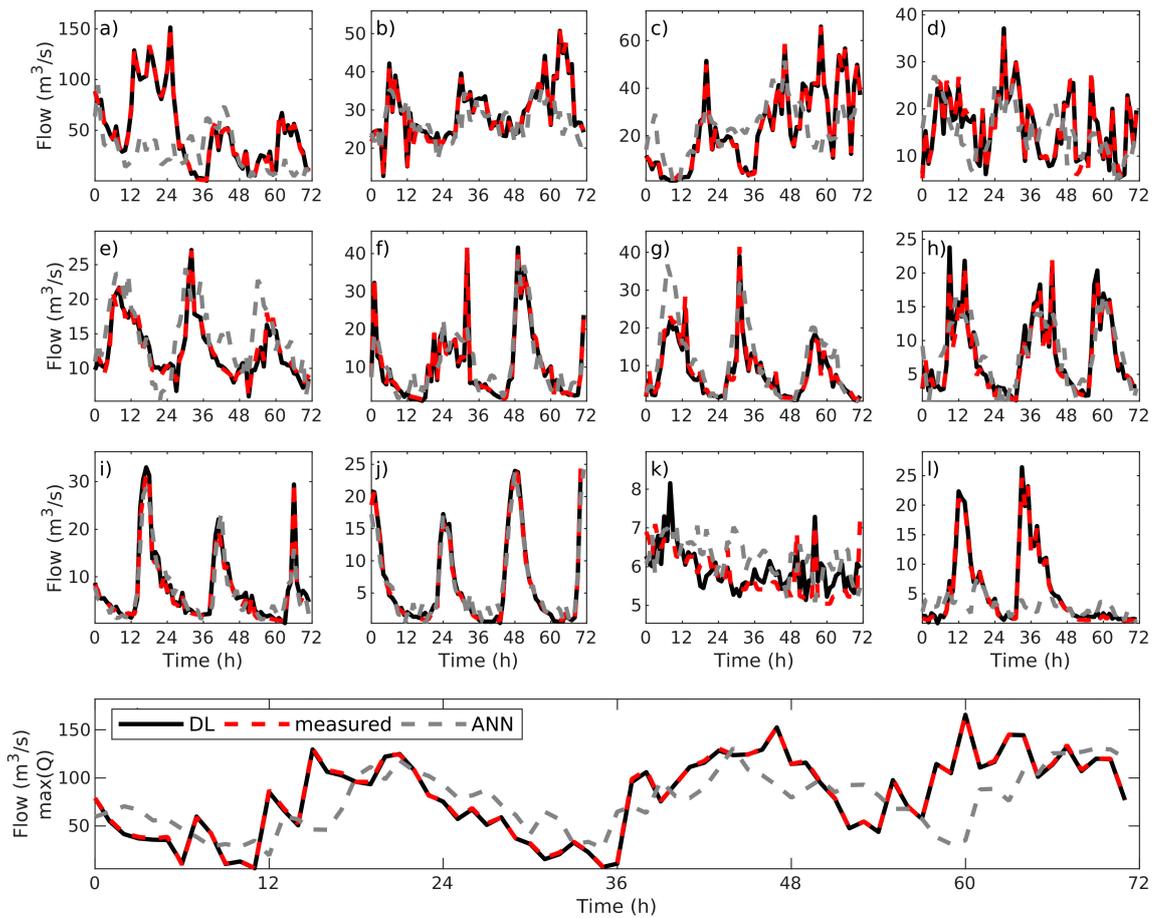
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Figure S15. Station 8. Comparison between predicted and observed flow for different cases identified with red open circles in Figure S7. (m) plots predicted and observed time-series for the event with maximum flow.



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Figure S16. Station 9. Comparison between predicted and observed flow for different cases identified with red open circles in Figure S8. (m) plots predicted and observed time-series for the event with maximum flow.

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