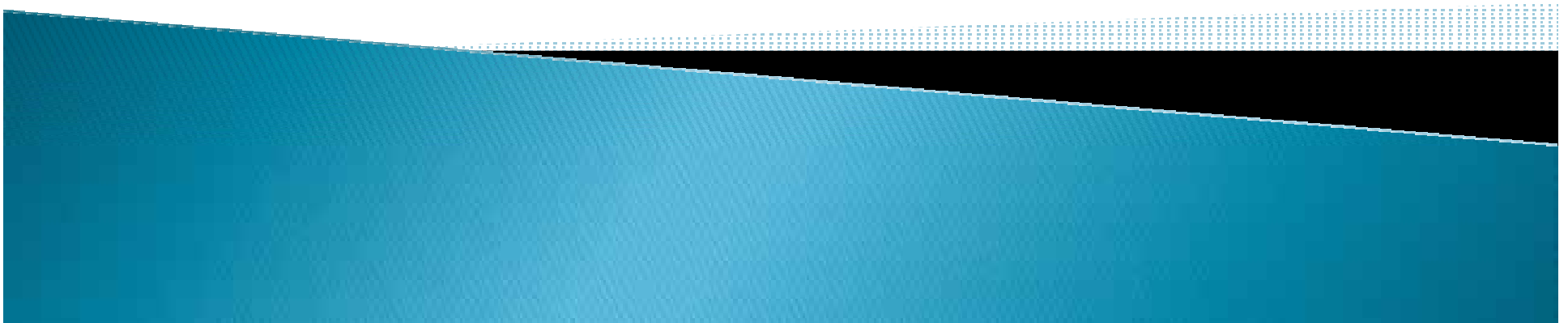


Dynamics of glaciers and Mountain Lakes in Zarafshan River Basin

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RT



- ▶ Field work (expedition) was carried out in Zaravshan River basin in July 10 – 28, 2009.
- ▶ This presentation uses data from tachometric surveys of glaciers and lakes with outburst risk in Zaravshan Valley.

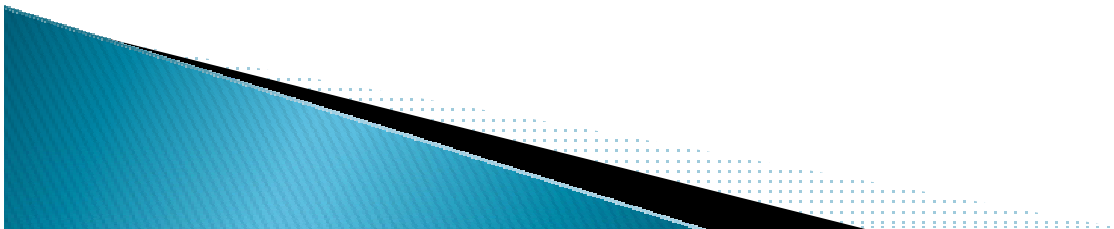


Glacier Tongue in Zaravshan



Parameters of Zaravshan Glacier

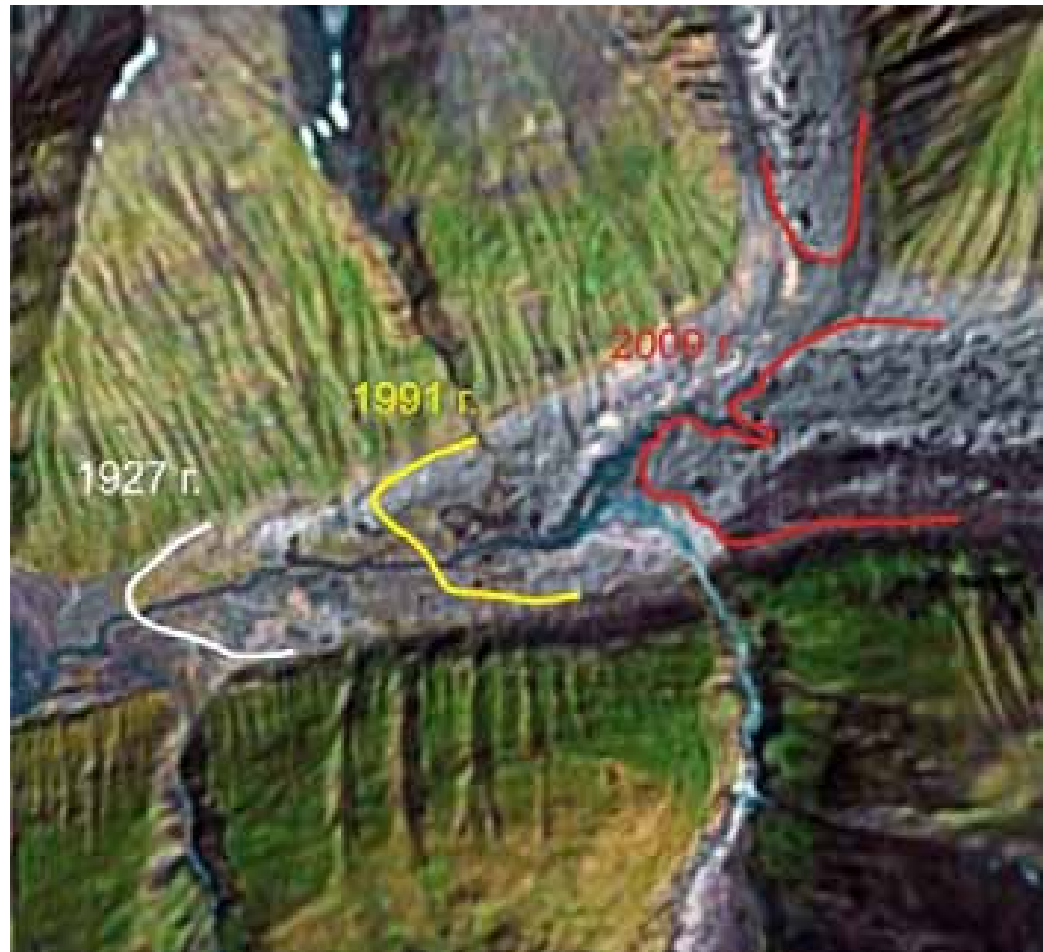
- ▶ Complex valley glacier, or dendrite; glacier length – 27.8 km;
- ▶ Area – 38.7 sq.km;
- ▶ With outlets – 132.6 sq.km;
- ▶ Elevation of glacier tongue – 2,810m asl.
- ▶ Moraine area – 10 sq.km, with outlets – 24sq.km



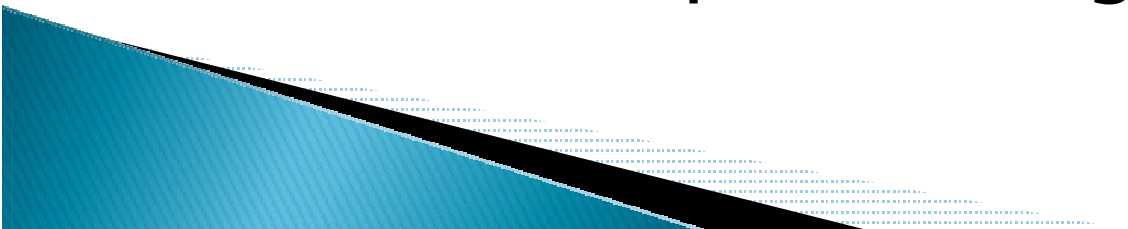
Checkpoint for Zaravshan Glacier Survey



Retreat of Glacier Tongue



- ▶ Surveys have shown that during 1927–1991 the glacier had retreated by 1,500m, e.i. by 43m annually. Glacier area had decreased by 500 thousand sq.m.
- ▶ During 1991–2009, Zaravshan Glacier was retreating by average 88–94m annually, and its area shrank by 700 thousand sq.m. during that period.



Situation with Mountain Lakes



Situation with Mountain Lakes



Situation with Mountain Lakes

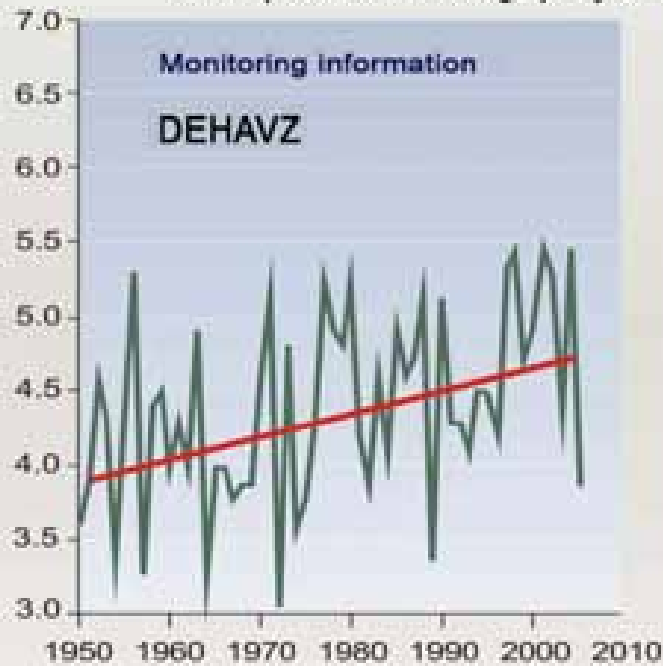


Фото: Анвар Хомидов

Climatic Regime

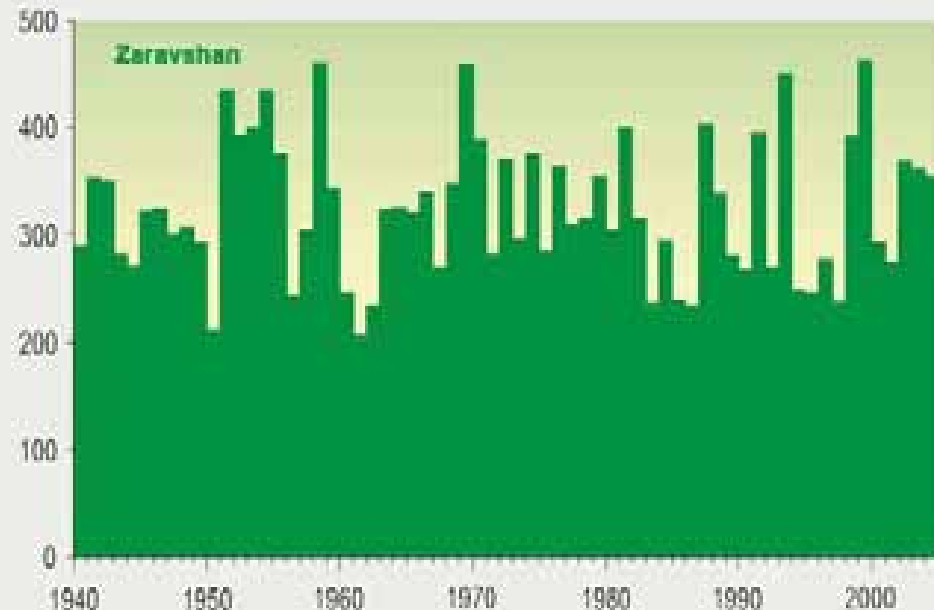
Air temperature change in upper areas of Zaravshan

Air temperature in average per year, °C

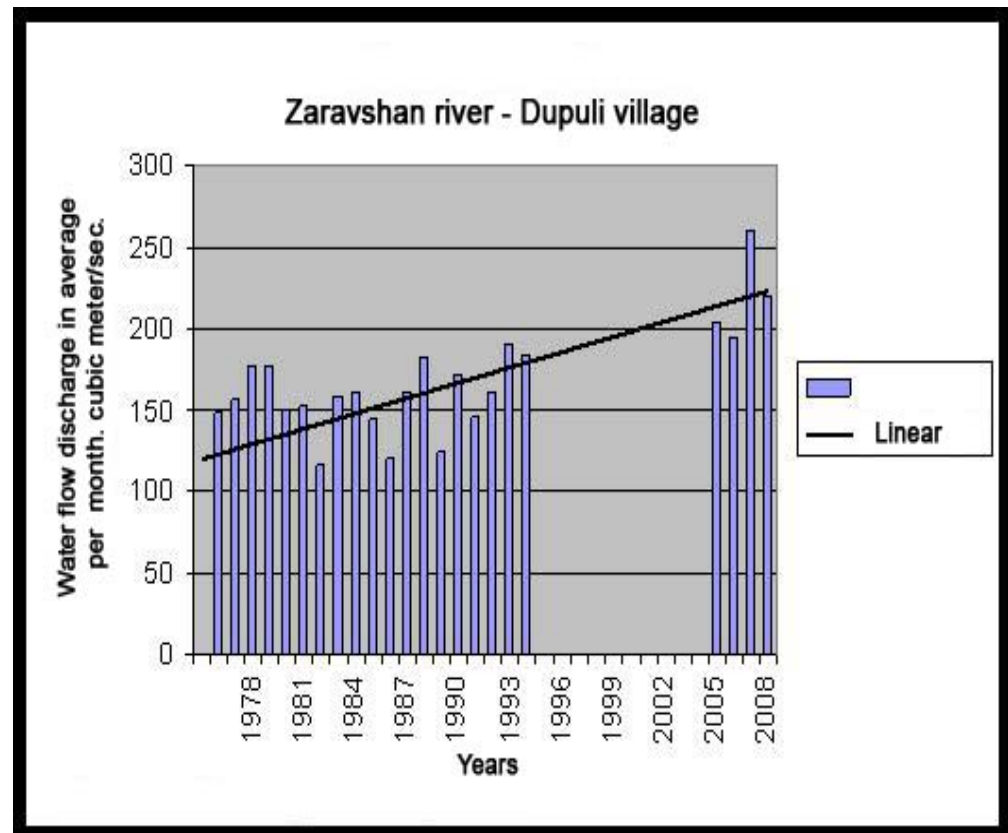
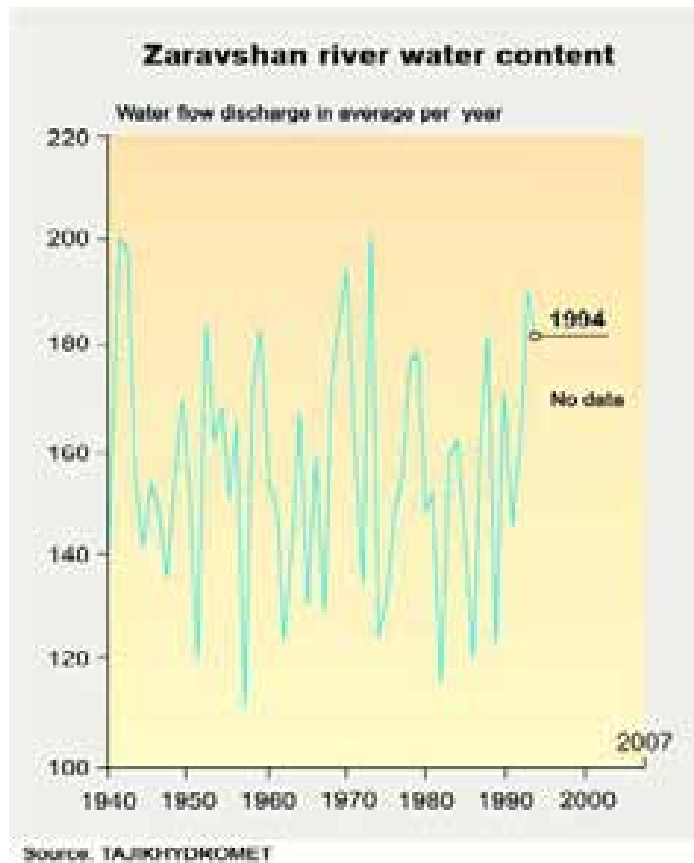


Annual precipitation dynamics in upper areas of Zaravshan

Precipitation, mm per year

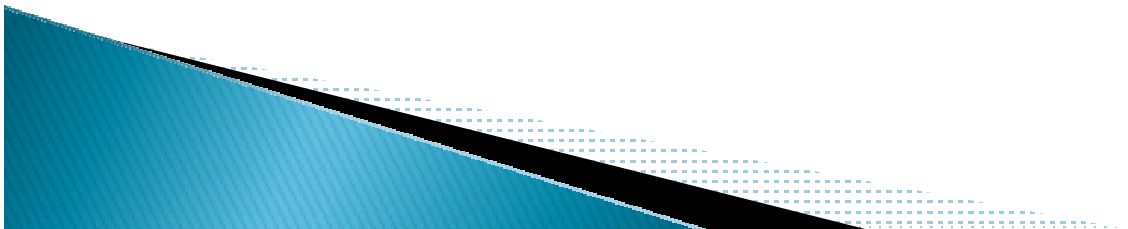


Zarafshan River Discharge



Conclusions

- ▶ Current studies have shown that increase in air temperature and lower winter precipitation trends had negatively affected Zaravshan and other glaciers in Tajikistan.
- ▶ Water content in Zaravshan River increases during summer months due to the intensified melting of glaciers.
- ▶ As melting of glaciers intensifies, it poses more GLOF hazards.



- ▶ Thank you for your attention!!!
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