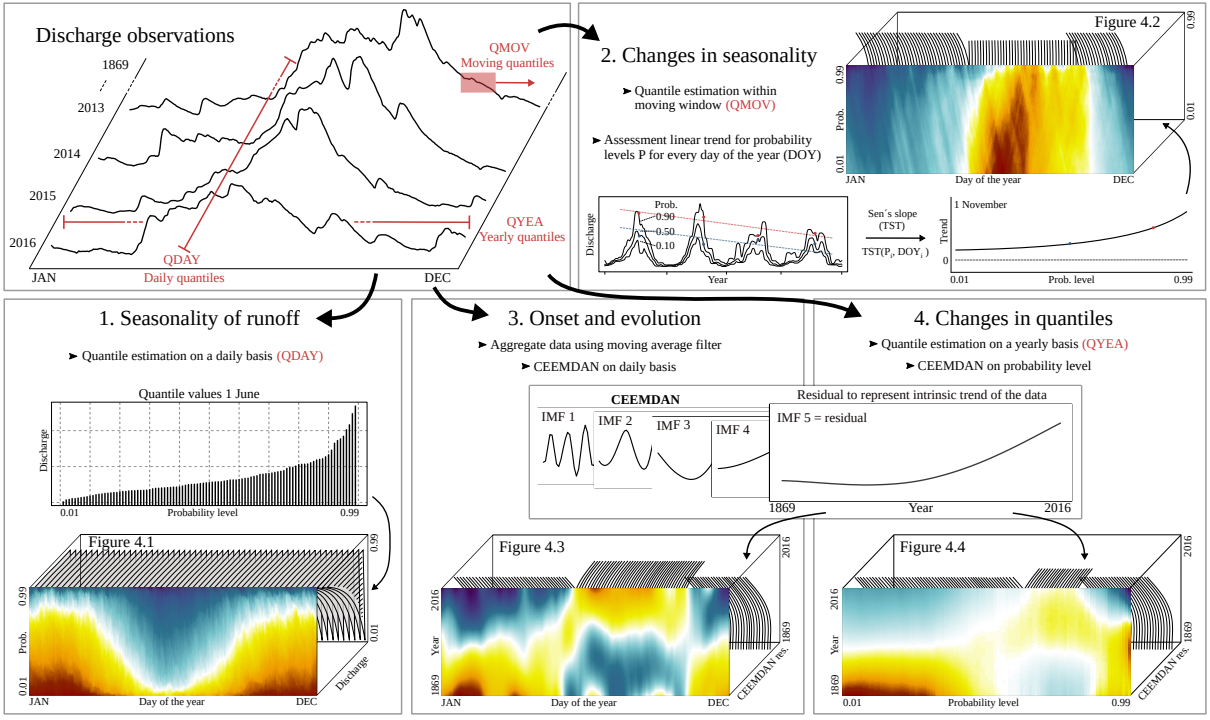
Discharge observations
1869
2013
2014
2015
2016
QMOV
Moving quantiles
QDAY
Daily quantiles
QYEA
Yearly quantiles
JAN
DEC
2. Changes in seasonality
Quantile estimation within moving window (QMOV)
Assessment linear trend for probability levels P for every day of the year (DOY)
Figure 4.2
Prob.
0.99
0.01
JAN
Day of the year
DEC
Discharge
Prob.
0.90
0.50
0.10
Year
Sen´s slope (TST)
TST(P_i, DOY_j)
1 November
Trend
0
0.01
Prob. level
0.99
1. Seasonality of runoff
Quantile estimation on a daily basis (QDAY)
Quantile values 1 June
Discharge
0.01
Probability level
0.99
Figure 4.1
0.99
Prob.
0.01
JAN
Day of the year
DEC
Discharge
3. Onset and evolution
Aggregate data using moving average filter
CEEMDAN on daily basis
CEEMDAN
IMF 1
IMF 2
IMF 3
IMF 4
IMF 5 = residual
Residual to represent intrinsic trend of the data
1869
Year
2016
Figure 4.3
2016
Year
1869
JAN
Day of the year
DEC
CEEMDAN res.
4. Changes in quantiles
Quantile estimation on a yearly basis (QYEA)
CEEMDAN on probability level
Figure 4.4
2016
Year
1869
0.01
Probability level
0.99
CEEMDAN res.