

Results on Tuesday 23rd

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24 January, 2024

Introduction

This report presents the latest results of our work on the project. We will present the results of our analysis on the data we have been given, mostly through visualizations.

Geospatial Data Analysis

ToDo: include Theo's work on analyzing specific geographic points.

Density Histograms

These plots shows the temperature densities for each year, each variable and each country. We will first look at the whole country, and then we will look at particular points.

Country level

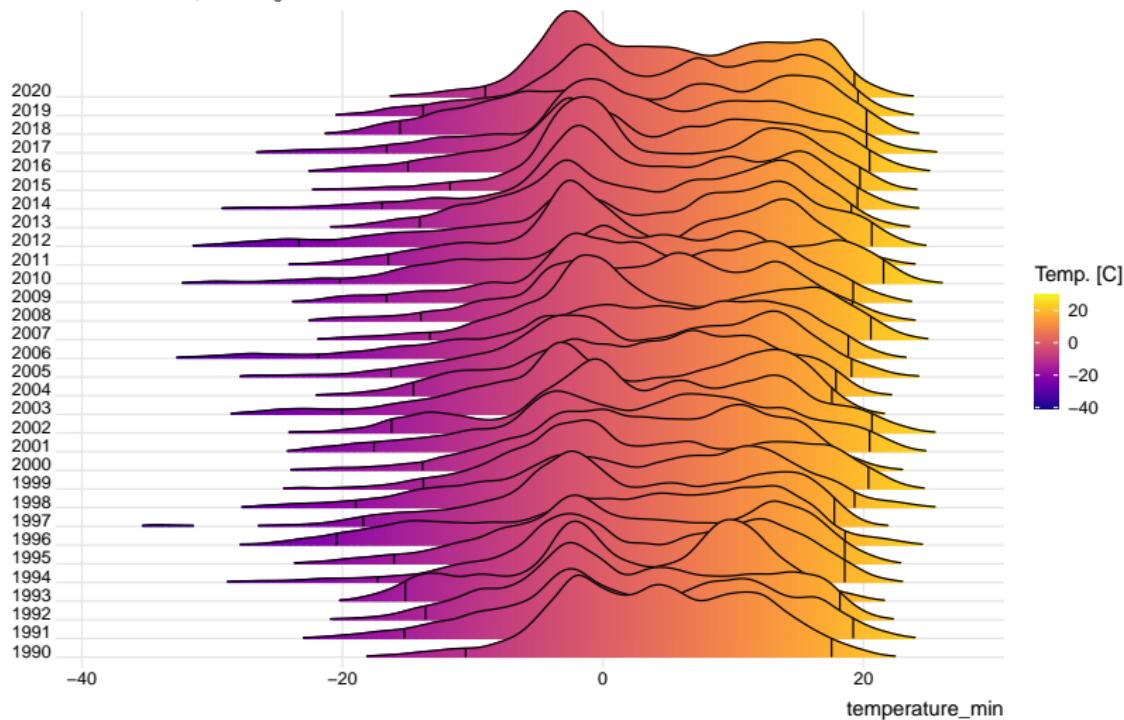
The next slides show 3D density histograms for each variable at the country level.

Ukraine - Min

Temperatures in Ukraine

temperature_min (Celsius) by year between 1990 and 2020

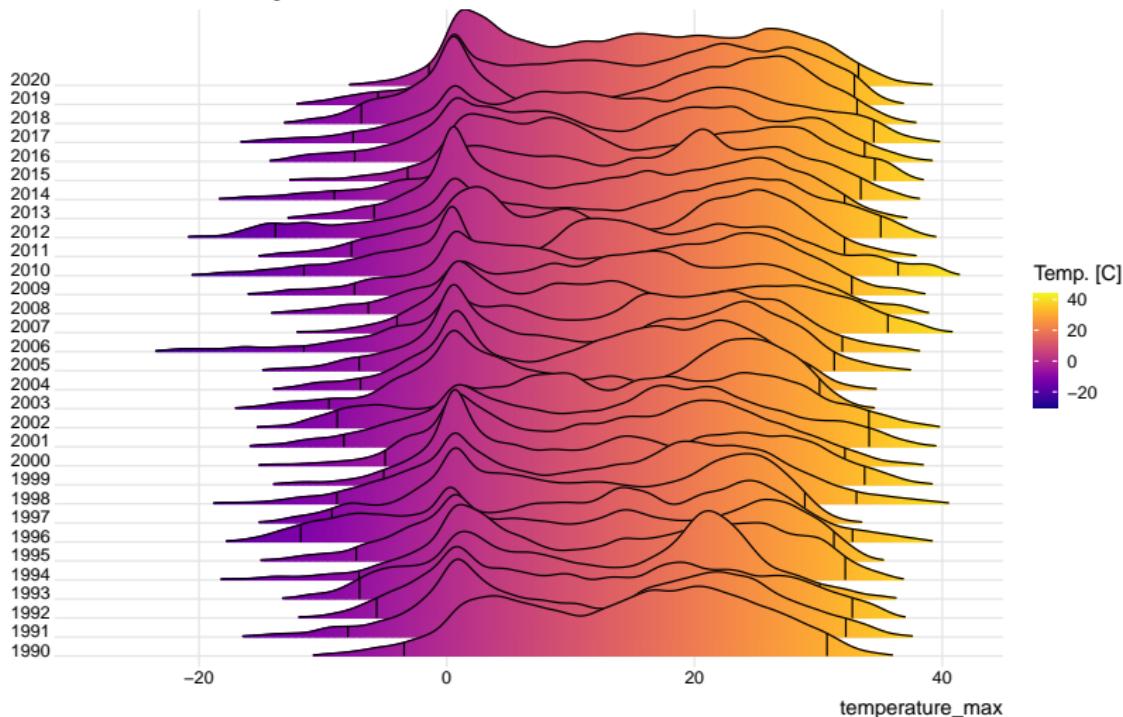
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Ukraine - Max

Temperatures in Ukraine

temperature_max (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian

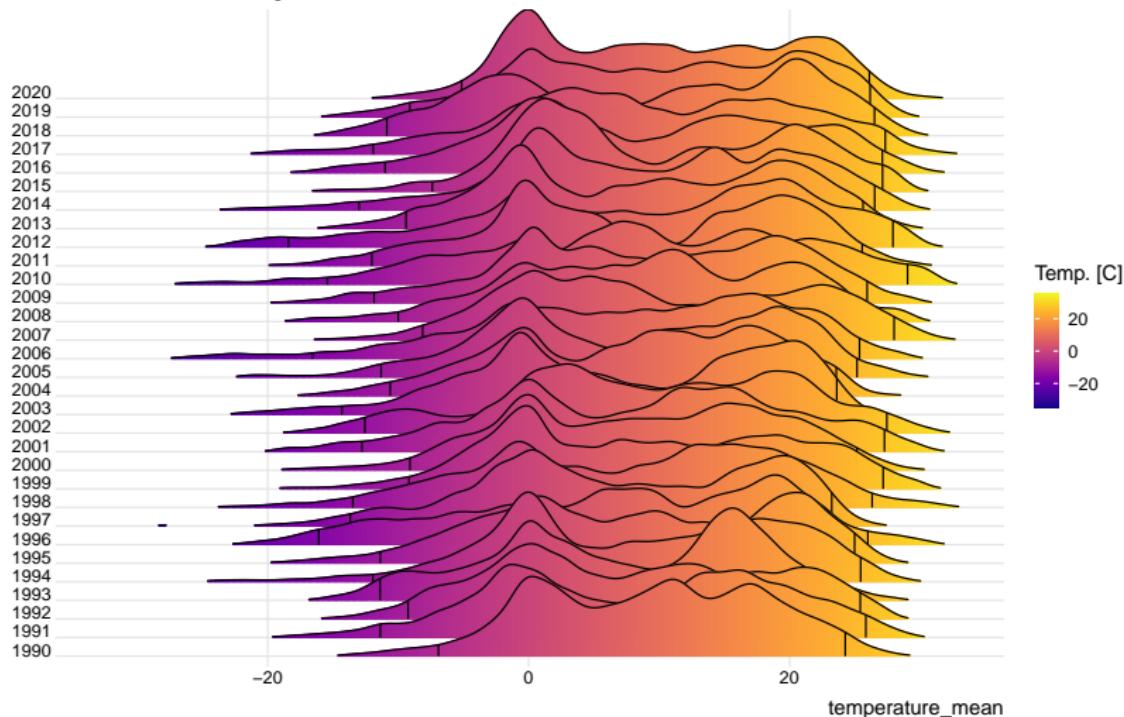


Ukraine - Mean

Temperatures in Ukraine

temperature_mean (Celsius) by year between 1990 and 2020

bandwidth = 0.75, kernel = gaussian

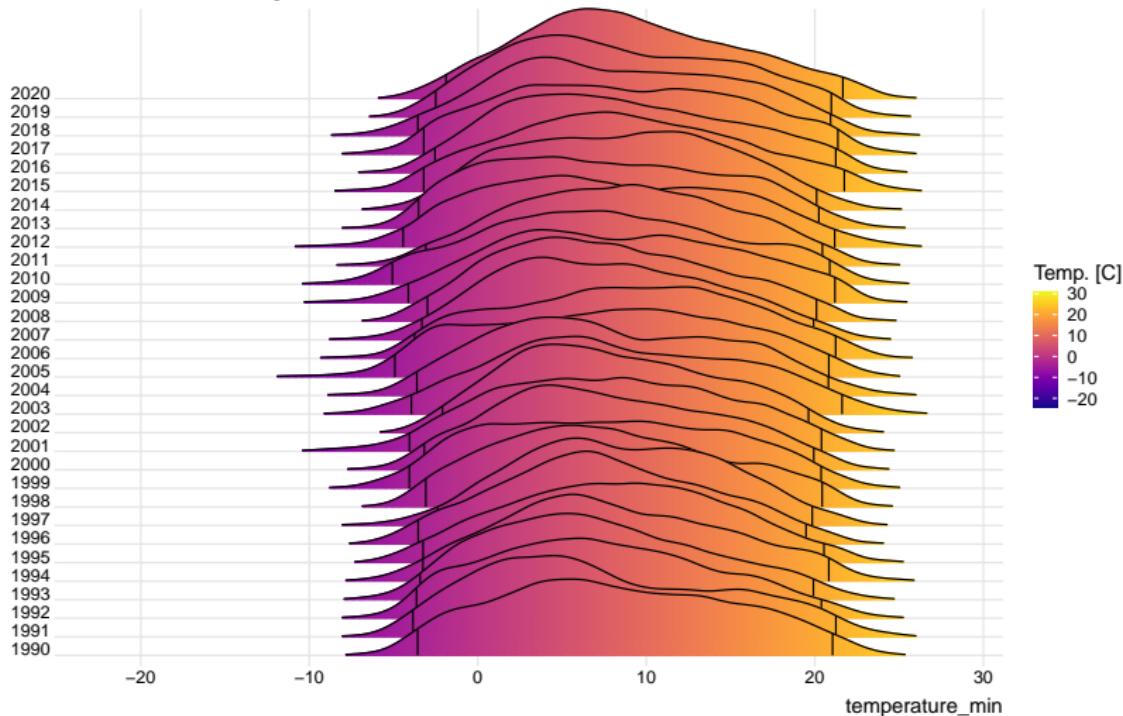


Spain - Min

Temperatures in Spain

temperature_min (Celsius) by year between 1990 and 2020

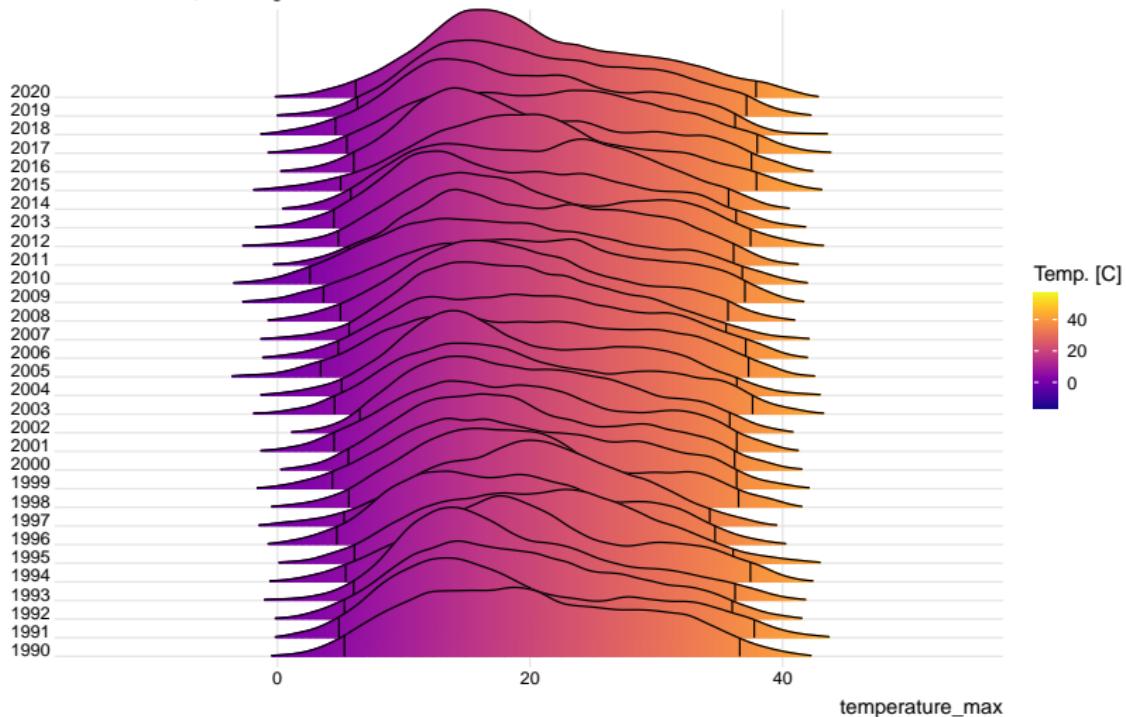
bandwidth = 0.75, kernel = gaussian



Spain - Max

Temperatures in Spain

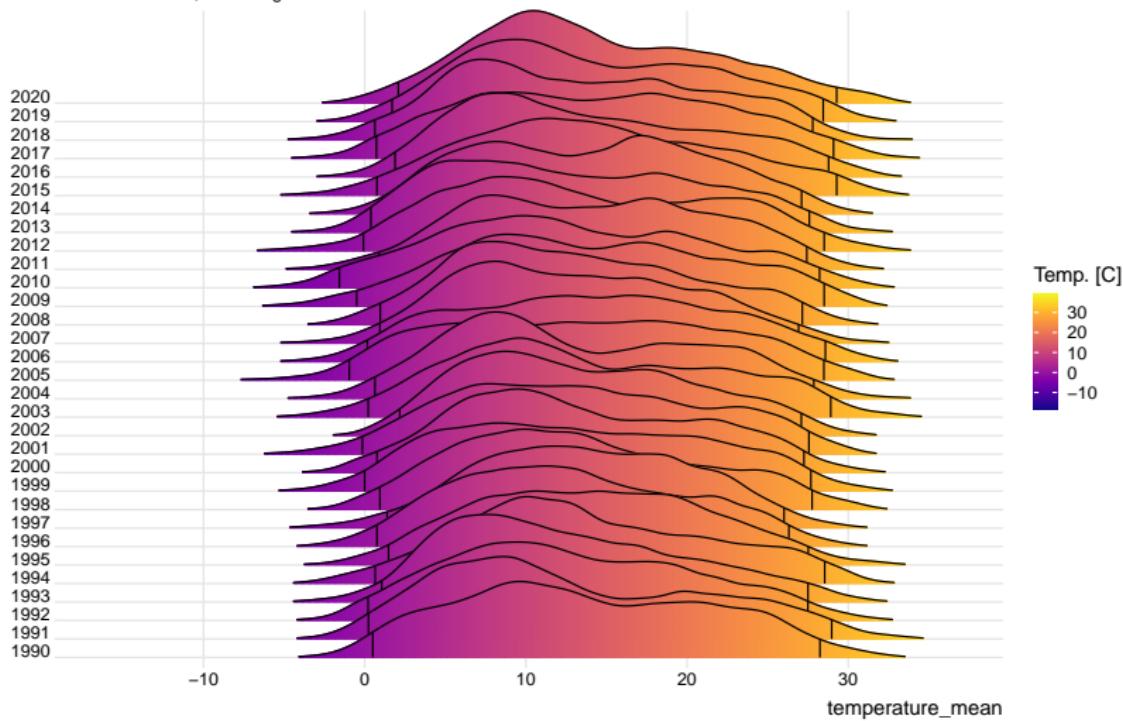
temperature_max (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



Spain - Mean

Temperatures in Spain

temperature_mean (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian

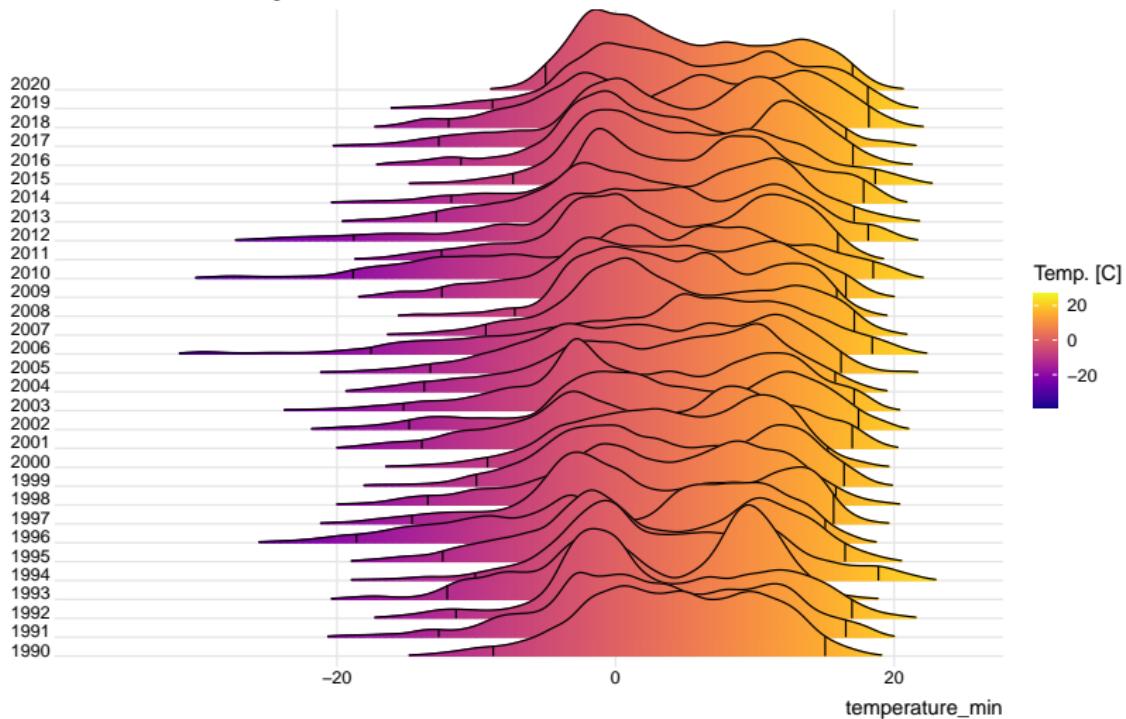


Poland - Min

Temperatures in Poland

temperature_min (Celsius) by year between 1990 and 2020

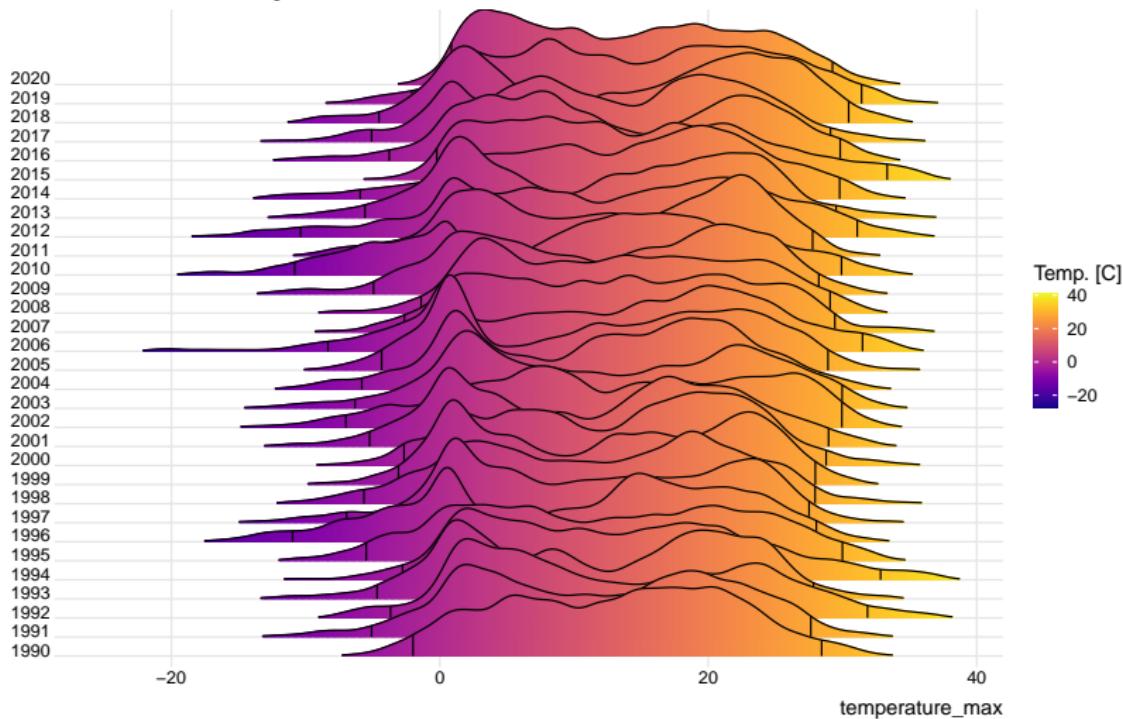
bandwidth = 0.75, kernel = gaussian



Poland - Max

Temperatures in Poland

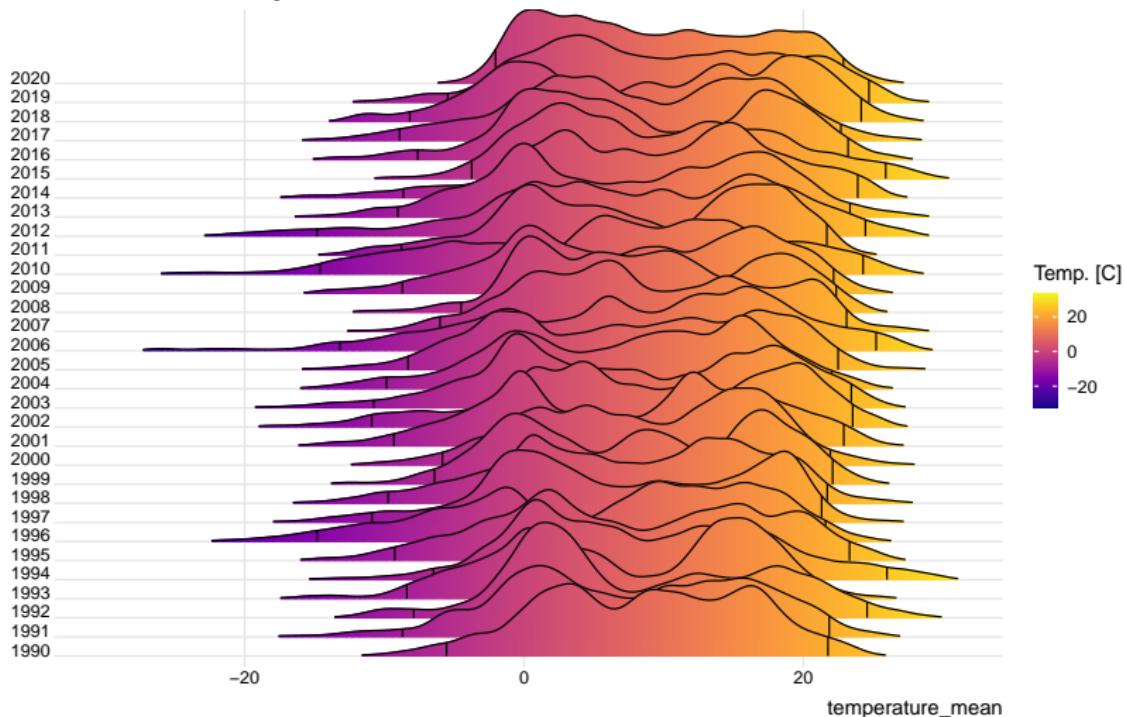
temperature_max (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



Poland - Mean

Temperatures in Poland

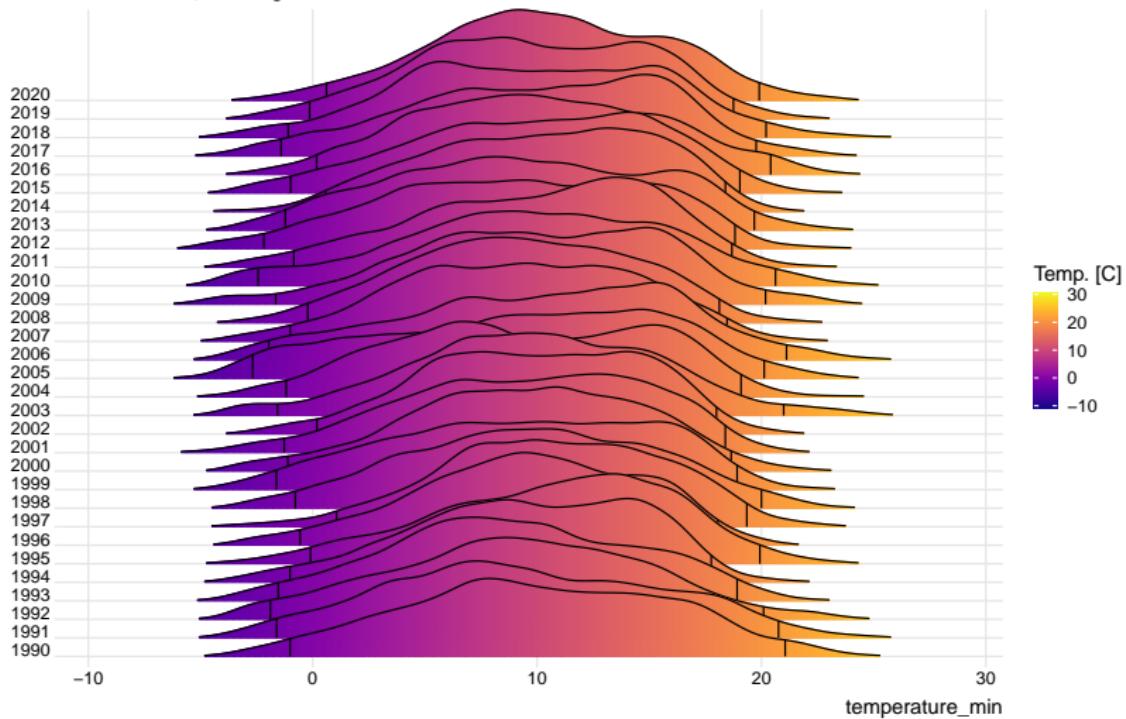
temperature_mean (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



Portugal - Min

Temperatures in Portugal

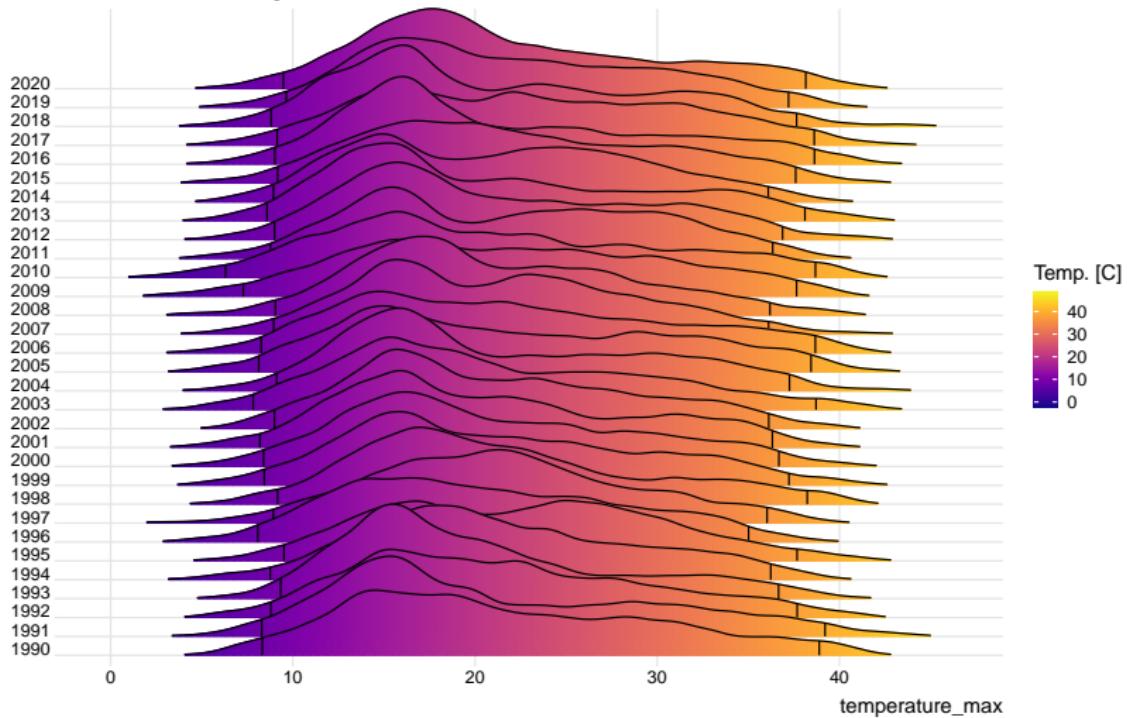
temperature_min (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



Portugal - Max

Temperatures in Portugal

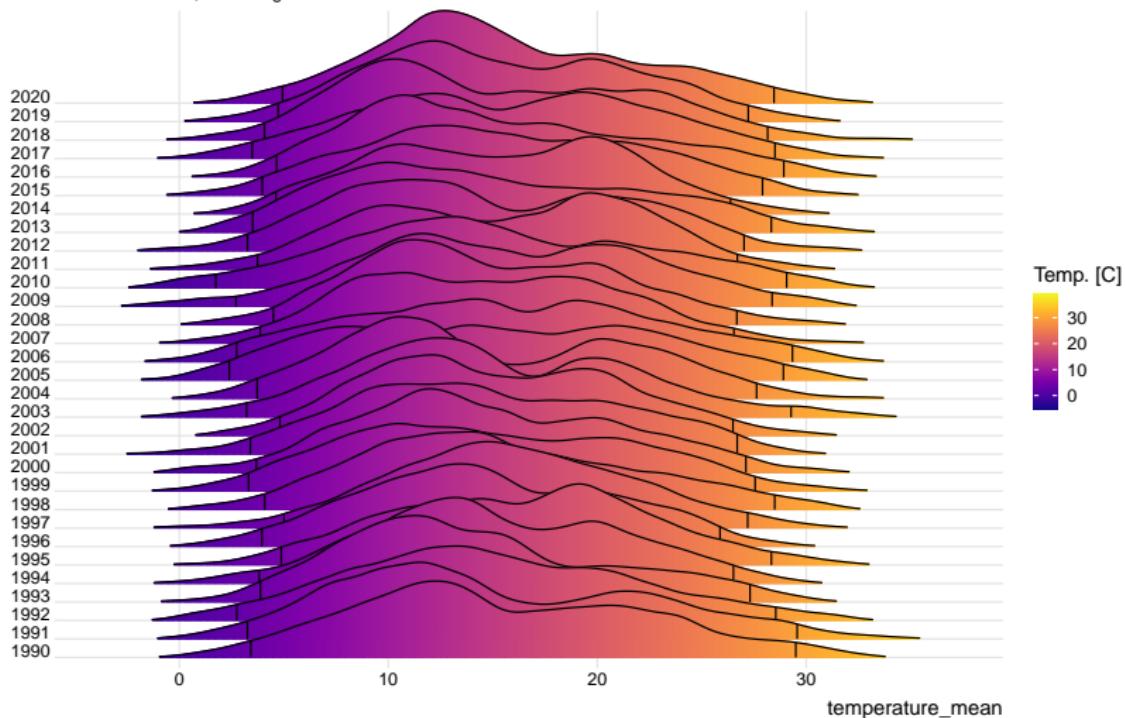
temperature_max (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



Portugal - Mean

Temperatures in Portugal

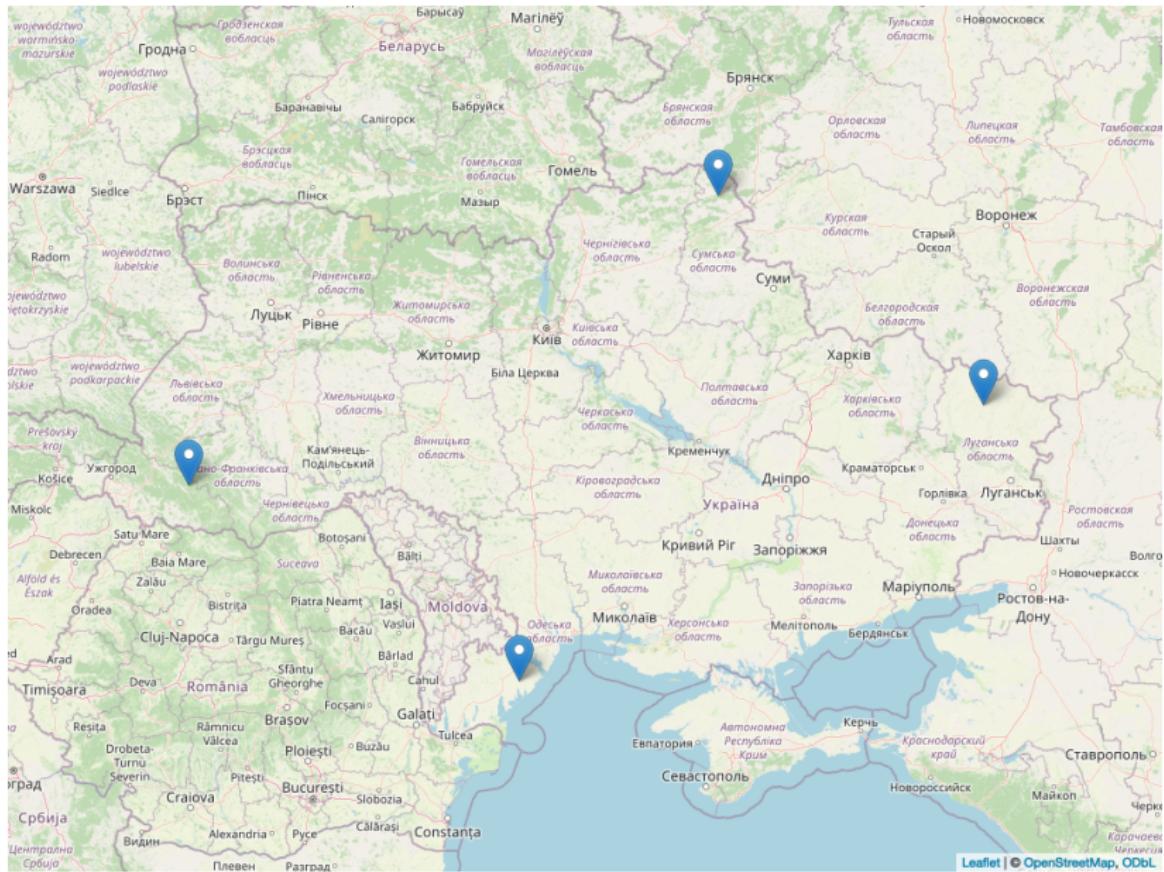
temperature_mean (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



Specific geographic points

The next slides show 3D density histograms for each variable at specific geographic points.

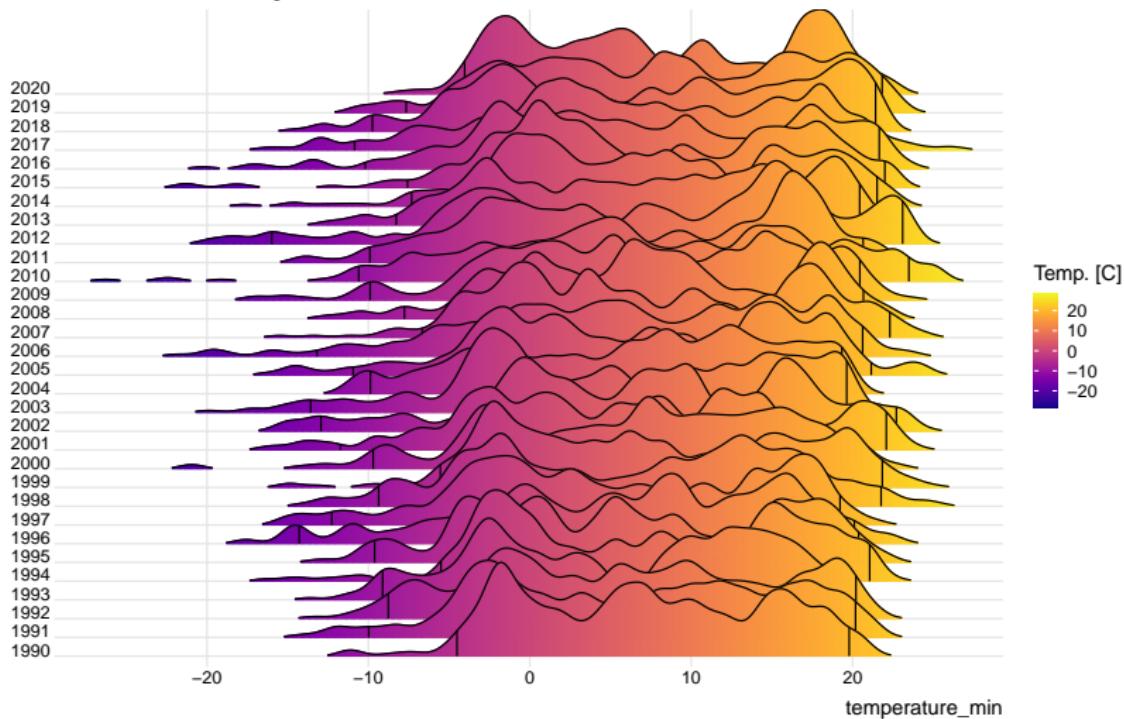
Ukraine



South

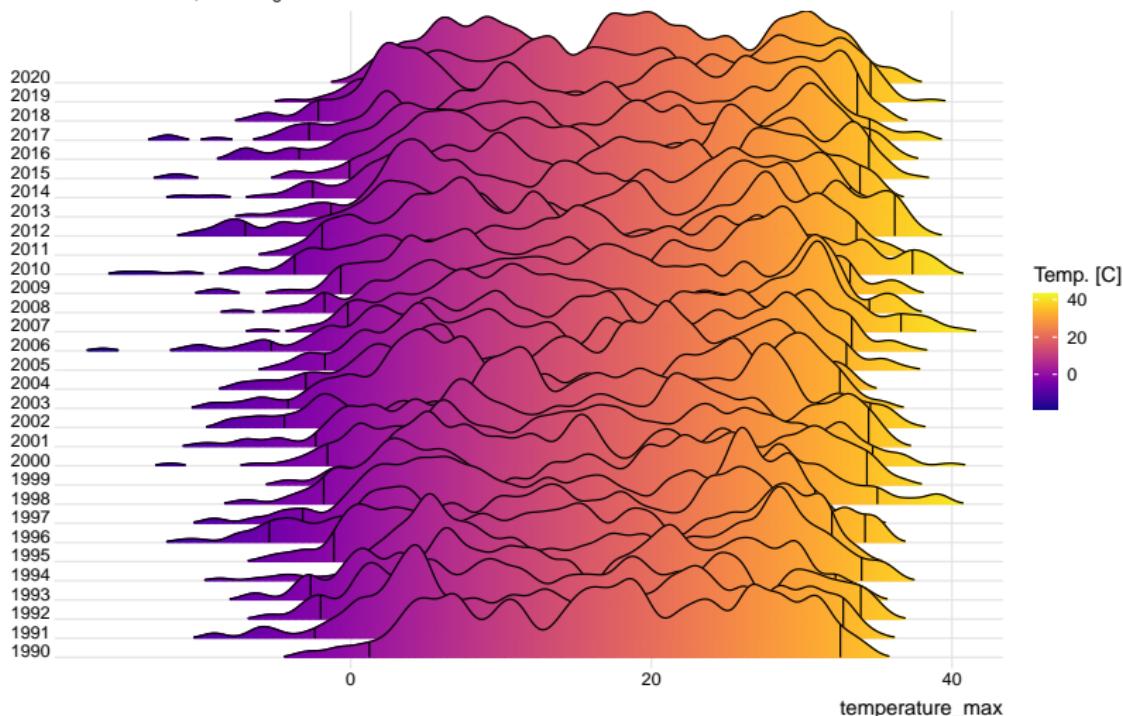
Temperatures in Ukraine – South

temperature_min (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



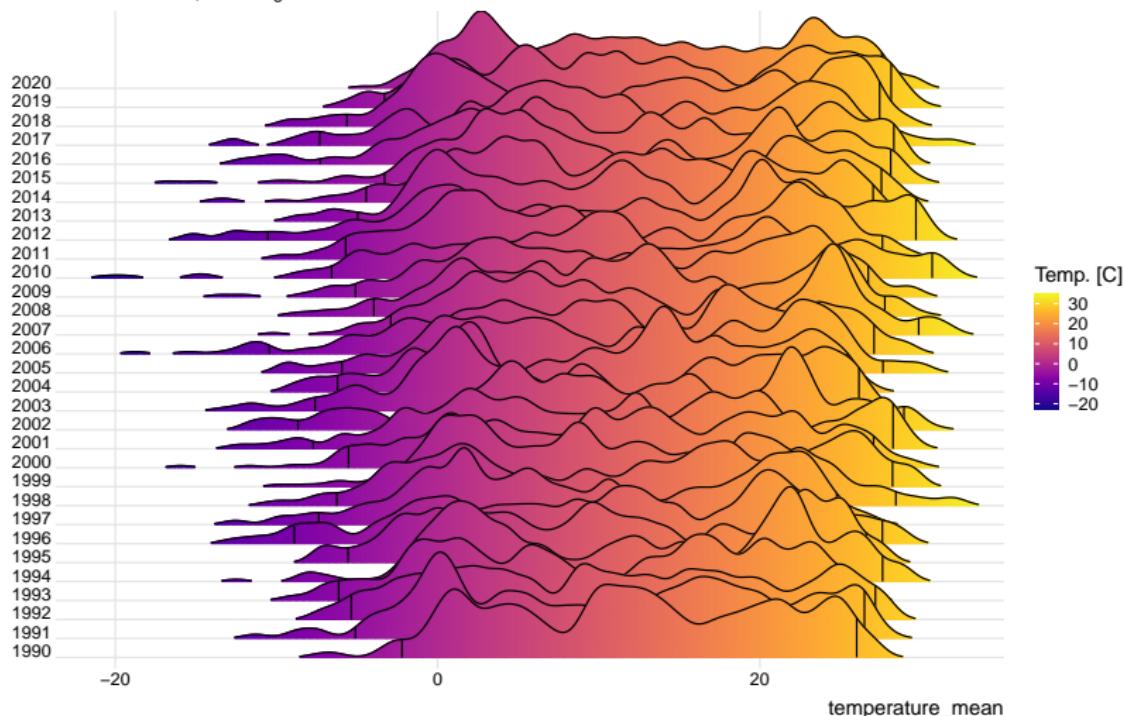
Temperatures in Ukraine – South

temperature_max (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



Temperatures in Ukraine – South

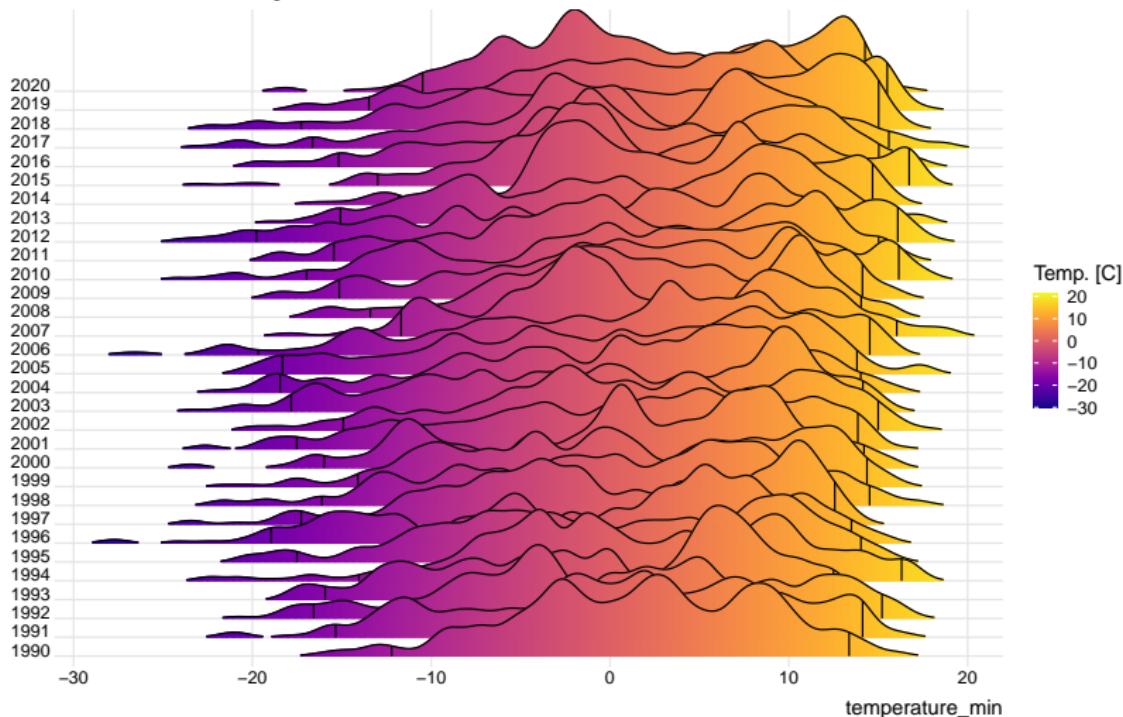
temperature_mean (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



West

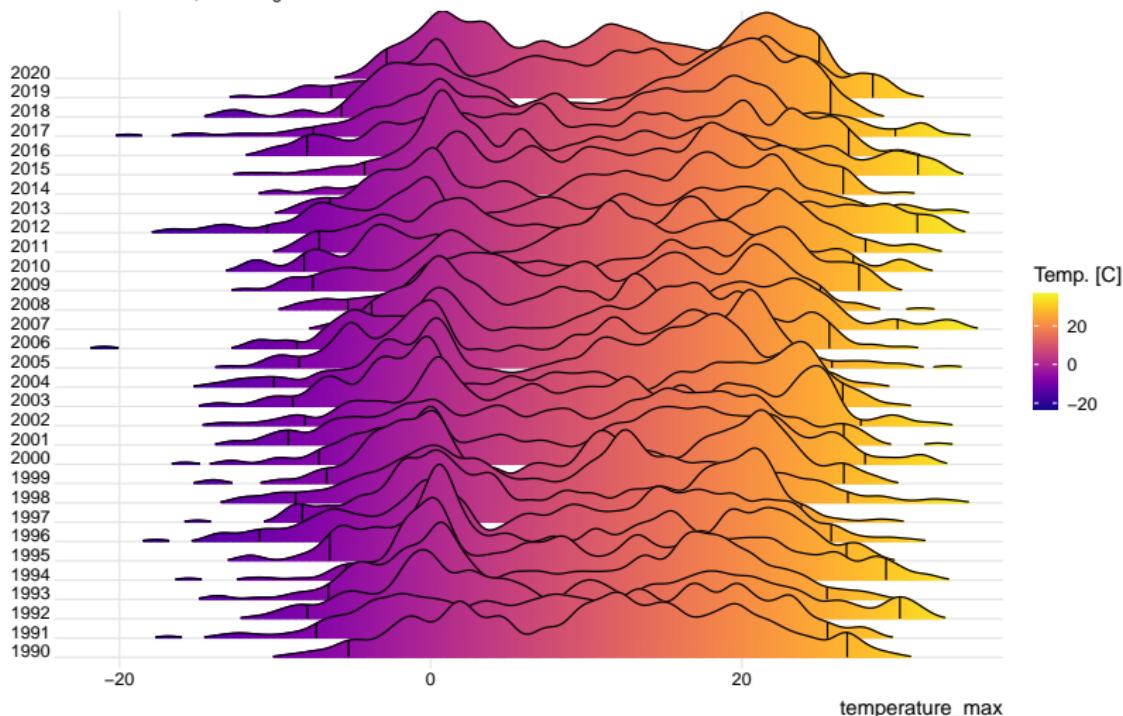
Temperatures in Ukraine – West

temperature_min (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



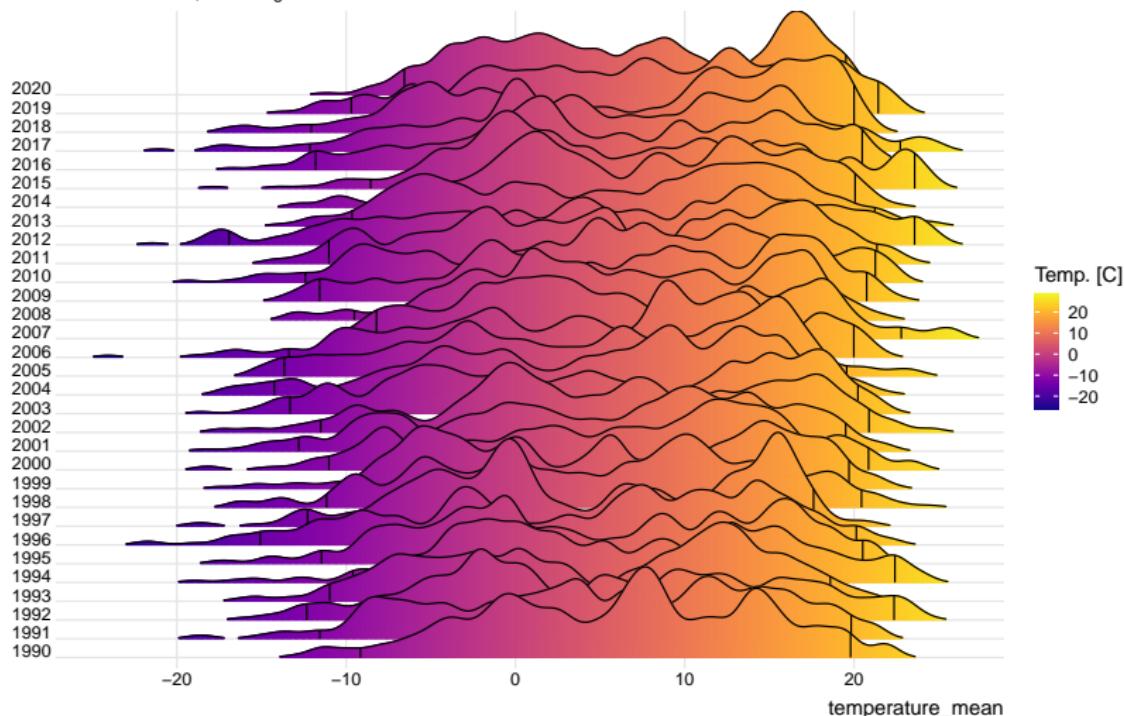
Temperatures in Ukraine – West

temperature_max (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



Temperatures in Ukraine – West

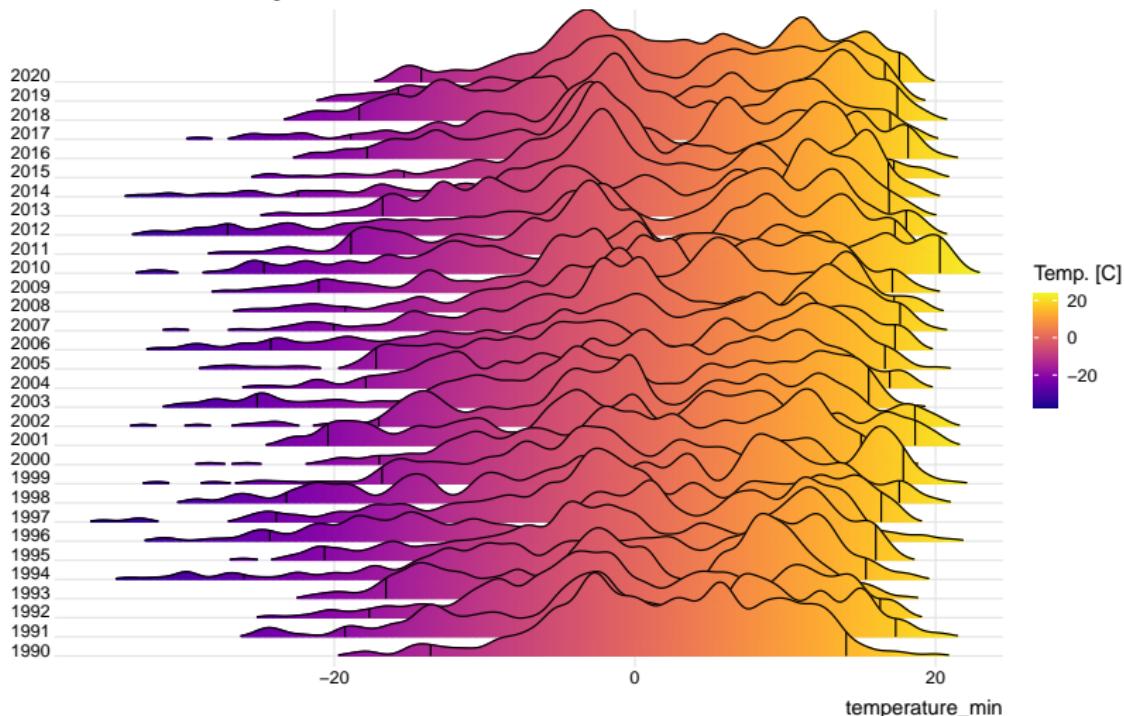
temperature_mean (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



North

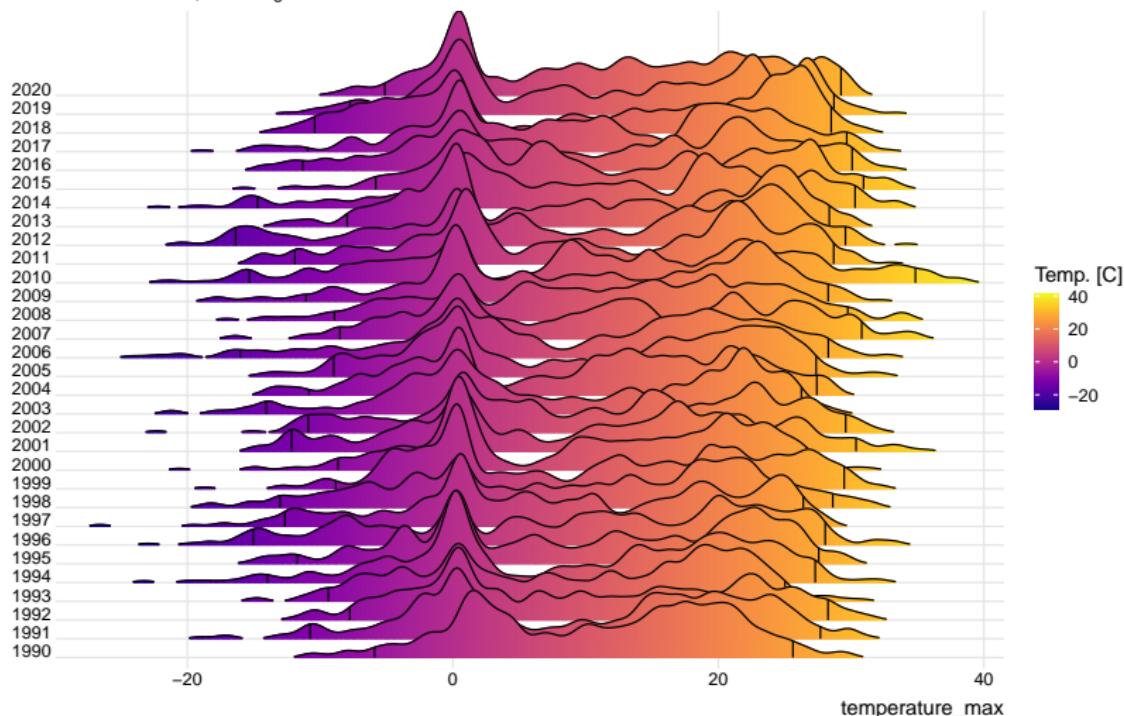
Temperatures in Ukraine – North

temperature_min (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



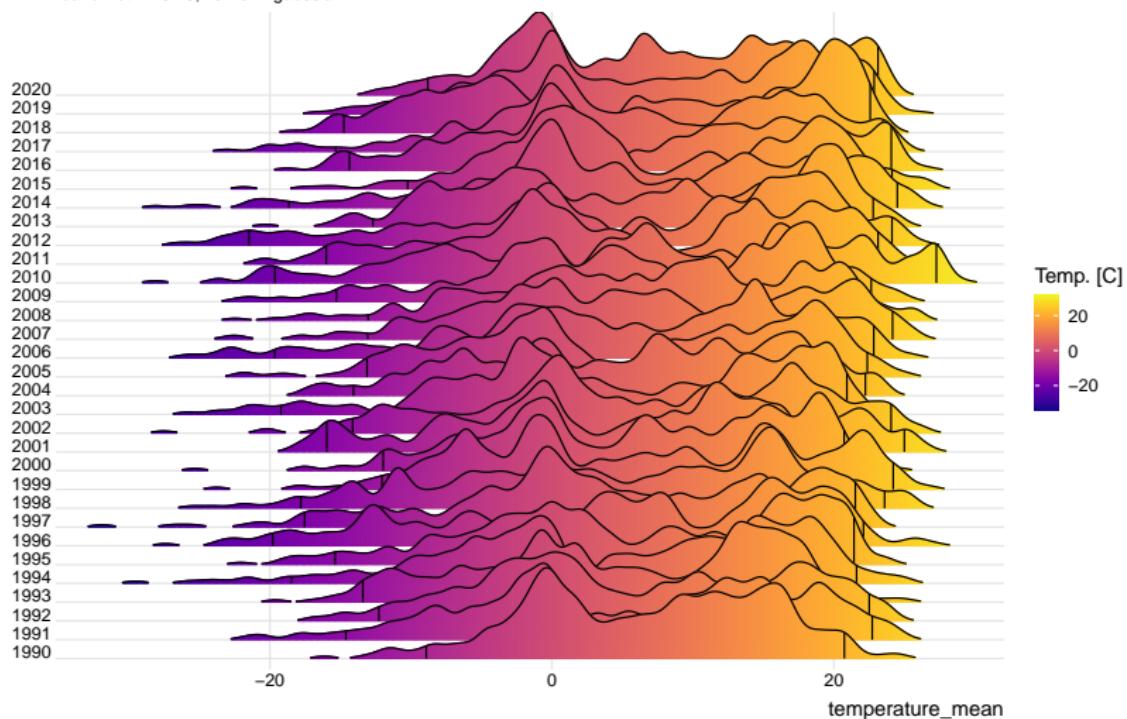
Temperatures in Ukraine – North

temperature_max (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



Temperatures in Ukraine – North

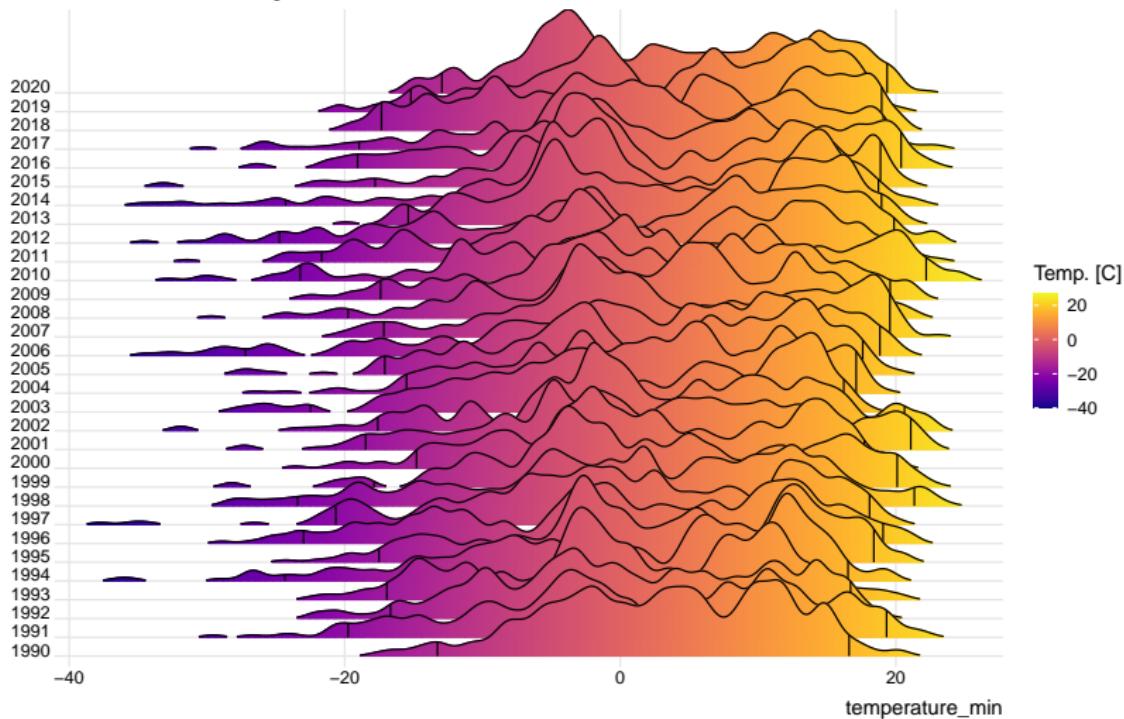
temperature_mean (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



East

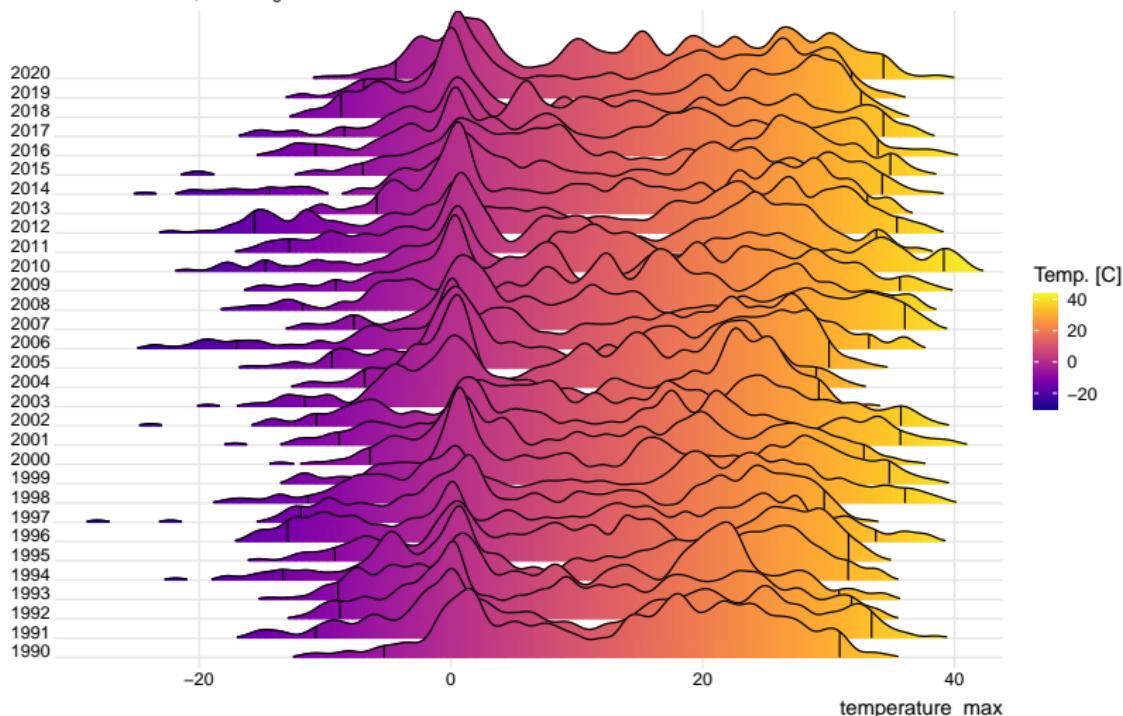
Temperatures in Ukraine – East

temperature_min (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



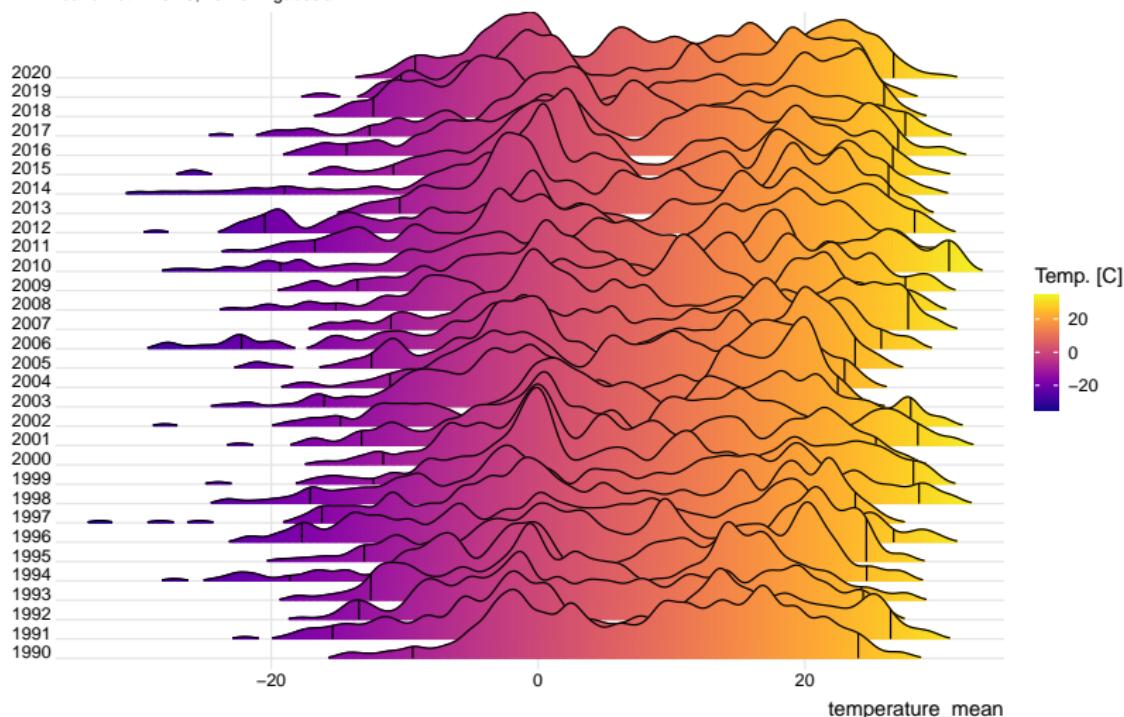
Temperatures in Ukraine – East

temperature_max (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian

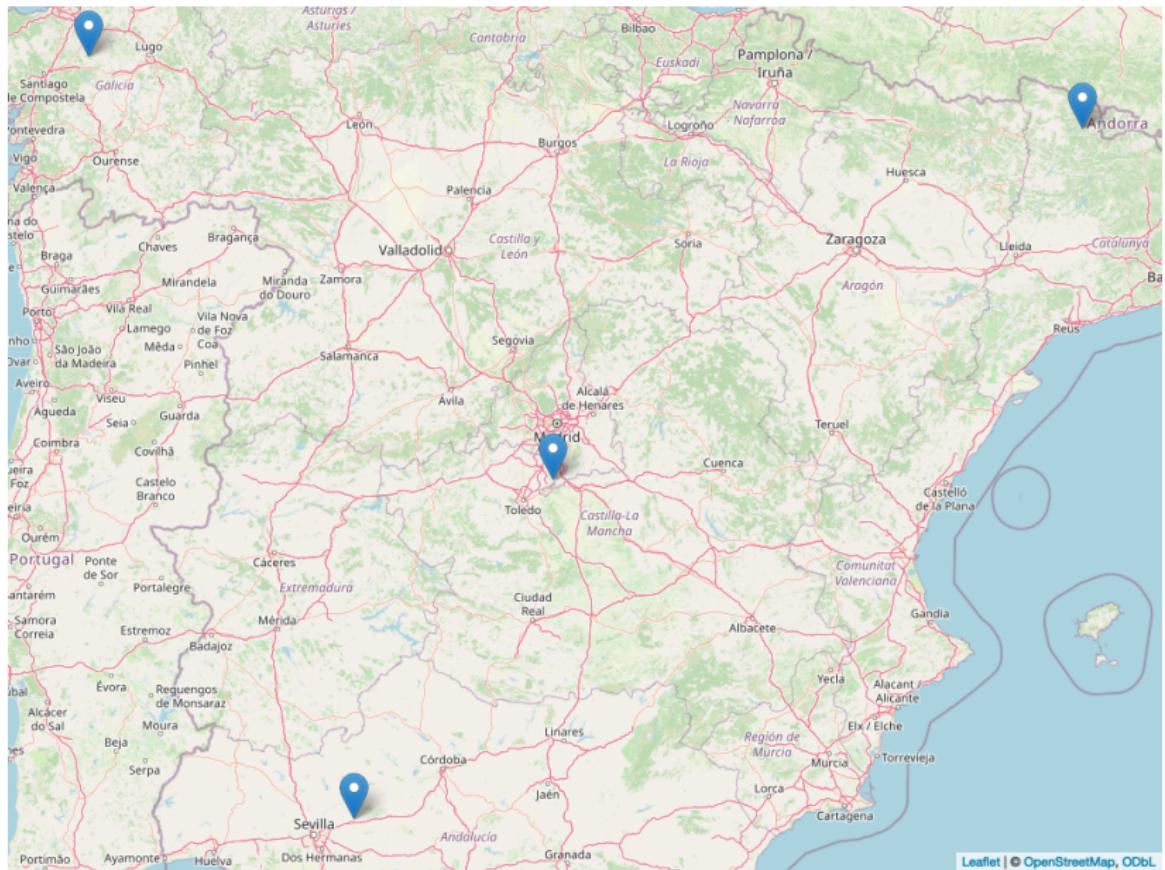


Temperatures in Ukraine – East

temperature_mean (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



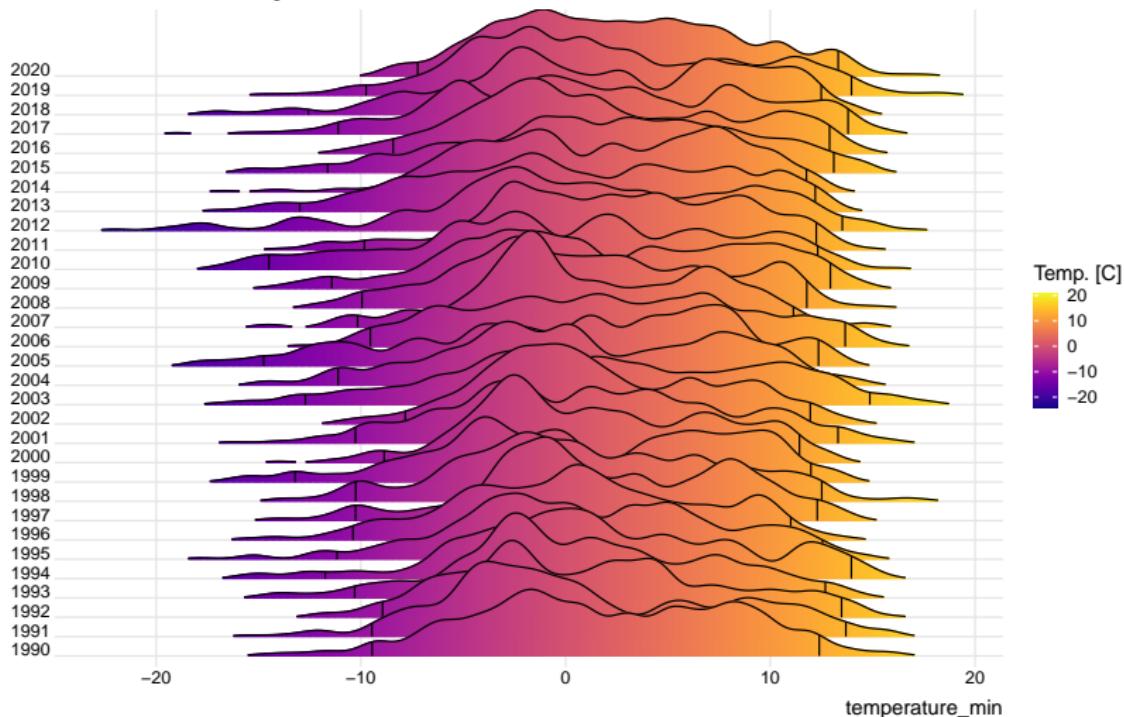
Spain



North

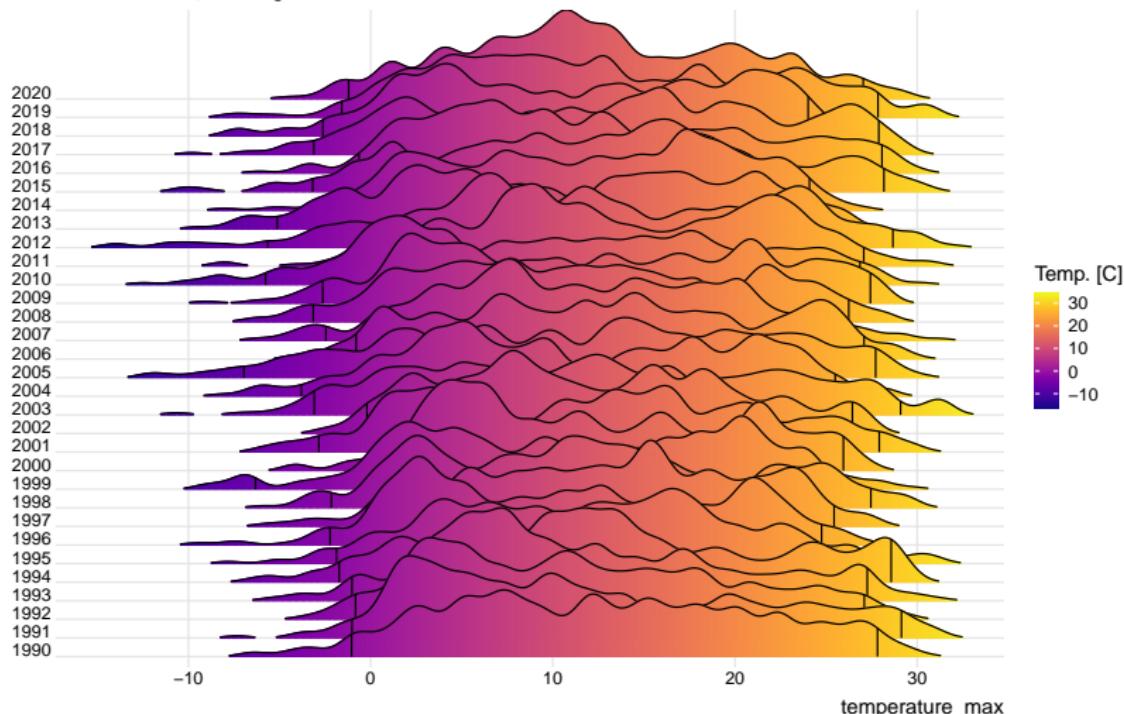
Temperatures in Spain – North

temperature_min (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



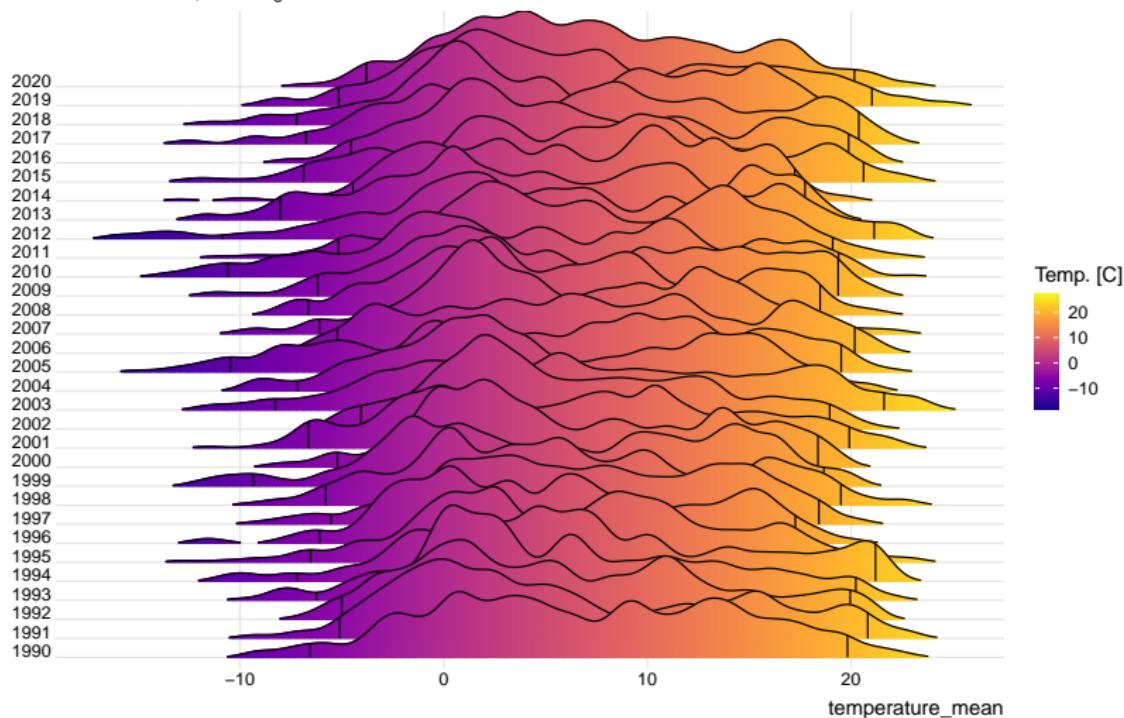
Temperatures in Spain – North

temperature_max (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



Temperatures in Spain – North

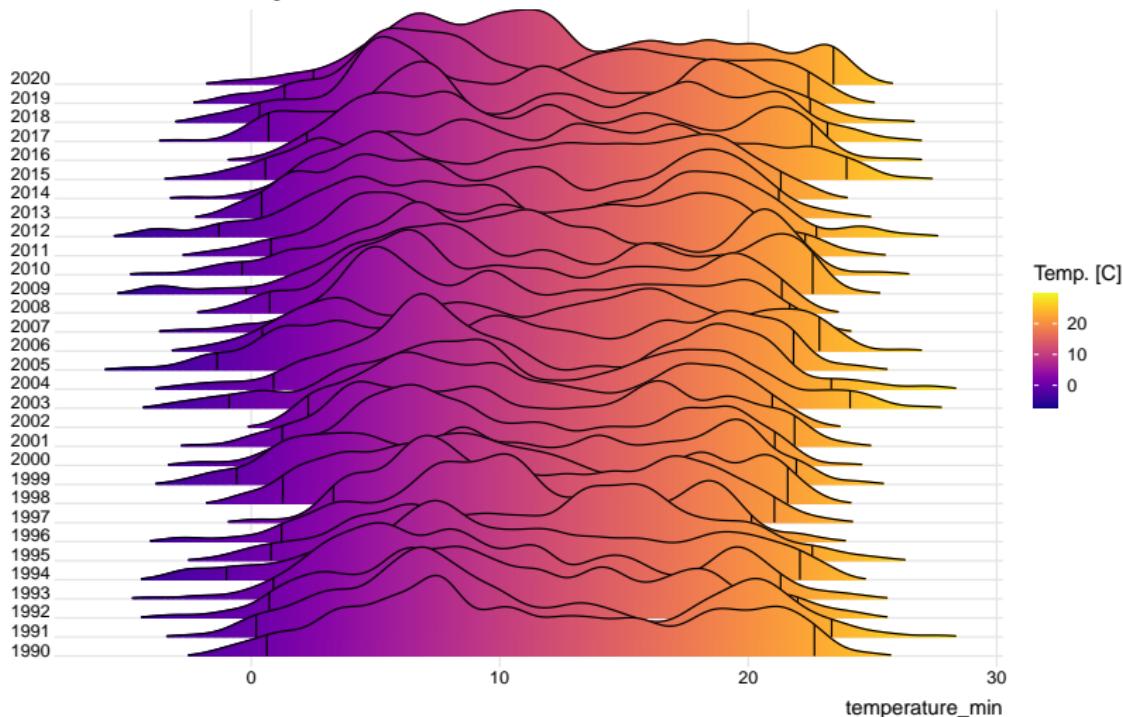
temperature_mean (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



South

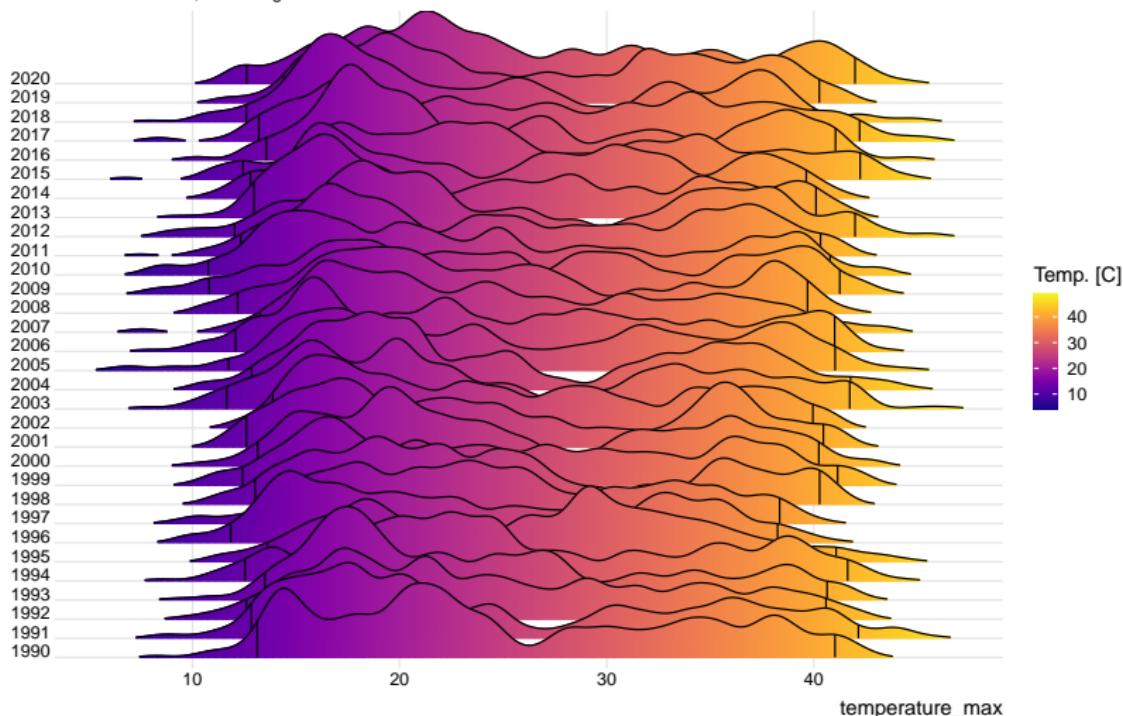
Temperatures in Spain – South

temperature_min (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



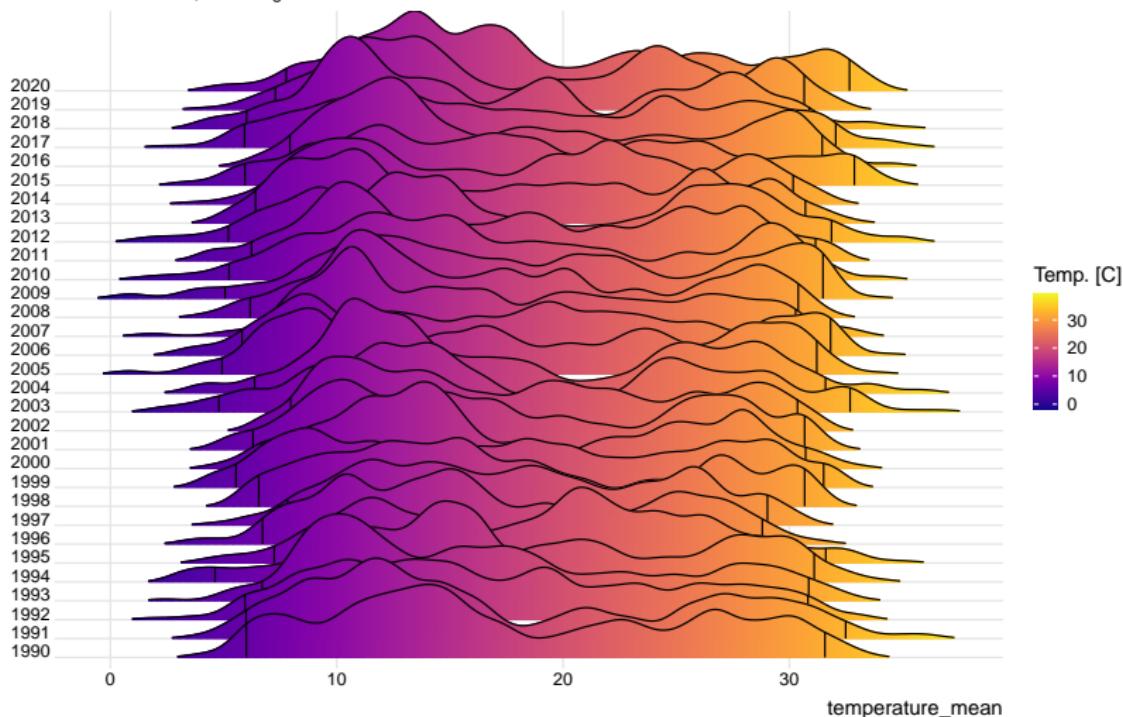
Temperatures in Spain – South

temperature_max (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



Temperatures in Spain – South

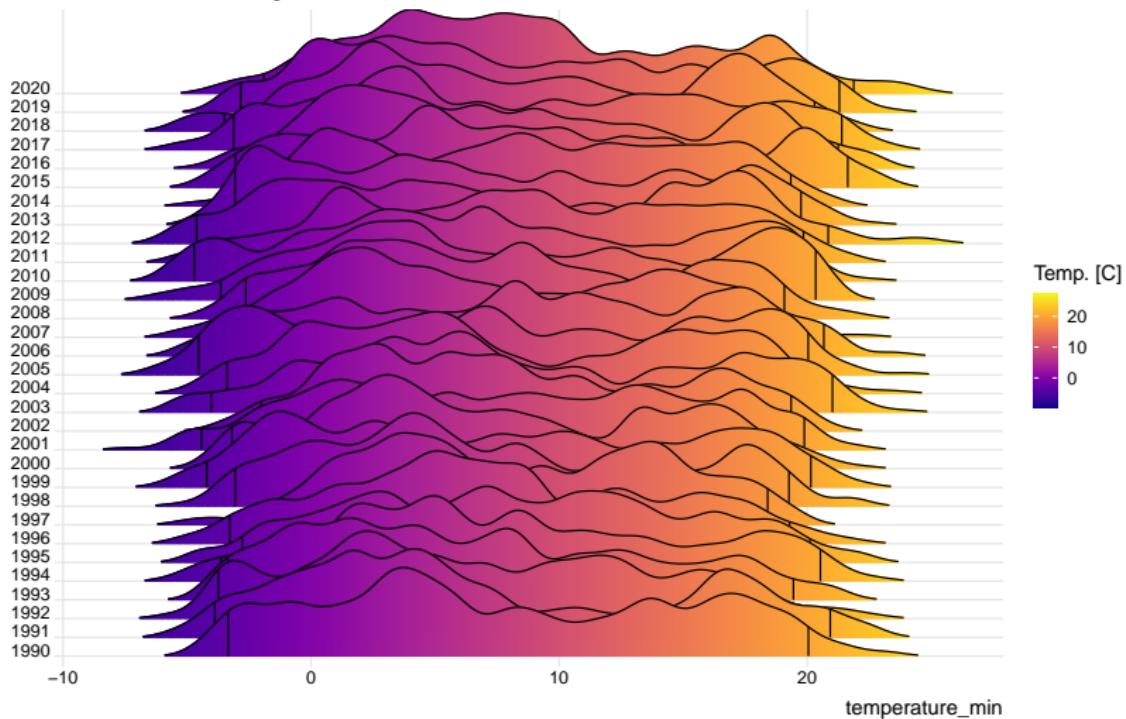
temperature_mean (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



Center

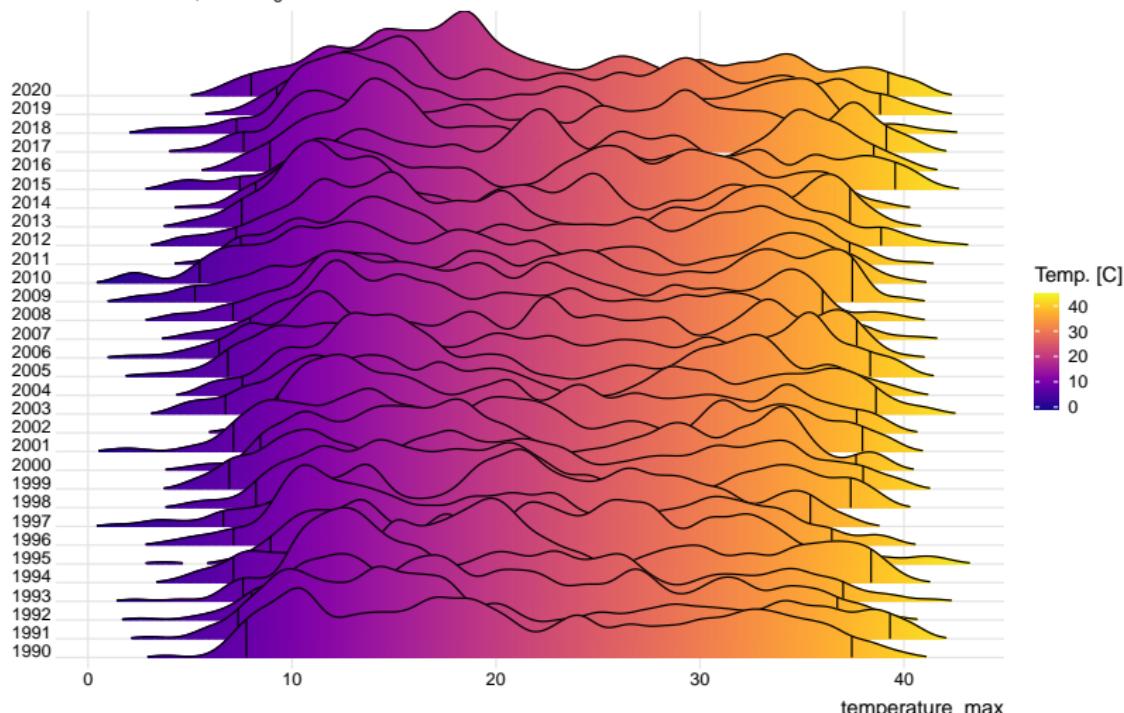
Temperatures in Spain – Center

temperature_min (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



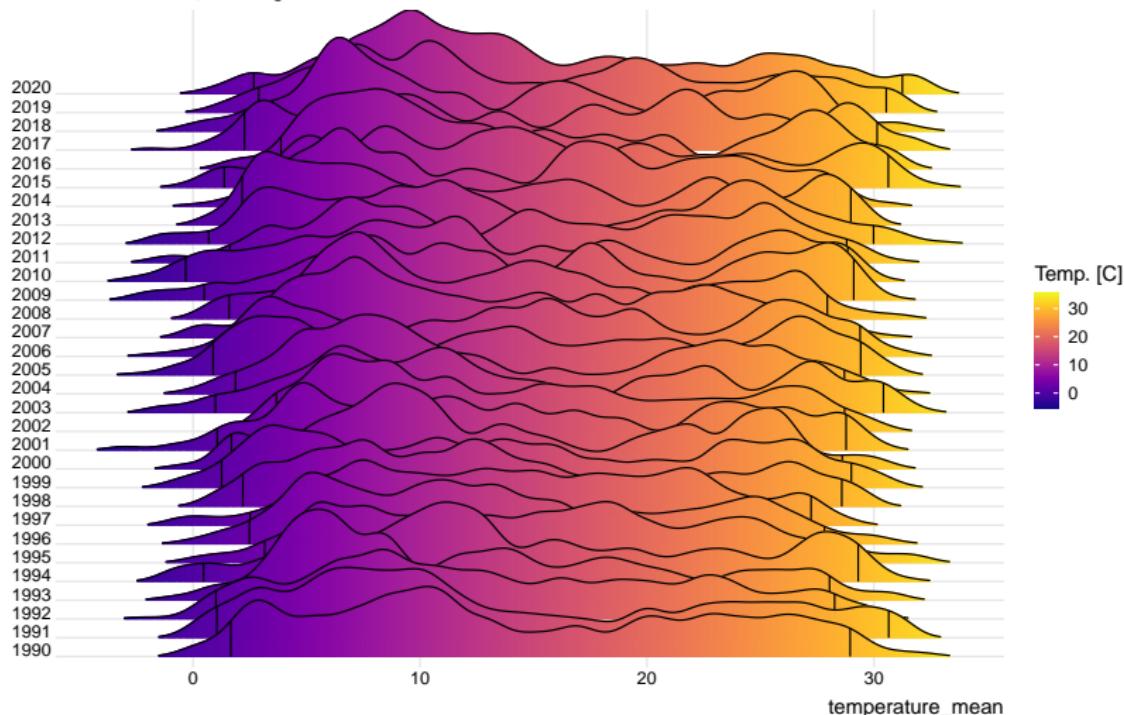
Temperatures in Spain – Center

temperature_max (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



Temperatures in Spain – Center

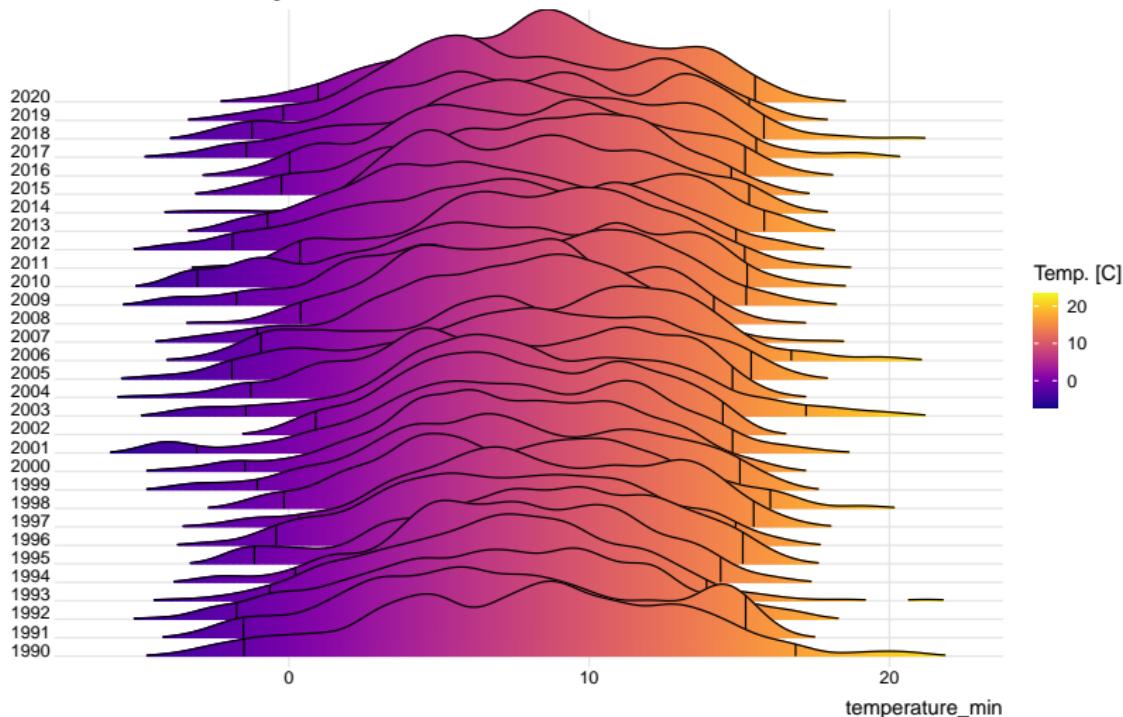
temperature_mean (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



West

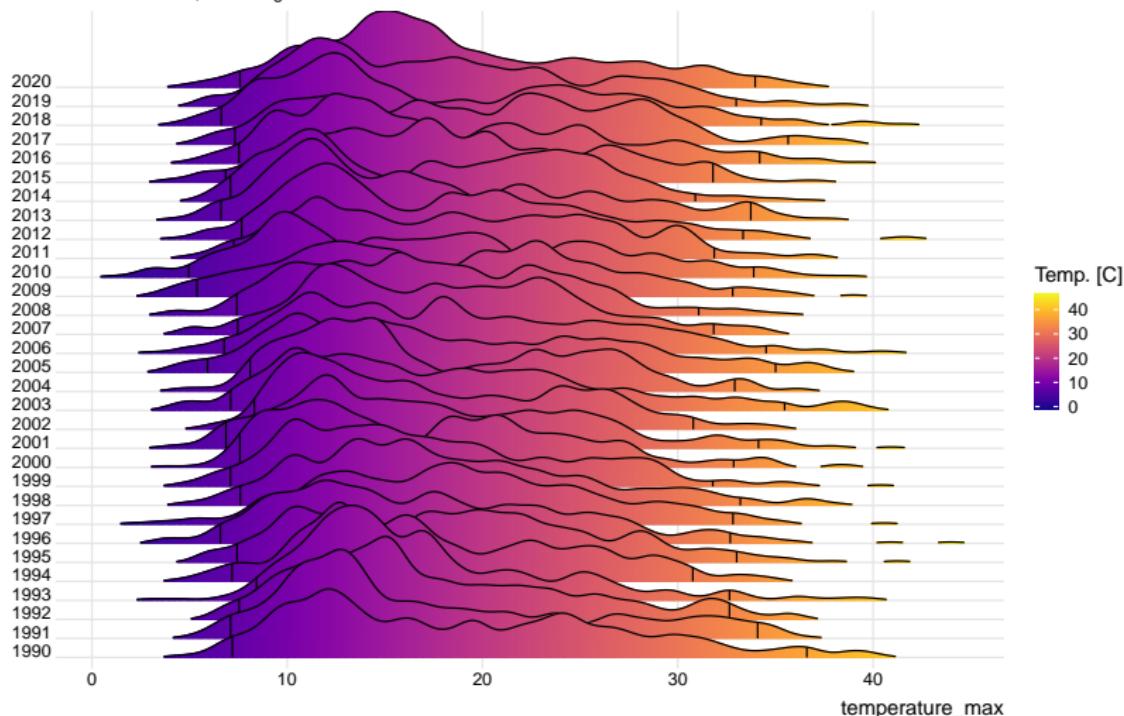
Temperatures in Spain – West

temperature_min (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



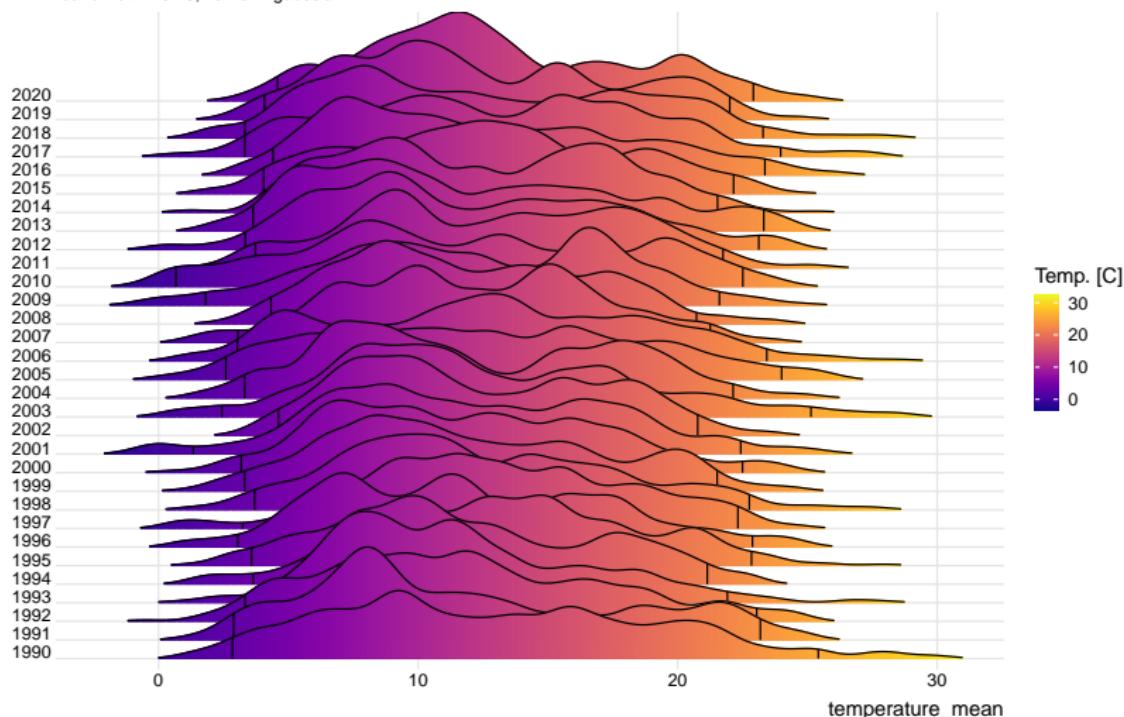
Temperatures in Spain – West

temperature_max (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian

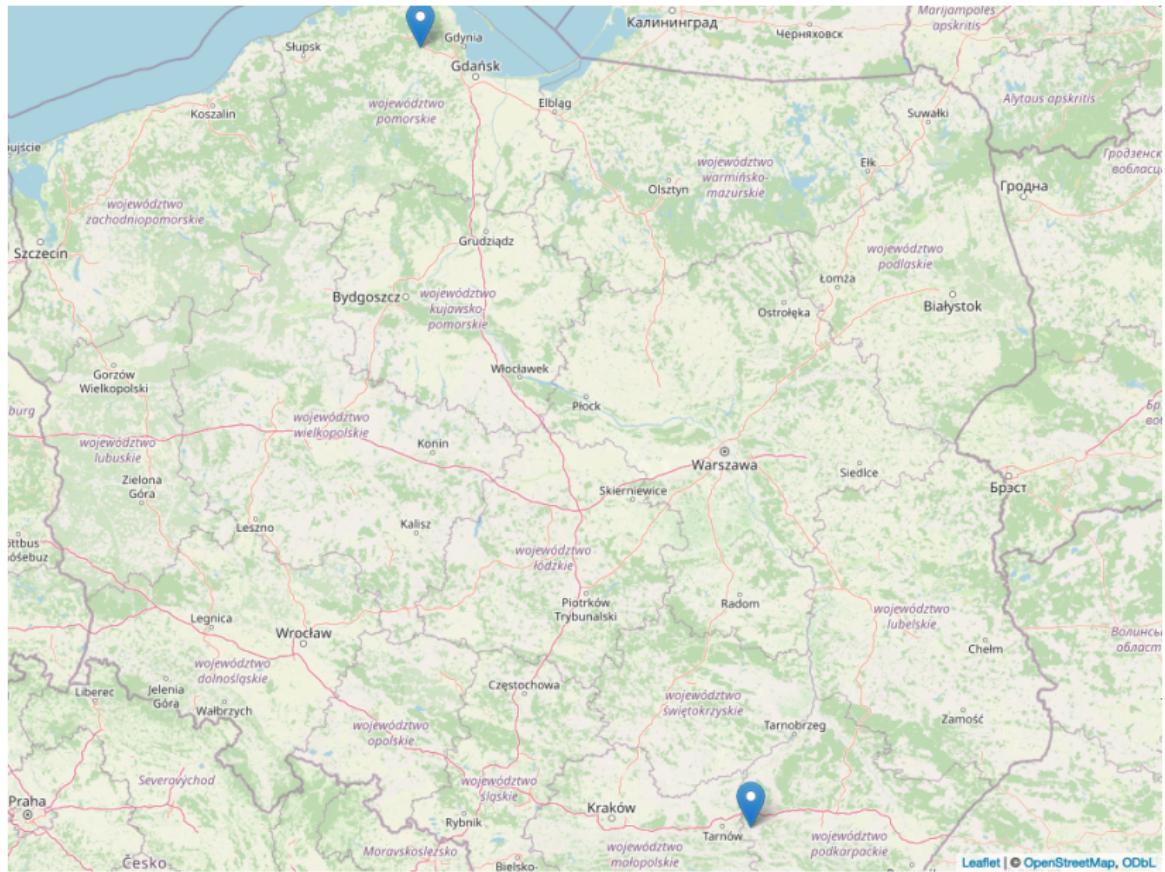


Temperatures in Spain – West

temperature_mean (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



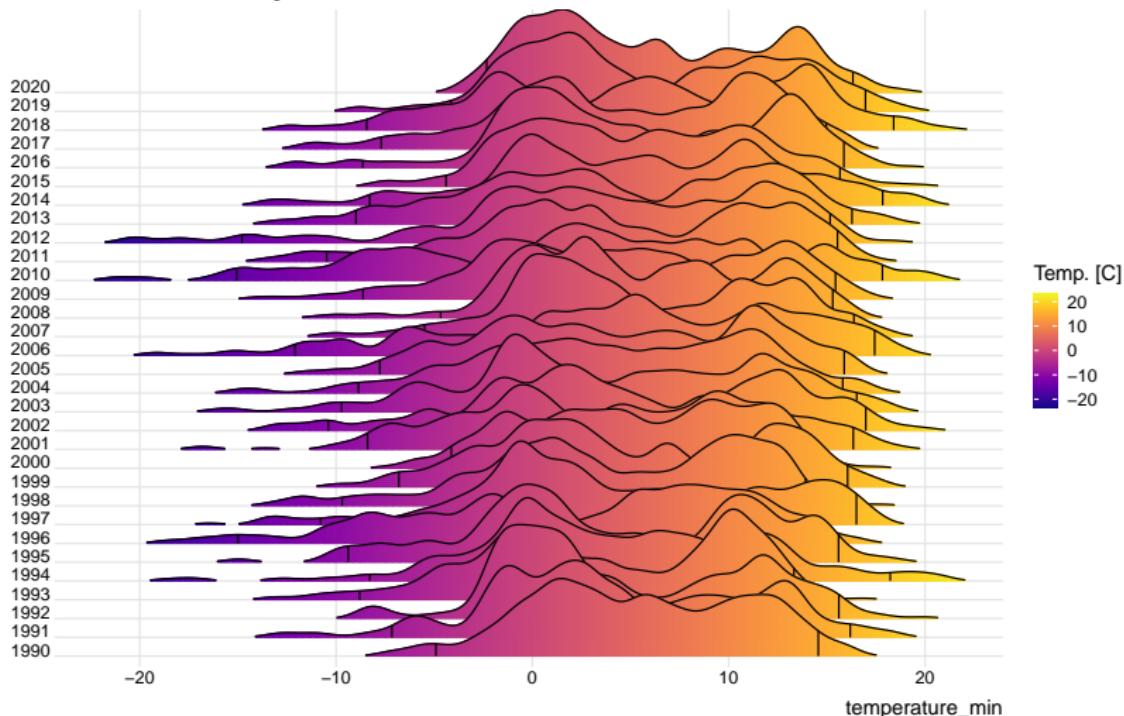
Poland



North

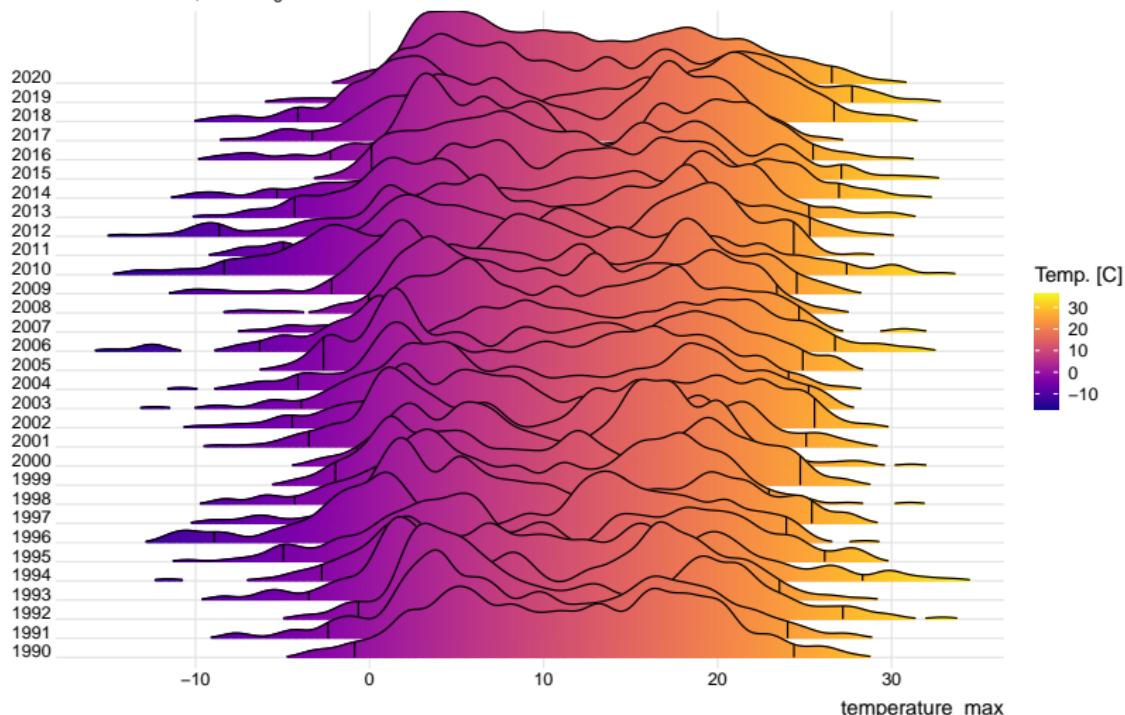
Temperatures in Poland – North

temperature_min (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



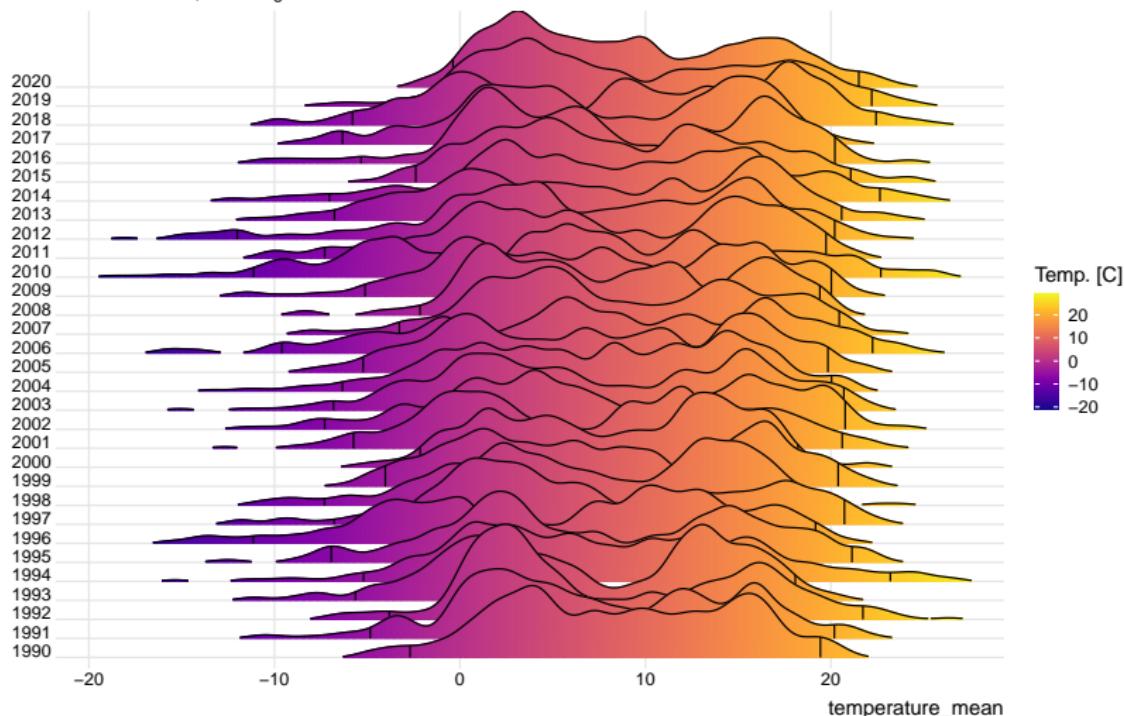
Temperatures in Poland – North

temperature_max (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



Temperatures in Poland – North

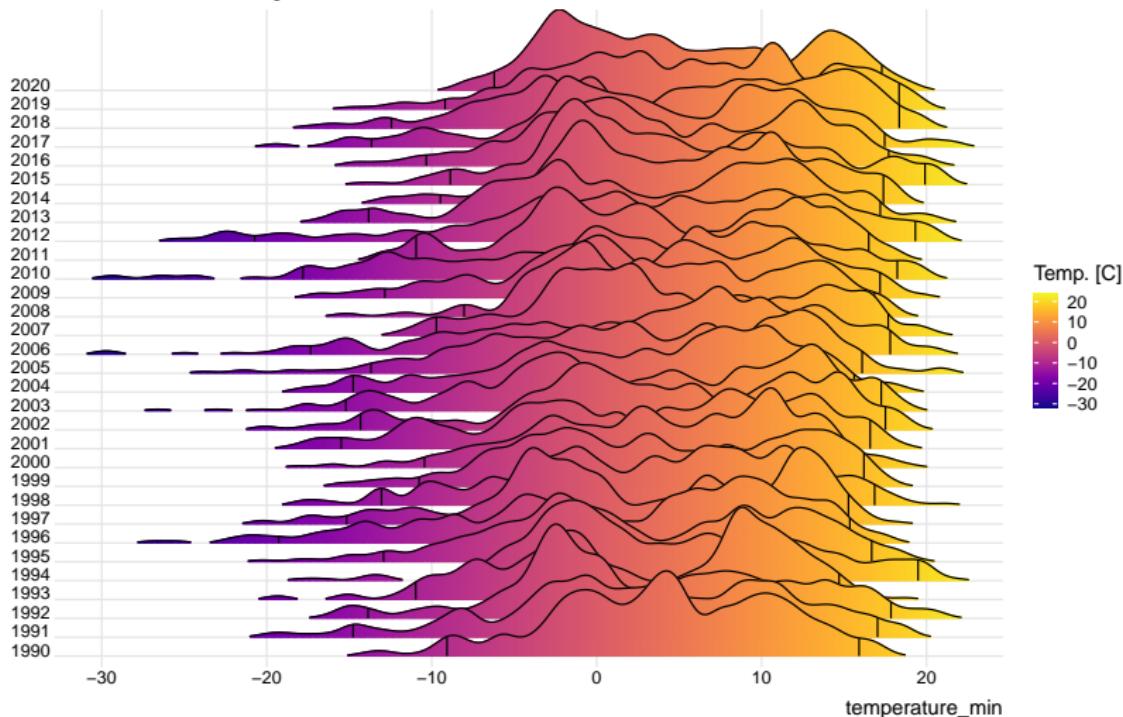
temperature_mean (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



Center

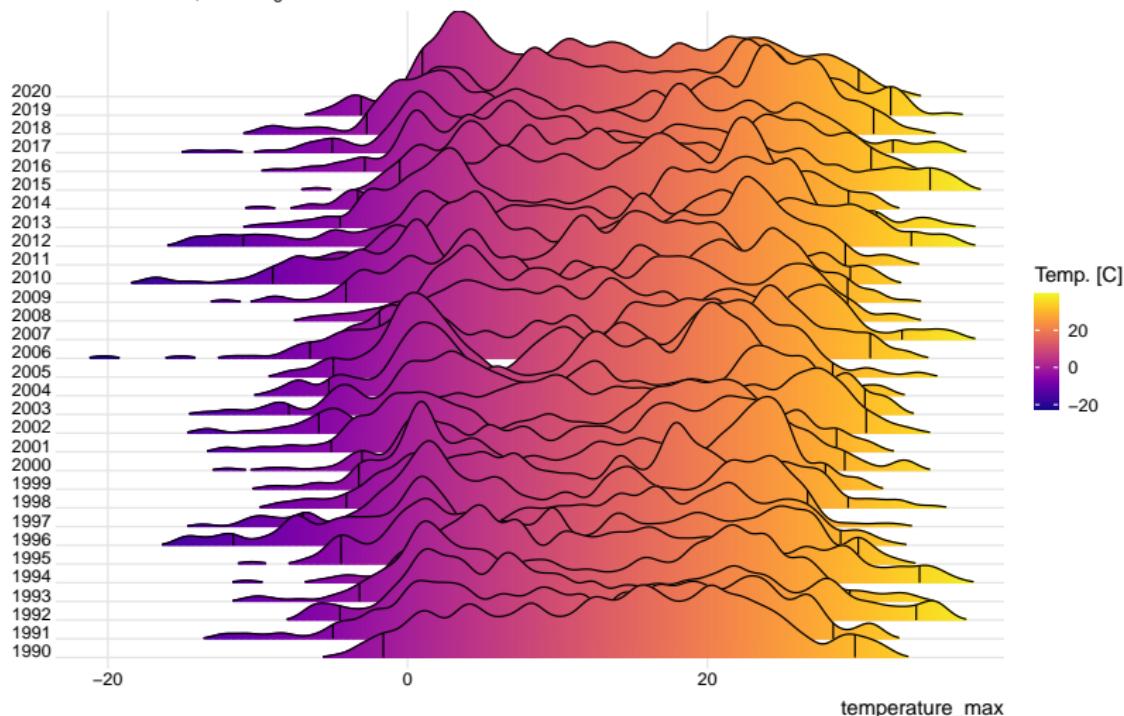
Temperatures in Poland – Center

temperature_min (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



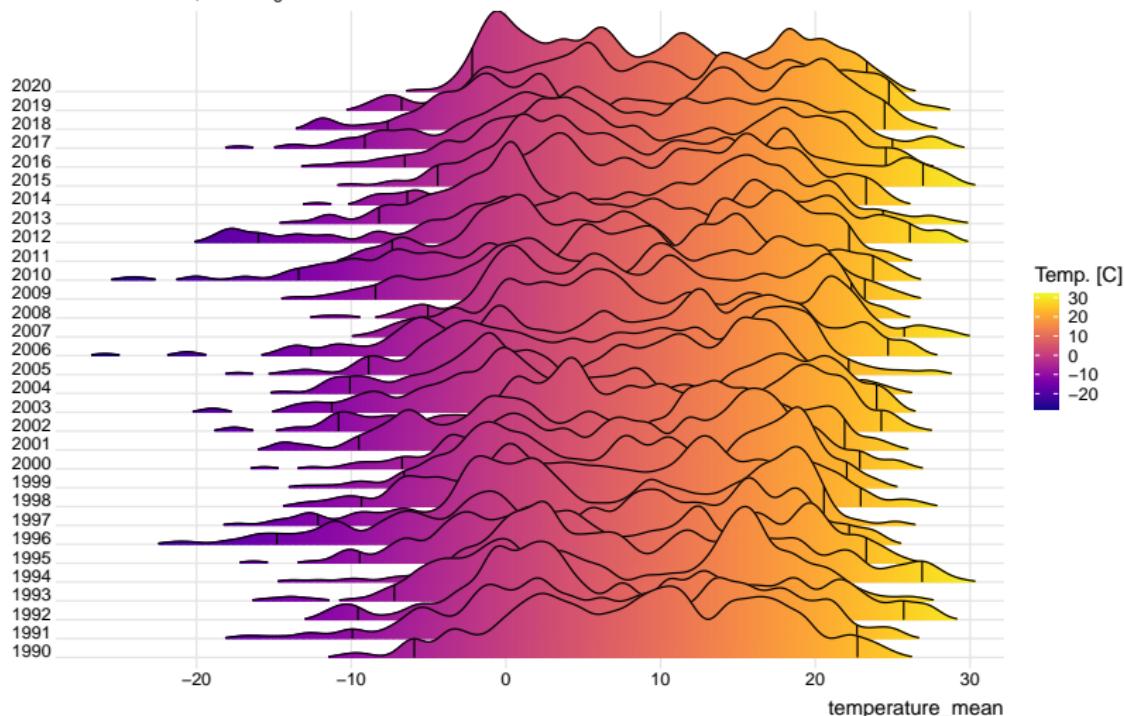
Temperatures in Poland – Center

temperature_max (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian

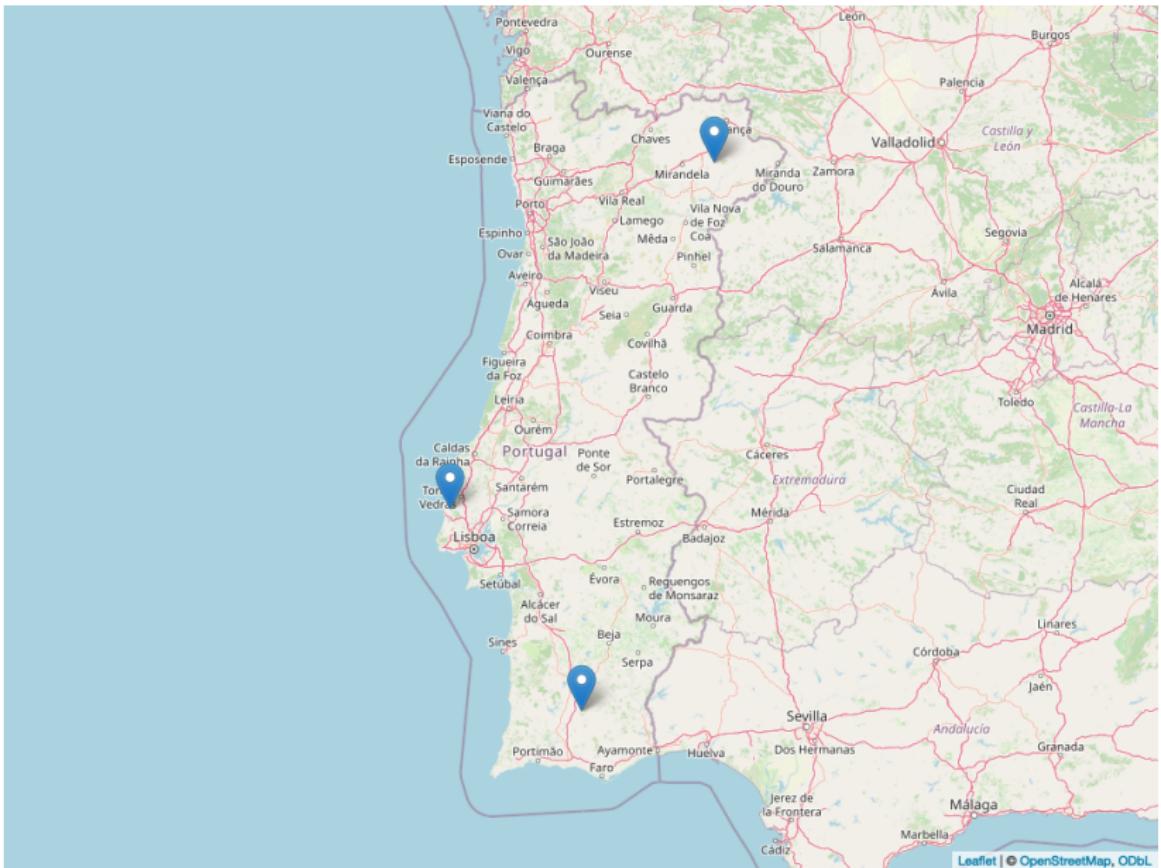


Temperatures in Poland – Center

temperature_mean (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



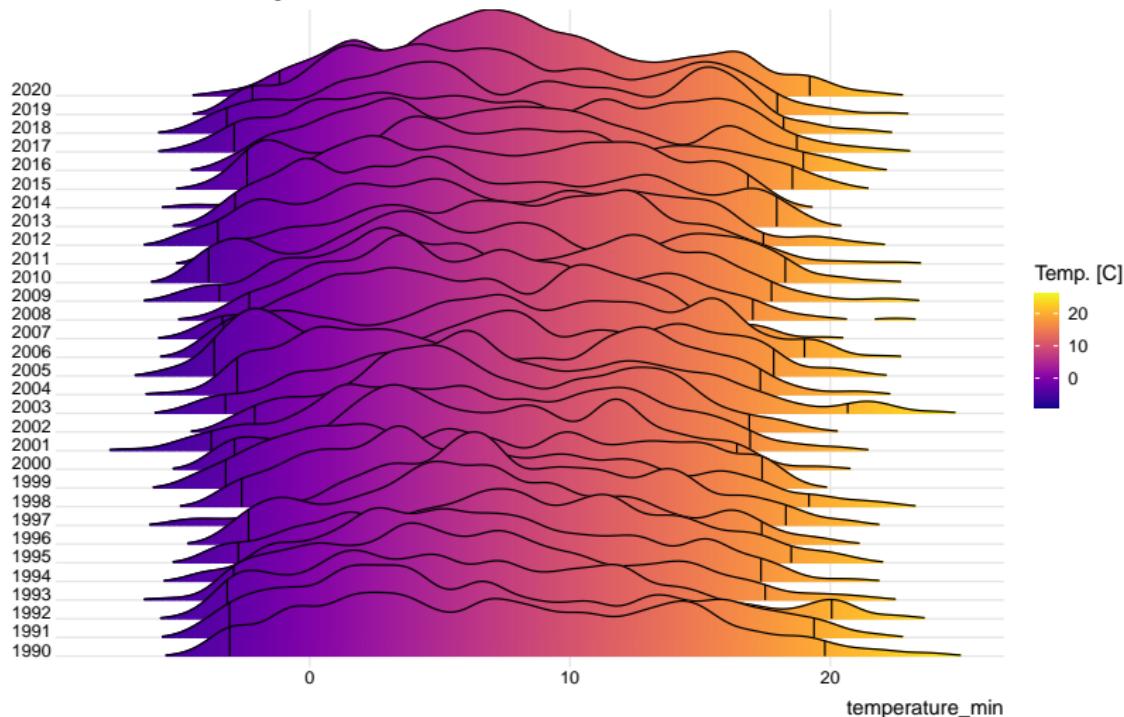
Portugal



North

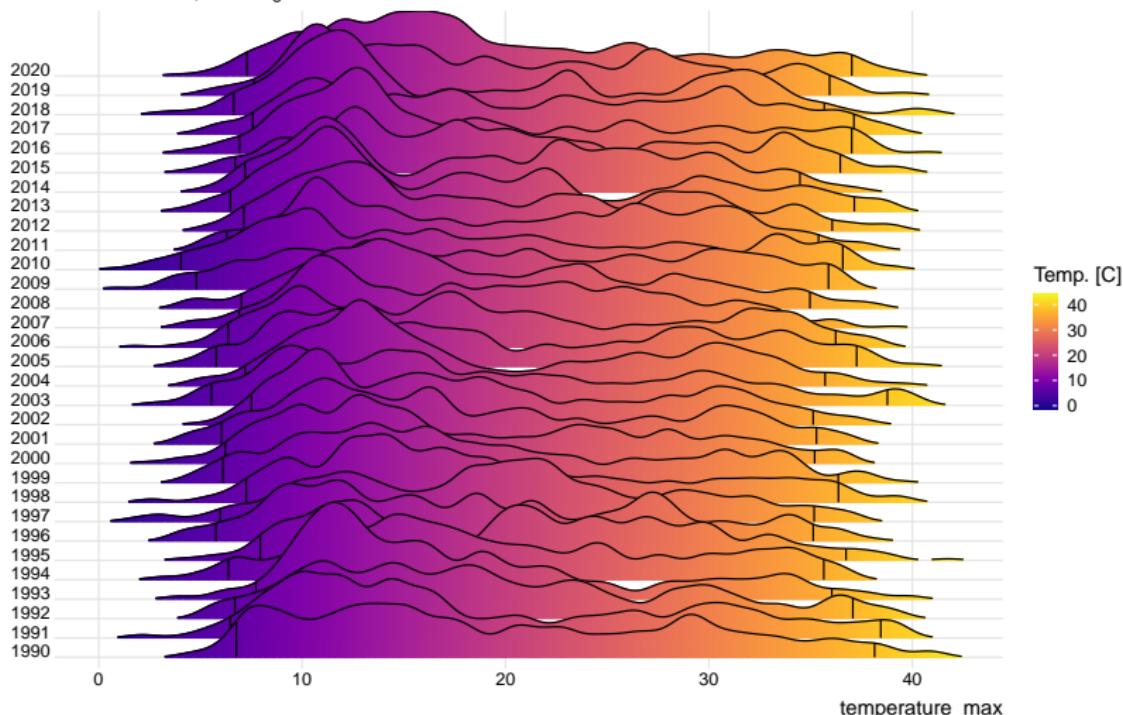
Temperatures in Portugal – North

temperature_min (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



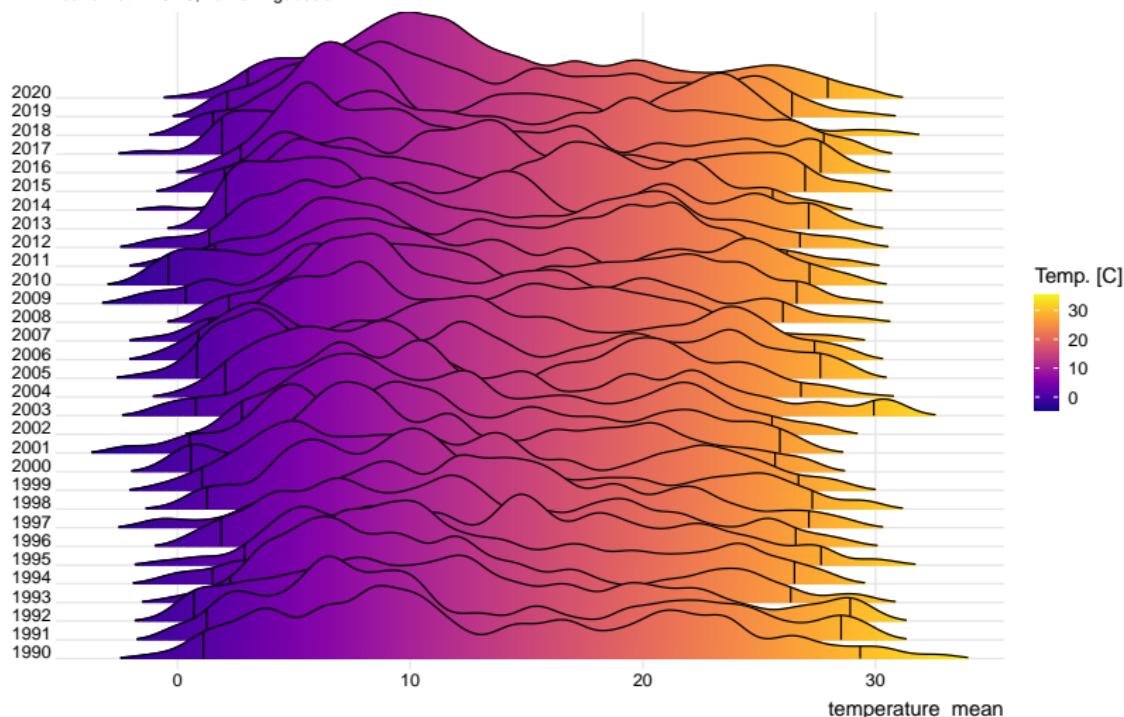
Temperatures in Portugal – North

temperature_max (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



Temperatures in Portugal – North

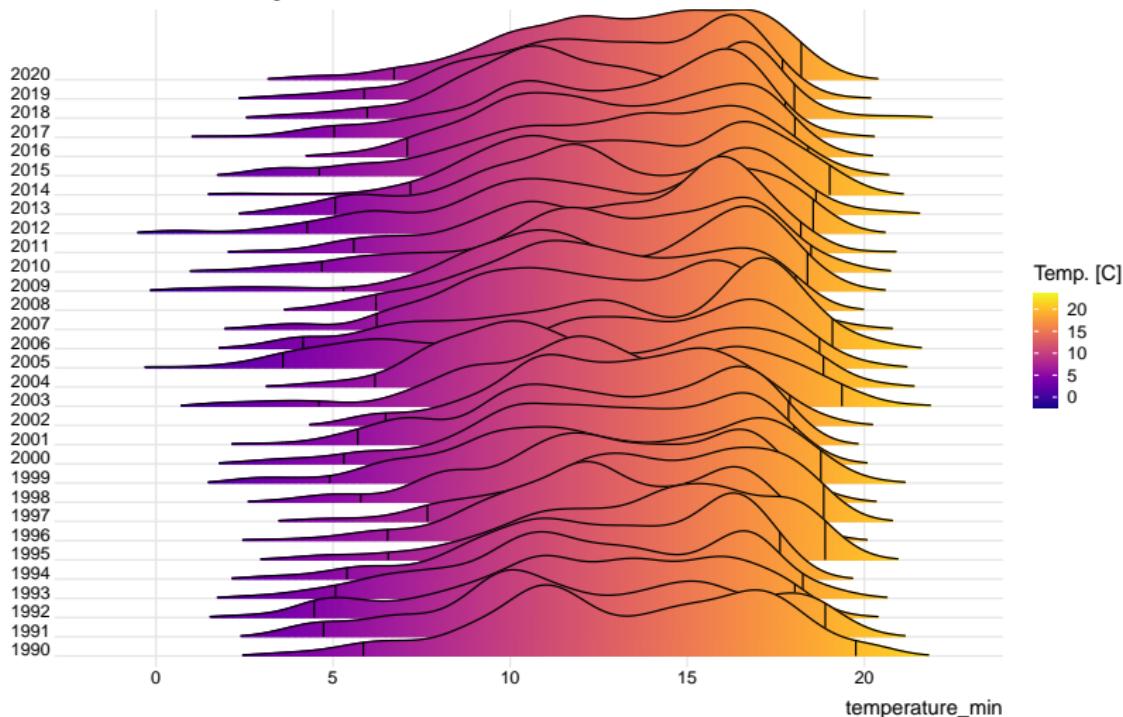
temperature_mean (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



West

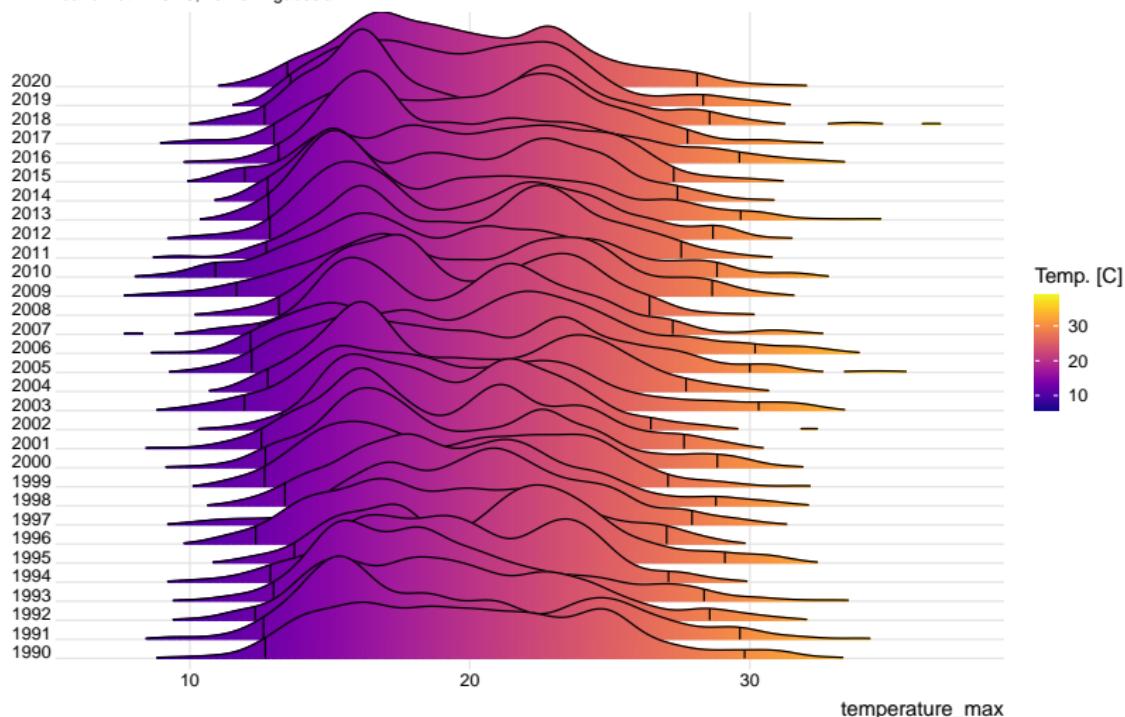
Temperatures in Portugal – West

temperature_min (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



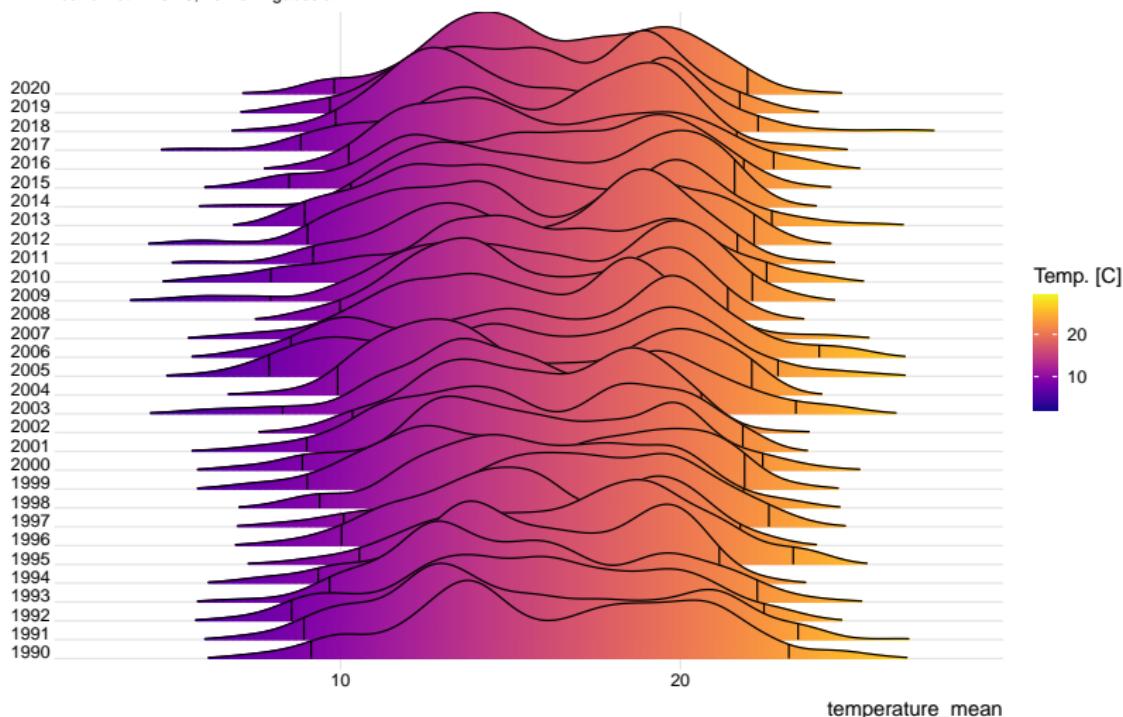
Temperatures in Portugal – West

temperature_max (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



Temperatures in Portugal – West

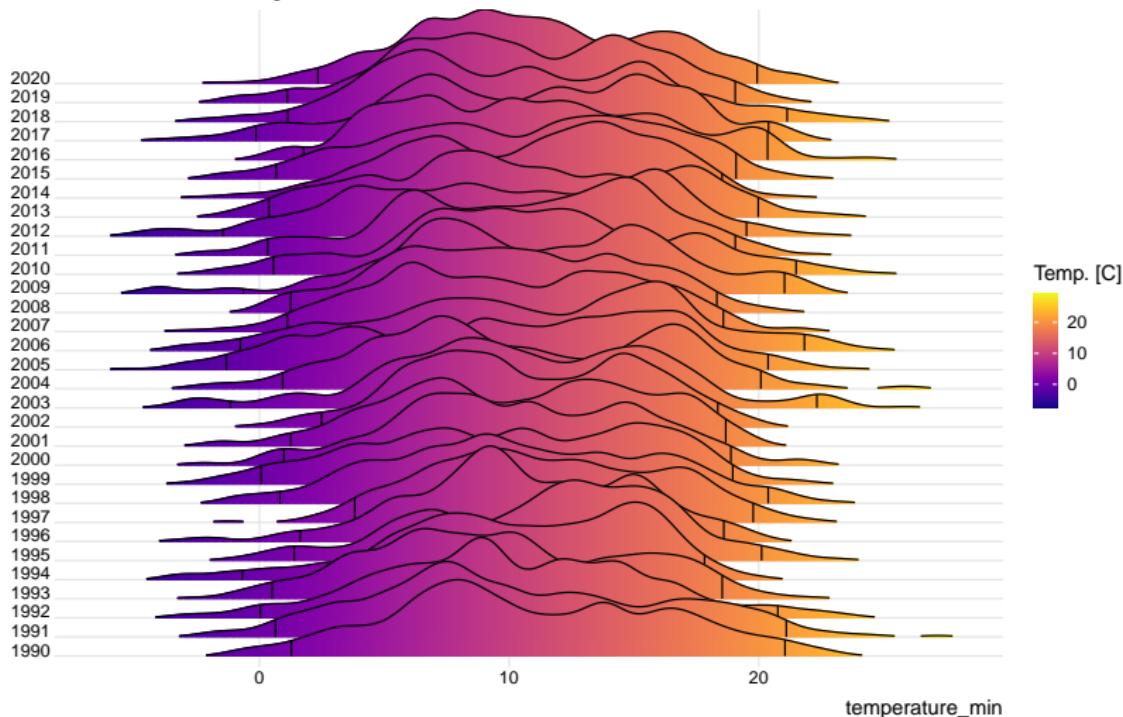
temperature_mean (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



South

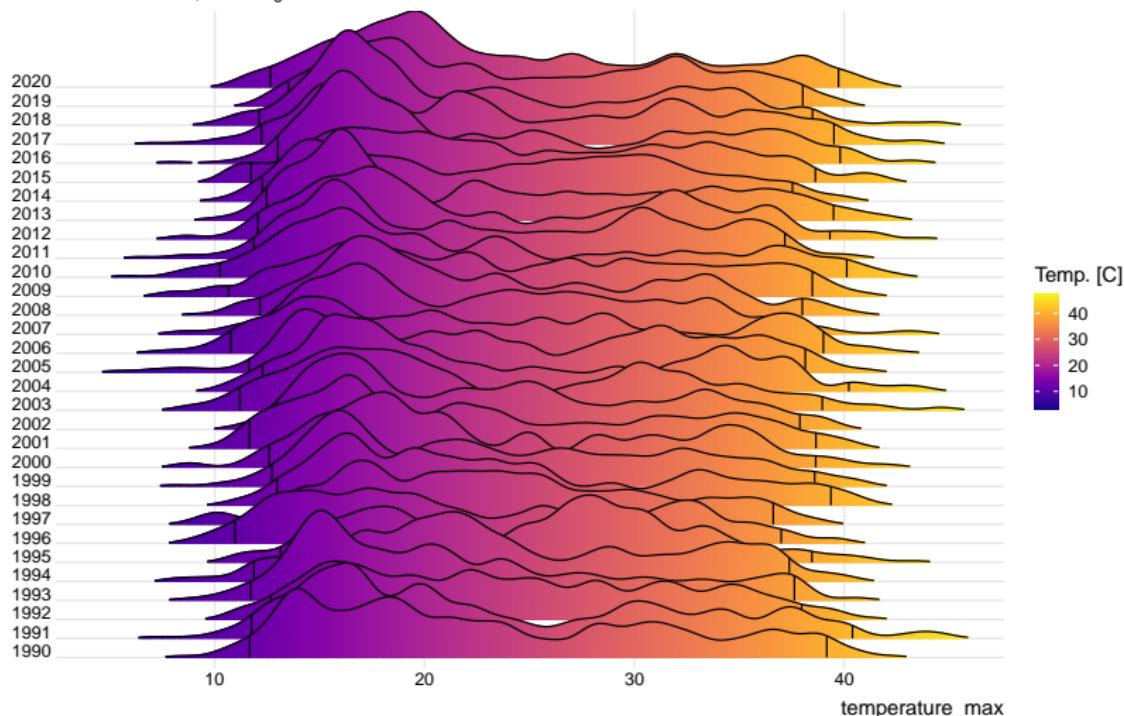
Temperatures in Portugal – South

temperature_min (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



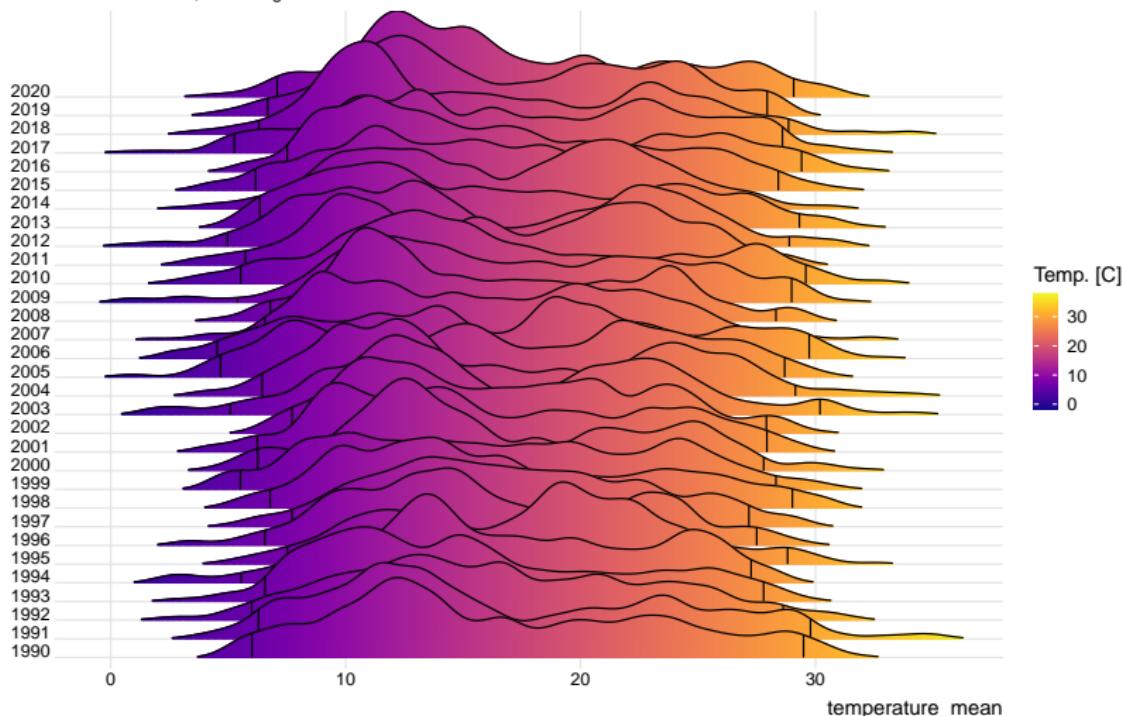
Temperatures in Portugal – South

temperature_max (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



Temperatures in Portugal – South

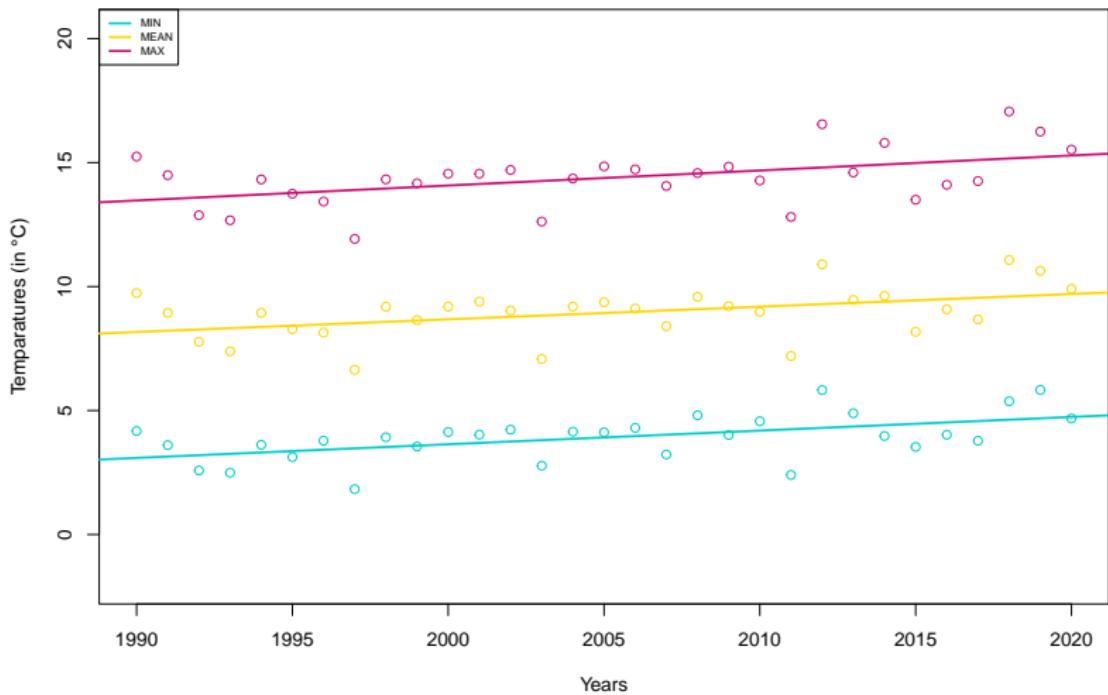
temperature_mean (Celsius) by year between 1990 and 2020
bandwidth = 0.75, kernel = gaussian



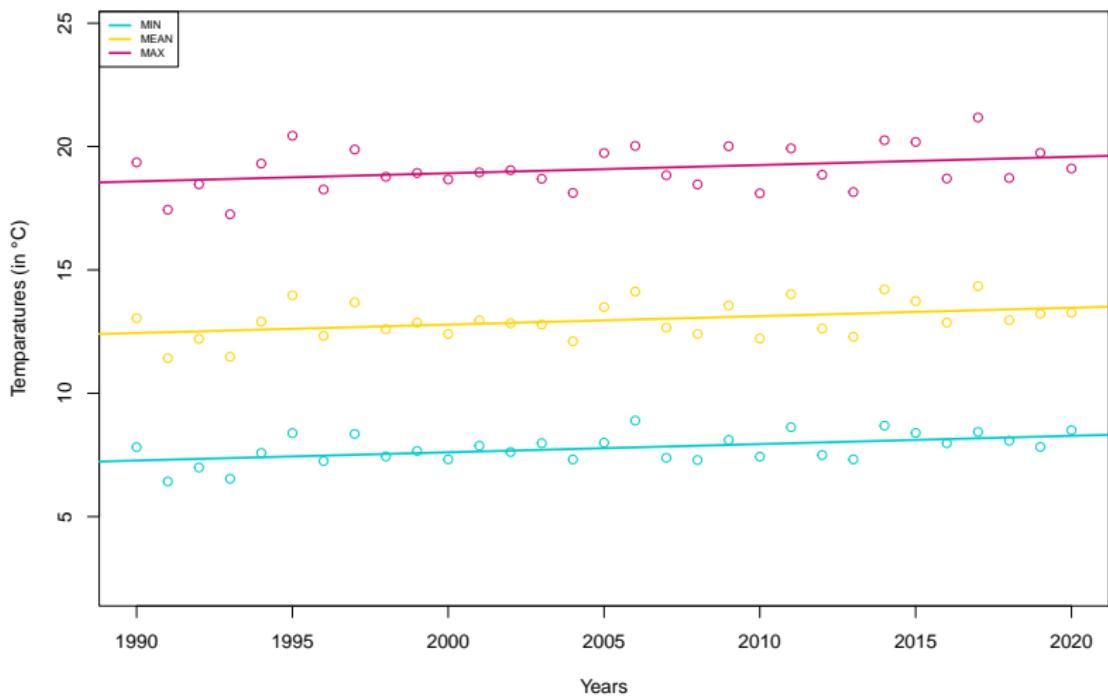
Linear regression

These plots shows the linear regression of the temperature variables (min, max, mean) for each country over the years.

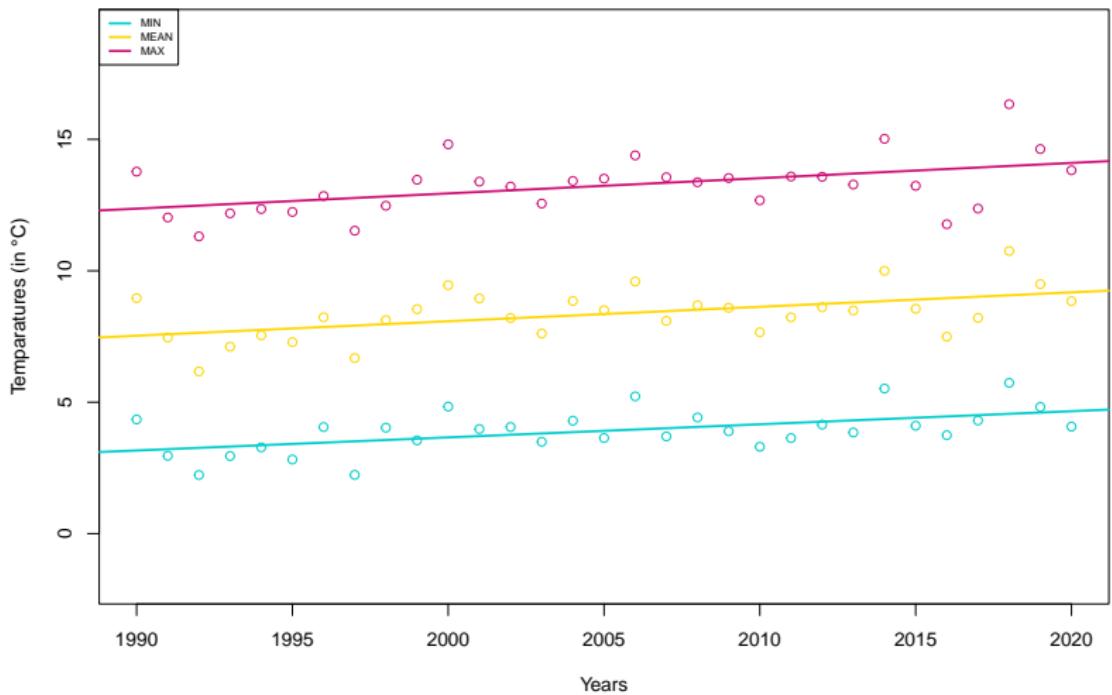
Ukraine



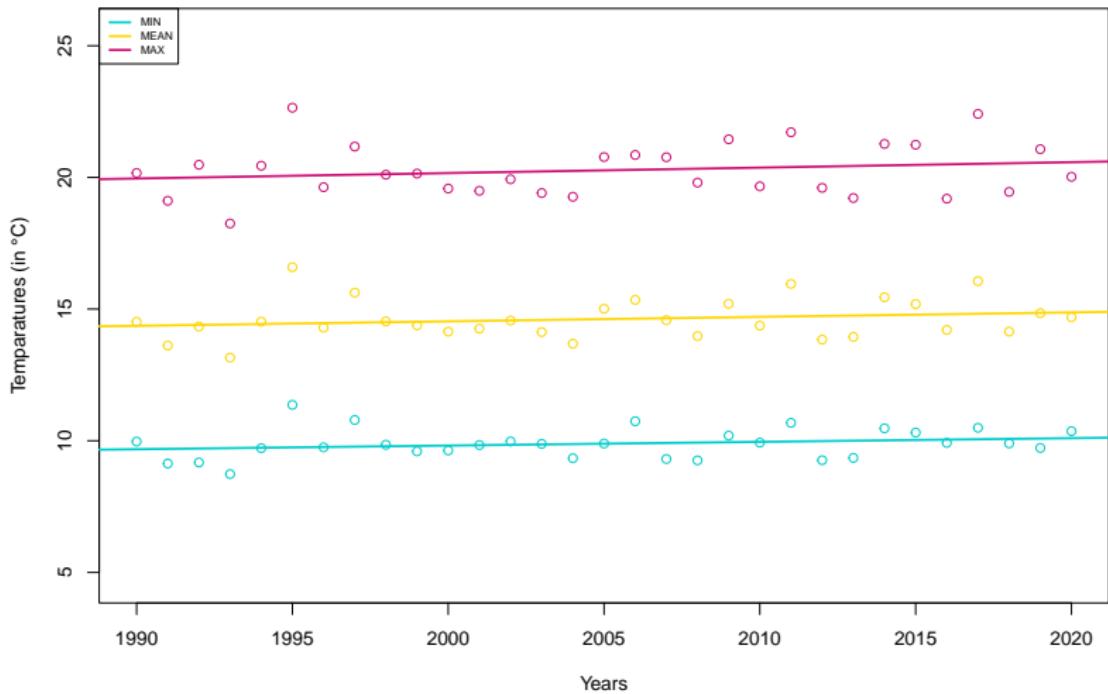
Spain



Poland



Portugal



Migration Analysis

ToDo

Variable selection

ToDo

Model Development

ToDo

Literature Review

ToDo

Conclusion