

## Exercise sheet 12

### Time series and geographic data

1. Temperature change

The file `EastAngliaGlobalTemps` (on the course webpage) contains data for the period 1856-1996 as monthly (first 12 values) and annual (final value) for each year. The records are for the Northern Hemisphere, Southern Hemisphere and globe. Plot the annual average global temperature in R. Reshape the data for reading into `Mondrian` and draw a plot for the same data using a parallel coordinates plot. Compare the two plots.

Plot the monthly averages by year for the Northern Hemisphere, Southern Hemisphere and globally all in the same parallel coordinates plot. What results, if any, can be found?

2. Bundestagswahl 2005

The dataset and accompanying map (`DeutscheKarte`) are available on the course webpage (make sure you download both and put them in the same folder). With four variables of your choice, investigate the use of `Mondrian`'s `map` function and linked graphics for finding spatial patterns in the data.