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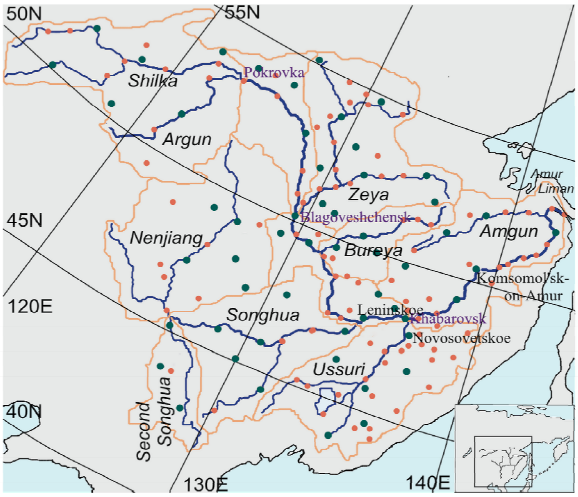
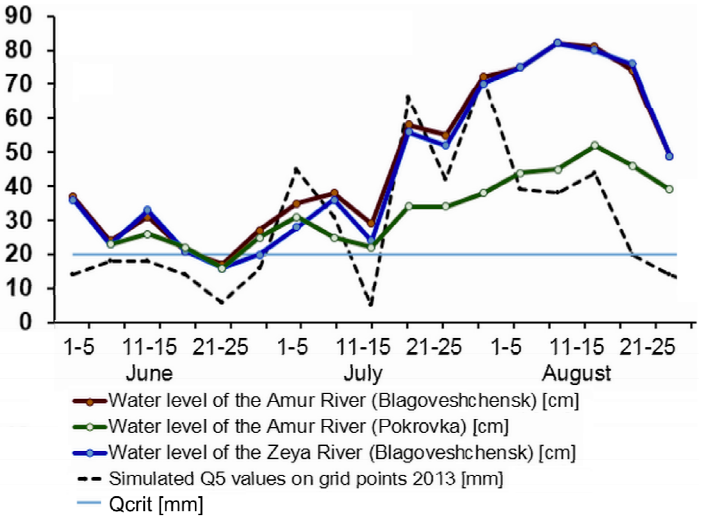


↑ Figure 1. Map of the Amur River basin. Orange lines depict boundaries of partial drainage basins. Circles are observational stations.



↑ Figure 2. Total discharge formation of the Upper Amur River basin (2013). Q_{crit} – threshold value of five-day amount of precipitation averaged over territory of a sub-basin.

- Areal precipitation data derived from numerical Weather Research and Forecasting model with grid distance of 15 km has sufficiently representative values for hydrological applications related to the Amur River basin. The overall period of precipitation accumulation and lag time of runoff to the outlet points of the partial drainage basins is near 10 days for the proposed partitioning of the Amur River basin (Fig. 1).
- Variations of simulated five-day amount of precipitation averaged over all grid points of a sub-basin (Q5) above and below the threshold value of the five-day amount of precipitation (Q_{crit}) correlate with peaks and falls of water level at the outlet points of partial drainage basins quite well. If Q5 values exceed Q_{crit}, then water level on an outlet point of a partial drainage basin increases independently of any variations of precipitation amount above Q_{crit}. The Q_{crit} for all partial drainage basins of the Amur River is 20 mm. This rule works for a relatively simple riverine basin (e.g., the Shilka and the Argun Rivers). Peaks and troughs of water level are also noticeable for a complex riverine basin (e.g., the Upper Amur River), but value of water level on an outlet point is the sum of runoff and discharge of tributaries and sources shifted on lag time (Fig. 2).
- The most suitable for hydrological applications variant of Q5 is a simulated five-day amount of precipitation averaged over all grid points of a sub-basin. Observed values of Q5 do not always correspond to water levels at an outlet point, because the amount of observational stations is not sufficient for that vast territory. Simulated Q5 values averaged over all grid points are more relative to dynamics of water level on the outlet points of the sub-basins than simulated or observed Q5 values averaged over all observational stations of those territories.