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The analysis of the formation of spring runoff on the rivers of the Russian Plain is presented. A brief review of the studies dealing with the dynamics of individual climate characteristics and river floods on the Russian Plain in the past 40 years is given. It was shown that as a result of climate change and anthropogenic impact on the formation of snowmelt runoff, not incoming but outgoing factors causing its loss have become decisive. The scheme of the spring flood formation factors was developed and verified for the rivers of the Don basin, which is the most complex one in terms of the spring flood formation. According to the verification for 11 catchments situated in the Don basin, three most significant factors of the spring flood formation were identified: the absence of the significant correlation between the spring flood runoff and snow water equivalent; an increasing role of soil moisture and freezing depth; a great role of the snowmelt rate during the period just before the spring flood. The results allow making a conclusion on a possibility of applying this research scheme in other regions.

Keywords: spring flood runoff, Don basin rivers, dynamic, quasi-permanent, and anthropogenic factors

Tab. 3. Fig. 4. Ref. 57.