

TMA4267 Linear statistical models

Spring 2026

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Part 1: Chapters 3, 4, 5

Tentative plan

NB: We approve assignments in class if you have done the work

Week	Tuesday	Thursday	Friday
3	3.1 - 3.5, lecture	3.6 'interactive' assignment 1	Get more help on assignment 1
4	4.1 - 4.3	4.4 'interactive' assignment 2	Get more help on assignments 1 and 2
5	5.1 - 5.3	5.4 - 5.5	Get more help on assignments 1 and 2
6	5.6 'interactive' assignment 3	(Part 2 start)	Get more help on assignments 1, 2, 3

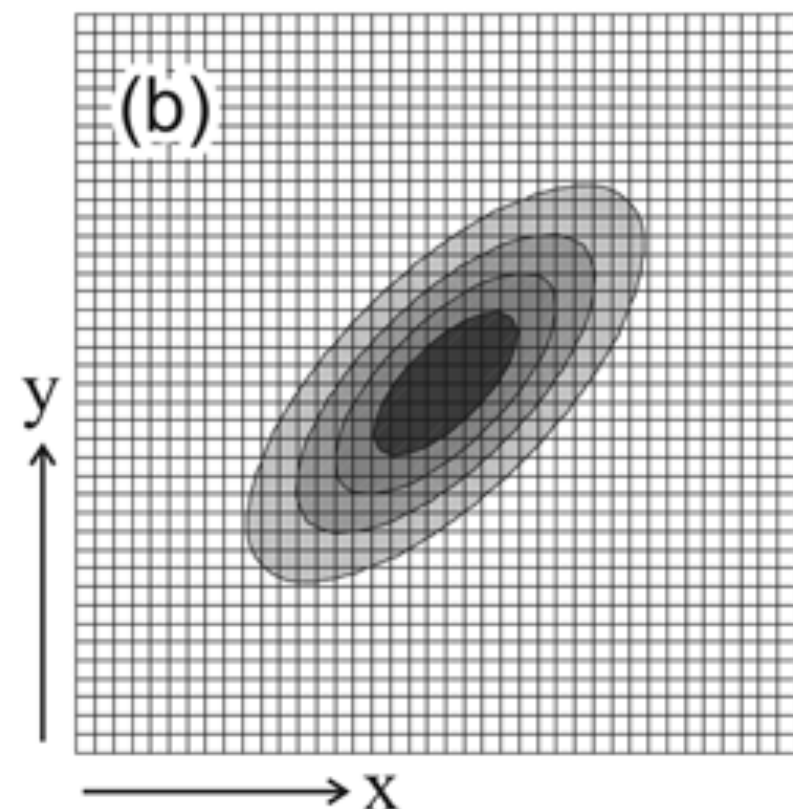
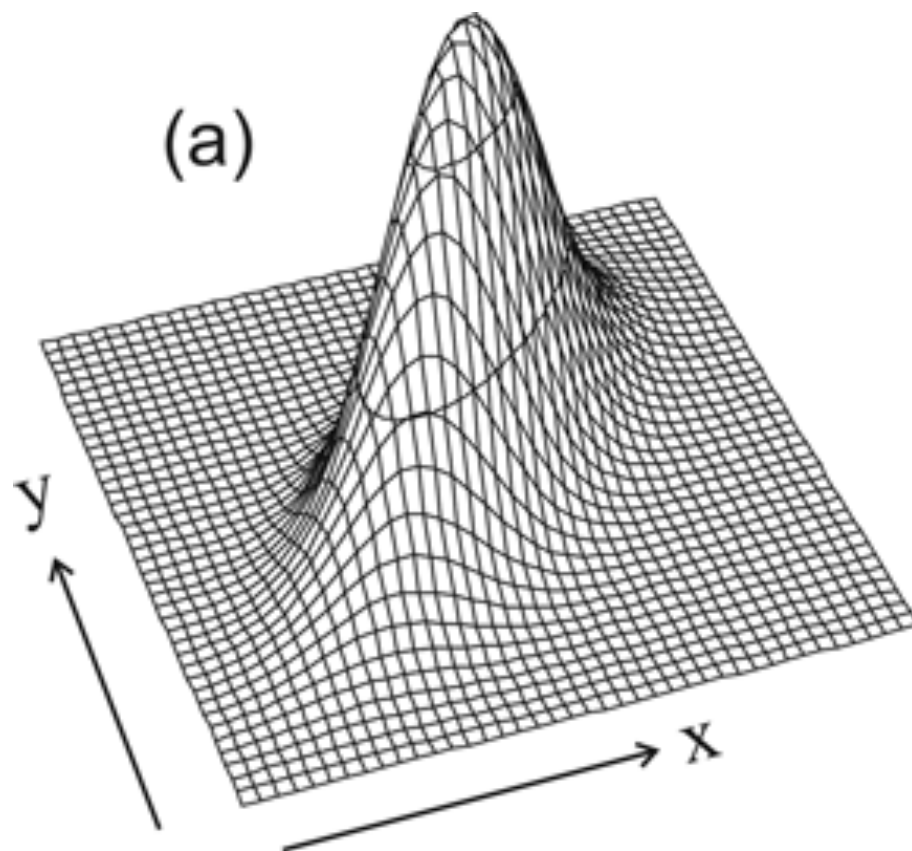
NB2: Approval of Assignment 1 in Ovsys is possible only after the deadline

Deadline assignments 1, 2, 3:
2. february

4 Multivariate Normal Distribution

87

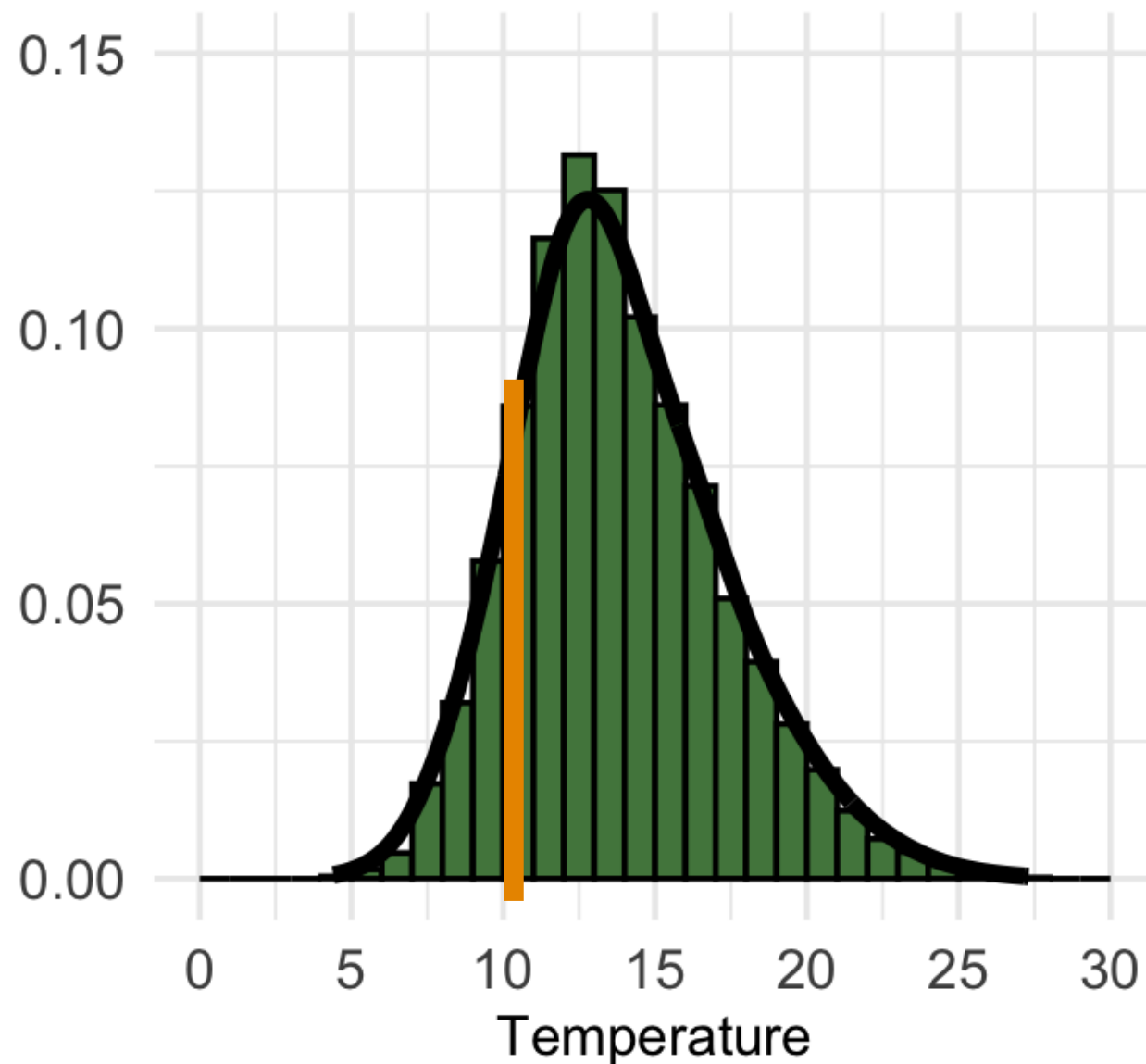
- 4.1 Univariate Normal Density Function 87
- 4.2 Multivariate Normal Density Function 88
- 4.3 Moment Generating Functions 90
- 4.4 Properties of the Multivariate Normal Distribution 92
- 4.5 Partial Correlation 100



Example: Bivariate distribution

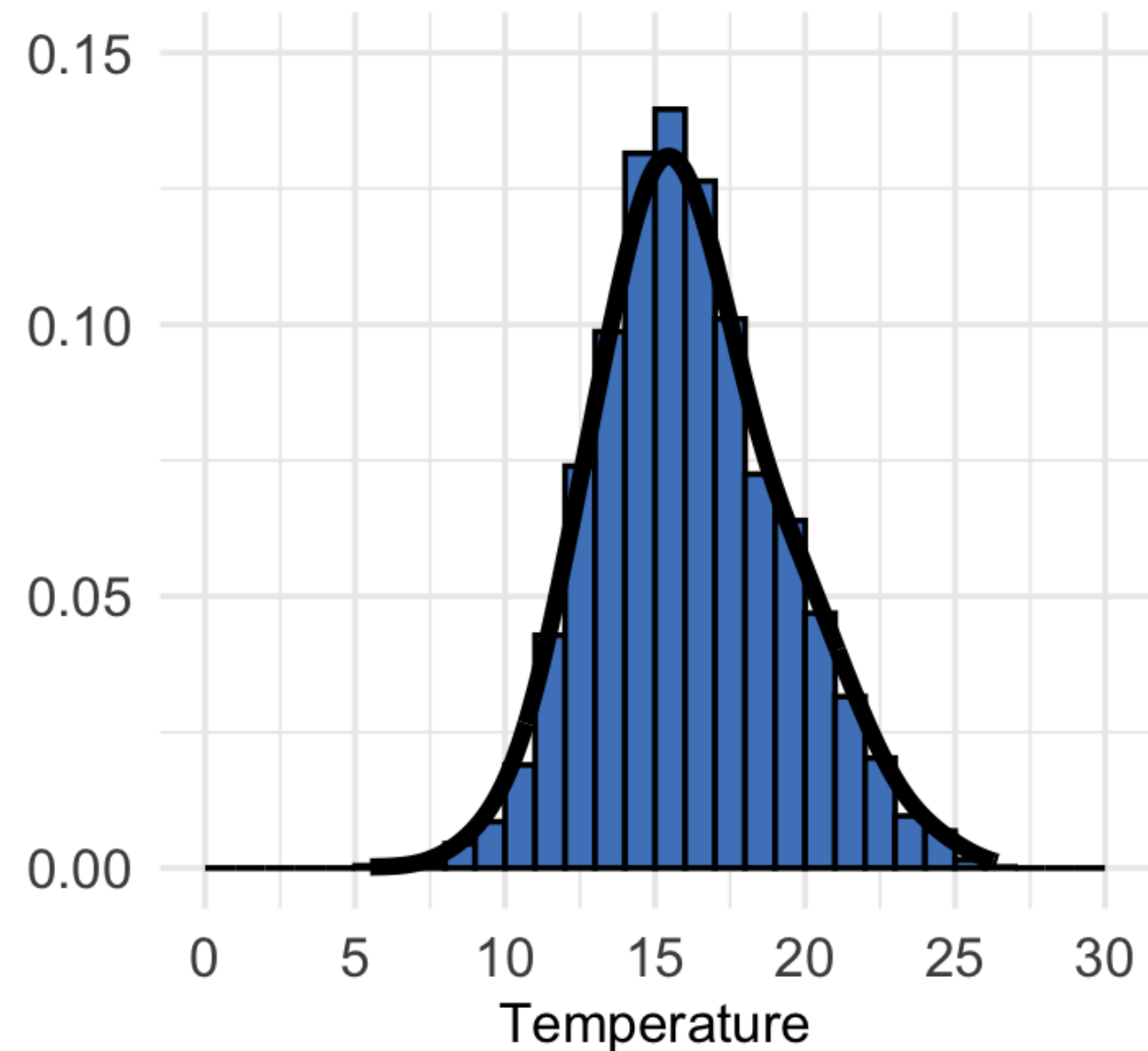
Trondheim

Summer temperatures 1969-2019



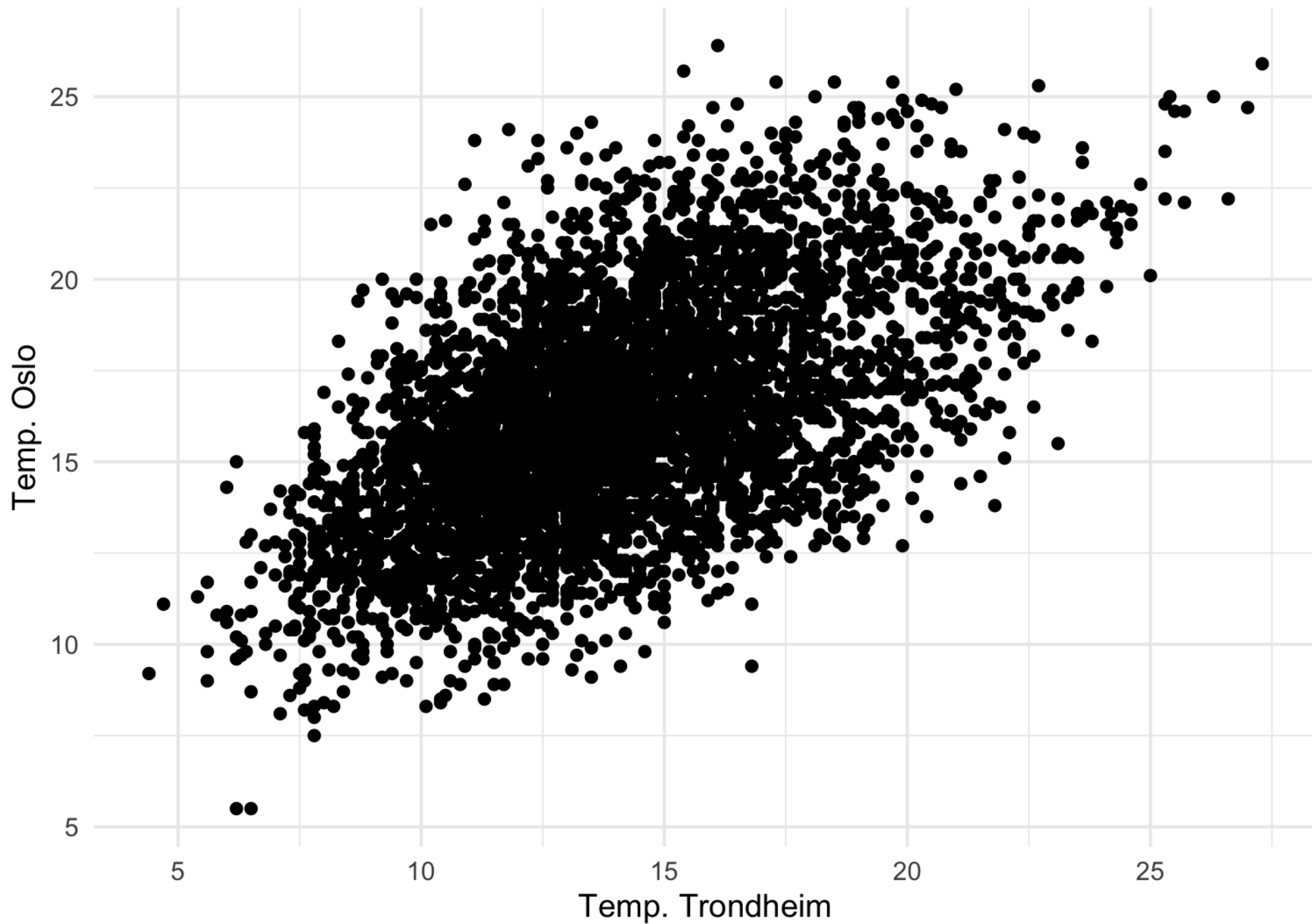
Oslo

Summer temperatures 1969-2019

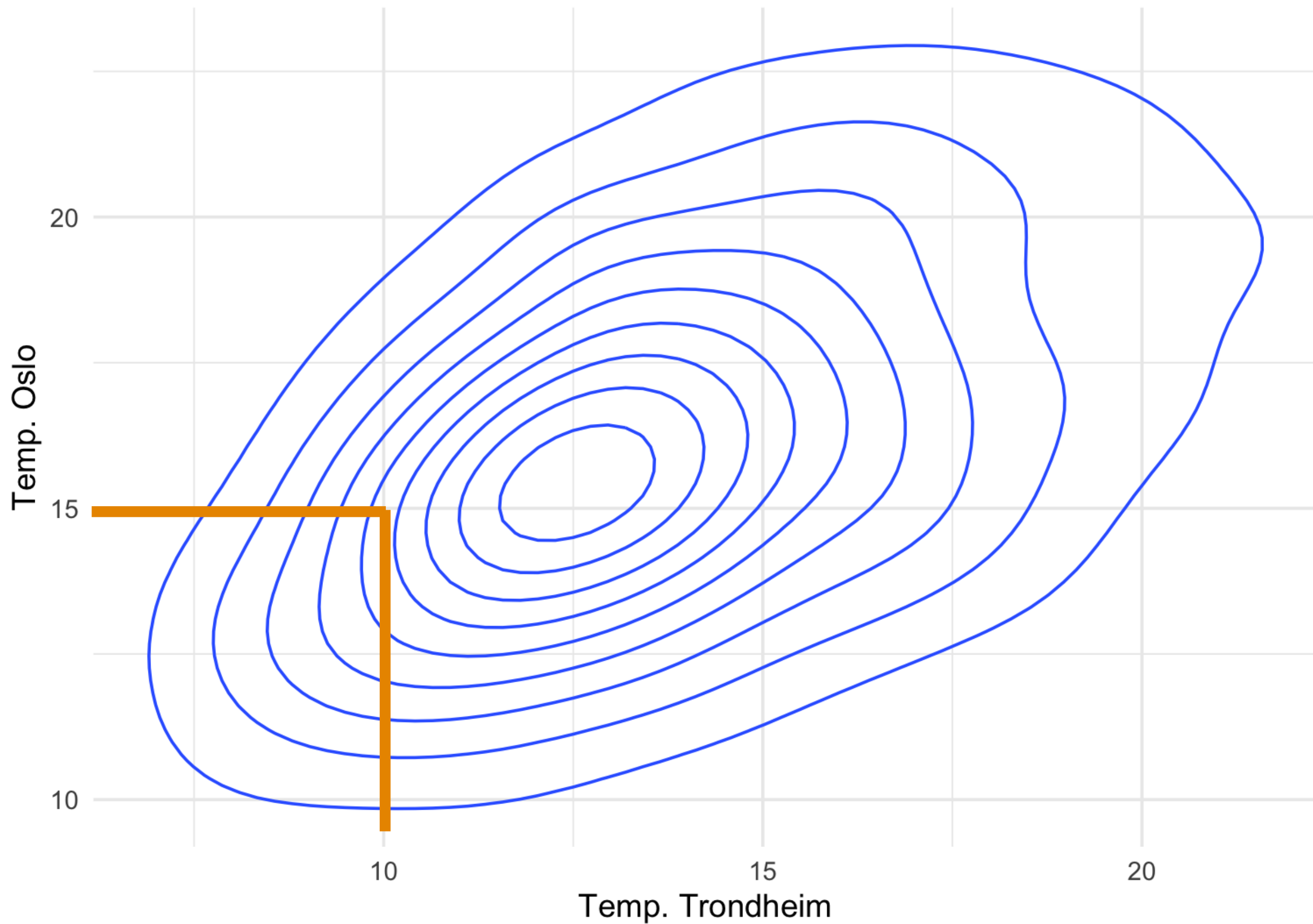


Paired observations

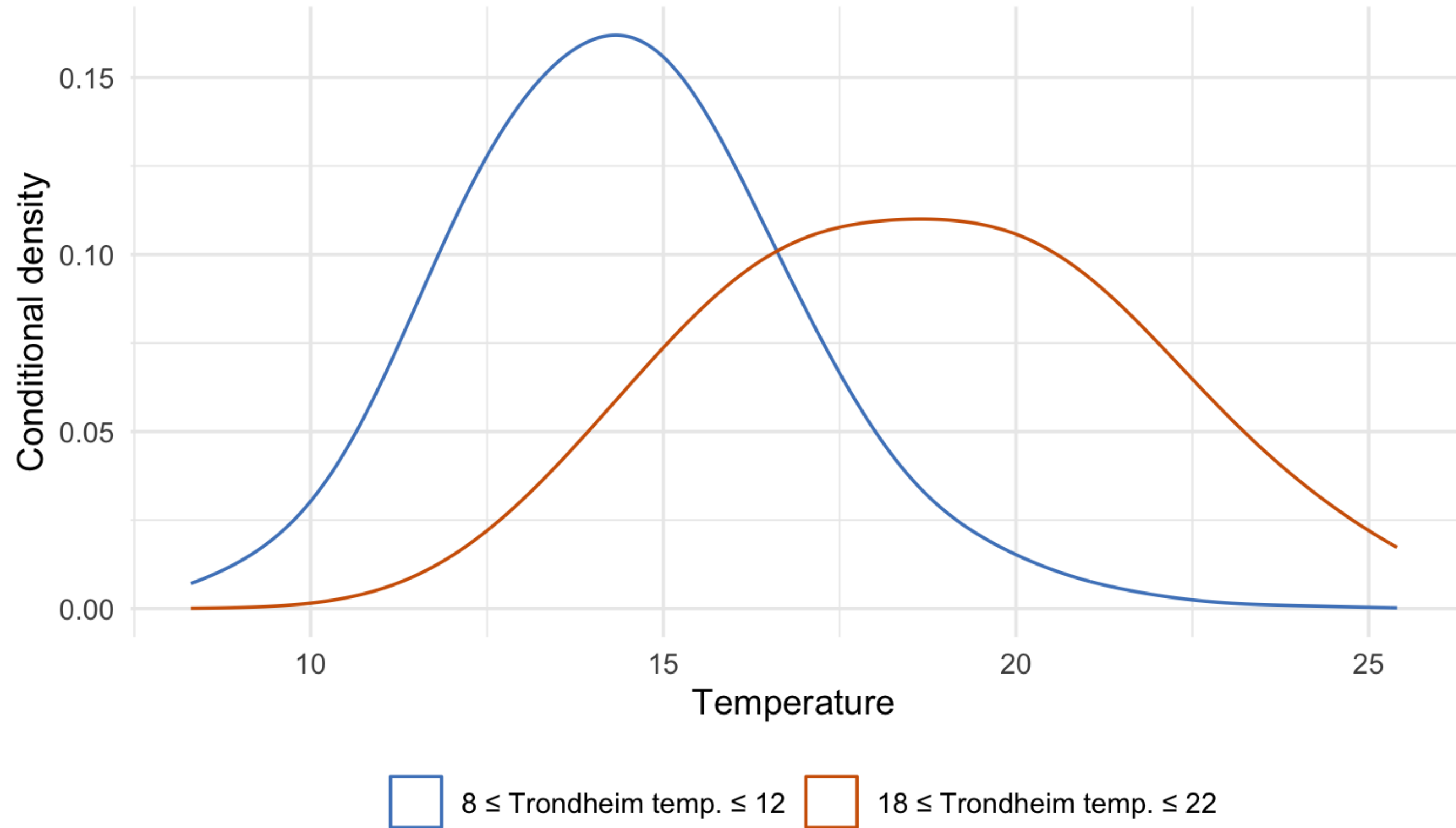
Summer temperatures 1969-2019



Joint density $f(x,y)$
Summer temperatures 1969-2019



Distribution of temperatures in Oslo conditioned on Trondheim temperature



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For Thursday: Theorems 4.4c (+ proof) and 4.4d (- proof) in section 4.4