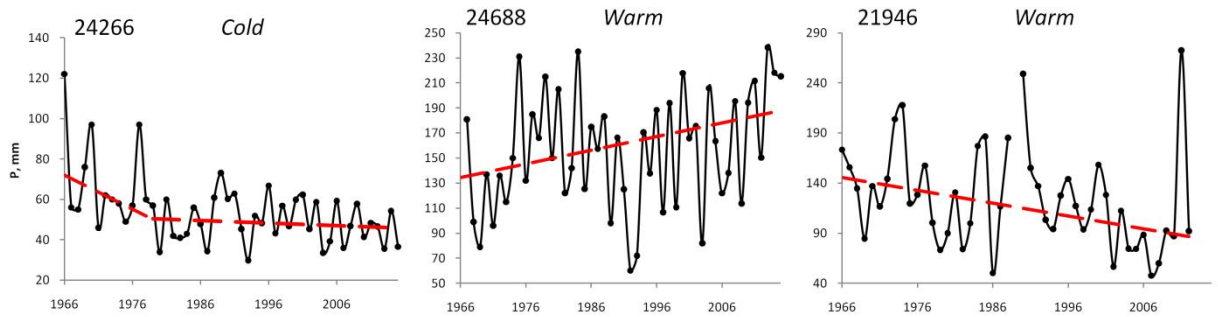
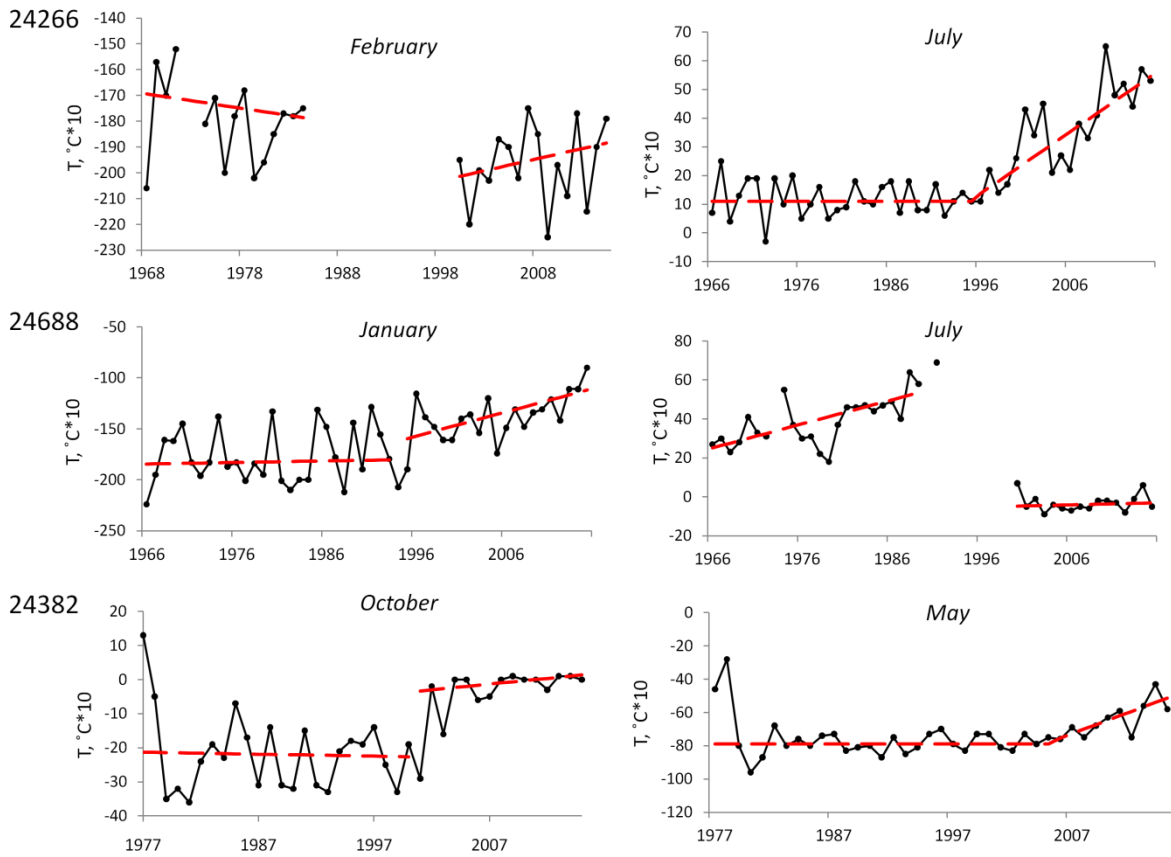


**Fig. S1** Changes of air temperature at some stations of the studied region

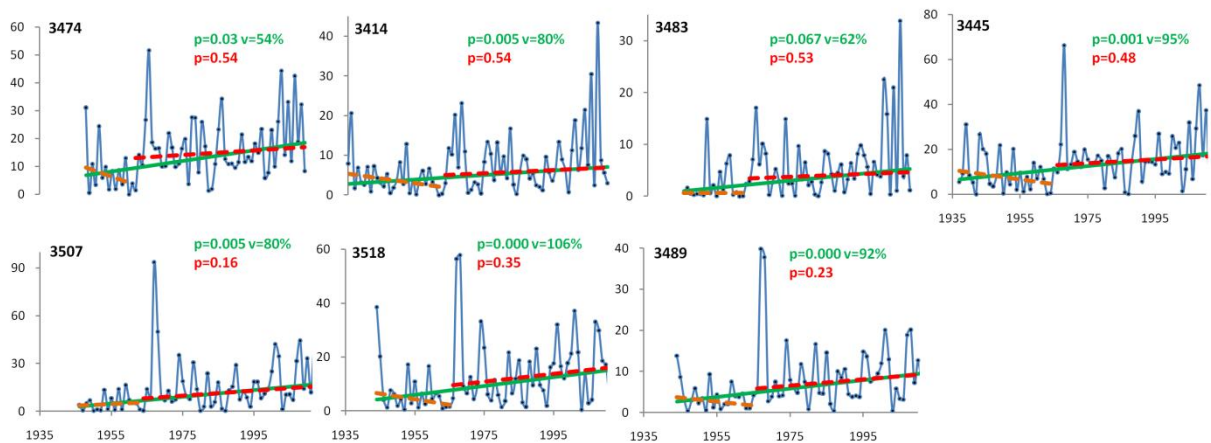


**Fig. S2** Changes of precipitation at some stations of the studied region



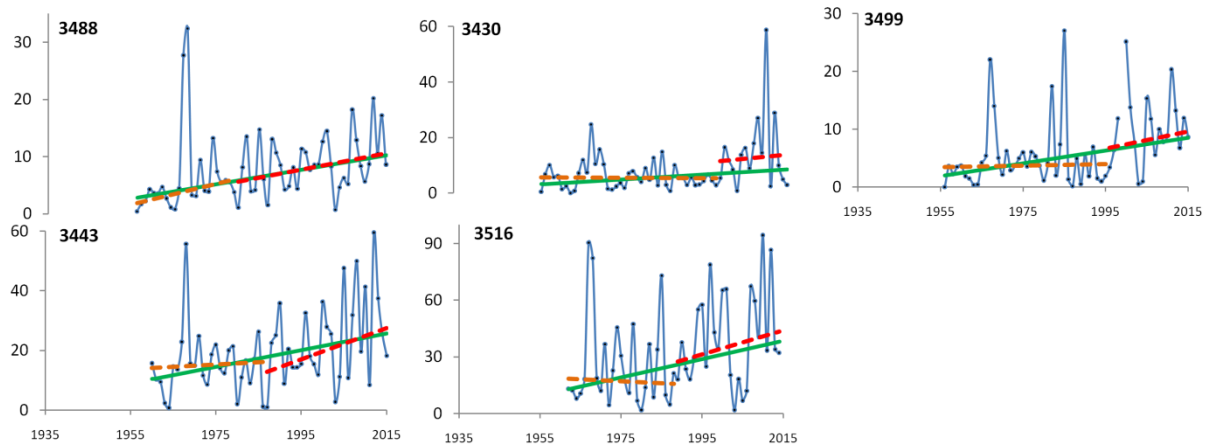
5

**Fig. S3** Changes of monthly soil temperature at 80 cm depth at the Verkhoyansk (24266), Oymyakon (24688) and Ust'-Moma (24382) meteorological stations, 1966 (1977)-2015. Red dash line is Sen's estimate. The year of change point where continuous data is available was estimated with the Pettitt's test at  $p \leq 0.05$



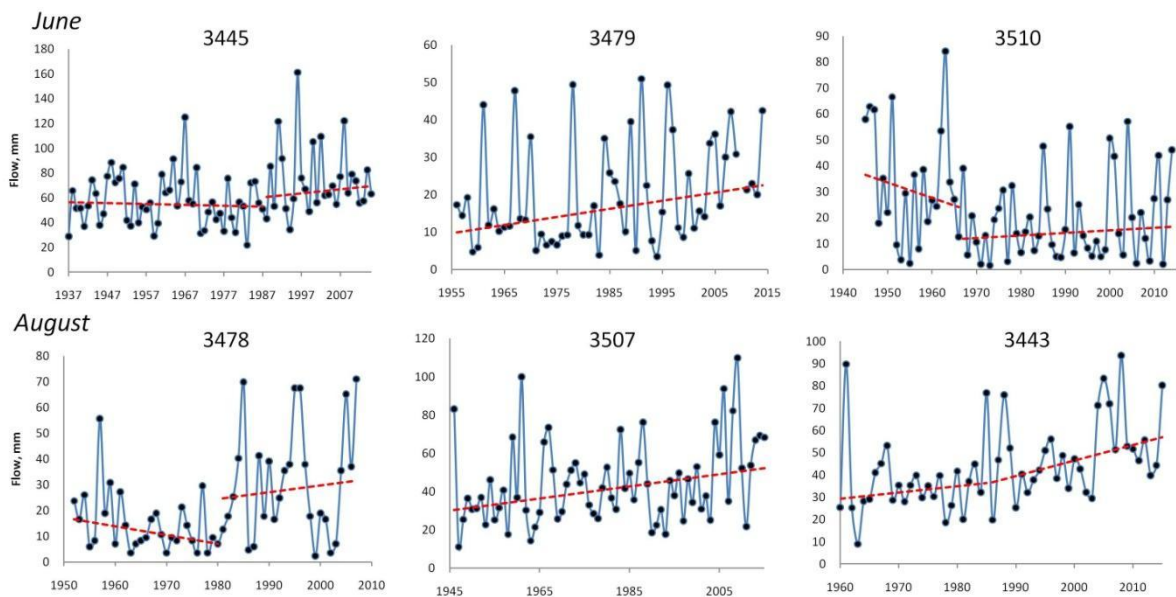
10

**Fig. S4** Patterns of flow changes in May, group A (green, orange and red – the trend slope over the period of record, before and after change point respectively)



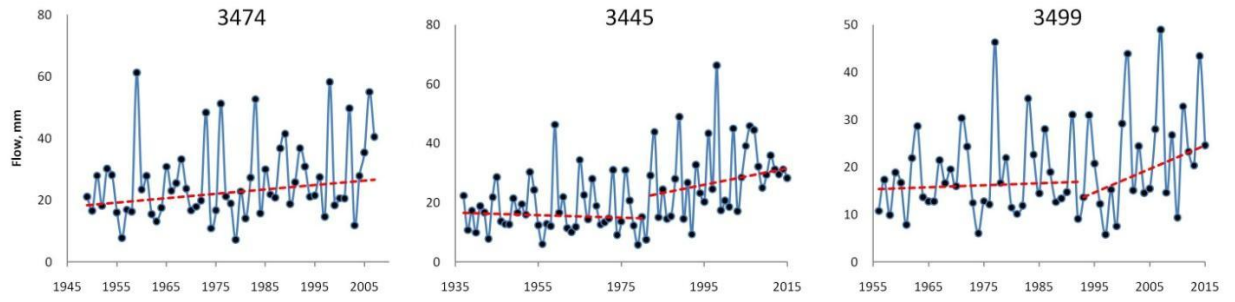
**Fig. S5** Patterns of flow changes in May, group B (green, orange and red – the trend slope over the period of record, before and after change point respectively)

15



**Fig. S6** Changes of flow in June and August

September



October

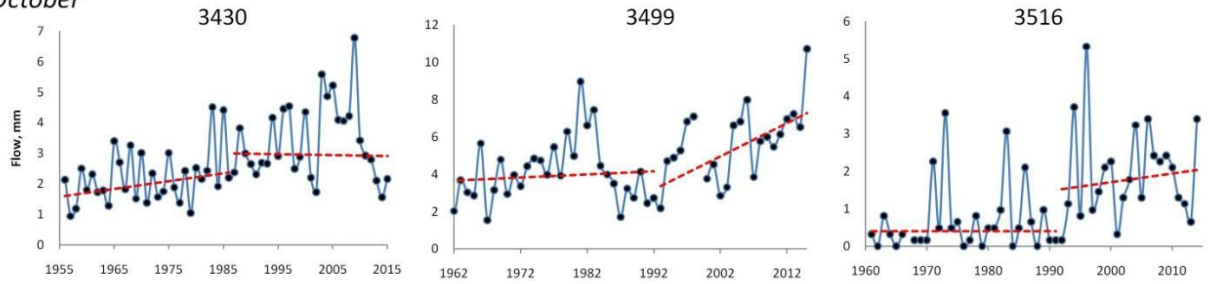
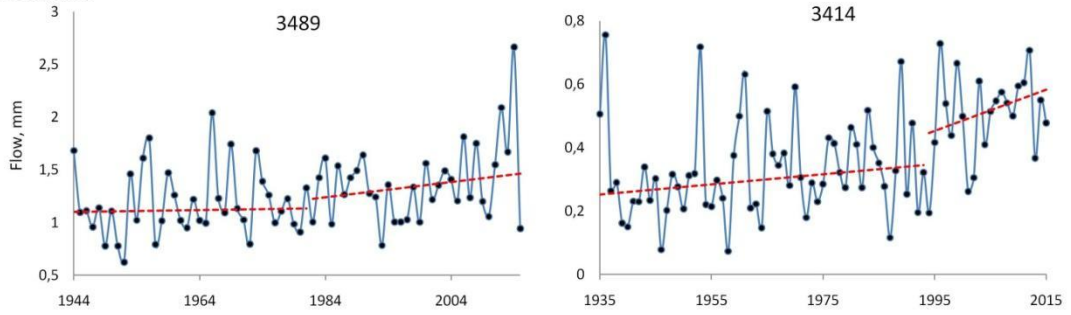
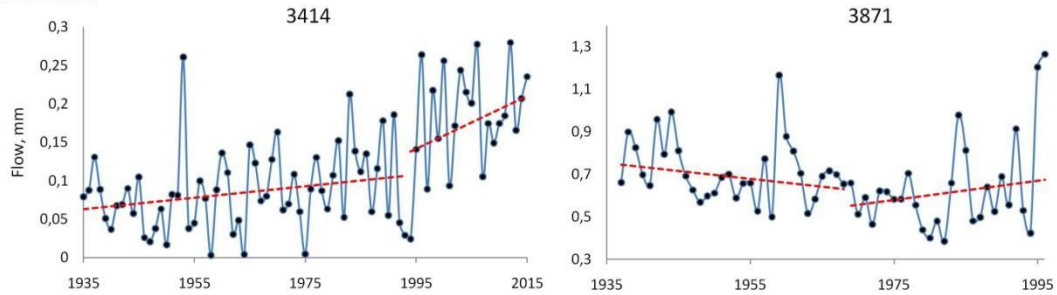


Fig. S7 Changes of flow in September and October

November

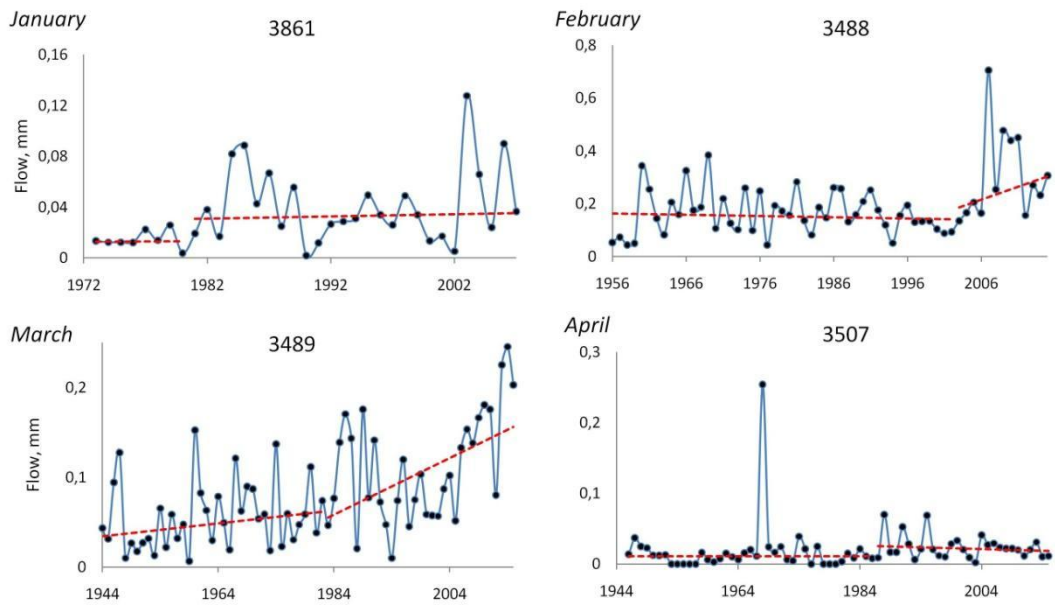


December

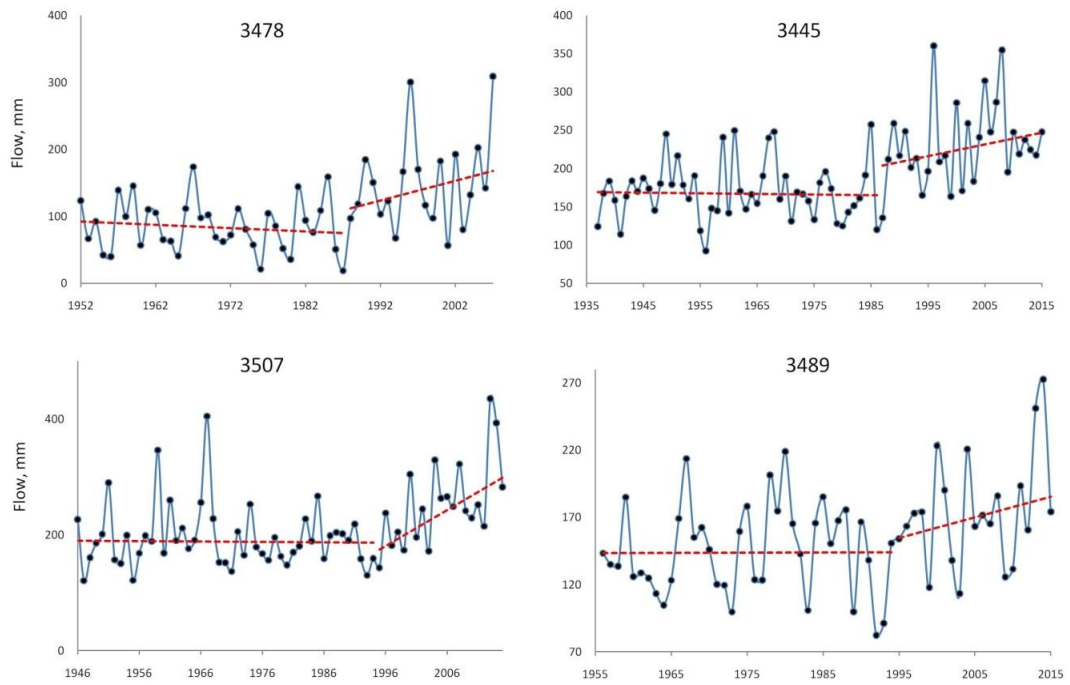


20

Fig. S8 Changes of flow in November and December



**Fig. S9** Changes of flow in January – April



**25 Fig. S10** Changes of annual flow