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Glaciers surges as a possible cause of disasters triggered by flood and mudflow formation

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There was a necessity of flood and mudflow estimation for the Vakhsh basin as there was a possibility of renewal of building of Rogunsky Waterpower station in river Vakhsh lower reaches in Tajikistan. Breaks of the lakes formed by damming of the river by tongues of surging glaciers during their forwards can be one of the reasons of such floods. There is a large glaciations in upper courses of the River Vakhsh (the Sauksaj), on a southern slope of the Zaalayskiy Range. At least five of these glaciers are the surging ones. They are Bolshoy and Malyi Saukdara, Dzerzhinskogo, Valy glaciers and glacier №255.
The research of these glaciers regimen had been conducted with the help of aero- and space photos from the middle of the 20th century up to the present. The tongue of Maliy Saukdara glacier moved on 2.8 km and crept on a surface of Bolshoy Saukdara glacier in 1973-1975 and in the early nineties. The glacier №255 moved on about 0.5 km in 1980-1982 but its tongue didn't reach the River Sauksaj. Thus the surges of these two glaciers didn't cause any catastrophic consequences.
During surges of glacier Dzerzhinsogo in 1935, 1972-1975 and about 2003 on 1.5 km and glacier Vali in 1975-1977 on about 2 km their tongues dammed up the River Sauksaj valley, however this ice dam was broken quickly by river water. The surges of the largest glacier in upper heads of river Sauksaj, Bolshoy Saukdara (area 53 km2, length 20.6 km) came to the end completed before 1946, about 1972 and 2007. They are referred to the internal category and didn't cause end movements. Nevertheless, there was a corking of a lateral valley of the River Zulumart and formation of a dammed lake which broke later under a Bolshoy Saukdara tongue. It was a result of the big mass of ice moving to the bottom part of the tongue.
To sum it up, the surging glaciers of the upper course of the River Sauksaj represent potential danger because of formation and breaks of dammed lakes. Though the big volumes of water above the dams during the last years were not observed, the situation when surging glaciers of this valley become more active simultaneously is possible. In this case the volumes of water and mudflow material can be more considerable. That's why constant monitoring of the glaciers of this area is necessary.