[Water Resources Research]

Supporting Information for

[The dominant source and volume of highest river floods have shifted in Finland and northern Russia]

[E. Shevnina]

[Finnish Meteorological Institute, Helsinki, Finland]

The supporting information includes the dataset of the annual flood's characteristics (the maximum water discharge and its date and source) and the spring flood's characteristics (the dates when it begins and ends, the length of the spring flooding period, the volume of water passing in this period). The characteristics were calculated from the daily time series of water discharges observed at the hydrometric sites; the data were extracted from the hydrological books published by the national hydrological services of Finland and the Russian Federation. The date and magnitude of annual floods were previously estimated by Gudmundsson et al. (2018), and our estimates show a good agreement for these data for overlapping periods. The Pearson correlation coefficients were estimated to be 0.95-0.99 for the majority of the rivers.

The dataset consists of the CSV/TXT files, each file contains the long term series of the characteristics listed in the header: "year", "DFB" (date when a spring flooding period begins, day of year, DOY),"DFE" (date when the spring flooding period ends, DOY),"Length" (length of the spring flooding period, days), "DFMax" (date when the yearly maximum water discharge is recorded, DOY), "Qmax" (the yearly maximum water discharge, m^3s^{-1}), "FRD" (the volume of spring flood expressed in mm per flooding period), "YRD" (volume of annual flow, expressed in mm per year),"Ftype" (the source of annual flood equaling to 1 of the yearly maximum water discharge is recorded in the spring flooding period or 0 if it is not). Table S1 shows a list with the name of rivers (hydrometric sites) together with the name of the files in the dataset. The files are compressed in the file named as Supplement_Shevnina2023 which is attached to the manuscript. It is also available by a request via elena.shevnina@fmi.fi.

Table S1. The list of the files in the dataset supplemented to the manuscript.

River – Gauge name	River – Gauging sites
JuutuanjokiSP.txt	Juutuanjoki – Savukkoniva

Vantaanjoki_sp.csv	Vantaanjoki – Oulunkylä
Torniojoki_sp.csv	Tornionjoki – Karunki
OulunjokiSP.txt	Oulujoki – Lentua, outlet
KokemaenjokiSP.txt	Kokemäenjoki – Muroleenkoski
LieksanjokiSP.txt	Lieksanjoki – Ruunaa
TanaSP.txt	Tana – Polmak Nye
Ponoy_sp.csv	Ponoy – Kanevka
Pinega_sp.csv	Pinega – Kulogory
Pechora_sp.csv	Pechora – Yaksha
VimSP.txt	Vim – Veslyana
Sula_sp.csv	Sula – Kotkina