

Figure captions

Fig 1. The location of study area.

Fig 2. Coupling flow chart.

Fig 3. The distribution curve of infiltration capacity for the Green-Ampt model. f'

represents the infiltration capacity at a certain location. a' is the area where the infiltration capacity is less than or equal to f' . A is the total area of study area.

Fig 4. rainfall-runoff relation. (a) case 1 (b) case 2 (c) case 3 (d) case 4 (e) case 5 (f) case 6 (g) case 7. P means precipitation; R1 is the surface runoff on the permeable surface; R2 is the surface runoff on the impermeable surface; Rz is the average surface runoff in the study area.

Fig 5. Relationships between observed values and simulated values. The rainfall events are: (a) case 1, (b) case 2, (c) case 3, (d) case 4, (e) case 5, (f) case 6, and (g) case 7.

Fig 6. Soil water infiltration and soil moisture content changes with time. FA means the actual infiltration. (a) case 1, (b) case 2, (c) case 3, (d) case 4, (e) case 5, (f) case 6, and (g) case 7.

Fig 7. Relationship diagram of various hydrological elements. VGR means the vertical groundwater recharge. W means the soil water storage. Kc means the

saturated soil hydraulic conductivity of the improved Green-Ampt model.

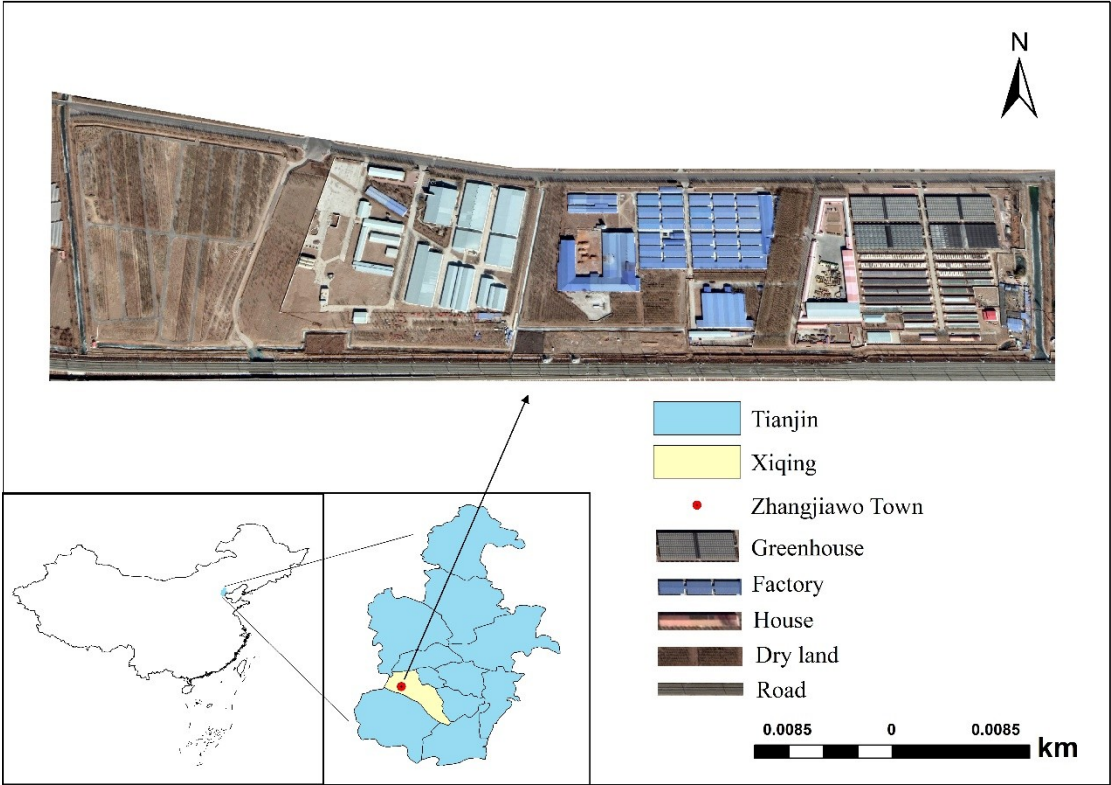


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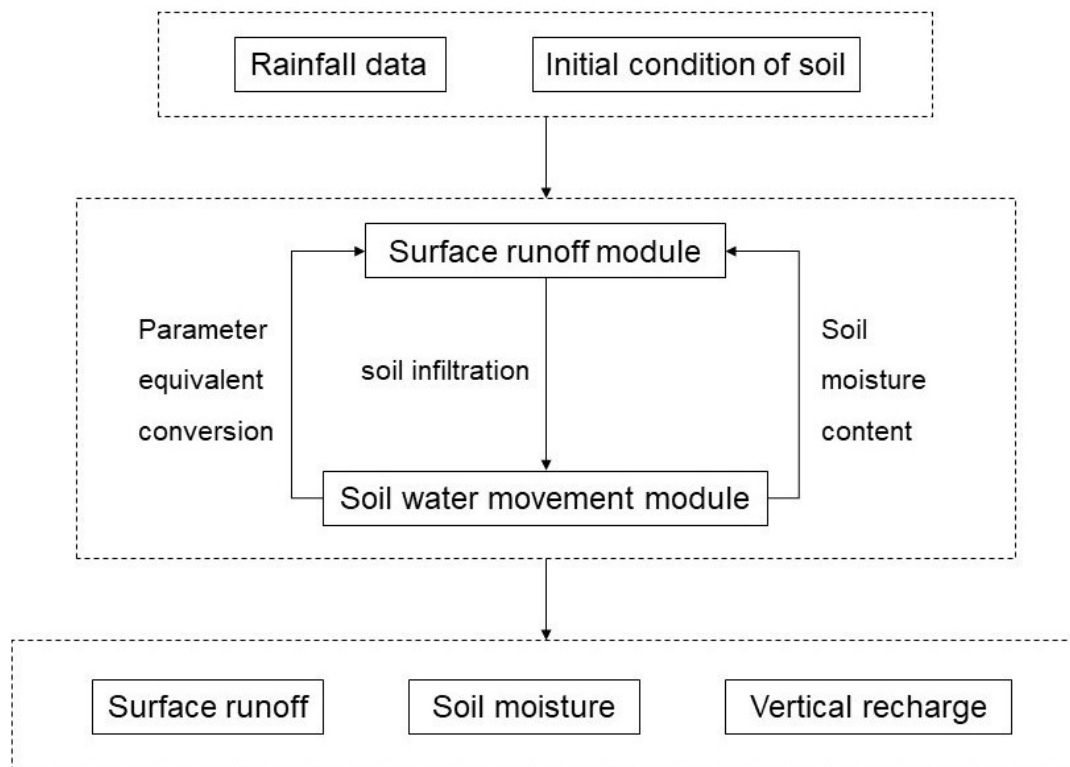


Fig 2. Coupling flow chart.

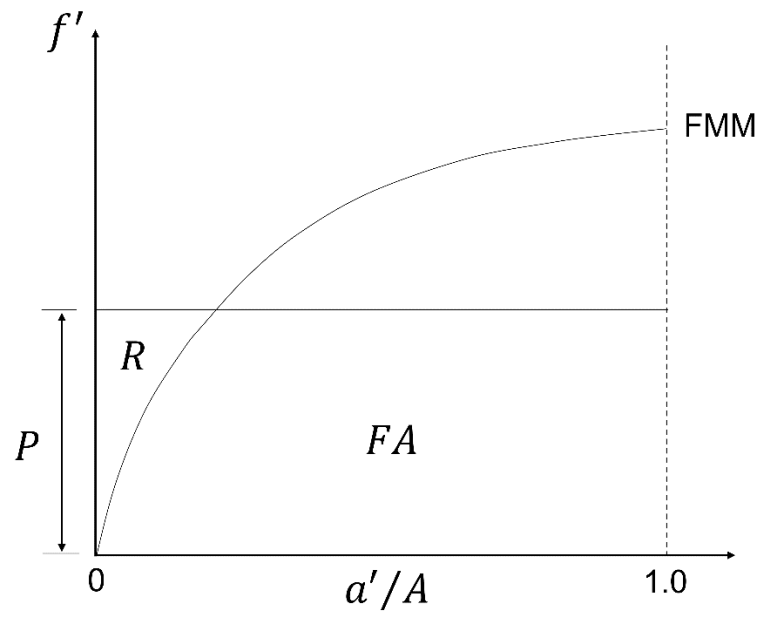


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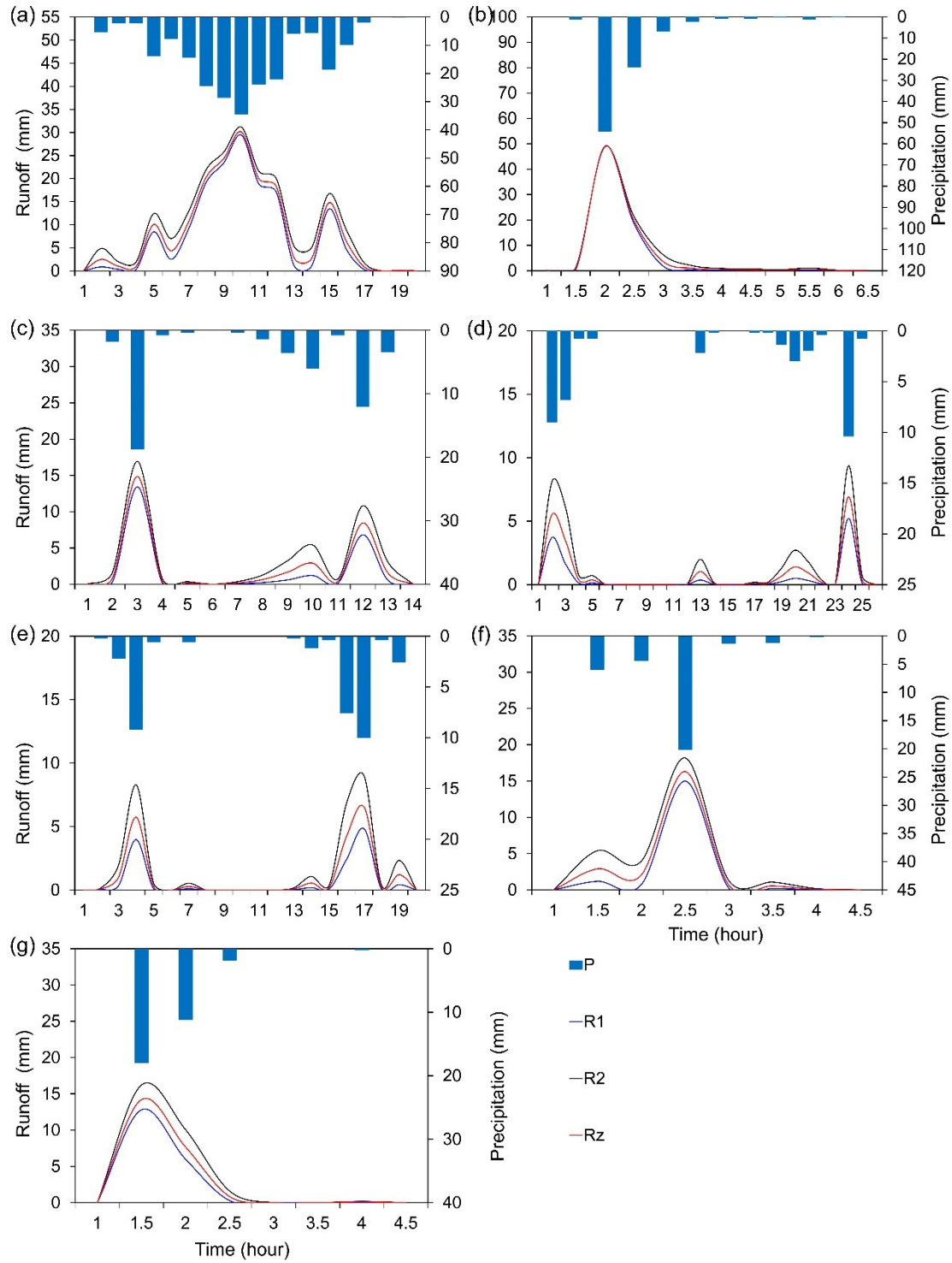


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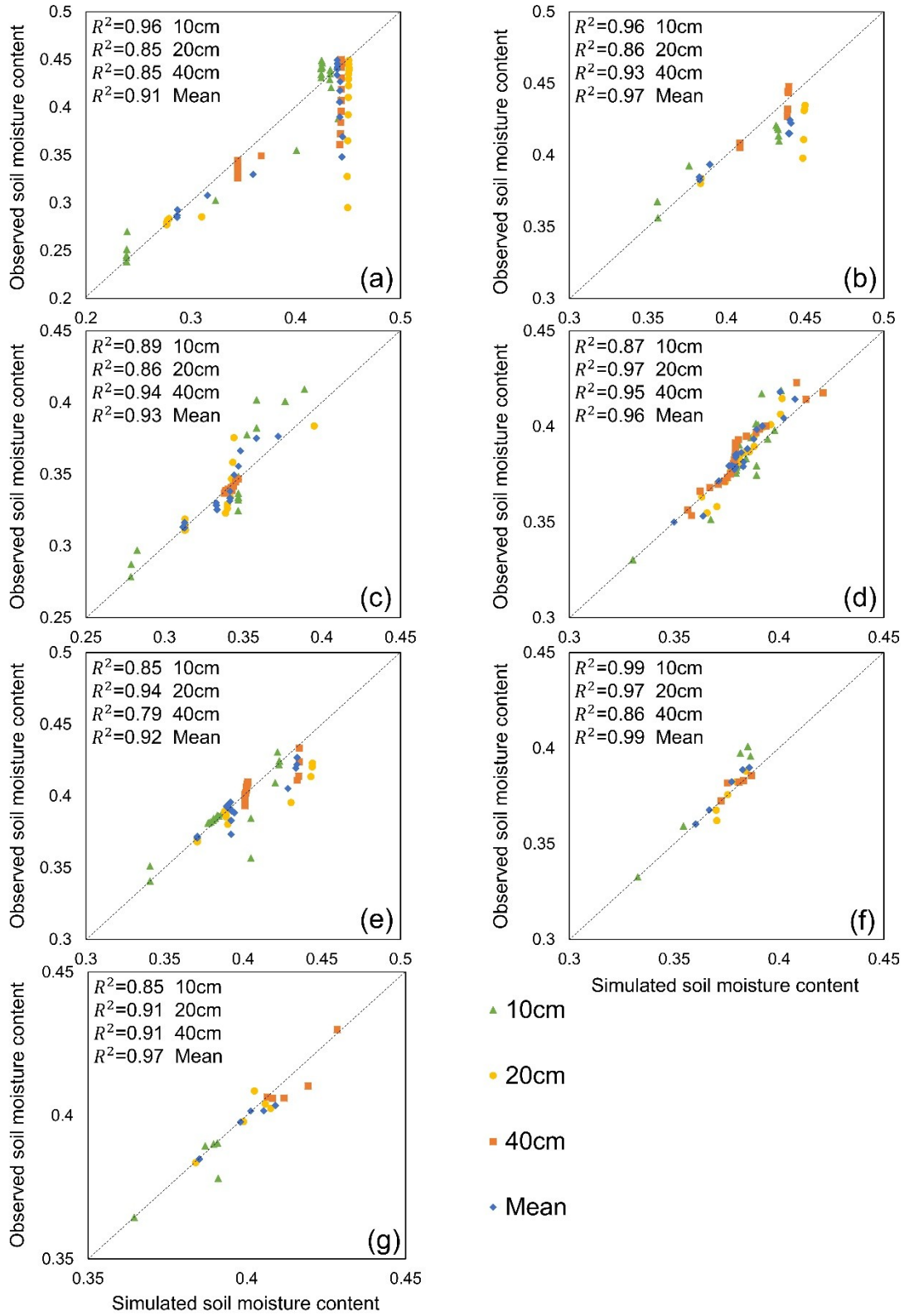


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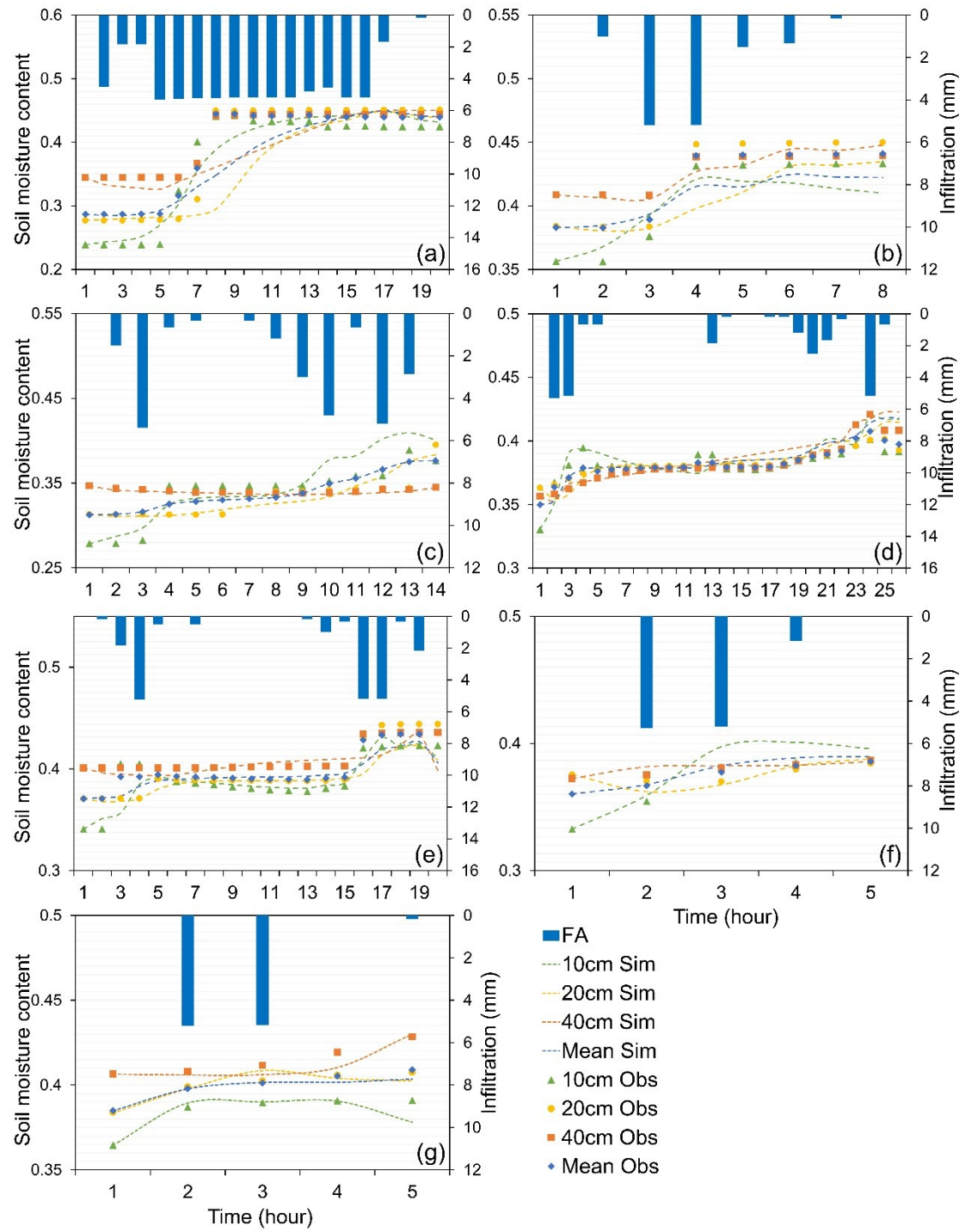


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