EDA Report

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Results

Start Year	End Year	Trend in AMS Mean	Trend in AMS Variance	Recommendation
1928	1971	TRUE	FALSE	NS-FFA
1972	2018	TRUE	FALSE	NS-FFA

Change Point Analysis (1928-2018)

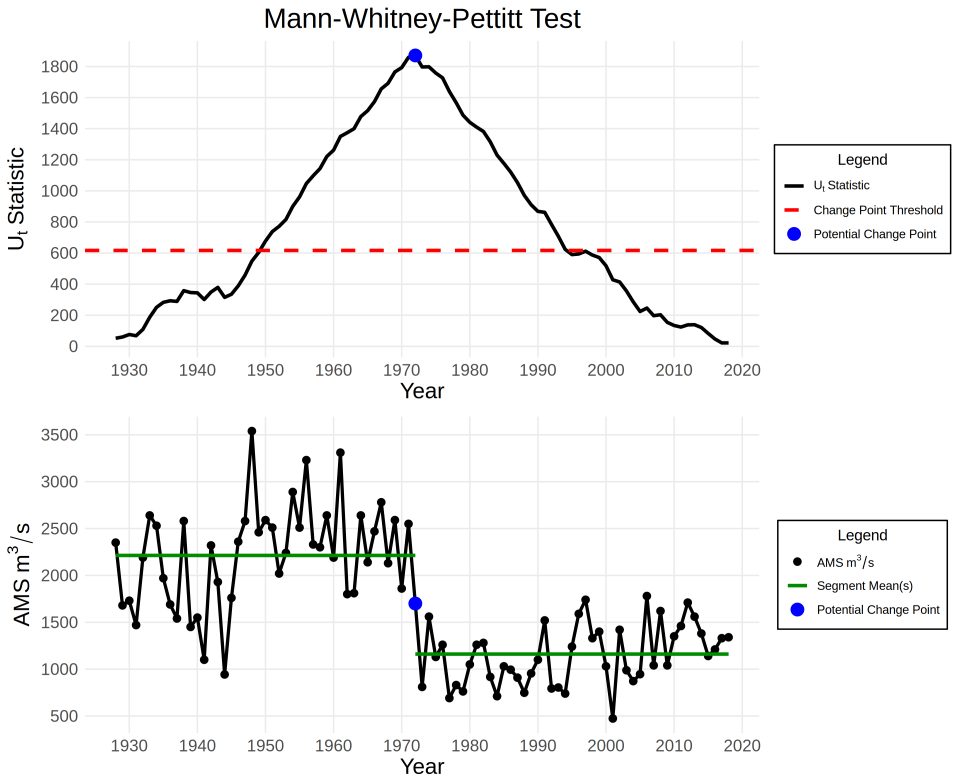
Pettitt Test

For more information, see here.

- The Pettitt test yielded a p-value of 0.
- At a significance level of 0.05, we reject the null hypothesis.
- Therefore, there is evidence of a change point in 1972.

Additional information:

- K-statistic: 1871
- K-statistic significance threshold: 616.75



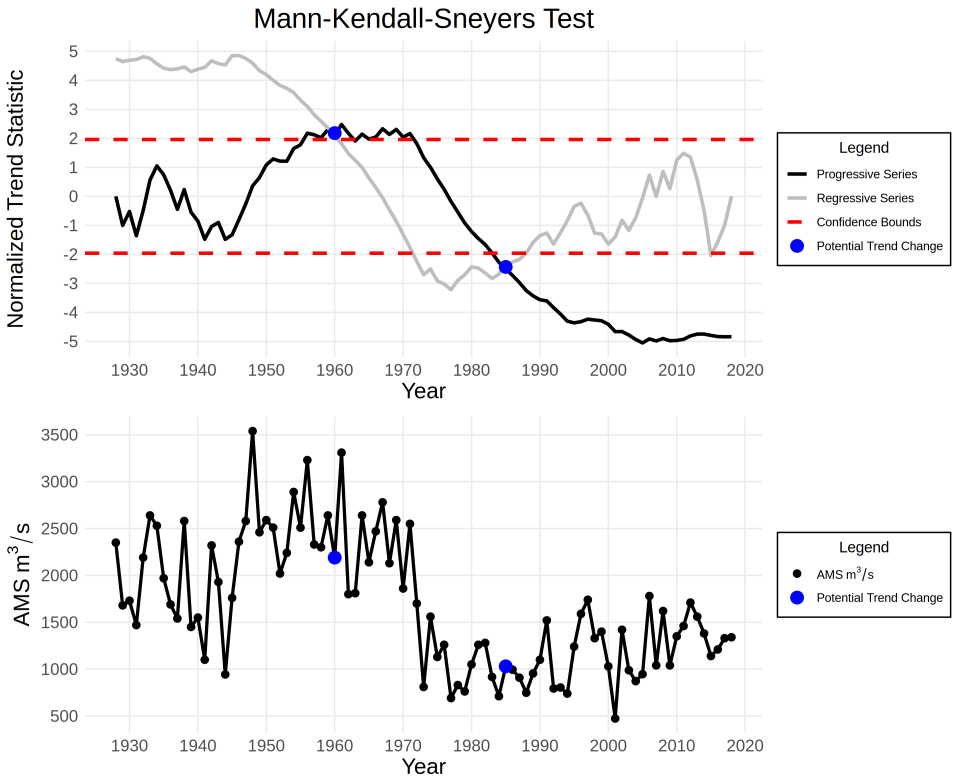
MKS Test

For more information, see here.

- The MKS test yielded a p-value of 0.015.
- At a significance level of 0.05, we reject the null hypothesis.
- Therefore, there is evidence of change point(s) at 1960, 1985.

Additional information:

- Number of crossings: 2
- Number of significant crossings: 2
- Significance threshold: 1.96



Change Point Analysis (1928-1971)

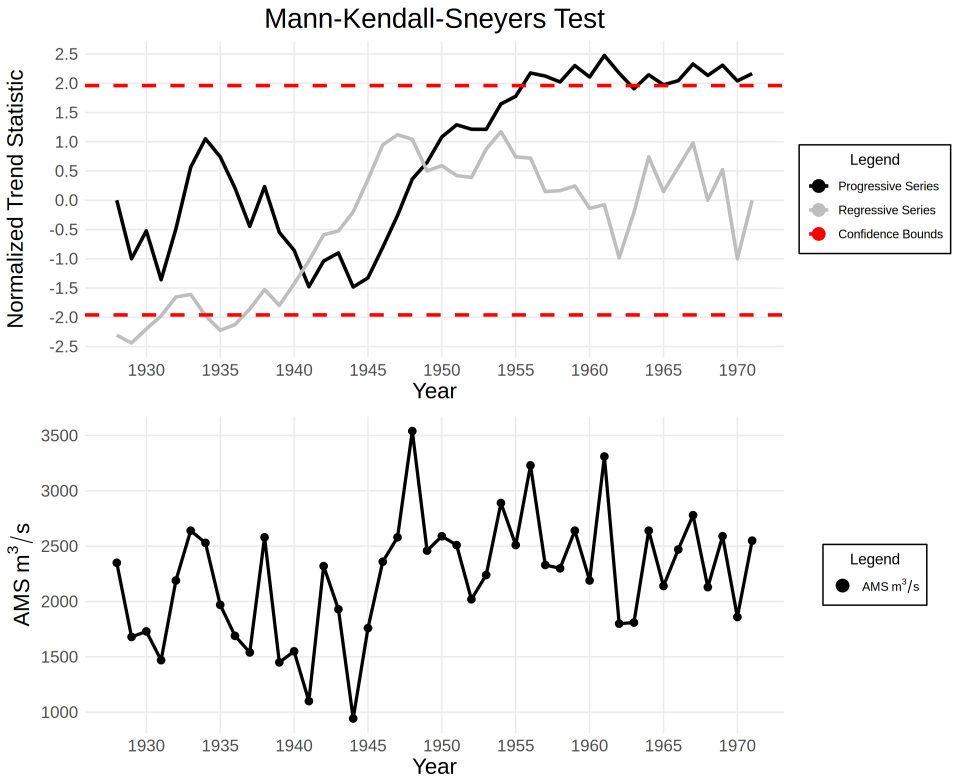
MKS Test

For more information, see here.

- The MKS test yielded a p-value of 0.228.
- At a significance level of 0.05, we fail to reject the null hypothesis.
- Therefore, there is NO evidence of change point(s).

Additional information:

- Number of crossings: 2
- Number of significant crossings: 0
- Significance threshold: 1.96



Trend Identification in AMS Means (1928-1971)

Mann-Kendall Test

For more information, see here.

- The MK test yielded a p-value of 0.026.
- At a significance level of 0.05, we reject the null hypothesis.
- Therefore, there is evidence of a significant monotonic trend.

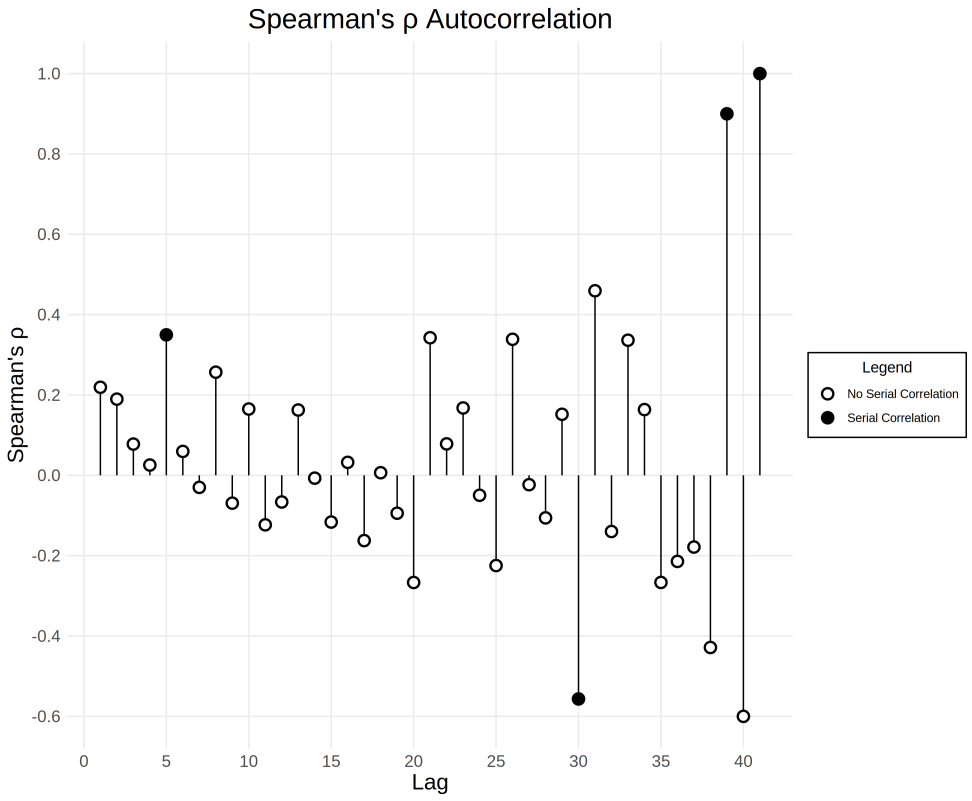
Additional information:

- S-statistic: 221
- S-statistic variance: 9.77e+03

Spearman Test

For more information, see here.

- The Spearman test found a least insignificant lag of 0.
- Therefore, there is NO evidence of serial correlation.

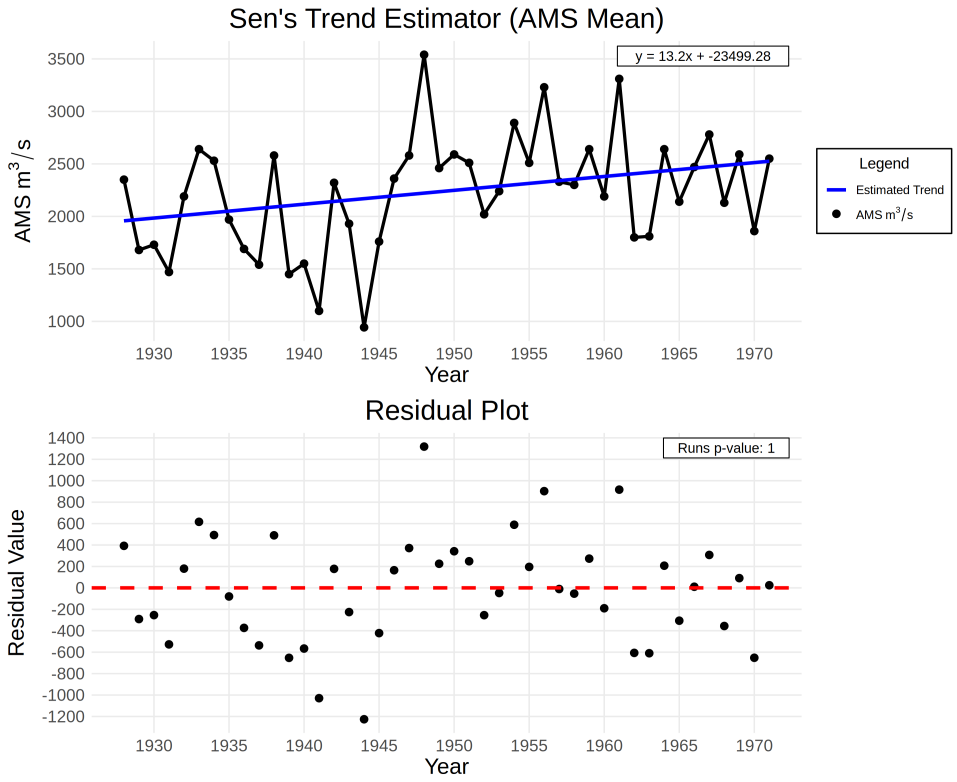


Sen's Trend Estimator

Dataset: AMS Mean.

For more information, see here.

- Estimated trend: y = 13.204x + -23499.28.
- The Runs test yielded a p-value of 1.
- At a significance level of 0.05, we fail to reject the null hypothesis.
- Therefore, there is evidence the residuals are random.



Trend Identification in AMS Variance (1928-1971)

White Test

For more information, see here.

- The White test yielded a p-value of 0.311.
- At a significance level of 0.05, we fail to reject the null hypothesis.
- Therefore, there is evidence of homoskedasticity.

MW-MK Test

For more information, see here.

- The MK test yielded a p-value of 0.386.
- At a significance level of 0.05, we fail to reject the null hypothesis.
- Therefore, there is NO evidence of a significant monotonic trend.

Additional information:

- S-statistic: -8
- S-statistic variance: 6.53e+01

Change Point Analysis (1972-2018)

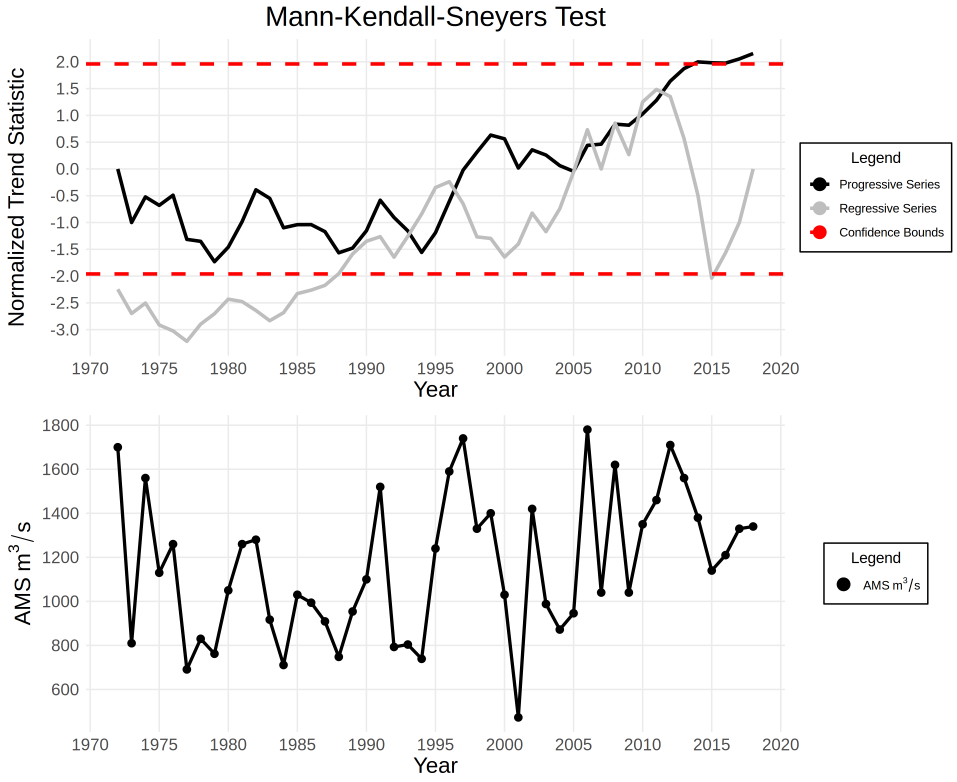
MKS Test

For more information, see here.

- The MKS test yielded a p-value of 0.153.
- At a significance level of 0.05, we fail to reject the null hypothesis.
- Therefore, there is NO evidence of change point(s).

Additional information:

- Number of crossings: 8
- Number of significant crossings: 0
- Significance threshold: 1.96



Trend Identification in AMS Means (1972-2018)

Mann-Kendall Test

For more information, see here.

- The MK test yielded a p-value of 0.028.
- At a significance level of 0.05, we reject the null hypothesis.
- Therefore, there is evidence of a significant monotonic trend.

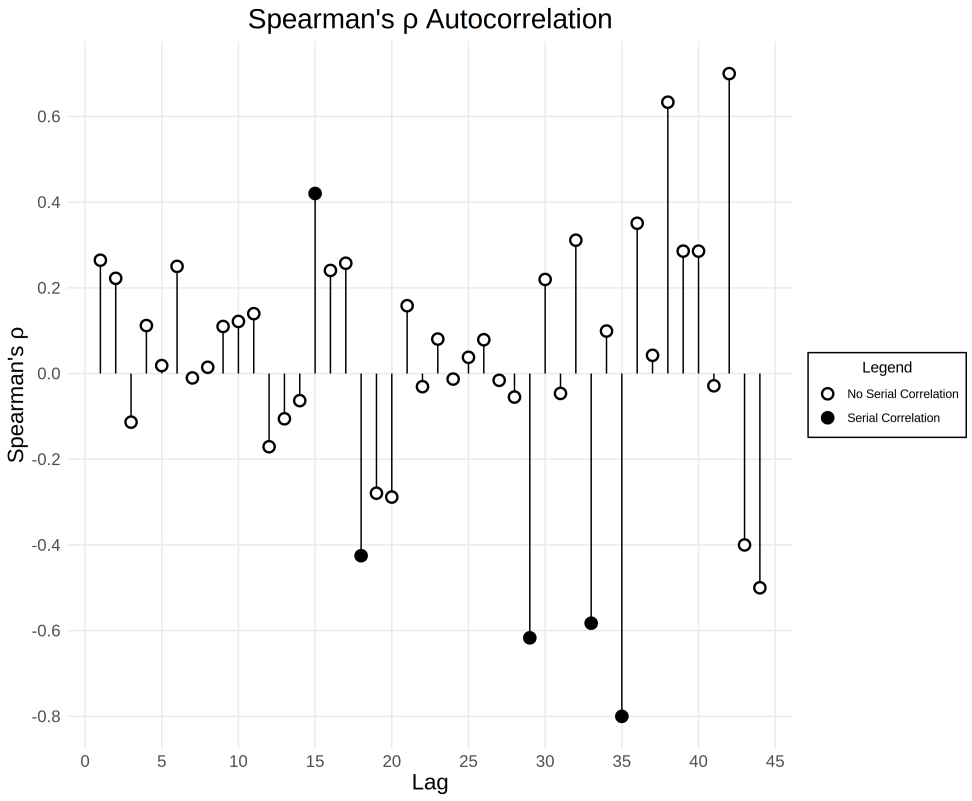
Additional information:

- S-statistic: 240
- S-statistic variance: 1.19e+04

Spearman Test

For more information, see here.

- The Spearman test found a least insignificant lag of 0.
- Therefore, there is NO evidence of serial correlation.

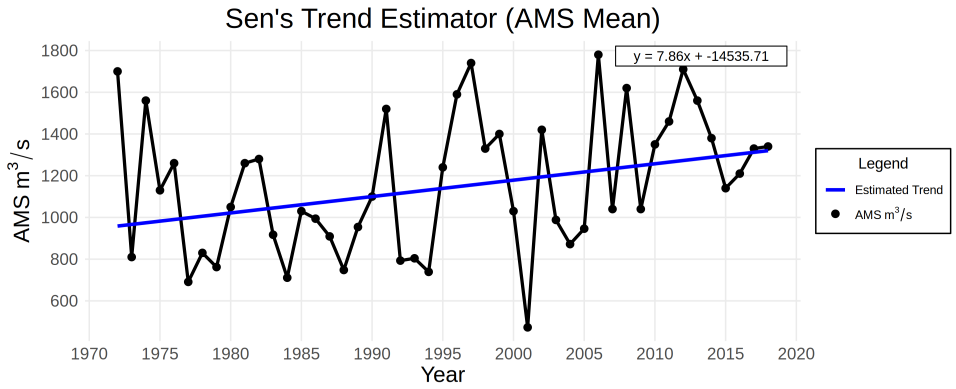


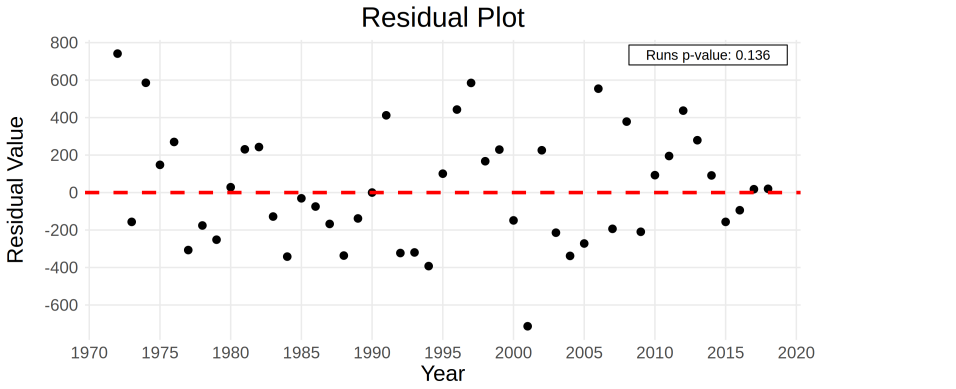
Sen's Trend Estimator

Dataset: AMS Mean.

For more information, see here.

- Estimated trend: y = 7.857x + -14535.71.
- The Runs test yielded a p-value of 0.136.
- At a significance level of 0.05, we fail to reject the null hypothesis.
- Therefore, there is evidence the residuals are random.





Trend Identification in AMS Variance (1972-2018)

White Test

For more information, see here.

- The White test yielded a p-value of 0.603.
- At a significance level of 0.05, we fail to reject the null hypothesis.
- Therefore, there is evidence of homoskedasticity.

MW-MK Test

For more information, see here.

- The MK test yielded a p-value of 0.602.
- At a significance level of 0.05, we fail to reject the null hypothesis.
- Therefore, there is NO evidence of a significant monotonic trend.

Additional information:

- S-statistic: -6
- S-statistic variance: 9.2e+01