

Pattends and Trends – checking

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# Chapter 1

## Introduction



## Chapter 2

# Exercise 1

```
library(tidyverse)
library(sf)
library(raster)
library(ggplot2)
```

### 2.1 Tasks 1 - 3

As a next task, we convert our dataframe `data_schwein` into a spatial feature `sf` object.

```
data_schwein_sf <- st_as_sf(data_schwein, coords = c("Long", "Lat"),
                             crs = 4326)
```

### 2.2 Task 4: Project data from WGS84

```
data_schwein_CH <- st_transform(data_schwein_sf, 2056)
```

```
data_schwein_grouped <- data_schwein_CH %>%
  group_by(TierID) %>%
  summarise()
```

```
## `summarise()` ungrouping output (override with `.groups` argument)
```

```
# Calculate now the convex hull
mcp <- st_convex_hull(data_schwein_grouped)

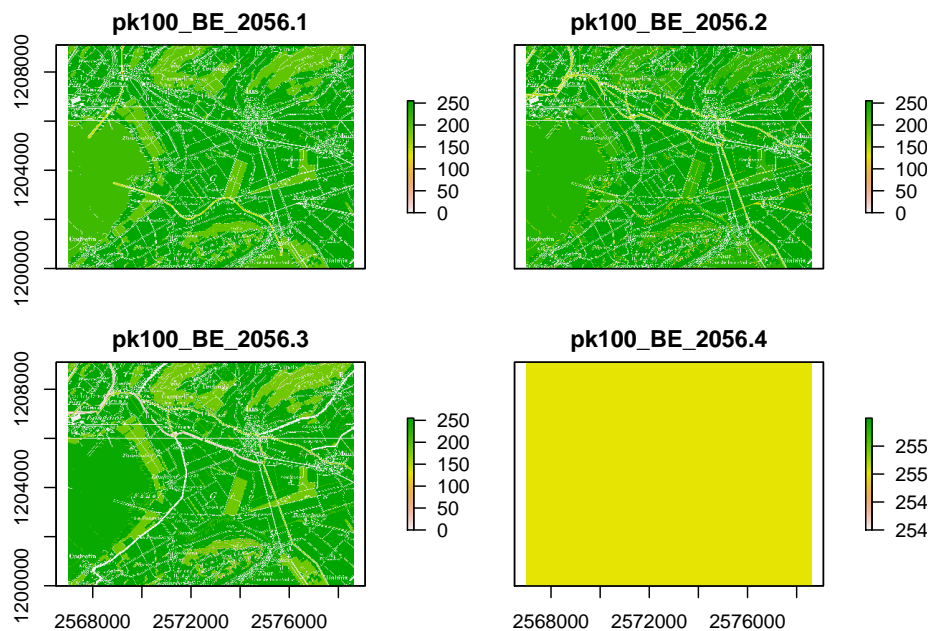
mcp_plot <- ggplot(data = mcp) +
  geom_sf(aes(fill = TierID), alpha = 0.5) + coord_sf(datum = 2056)
```

## 2.3 Task 5: Import Raster Data

```
pk100_BE <- brick("data/pk100_BE_2056.tif")
```

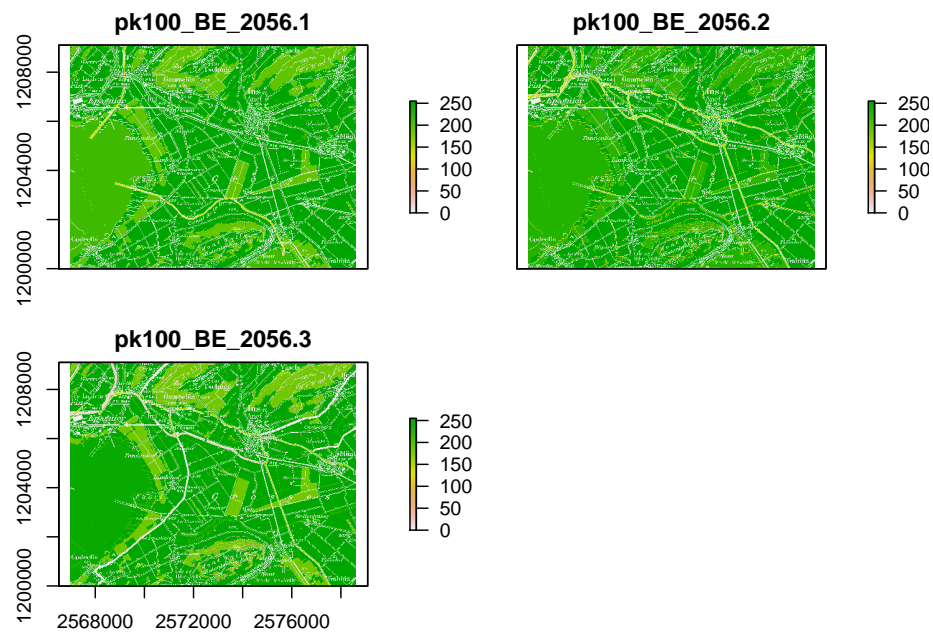
```
## Warning in showSRID(uprojargs, format = "PROJ", multiline = "NO", prefer_proj
## = prefer_proj): Discarded datum Unknown based on Bessel 1841 ellipsoid in CRS
## definition
```

```
plot(pk100_BE)
```



```
# remove the 4th layer
pk100_BE <- subset(pk100_BE, 1:3)
plot(pk100_BE)
```





## 2.4 Task 6: Adding a background map

## stars object downsampled to 1129 by 886 cells. See `tm_shape` manual (argument `raster.downsample`)

