

Climate Change and local trends...

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Baltex Öland 2013



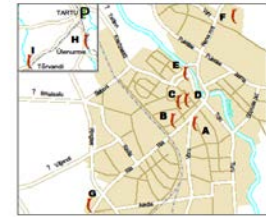
St.Petersburg



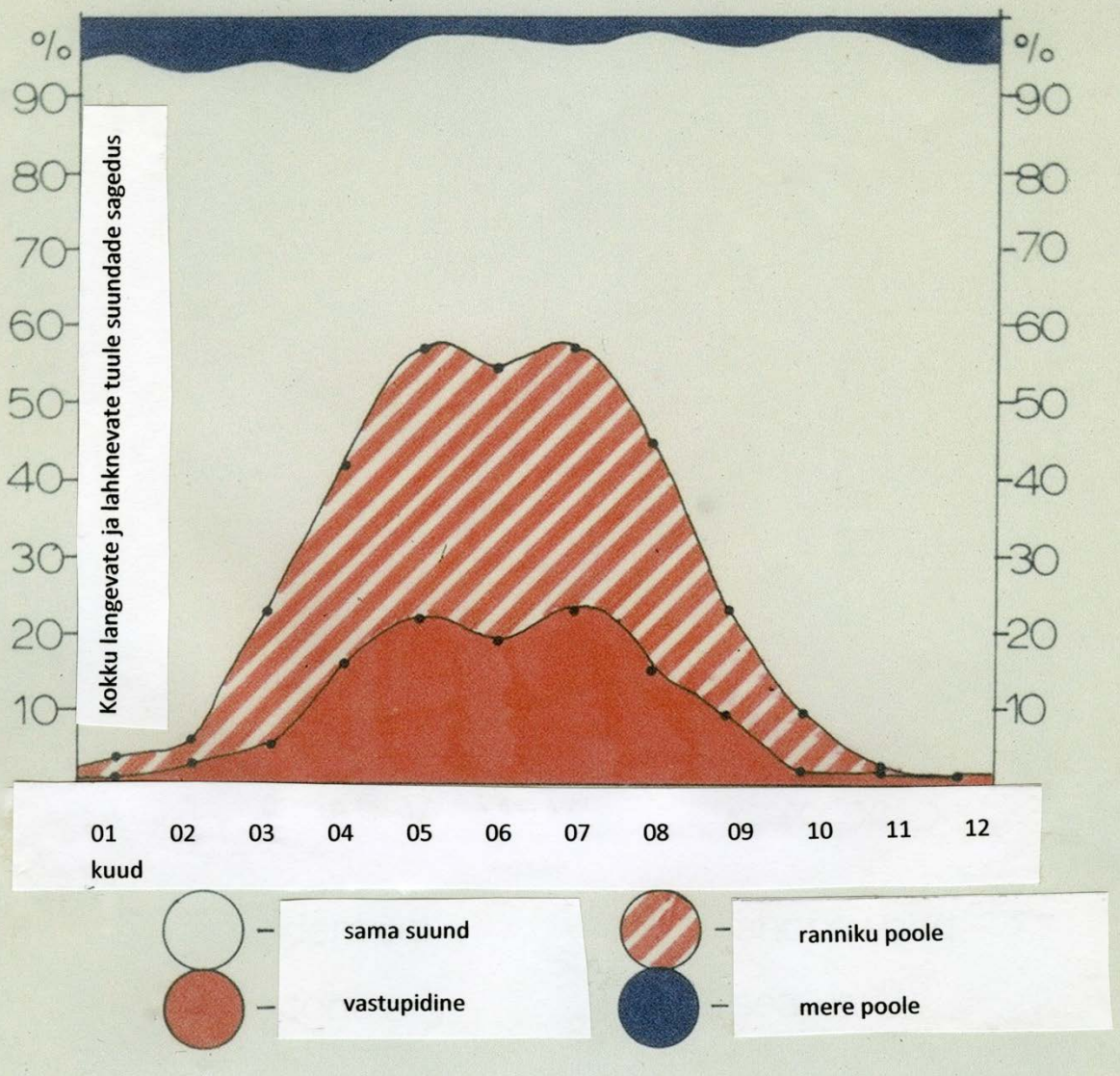
Riga



Tallinn

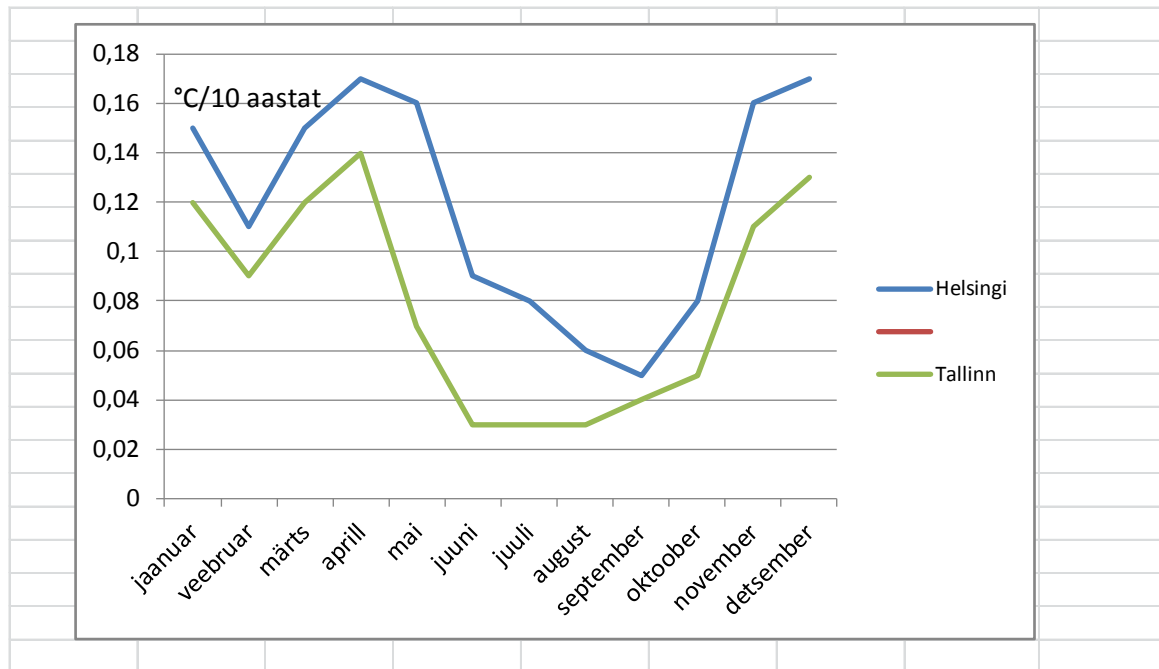


Tartu



Frequency of land- and sea-winds in Tallinn and Helsinki with different impact on air temperature

		Kuu keskmised temperatuurid Tallinna ja Helsingi meteojaamades 1961-1975 a (°C)													
Meteojaam	kaugus keskm.	kuud												aasta	
	rannajoonest km	jaanuar	veebruar	märts	aprill	mai	juuni	juuli	august	september	oktoober	november	detsember		
Naissaar	-17	-3,7	-4,4	-2,1	2,3	7,1	13,3	16,2	16,0	12,4	7,7	2,4	-0,8	5,6	
Katajaluoto	-6	-4,8	-5,7	-3,1	1,6	7,0	13,4	15,8	15,3	11,8	7,1	2,1	-1,6	5,0	
Kaisaniemi	0	-5,4	-5,4	-2,2	3	9,3	15,3	17,1	15,8	11,5	6,5	1,3	-2,4	5,4	
Maarjamäe	4	-5,6	-5,3	-2,4	3,2	9,1	14,6	16,5	15,4	11,4	6,5	1,0	-2,5	5,2	
Majakas	5	-6,1	-5,7	-2,9	3,1	9,4	14,8	16,4	15,3	11,1	6,2	0,7	-2,8	5,0	
Malmi	6	-6,5	-6,5	-3,2	2,6	9,3	15,1	16,7	15,3	10,7	5,6	0,4	3,4	4,7	
Ülemiste	8	-6,2	-5,8	-2,9	3,1	9,4	14,8	16,5	15,2	11,0	6,0	0,5	-2,8	5,0	
Vantaa	8	-6,6	-6,5	-3,1	2,6	9,5	15,3	16,8	15,3	10,5	5,4	0,0	-3,7	4,7	
8 jaama Δt max		2,9	2,1	1,1	1,6	2,5	2,0	1,3	0,8	1,9	2,3	2,4	2,9	0,9	



Mean air temperature trend in Helsinki and Tallinn 1961-1975

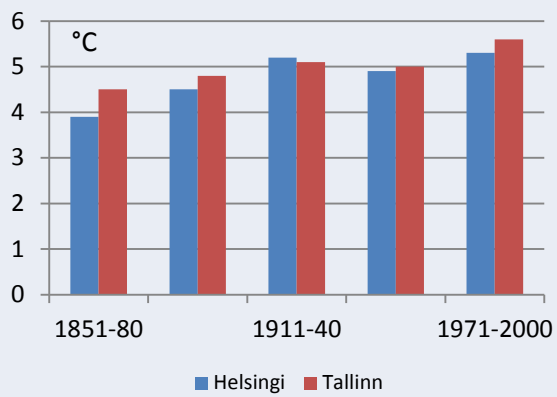


Figure 1. Annual average air temperature of 30-year periods in Tallinn and Helsinki

Mean air temperature difference btw. Tartu Observatory and ms. Raadi in 1929-1939 (°C)

Jan	Feb	March	April	May	June
0,5	0,7	0,8	0,6	0,6	0,5
July	Aug	Sept	Oct	Nov	Dec
0,4	0,3	0,5	0,4	0,4	0,4

Annual average 0,51°C

TARTU 50 000 inhabitants

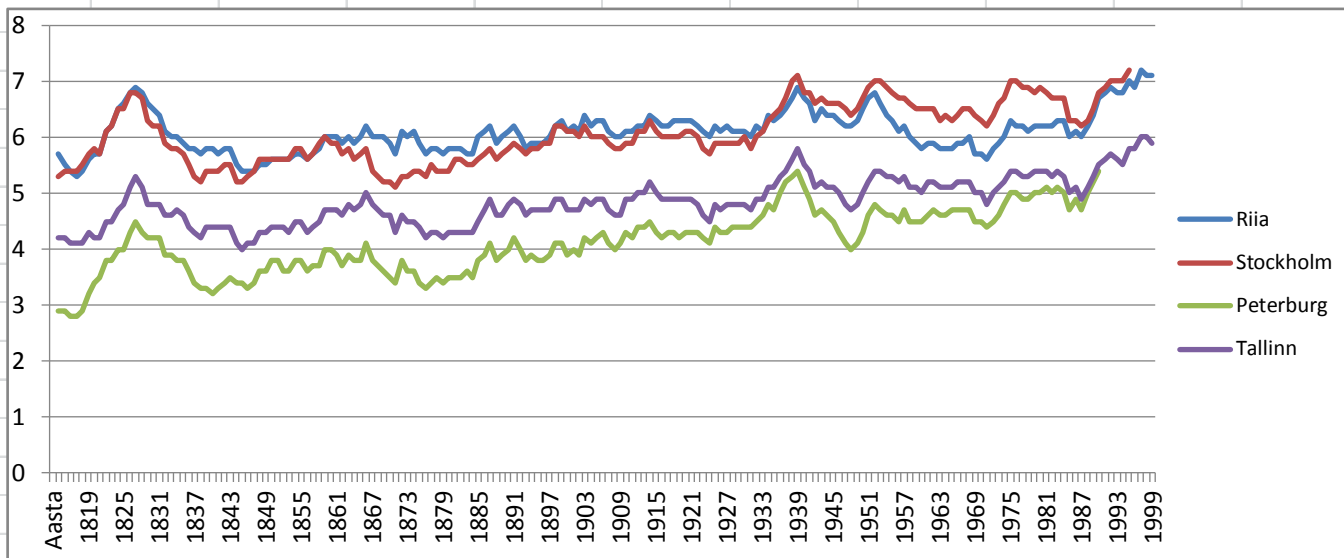
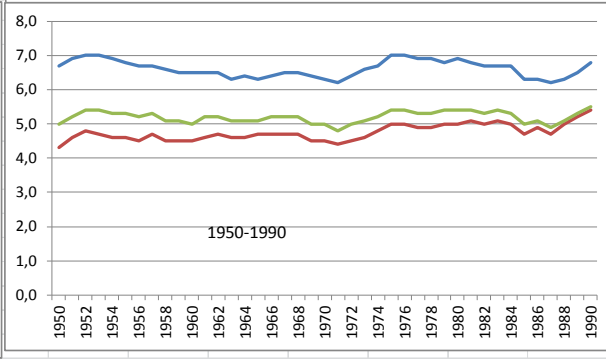
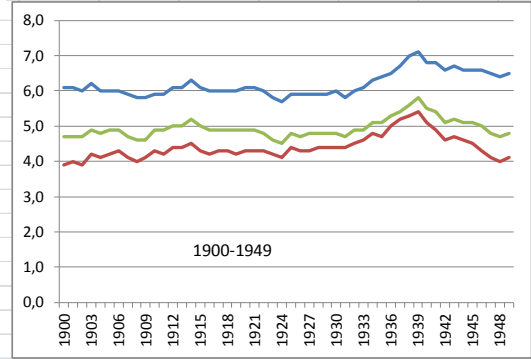
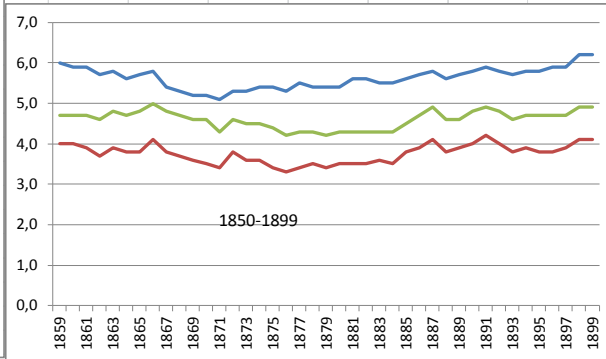
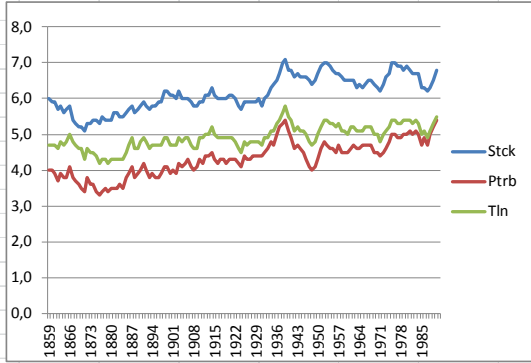
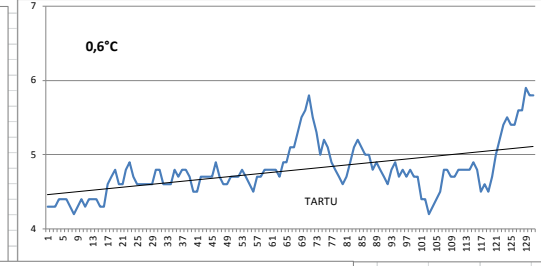
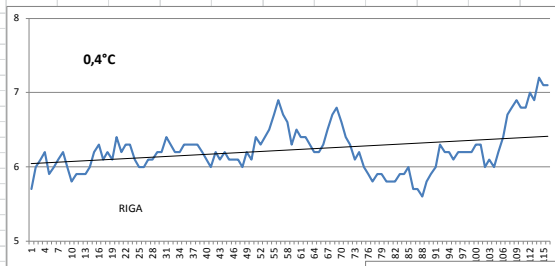


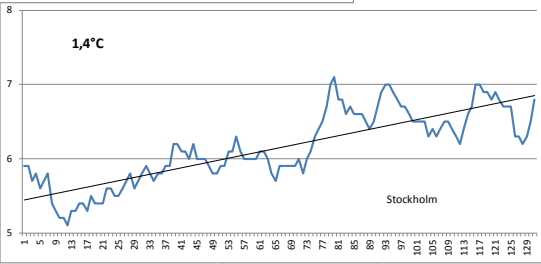
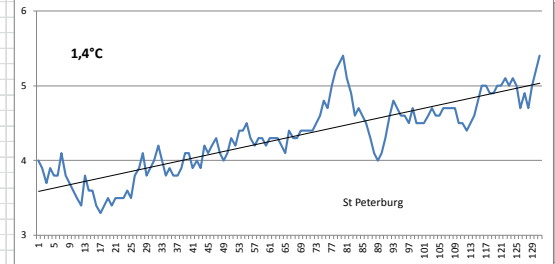
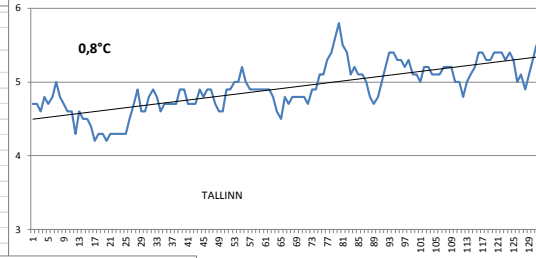
Fig.3. Average air temperature (10-years smoothed) in four Baltic Sea towns

AIR TEMPERATURE TRENDS IN STOCKHOLM, TALLINN AND PETERBURG 1850 - 1990 (10-years smoothed)





**AIR TEMPERATURE TREND IN
1851-1999 in Five Towns**



Periods of trend`s intense growth:

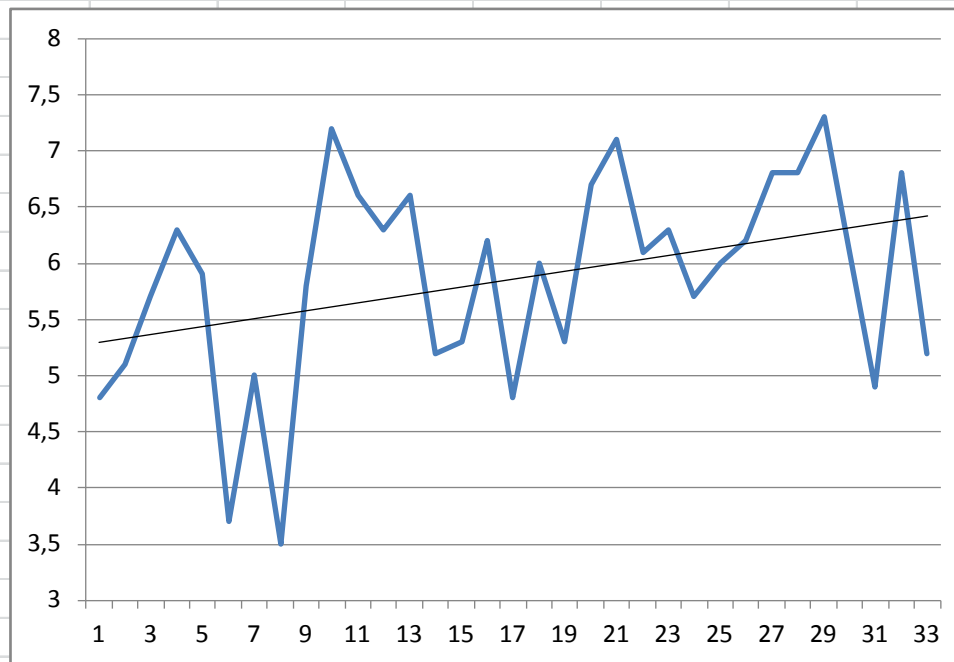
Stockholm 1871- 1900 3,0 centigrades/100 years

St Petersburg 1961-1990 2,7

Tallinn 1980 – 2012 3,0 (also strong warming 1988-2008)
possibly time of Tallinn as benchmark is finished

1871 – 1900 1,7

1891 – 1920 0,7



Õhutemperatuuri trend Tallinnas 1980-2012 (aasta keskmised)

Air temperature trend in Tallinn in 1980-2012