

Spatial Analysis Figures

Area 25 Chum Salmon

Coastland

2022-11-23

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Summary statistics

Bubbleplot of escapement by enhancement rank

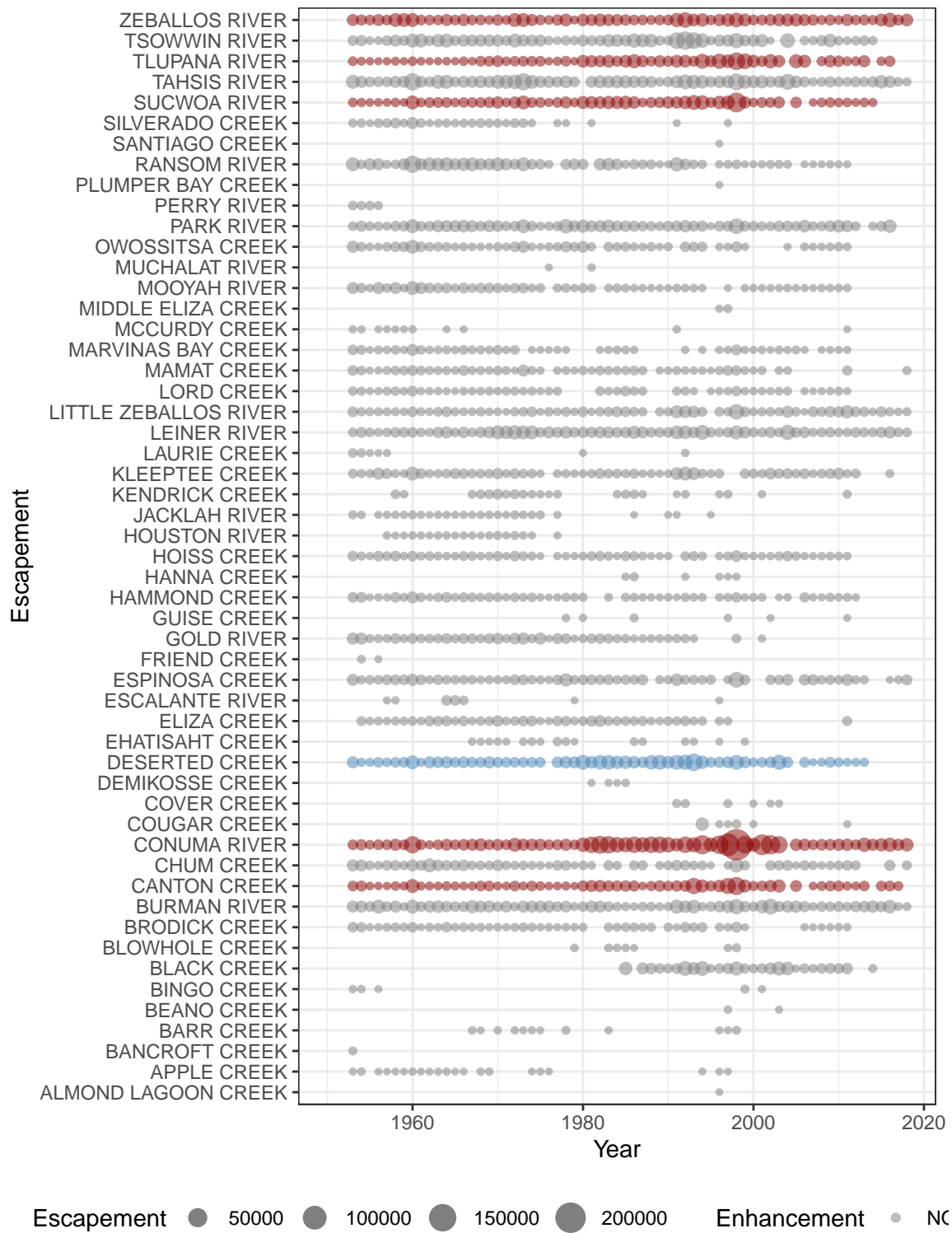


Figure 1: Escapement to area streams by enhancement rank.

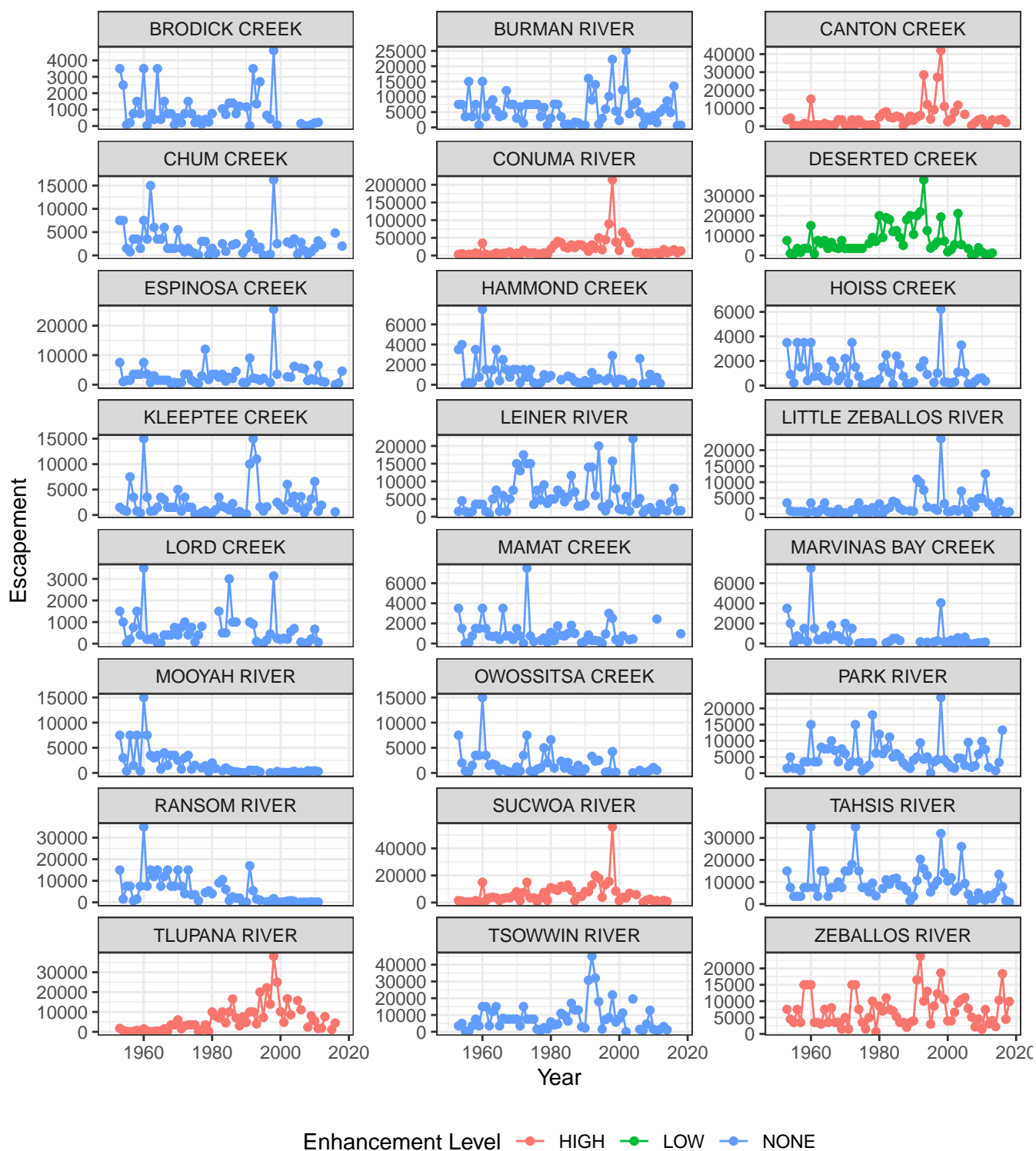


Figure 2: Escapement to area streams by enhancement rank.

Releases by system

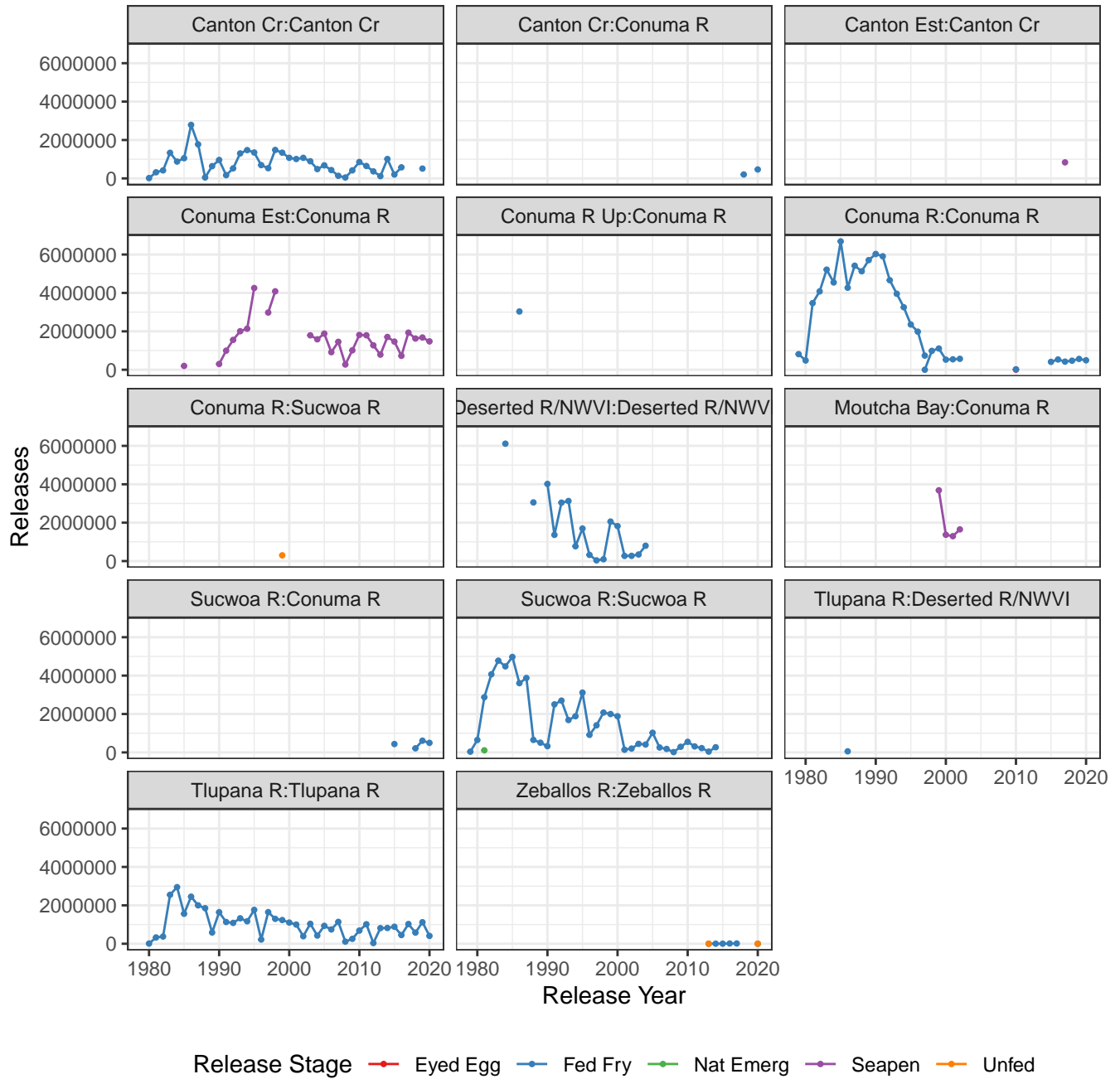


Figure 3: Chum releases to Area 25 by release site and release stage.

Escapement by enhancement rank per system

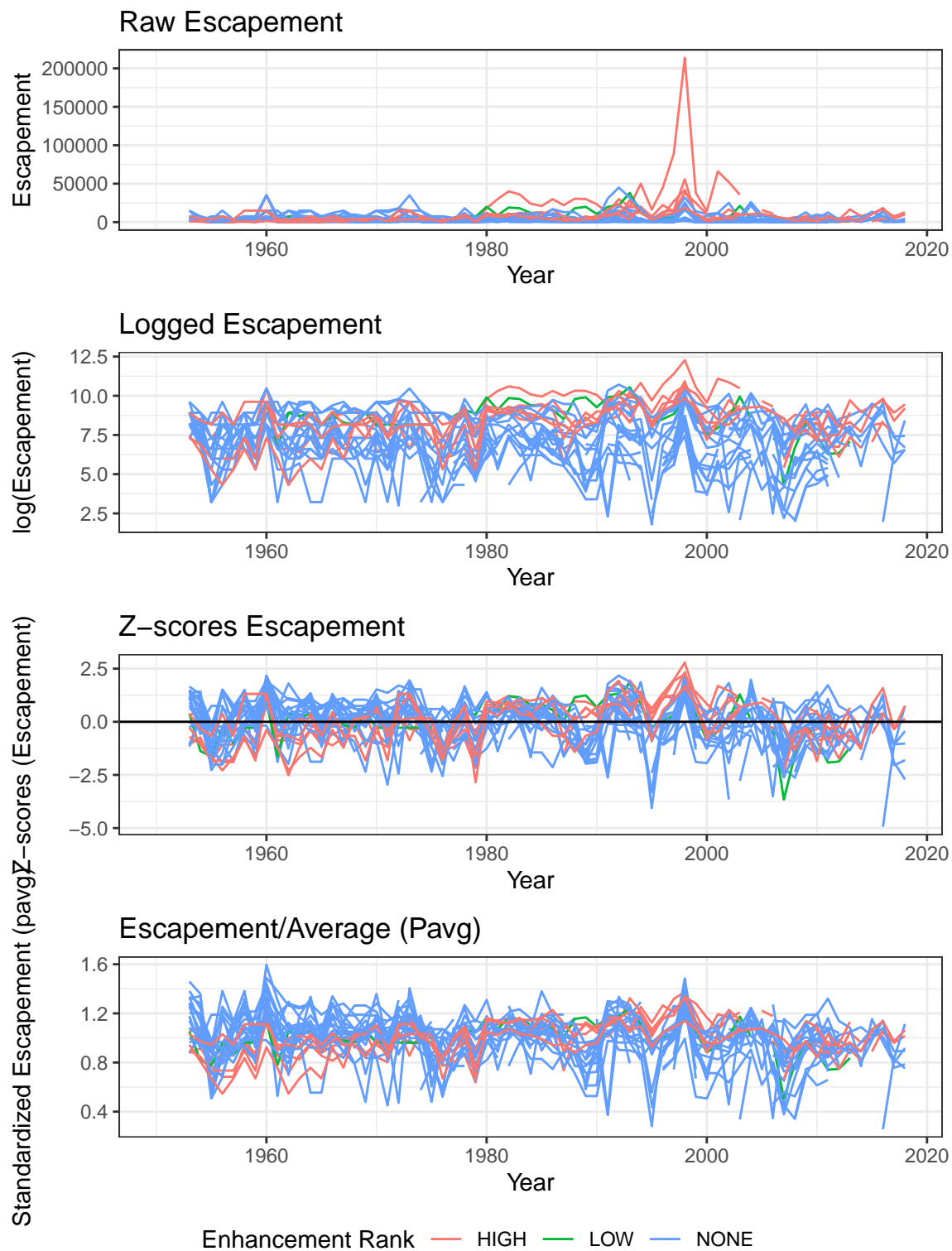


Figure 4: Various plots for escapement and transformations.

Moving average and LOESS fit on enhancement ranking of log escapements

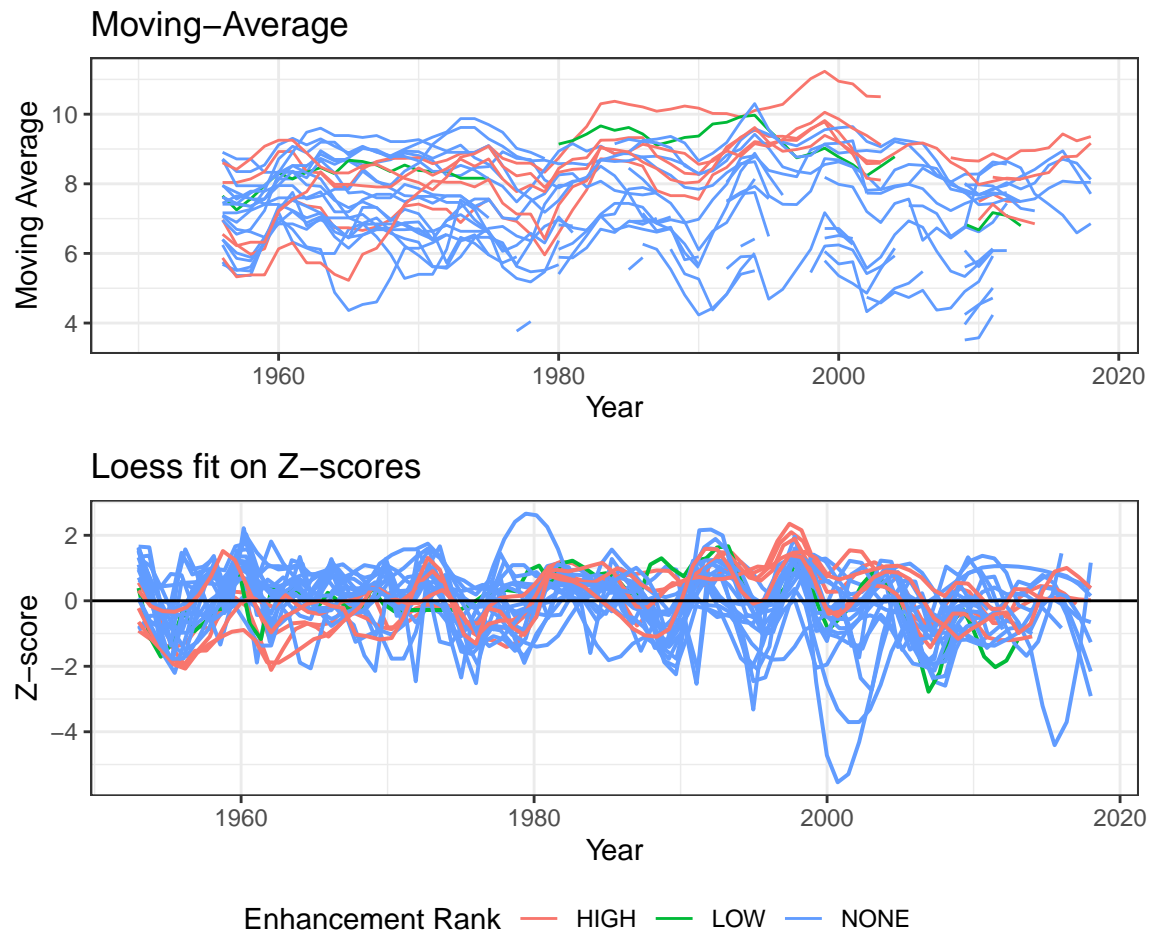


Figure 5: Moving average and LOESS fits on logged escapement by enhancement ranking.

Z-scores pre- and post-enhancement

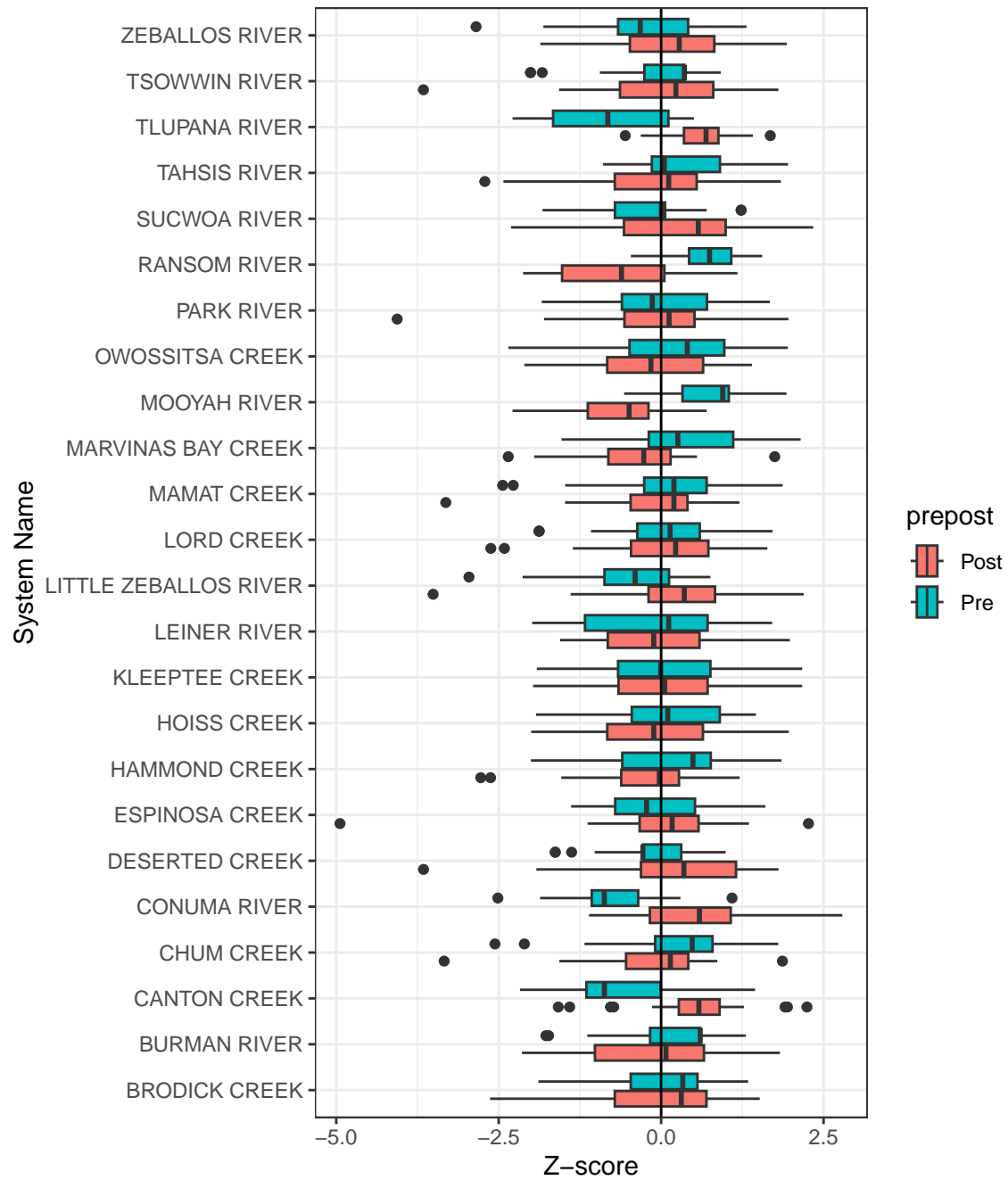


Figure 6: Z-scores pre- and post-enhancement.

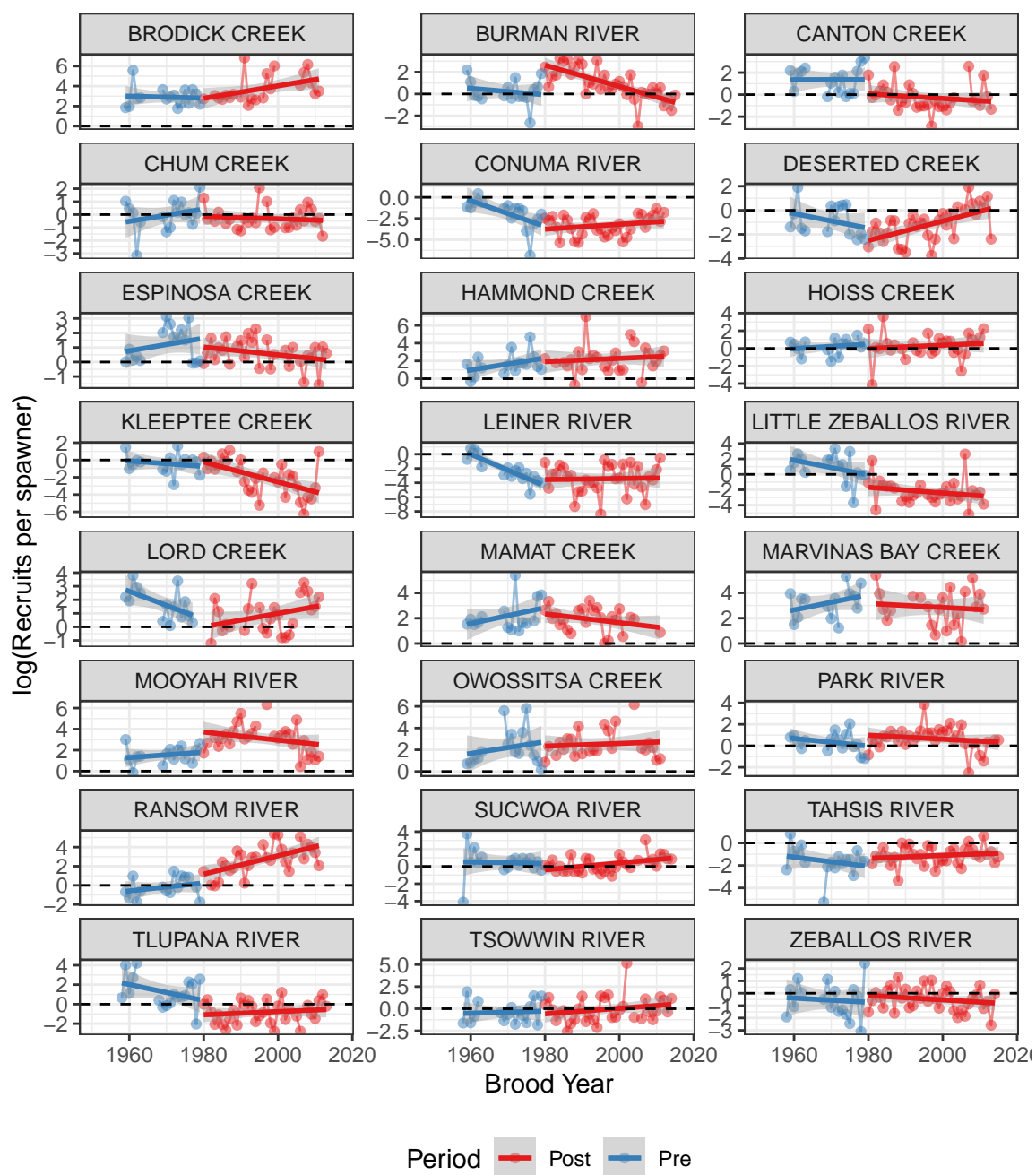


Figure 7: Log RPS by stream with linear regression fits pre- and post-first year of enhancement.

Correlation analyses

Correlation plots by metric

## [1] "BRODICK CREEK"	"BURMAN RIVER"	"CANTON CREEK"
## [4] "CHUM CREEK"	"CONUMA RIVER"	"DESERTED CREEK"
## [7] "ESPINOSA CREEK"	"HAMMOND CREEK"	"HOISS CREEK"
## [10] "KLEETEE CREEK"	"LEINER RIVER"	"LITTLE ZEBALLOS RIVER"
## [13] "LORD CREEK"	"MAMAT CREEK"	"MARVINAS BAY CREEK"
## [16] "MOOYAH RIVER"	"OWOSSITSA CREEK"	"PARK RIVER"
## [19] "RANSOM RIVER"	"SUCWOA RIVER"	"TAHSIS RIVER"
## [22] "TLUPANA RIVER"	"TSOWWIN RIVER"	"ZEBALLOS RIVER"

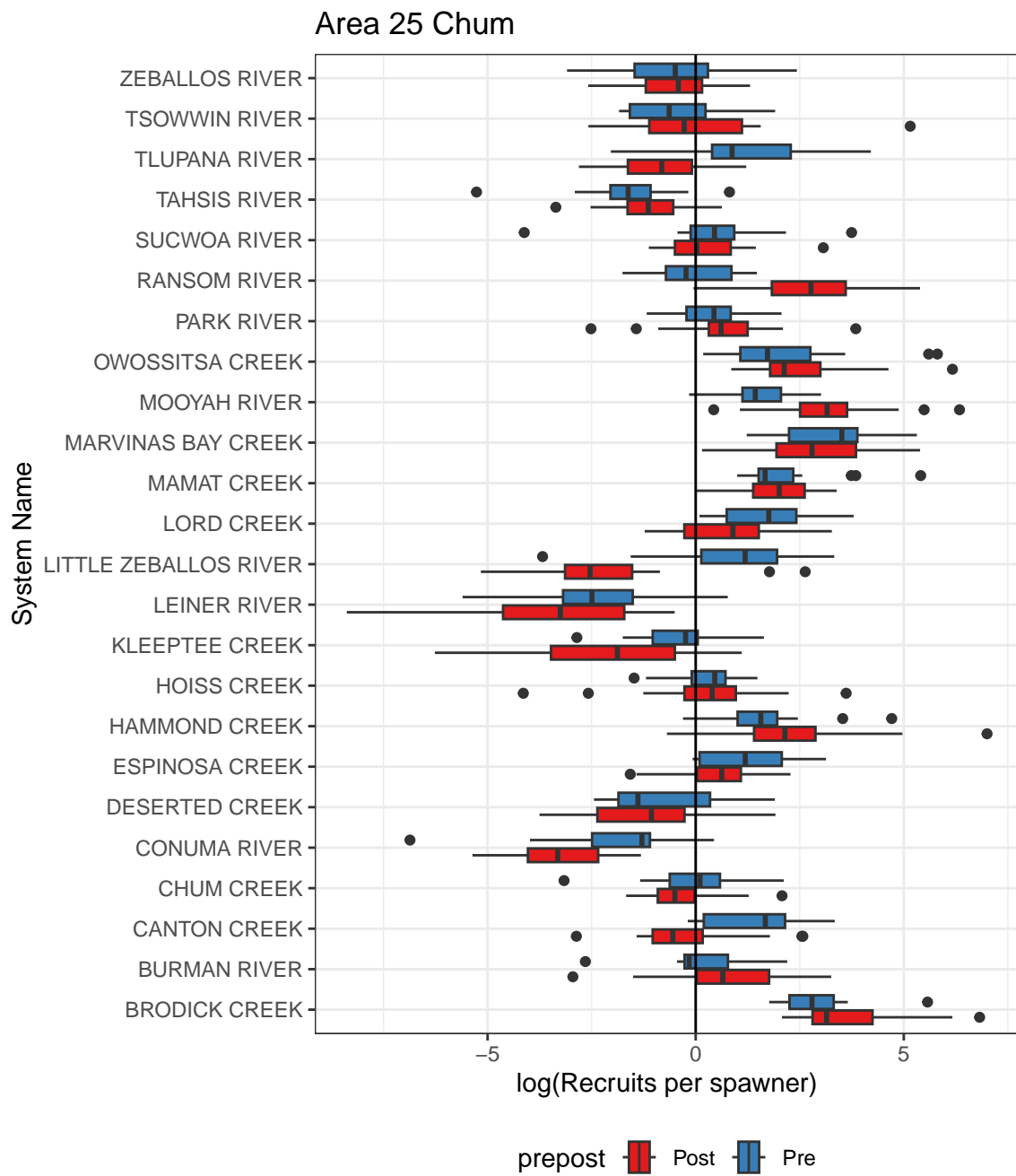


Figure 8: Log RPS by stream boxplot for pre- and post-start of enhancement period.

Dendrograms by metric

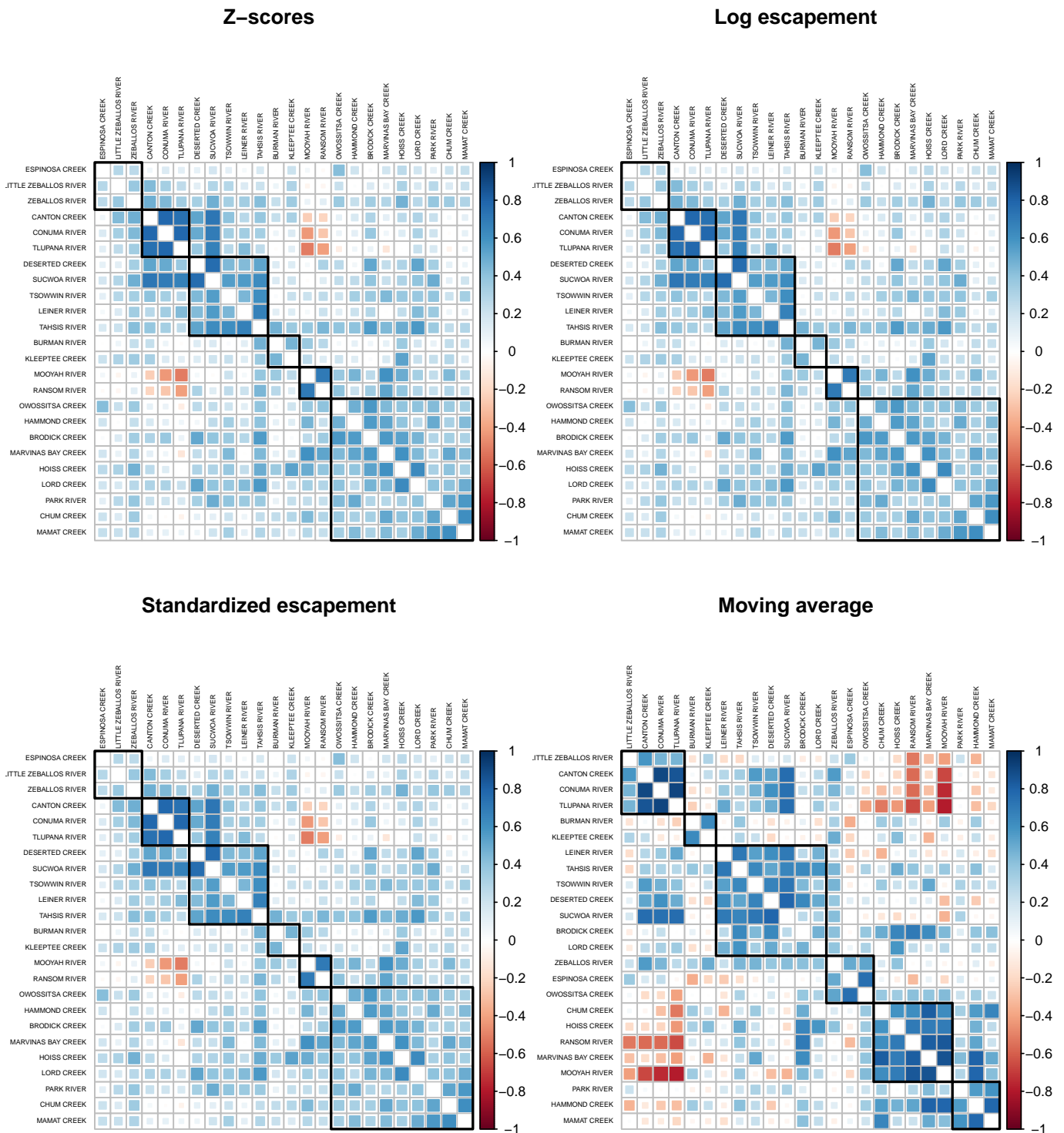


Figure 9: Cross correlation plots to compare metrics.

Tanglegrams comparing effect of metric choice on cluster analysis

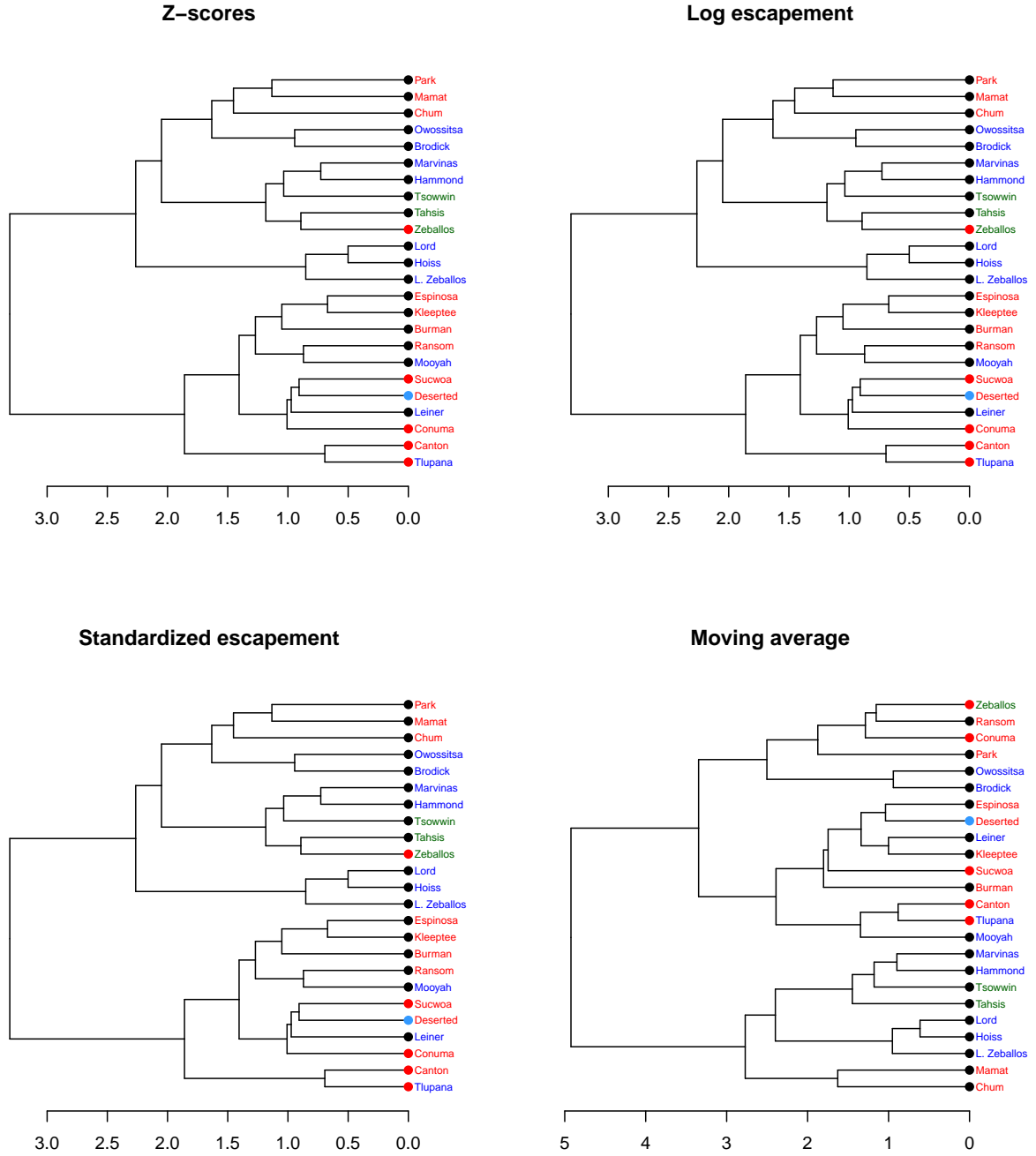


Figure 10: Dendrograms by metric. Red labels are from Esperanza inlet, blue are from Nootka inlet, and green are from Tahsis inlet. Rivers and creeks denoted with black circles have no enhancement rank, blue have low, orange have medium, and red have high enhancement ranks.

Analyses by pre- and post-enhancement

Correlation plots

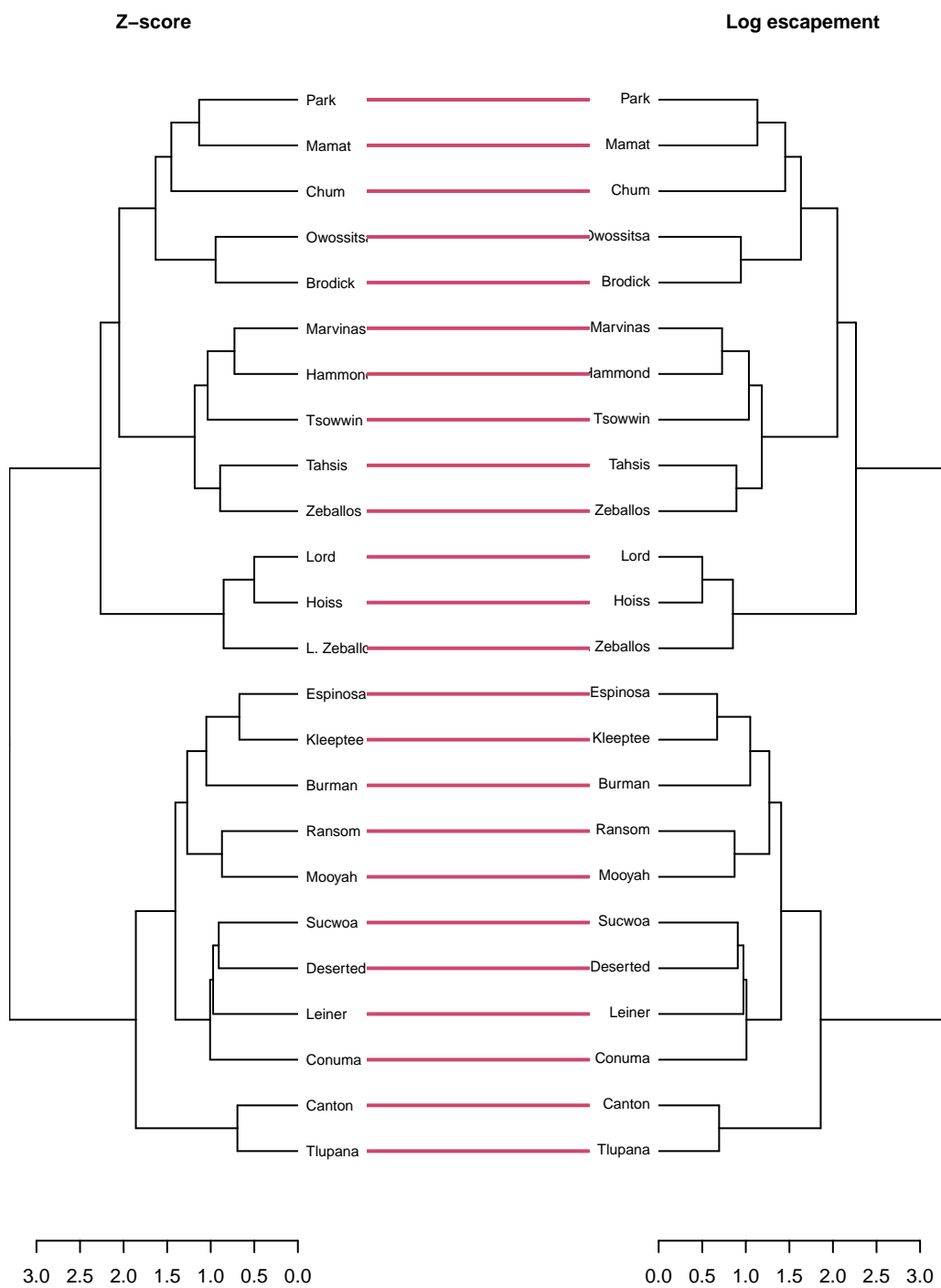


Figure 11: Tanglegram comparing the use of z-score against the use of log escapements on cluster analysis outputs.

Tanglegrams

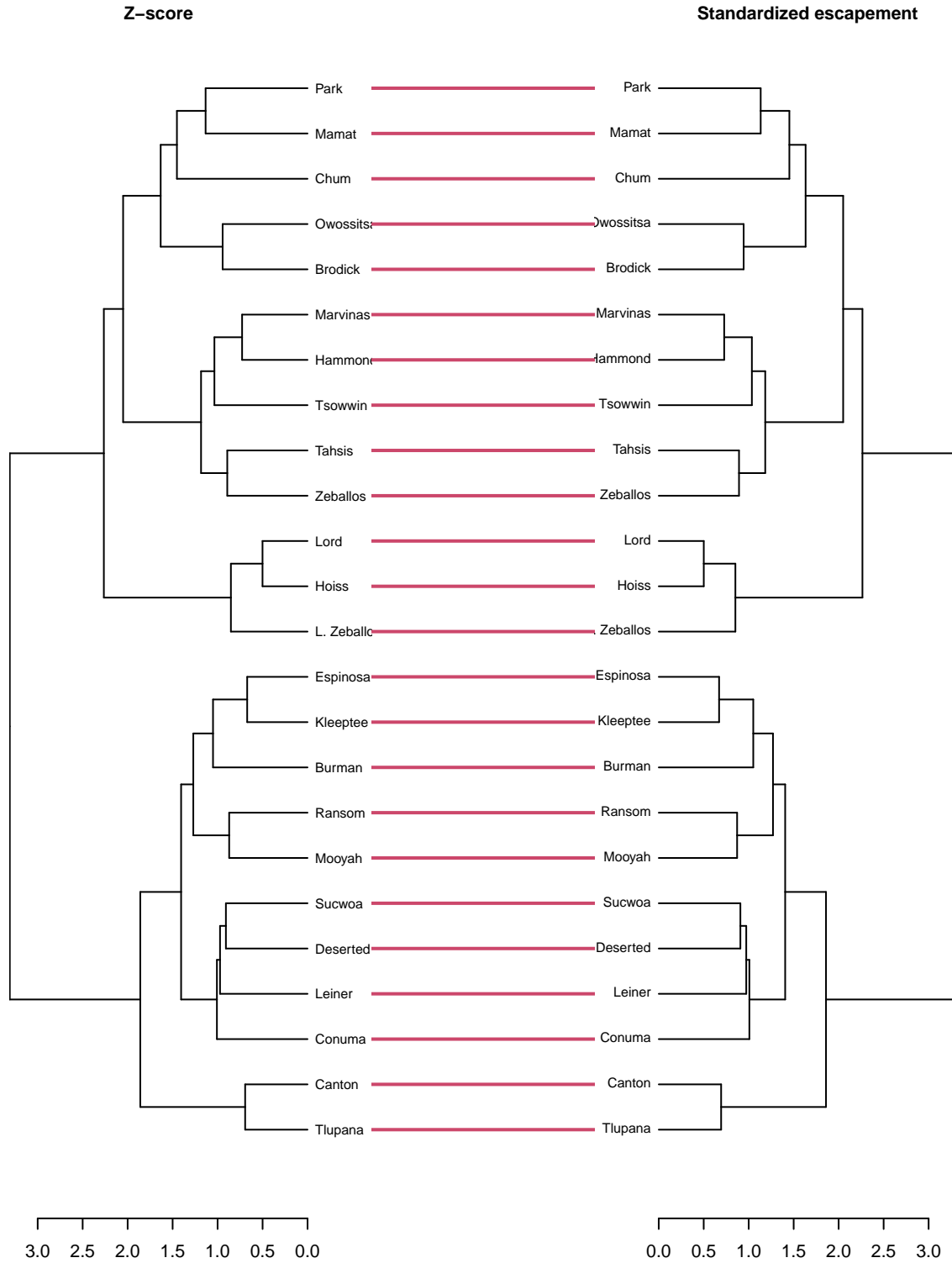


Figure 12: Tanglegram comparing the use of z-score against the use of standardized escapements on cluster analysis outputs.

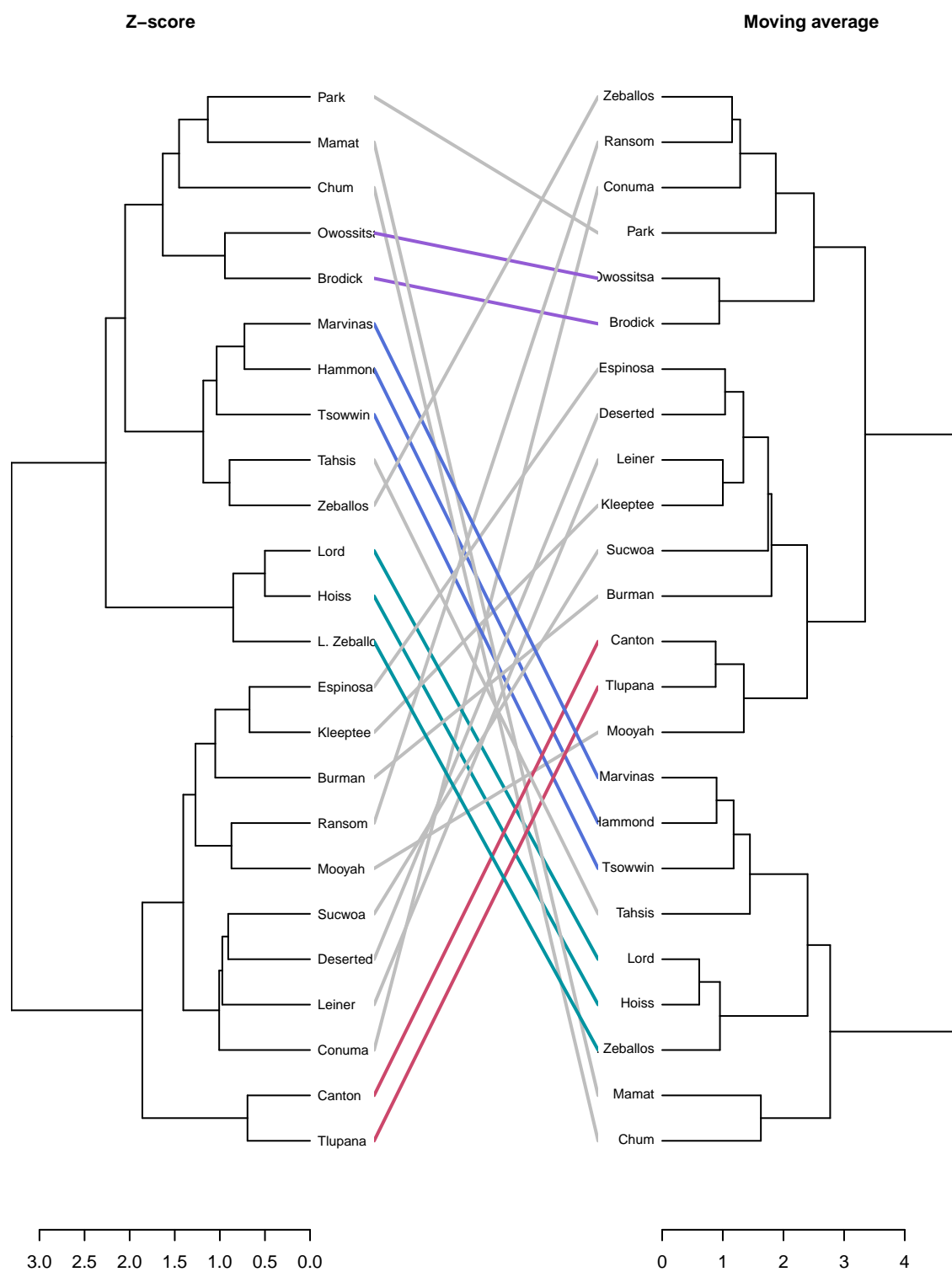


Figure 13: Tanglegram comparing the use of z-score against the use of moving average on cluster analysis outputs.

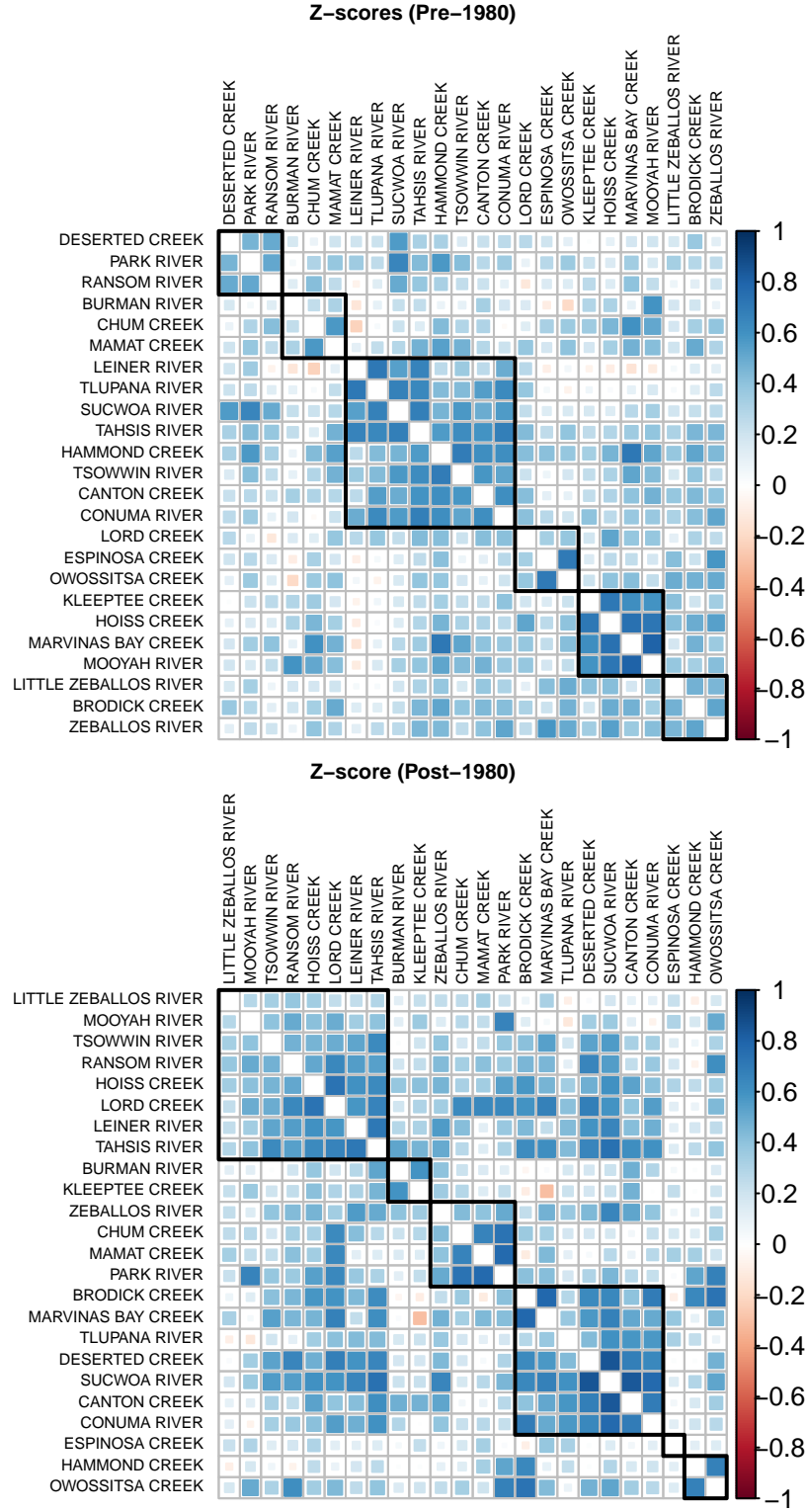


Figure 14: Cross correlation plots of z-scores to compare pre- and post-enhancement.

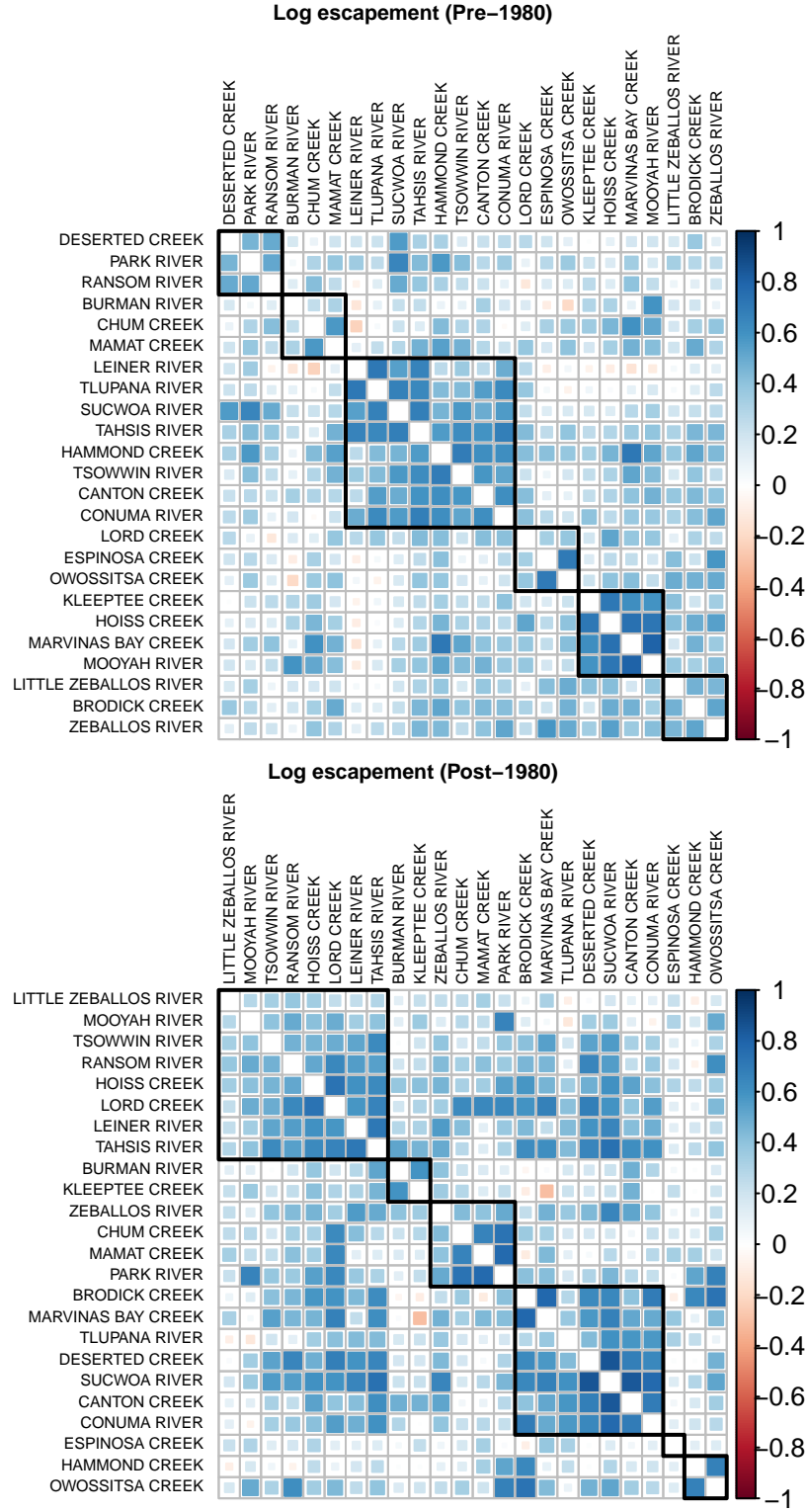


Figure 15: Cross correlation plots to compare log escapements pre- and post-enhancement.

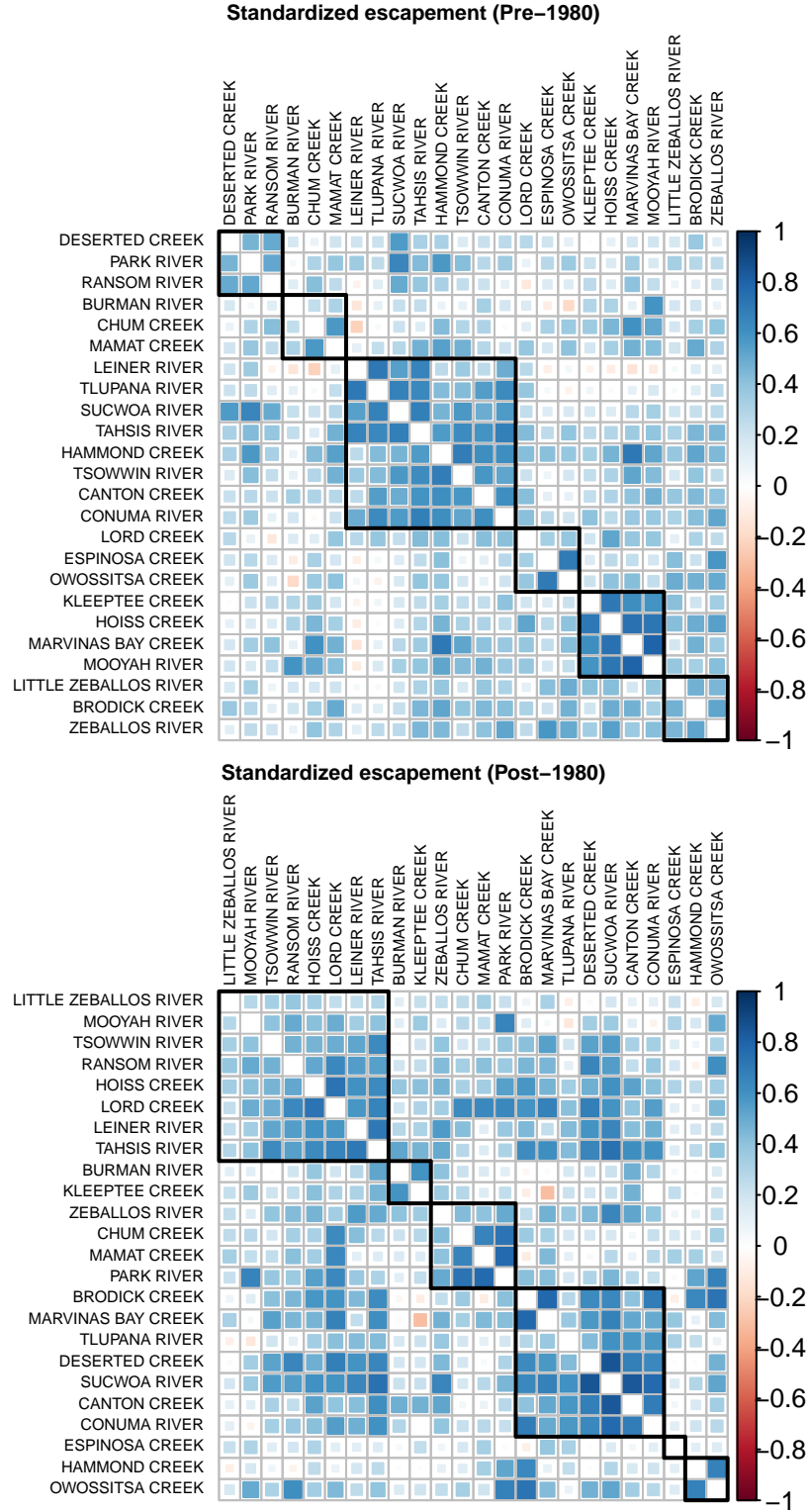


Figure 16: Cross correlation plots to compare standardized escapements pre- and post-enhancement.

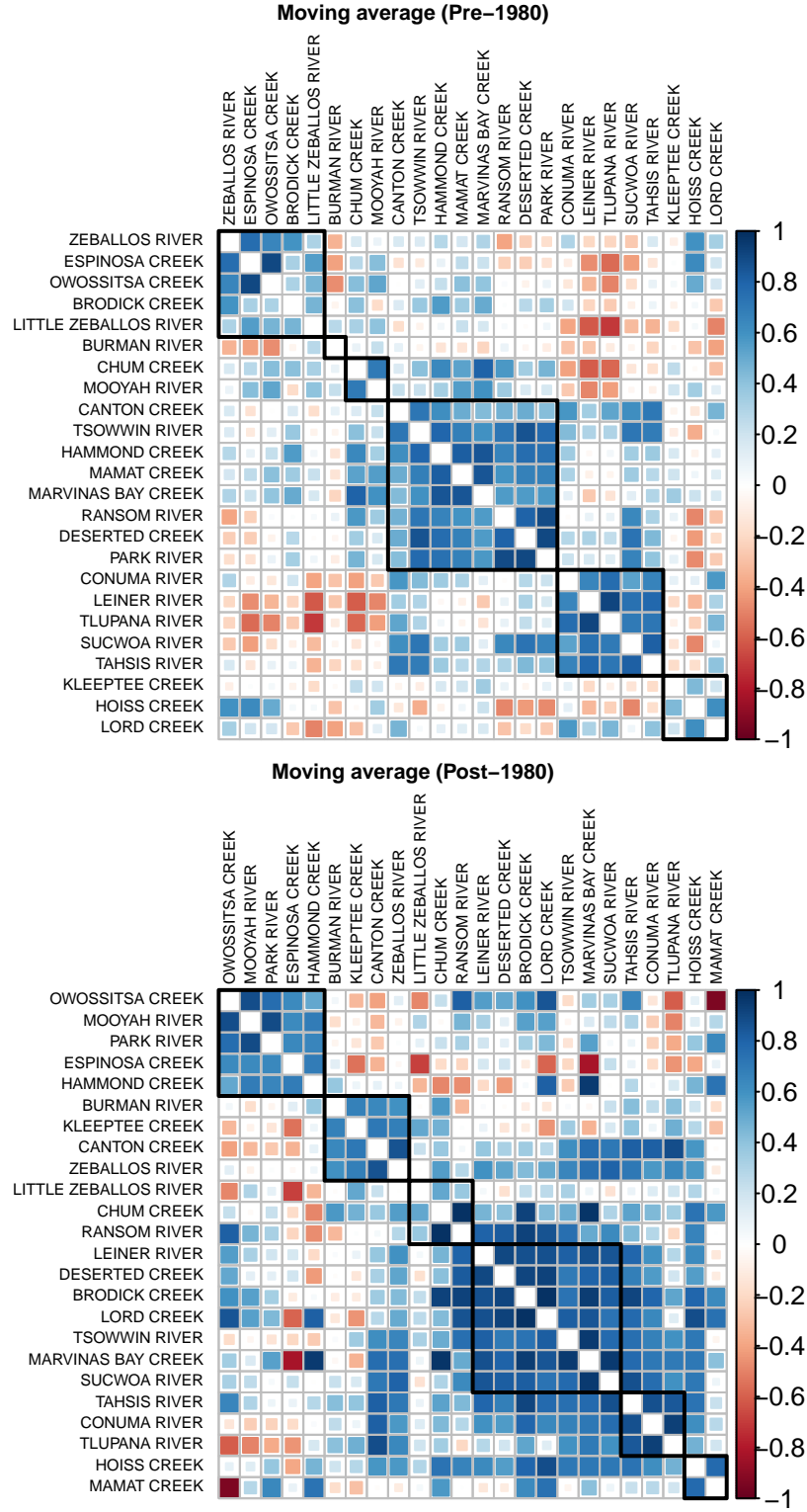


Figure 17: Cross correlation plots to compare moving average pre- and post-enhancement.

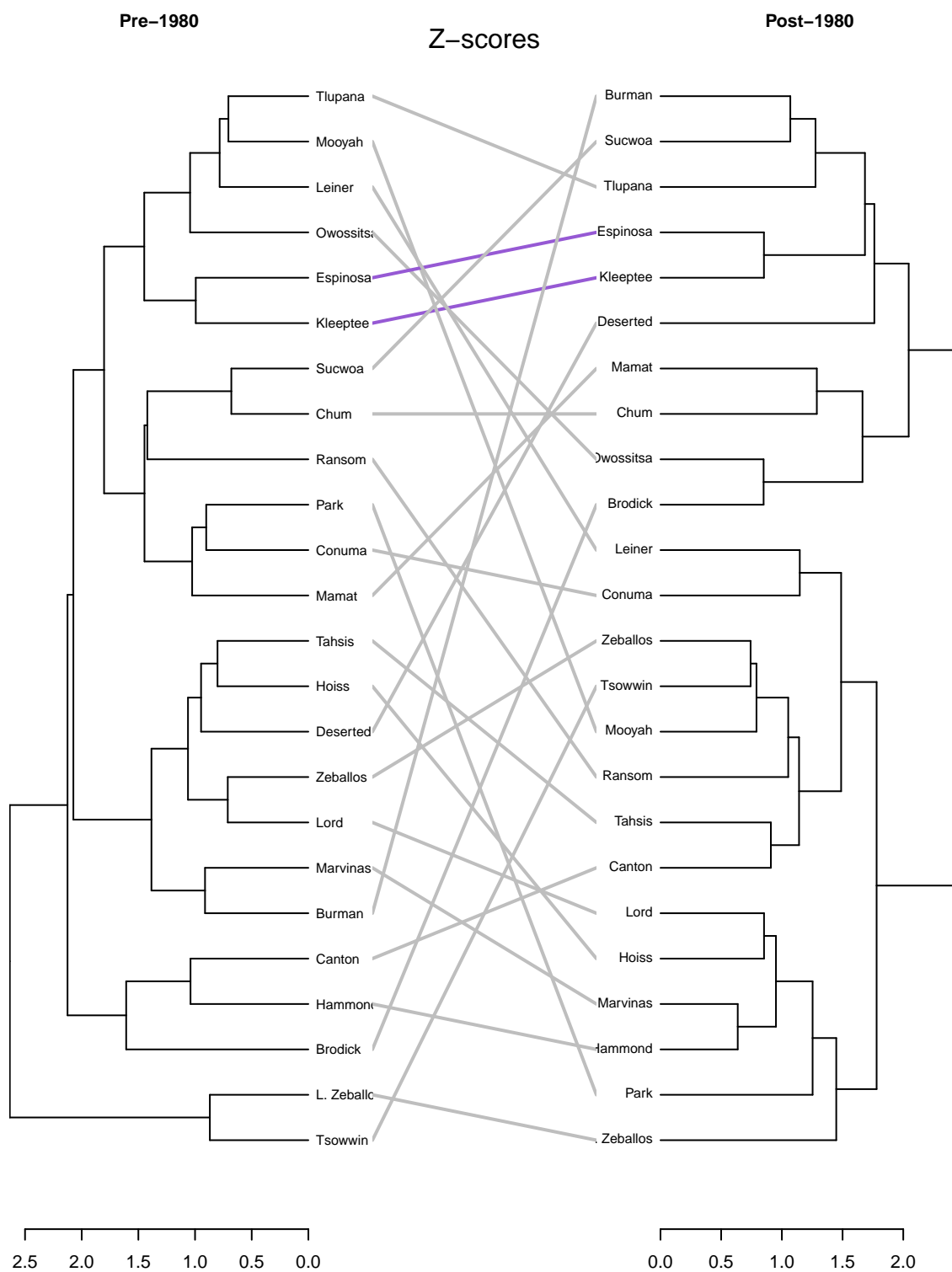


Figure 18: Tanglegram comparing z-scores pre- and post-enhancement (1980)

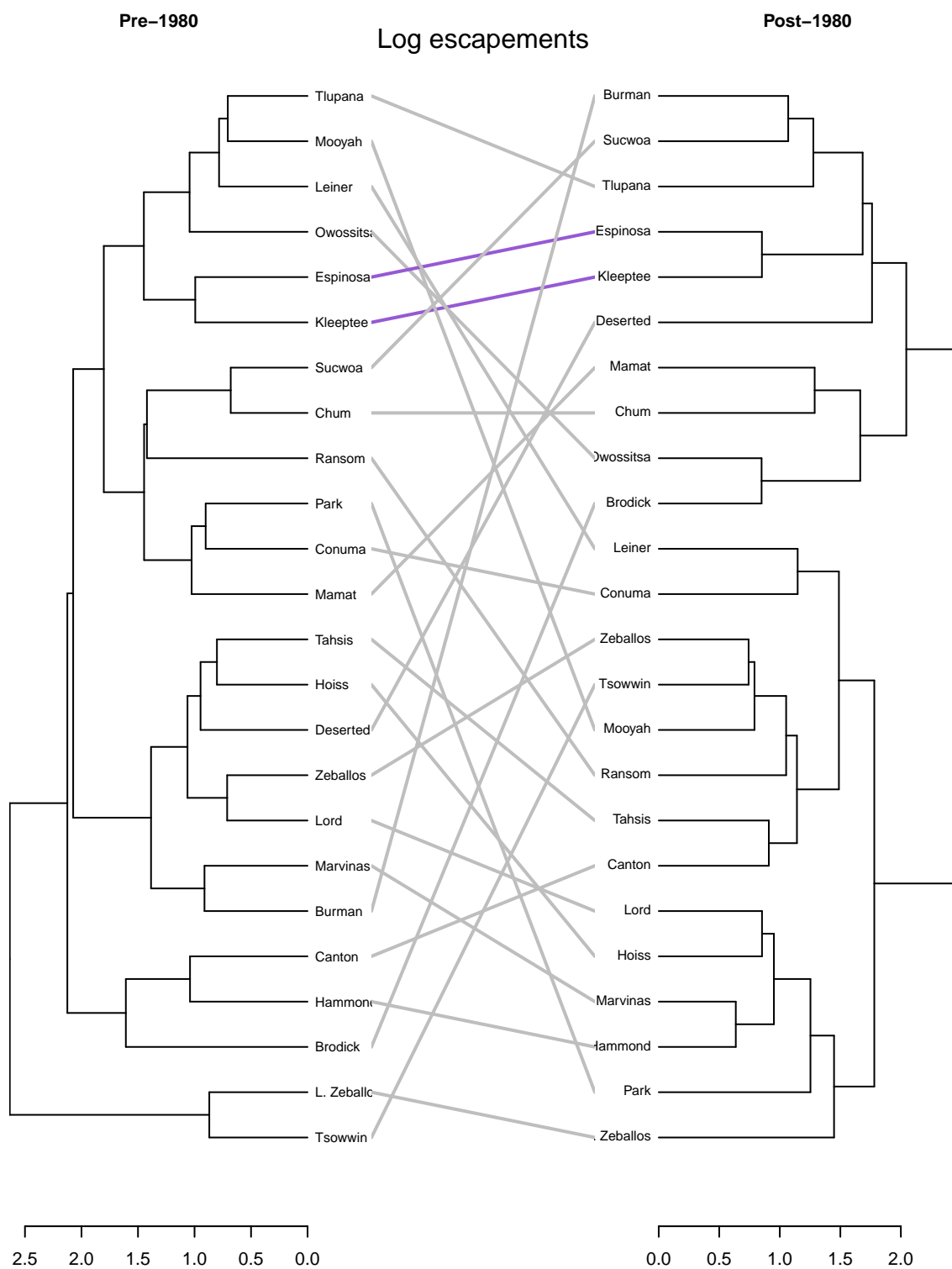


Figure 19: Tanglegram comparing log escapements pre- and post-enhancement (1980)

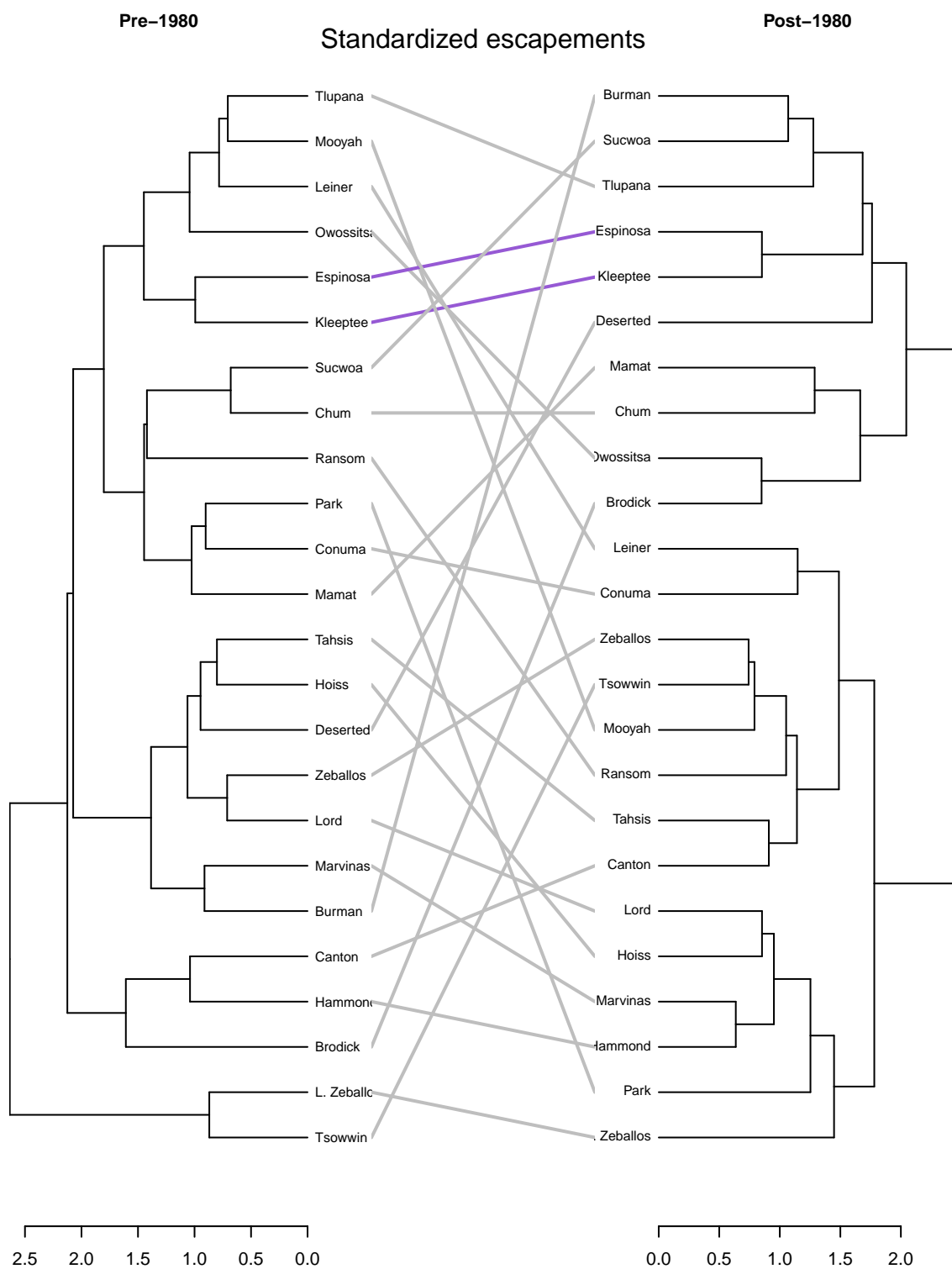


Figure 20: Tanglegram comparing log escapements pre- and post-enhancement (1980)

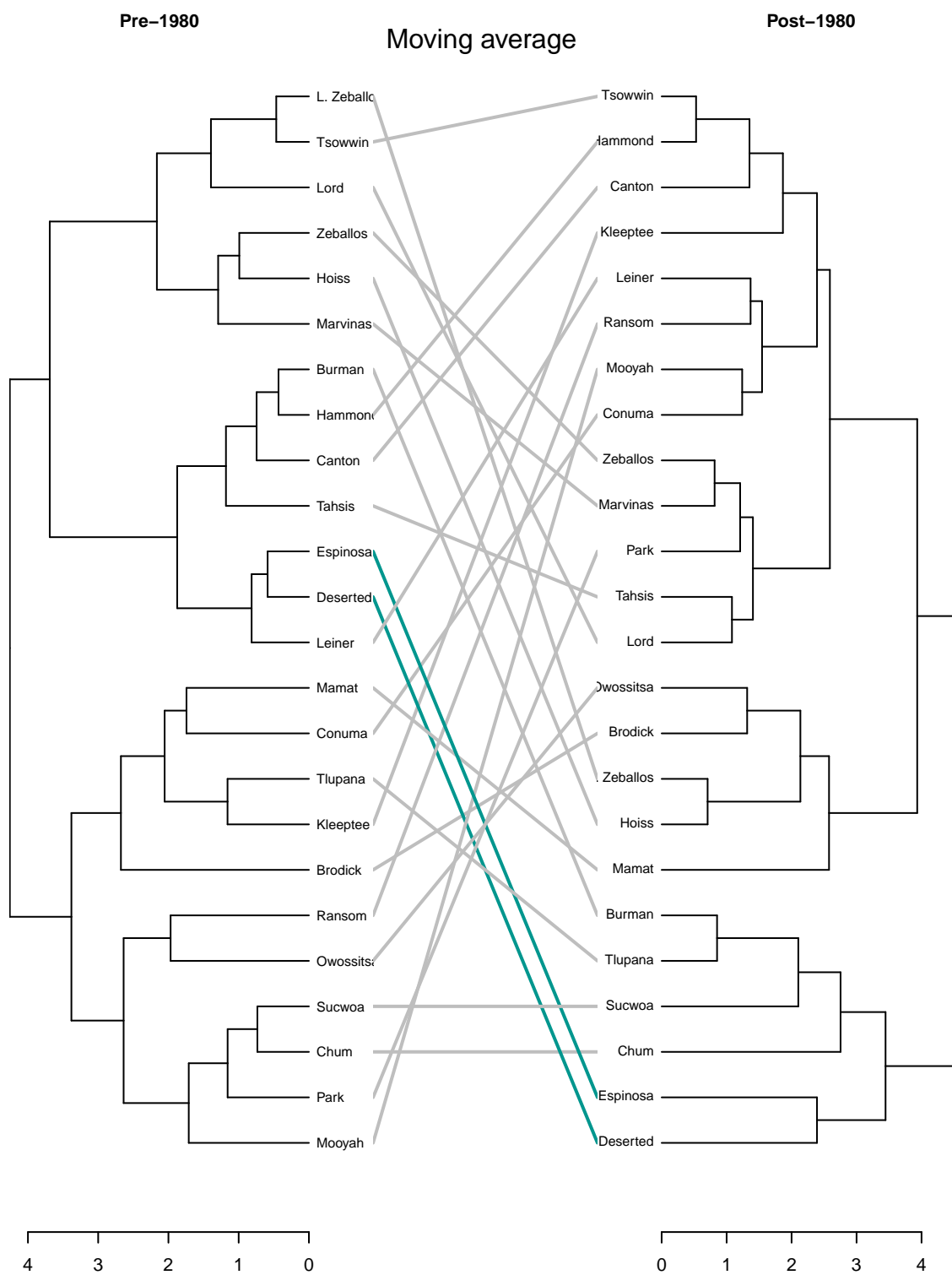


Figure 21: Tanglegram comparing moving averages pre- and post-enhancement (1980)