



Change point detection in monthly mean air temperature observations in Latvia

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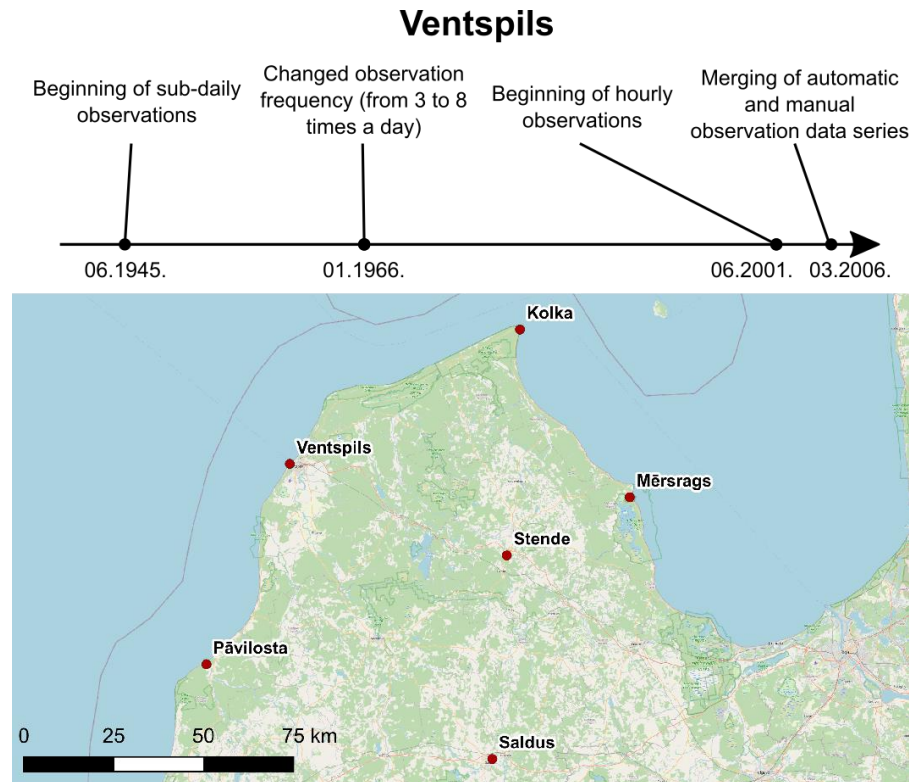
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Geology and Meteorology Centre

10th Seminar for Homogenization and Quality Control and 5th Conference on Spatial
Interpolation Techniques in Climatology and Meteorology

Introduction

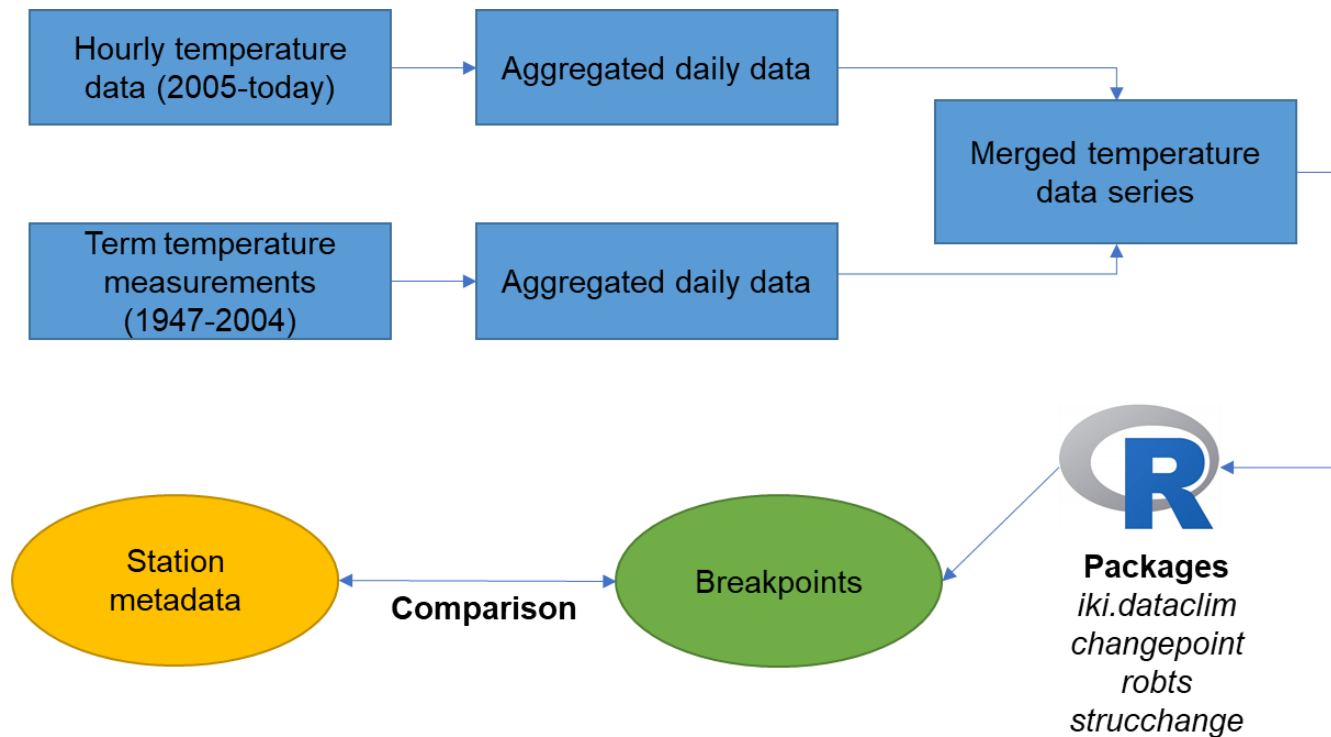


- A need to homogenize air temperature (among other parameters) in meteorological stations of Latvia
- Monthly mean air temperature data
- Multiple homogeneity tests performed



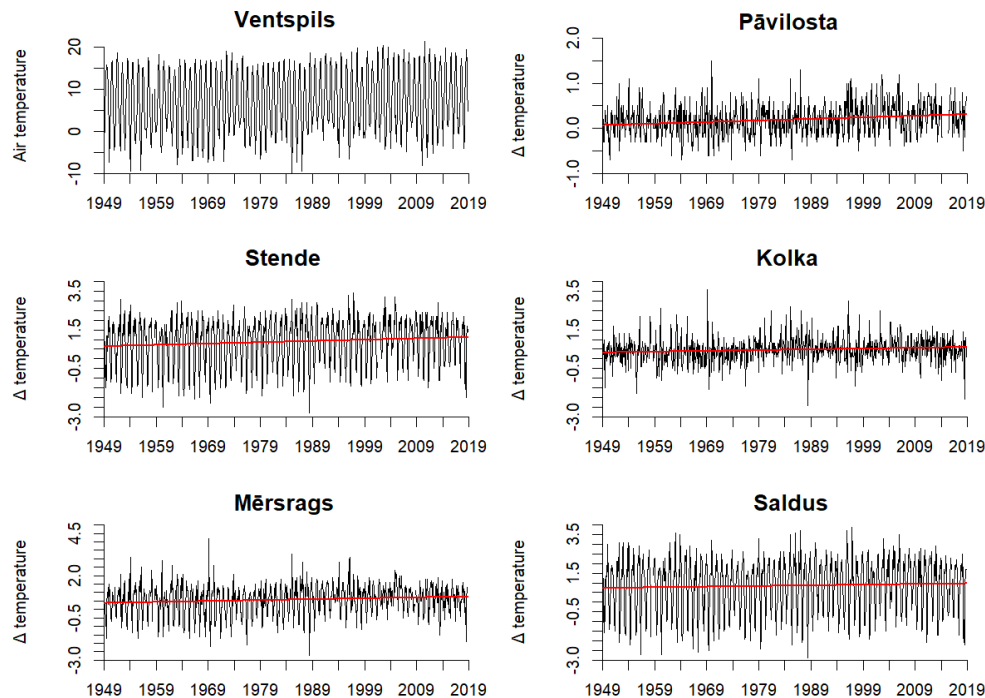
Station location and instrumentation changes in Ventspils observation station

Materials and methods

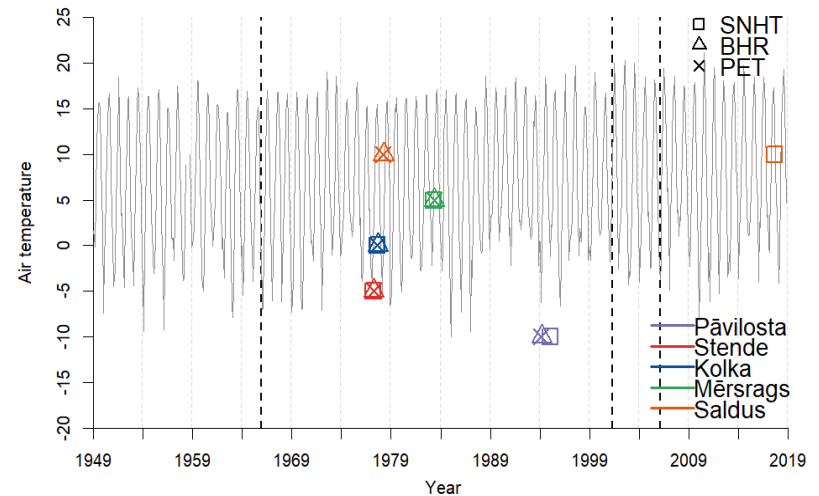


- Merging of data series
- Relative homogenization tests with 5 closest stations
- Filling of the gaps by using Climatol procedure
- Multiple tests – SNHT, Buishand range test, Pettit test from *iki.dataclim* package

Results and Conclusions



Monthly air temperature and difference series of Ventspils and neighboring meteorological stations. All trendlines are statistically significant

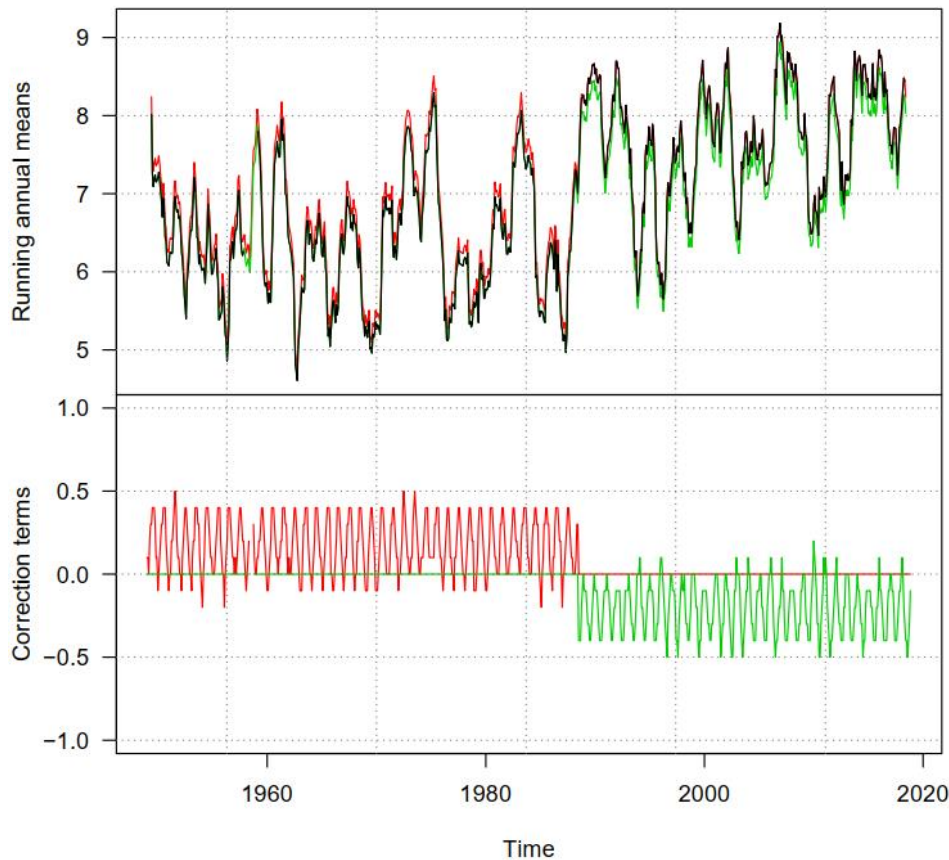


Observed breakpoints in Ventspils meteorological station monthly air temperature series data. Colors indicate difference series between various neighboring stations, dashed lines indicate breakpoints observed from metadata, shapes - different methods used: SNHT - Standard normal Homogeneity test, BHR - Buishand range test, PET - Pettitt test.

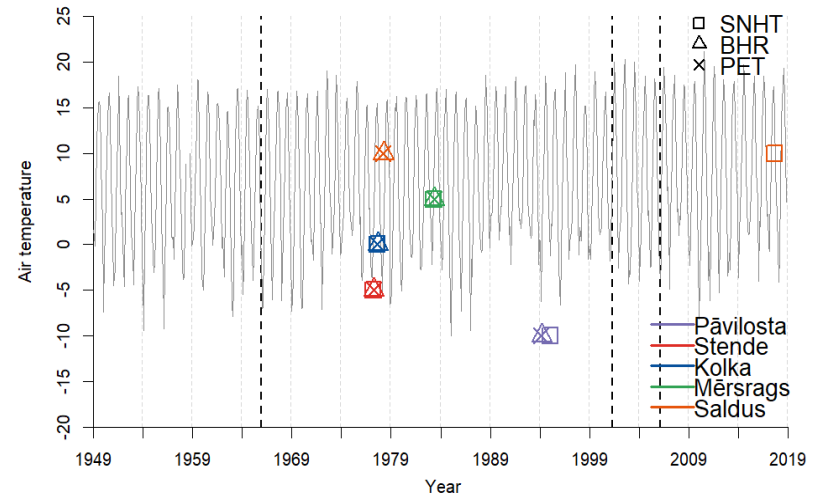
Results and Conclusions



LV-m 21 (RIVE99PA)
Ventspils



Correction terms from Climatol procedure



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Thank you for the attention!