



The global warming of the climate, which is observing in our planet during the last decades, has the essential influence on water regime of the rivers. The estimation of such influence is one of the main tasks of the present hydrology.

The water regime has perennial fluctuations in the manner of cycles with dry and wet years. Such cycles characterize by different duration, which depends from hydrometeorological conditions. The cycles define on base of the deflections of the value of the annual runoff of the rivers from norm annual runoff. The representative periods for calculation of the norm annual runoff, the periods with dry and wet years and the exact borders of their occurring is defining on the integral curves of the module factors of the rivers annual runoff. Thereby, the present period of the changes of the hydrological regime of the water objects, which possible is causing by global warming of the climate is allowing defining this method.

The Salgir River basin is located in the mountain and steppe zones that are essential influencing over the forming of the water regime. 9 % of the territory of the river basin is located in the mountain part on the height 1500-1600 m. The steppe part of the river is located on the plain by height 100-150 m with dry climate. The intermittent tributaries and brooks of the Salgir River become the dry by summer. The Salgir River has a mixed type of the feeding (snow, rain and carst water). In the period of the snow melt is observing the rains. At June and July is observing the rainstorms. It is the cause of the considerable floods. The autumn and winter floods are bigger than summer floods and can have a catastrophe nature at separate years.

The observations for water regime of the Salgir River have a long series. It allows to research cyclicality, define the norm of the annual runoff and install the exact borders of the occurring the changes of the hydrologic regime. The research is carried out on the base of the observations data two stationary of gauging station (fig. 1).

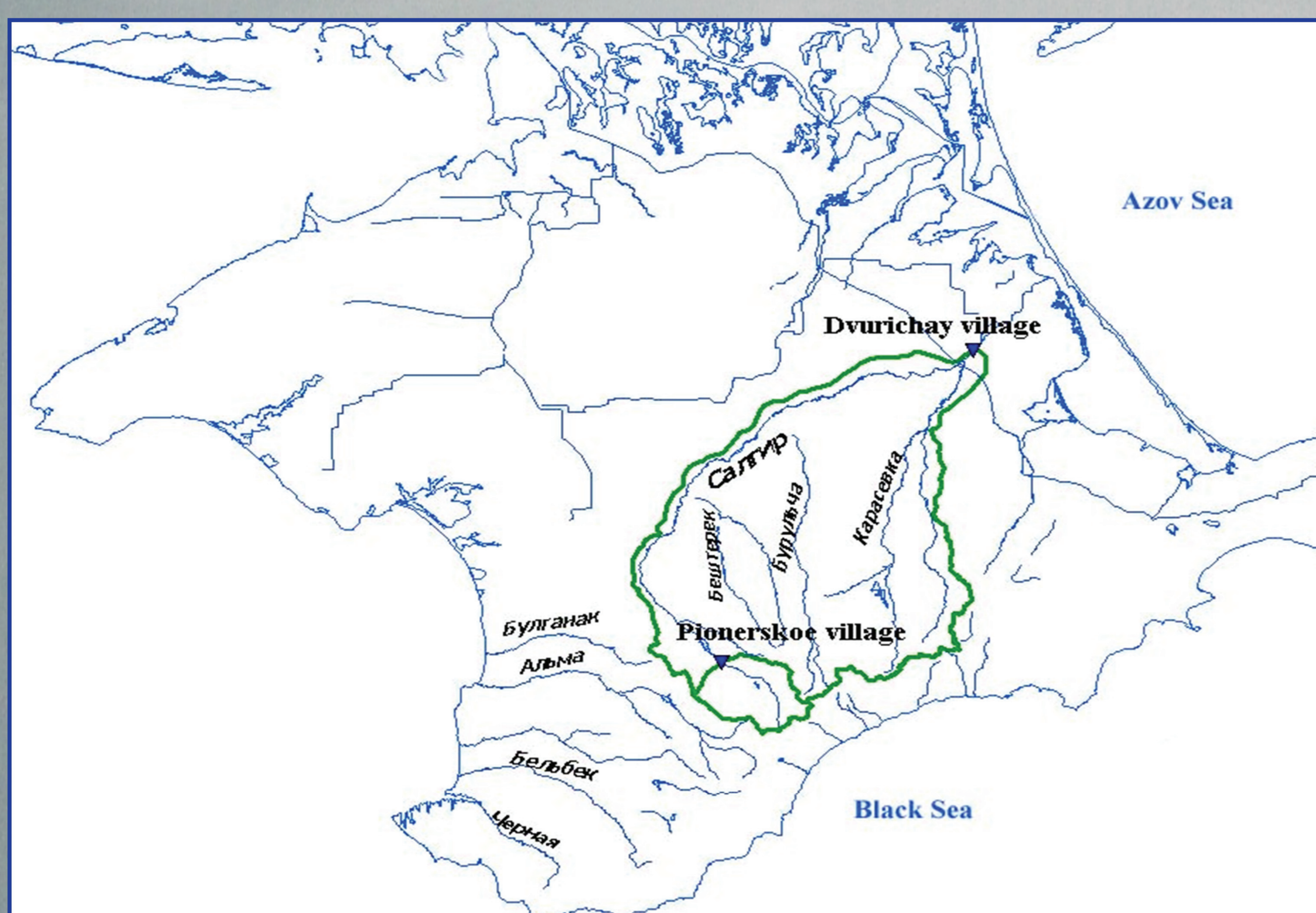


Fig. 1 The Salgir River basin

One station characterizes the forming of the river water regime in the conditions of the vertical zonation (the Pionerskoe village). Other station is the closing on the Salgir River which falls into the Azov Sea (the Dvurichay village).

The perennial dynamics of the annual runoff for two points of the observations showed that the Salgir River runoff is increasing during the last decades (fig. 2).

The analysis of the integral curves of the annual runoff of the Salgir River on two observations points defined the wet and dry periods of the water regime (fig. 3).

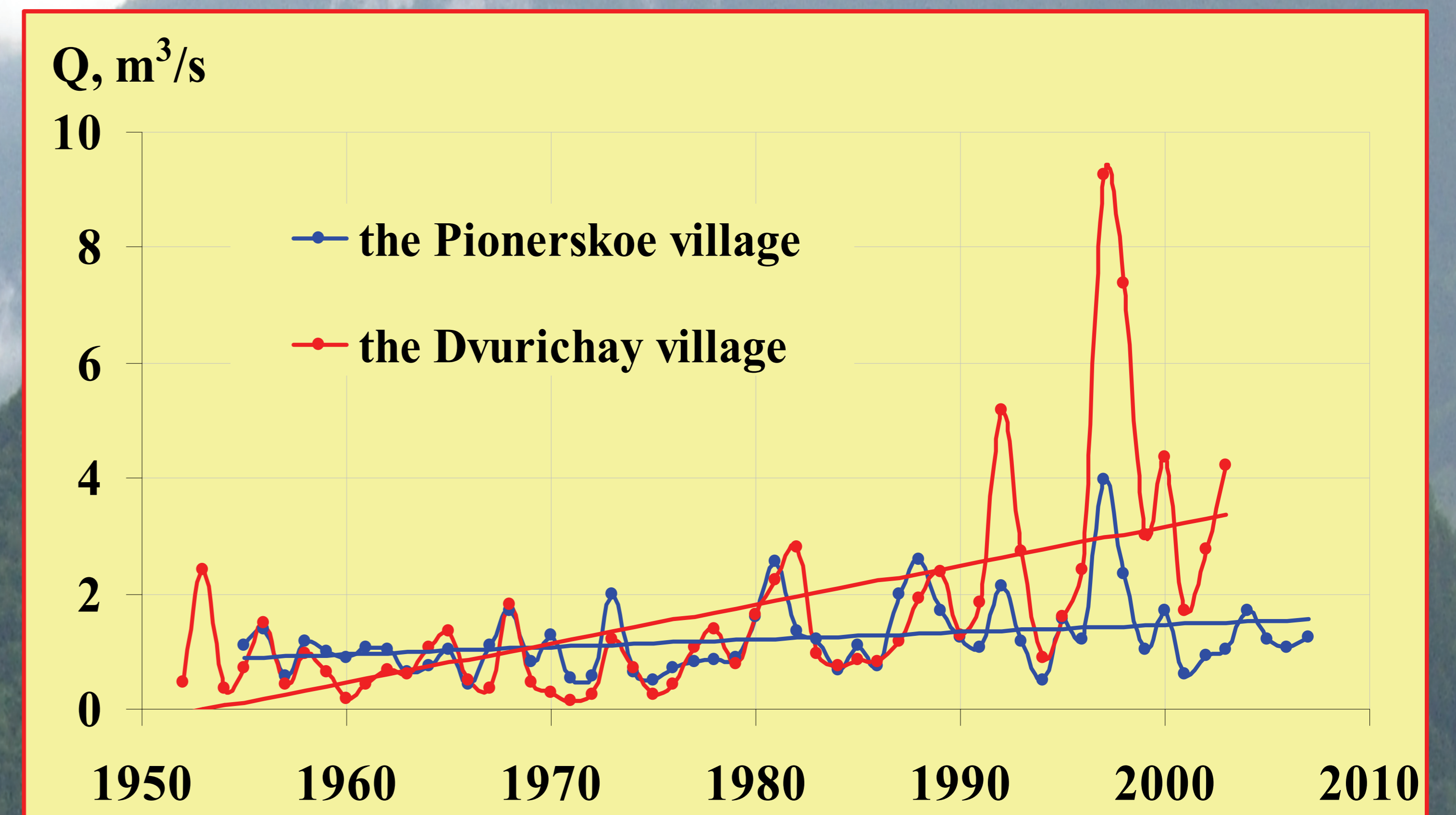


Fig. 2 The perennial dynamics of the annual runoff of the Salgir River

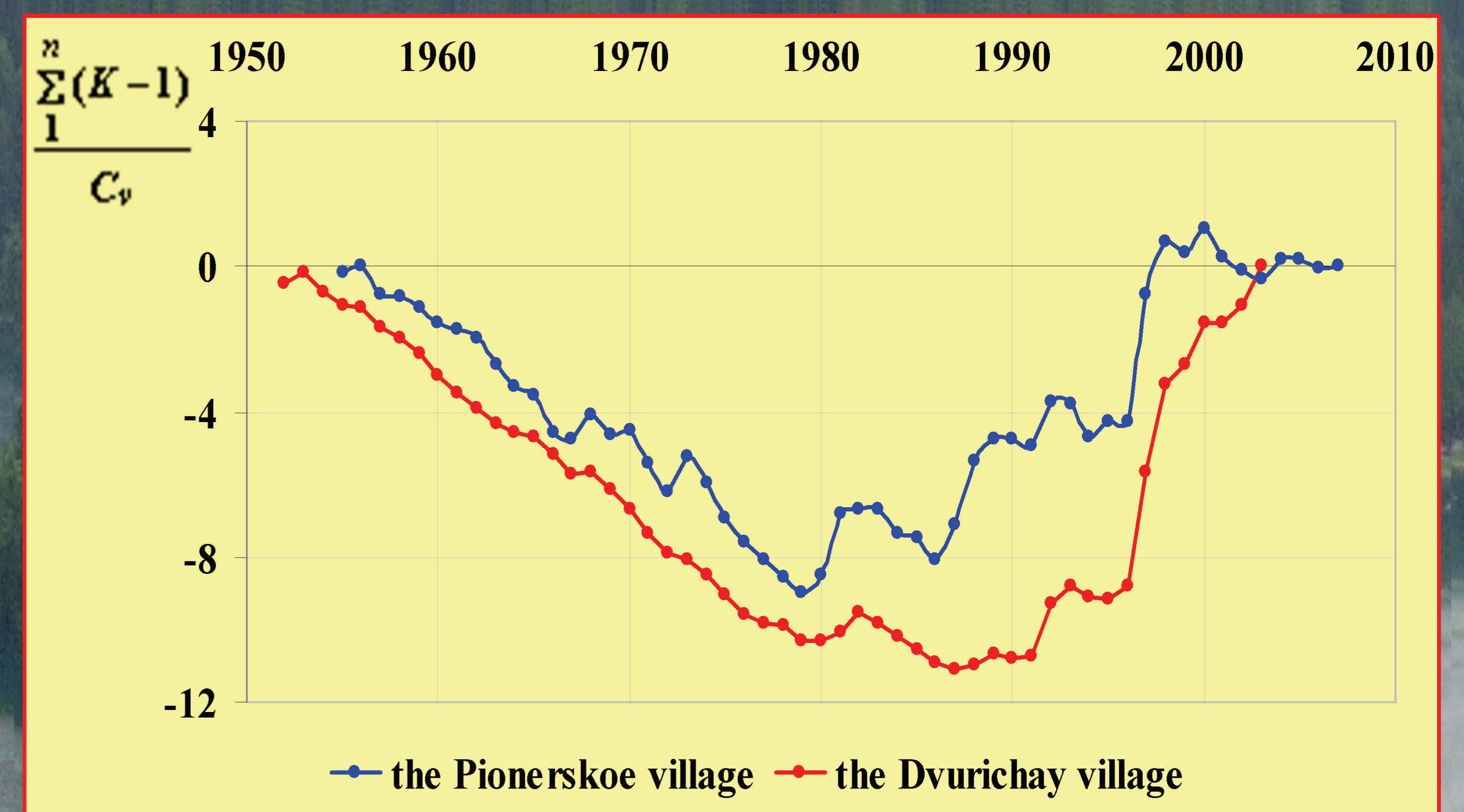


Fig. 3 The integral curves of the annual runoff of the Salgir River

For each of them are tracking the general trend of the fluctuations of the water regime. For observations point in the Pionerskoe village the dry period was from begin of observations to 1986 and for point in the Dvurichay village - 1987. The wet period is tracking after these years. Also for two points and for two periods of the water regime (dry and wet) are years in which observed the deflections of runoff values from the general trend. The most deflections observe for point the Pionerskoe village, which characterizes the mountain part of the Salgir river basin and on size catchment area is Small River. It possible and explain the divergences at periods of the transition to the runoff wet phase for two points, as well as the more significant fluctuations of the runoff for the Pionerskoe village. The most fluctuations of the runoff for dry phase observed in 1980-1983 and for wet phase - 1993-1996 (the Pionerskoe village).

The perennial dynamics of the seasonal runoff for two points of the observations showed that the Salgir River runoff is increasing for all seasons during the last decades. The intensity of the increase of the runoff is differing for seasons of the year. In the Dvurichay village the increasing of the runoff is bigger than in the Pionerskoe village. For point the Pionerskoe village the runoff the most is increasing by spring, autumn and the least - by winter. For point the Dvurichay village the runoff the most is increasing by spring, autumn, and winter - equally, and the least - by summer.

The analysis of the integral curves of the seasonal runoff of the Salgir River showed runoff is increasing since 1986-1987.