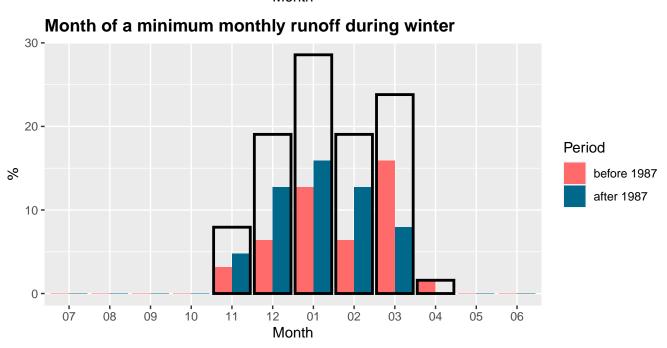
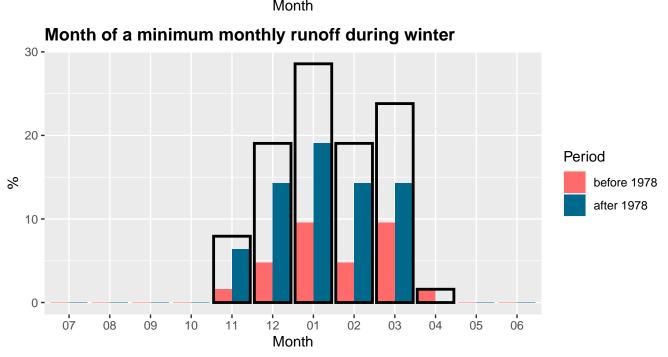
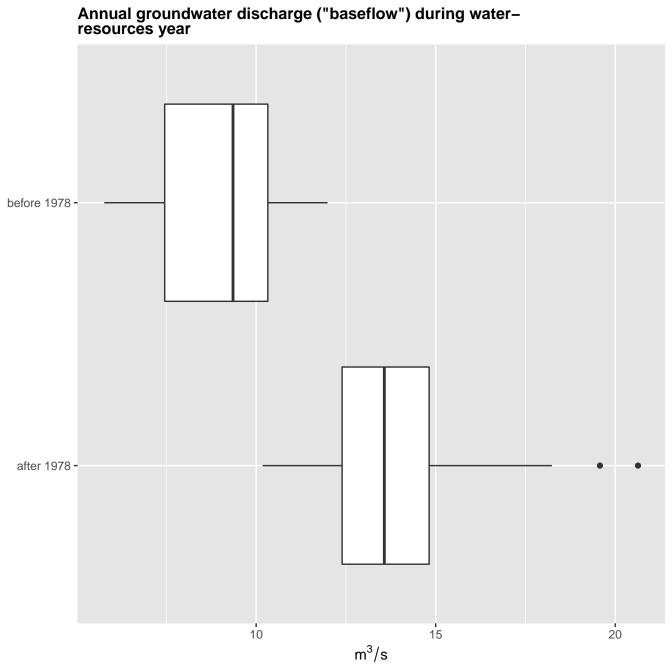
Month of a minimum monthly runoff during summer 30 -Period × 20 before 2000 after 2000 10 -0 -02 04 05 07 08 09 10 01 03 06 11 Month Month of a minimum monthly runoff during winter 30 -



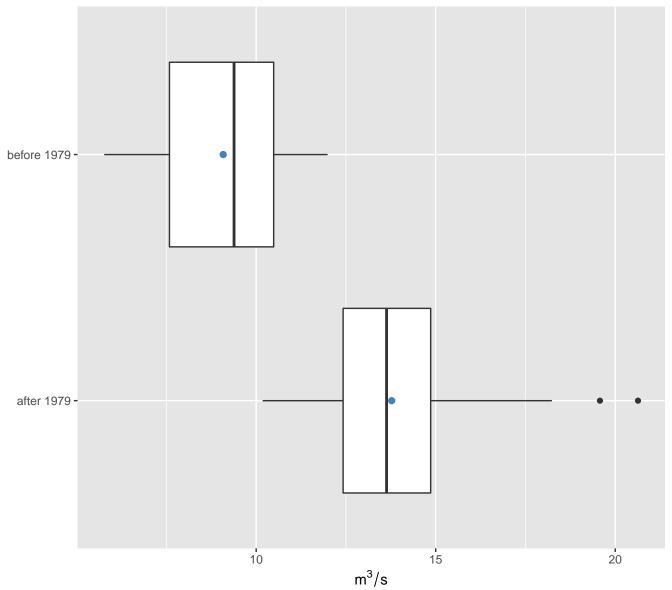
Month of a minimum monthly runoff during summer 30 -Period × 20 before 1978 after 1978 10 -0 -02 04 05 06 07 08 09 10 01 03 11 Month Month of a minimum monthly runoff during winter 30 -





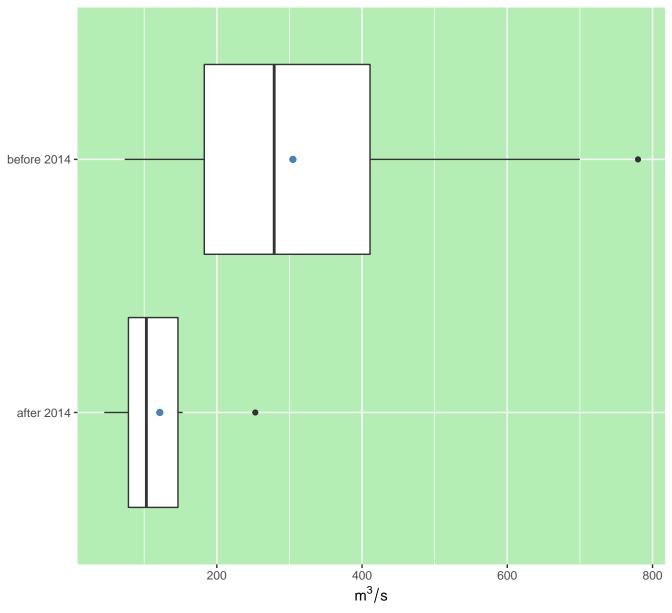
Annual groundwater discharge ("baseflow") during water-resources year

Student: t = -8.553, p = 0, m1 = 9.082, m2 = 13.774Fisher: F = 0.609, p = 0.23417, cv1 = 0.205, cv2 = 0.173



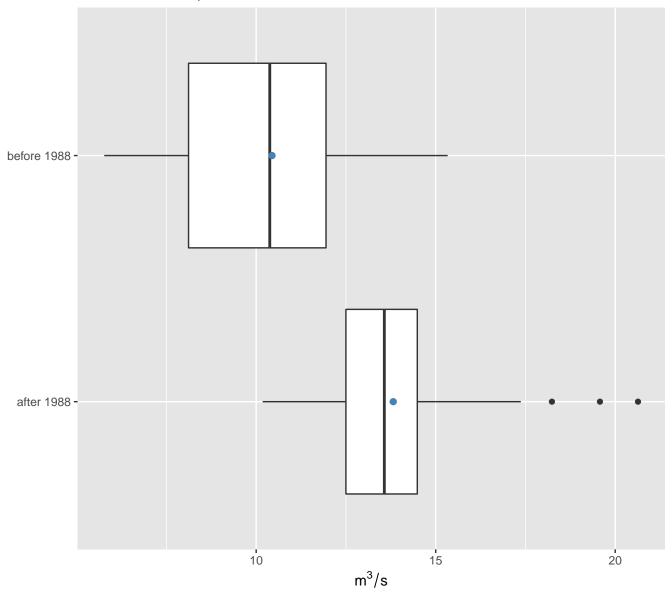
Maximum annual discharge during seasonal flood wave

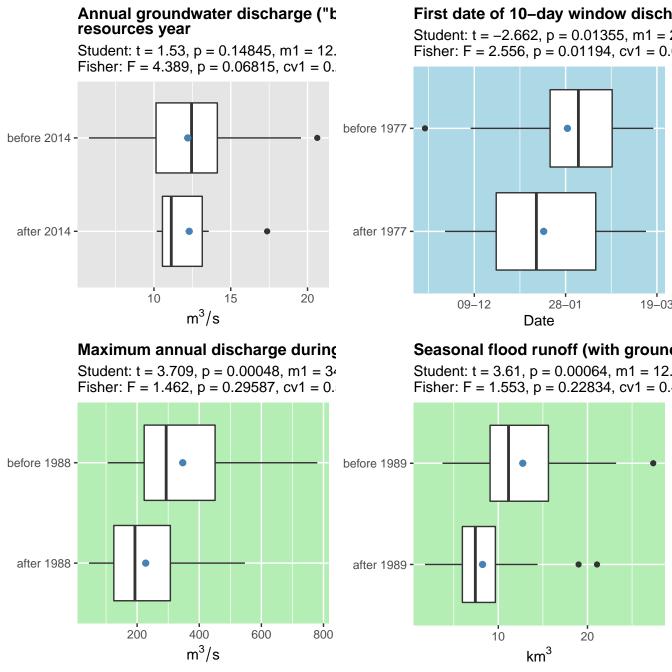
Student: t = 1.53, p = 0.14845, m1 = 304.802, m2 = 121.514Fisher: F = 4.389, p = 0.06815, cv1 = 0.532, cv2 = 0.572

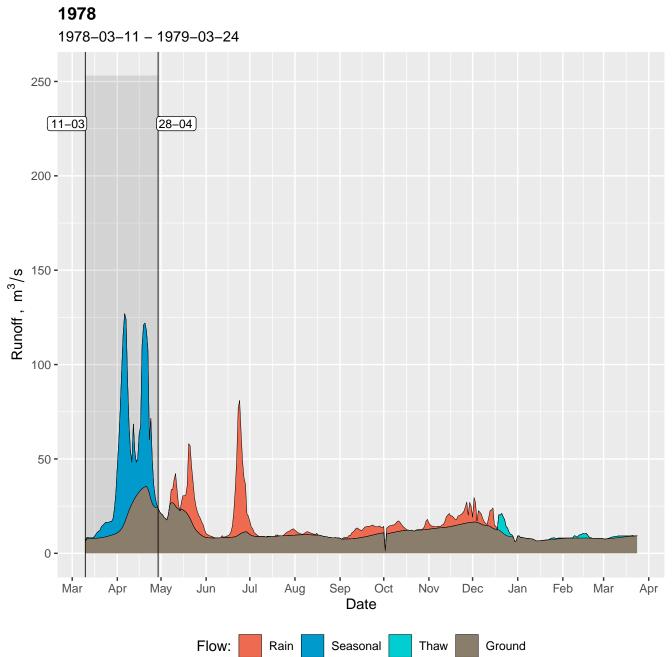


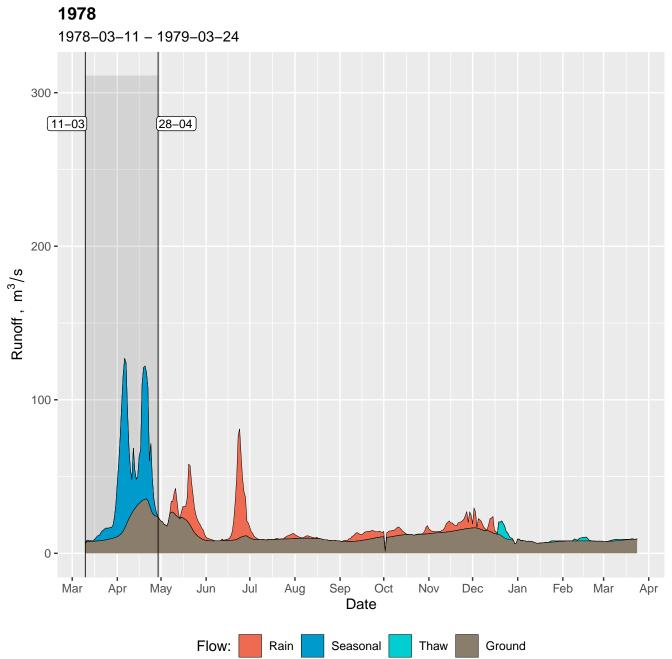
Annual groundwater discharge ("baseflow") during water-resources year

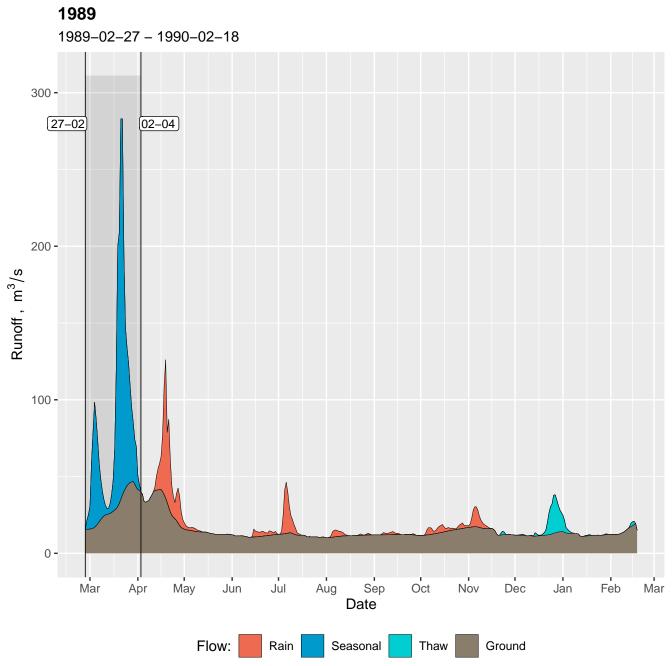
Student: t = 3.709, p = 0.00048, m1 = 10.442, m2 = 13.818Fisher: F = 1.462, p = 0.29587, cv1 = 0.262, cv2 = 0.188

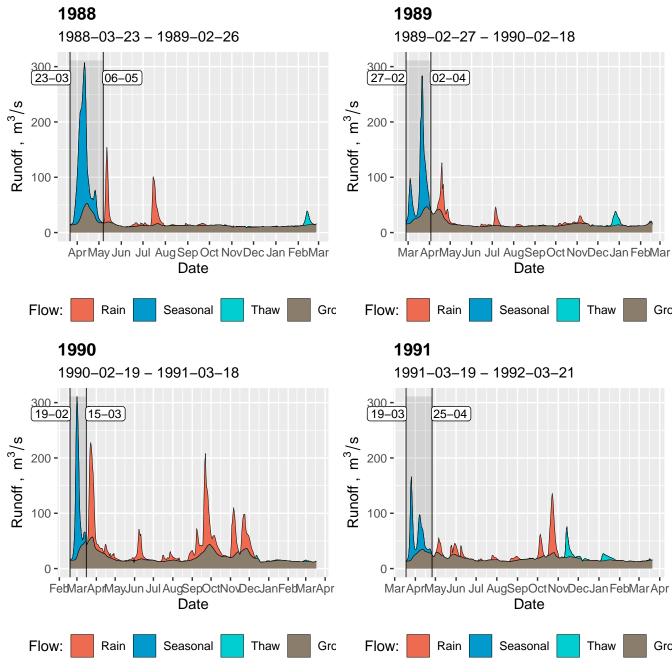












1991 1991-03-19 - 1992-03-21 19-03 25–04 **-** 20 200 -**-**10 Temperature, °C Runoff, m³/s 100 --10 - –20 0 -. Mar Apr May Jul Oct Sep Feb Mar Aug Nov Jun Dec Jan Apr Date

Seasonal

Ground

Thaw

Flow:

1991 1991-03-19 - 1992-03-21 - 50 19-03 25–04 **-** 40 200 **-**Cum. precipitation, mm (5 days) Runoff, m³/s 100 -**-**10 0 -Oct Date Apr Mar Jul Sep Feb May Nov Dec Jan Mar Aug Jun Apr

Seasonal

Ground

Thaw

Flow:

1991 1991-03-19 - 1992-03-21 19-03 25–04 **-** 60 200 -Cum. precipitation, mm (10 days) Runoff, m³/s 100 -0 -Oct Date Apr Mar Jul May Sep Nov Dec Jan Feb Mar Aug Jun Apr

Seasonal

Ground

Thaw

Flow:

1991 1991-03-19 - 1992-03-21 - 50 19–03 25-04 **-** 40 200 **-**Cum. precipitation, mm (5 days) Runoff, m^3/s 100 -**-** 10 0 -Apr Mar May Jul Feb Sep Oct Nov Dec Jan Mar Jun Aug Apr Date

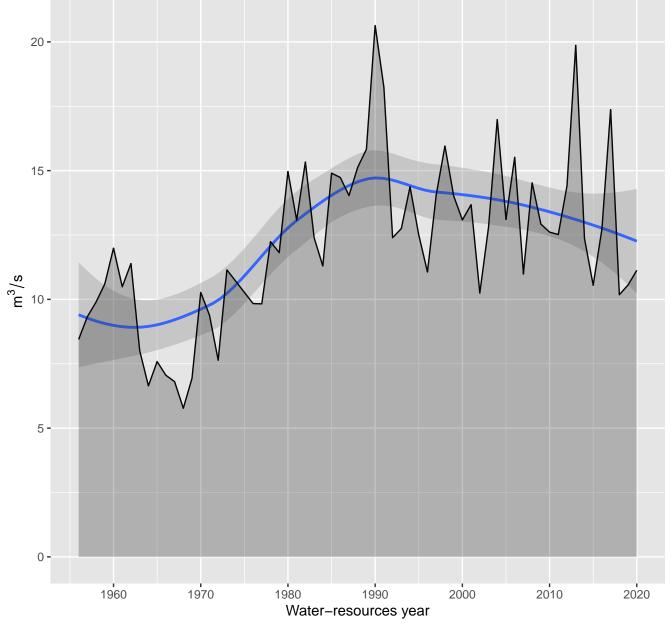
Seasonal

Ground

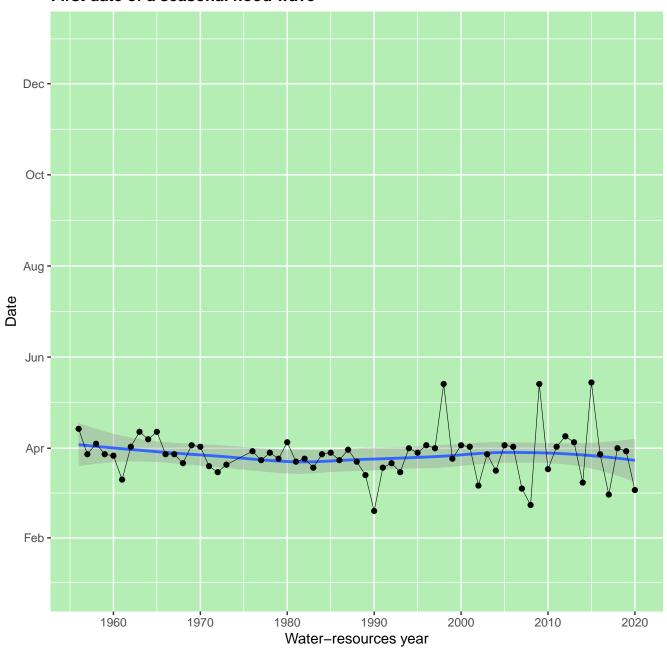
Thaw

Flow:

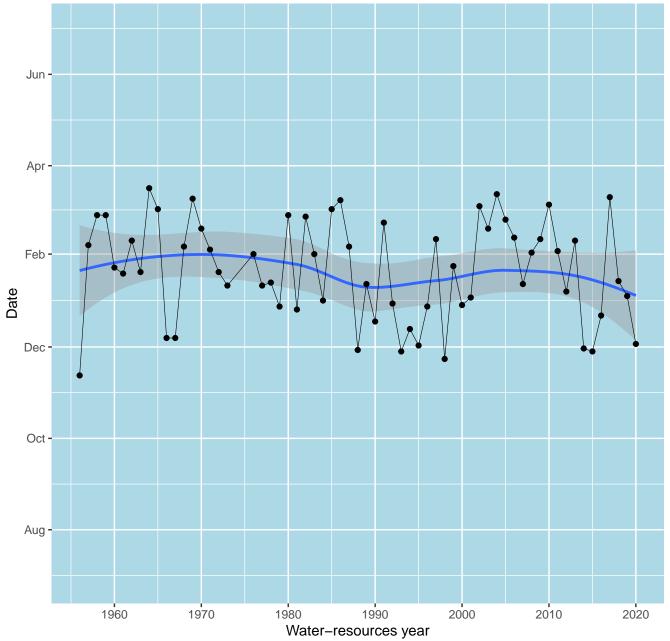
Annual groundwater discharge ("baseflow") during waterresources year



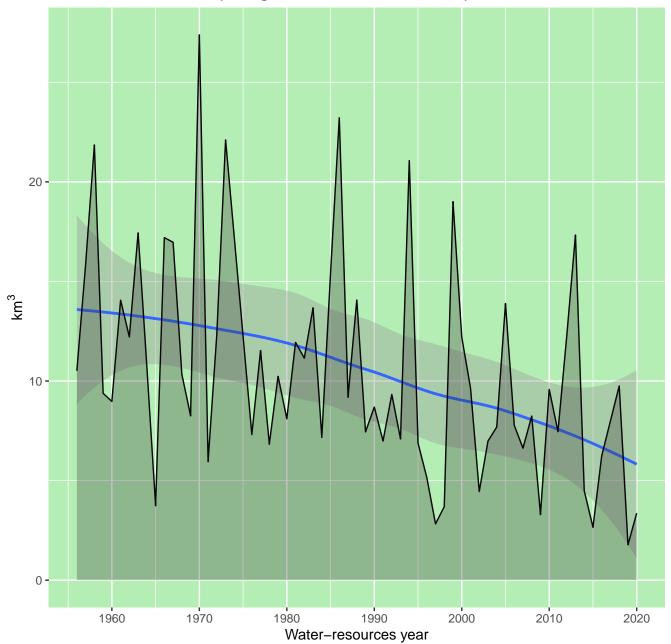
First date of a seasonal flood wave

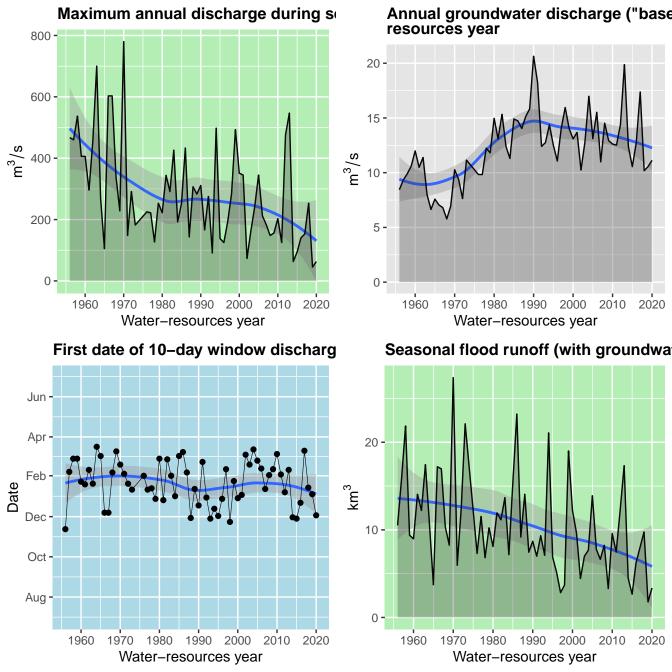


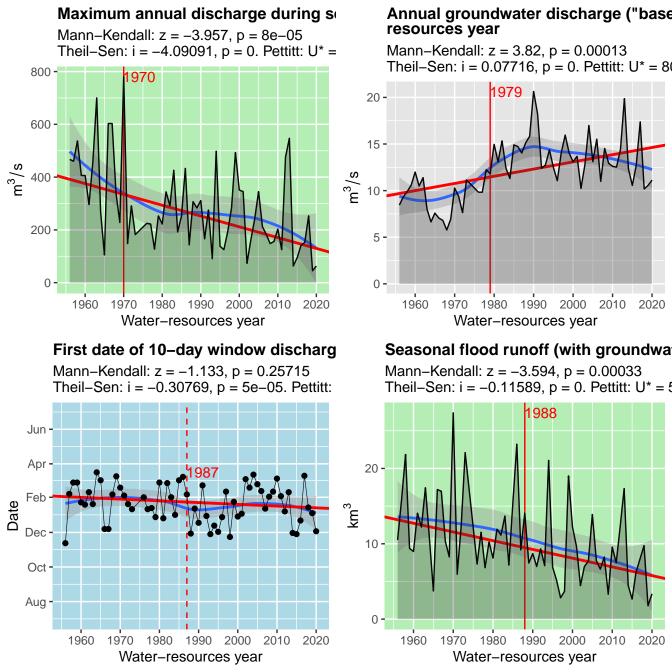
First date of 10-day window discharge during winter



Seasonal flood runoff (with groundwater and rainwater)







First date of 10-day window discharg Seasonal flood runoff (with groundwa Mann-Kendall: z = -1.133, p = 0.25715Mann-Kendall: z = -3.594, p = 0.00033Theil-Sen: i = -0.30769, p = 5e-05. Pettitt: Theil-Sen: i = -0.11589, p = 0. Pettitt: $U^* = 5$ Jun Apr-20 km^3 Dec Oct -Aug 1990 1970 1980 1960 1970 1980 2000 2010 1960 1990 2000 2010 Water-resources year Water-resources year Number of days with thaw-flood ever Maximum rain-flood discharge Mann-Kendall: z = -3.3, p = 0.00097Mann-Kendall: z = 0.148, p = 0.88212Theil-Sen: i = -0.61905, p = 0. Pettitt: U* = Theil-Sen: i = 0.02098, p = 0.9155. Pettitt: 150 -1984 200 -150 s/_Em Days 50 -50 0 -1960 1970 1980 1990 2000 2010 2020 1960 1980 1990 2000 2010 Water-resources year Water-resources year