

Seasonality of Meteorological Variables by Elevation

Exploratory data analysis reveals that many variables differ between high and low elevations.

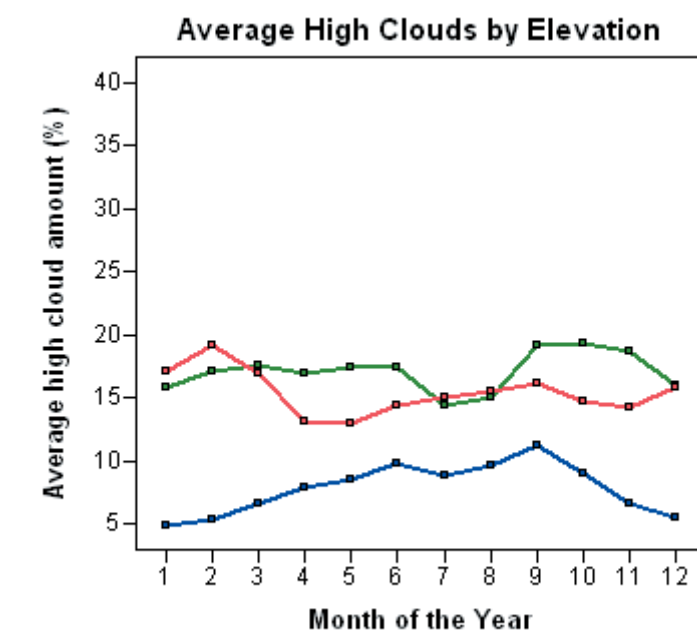
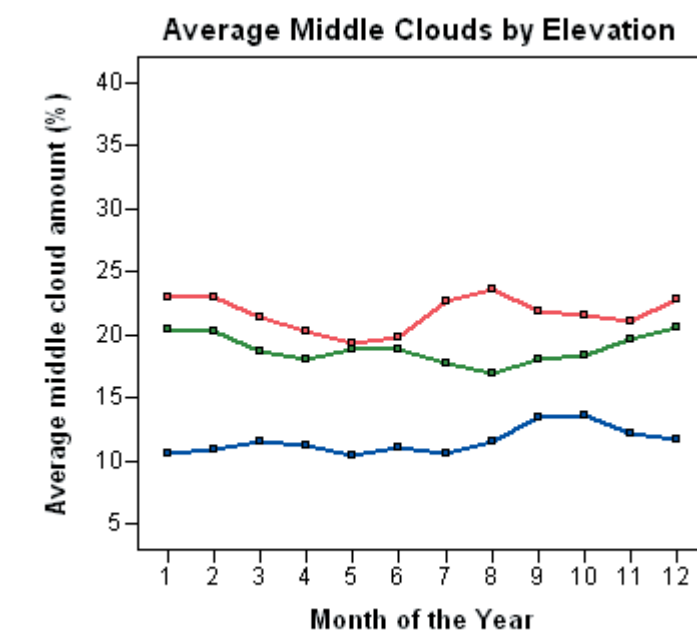
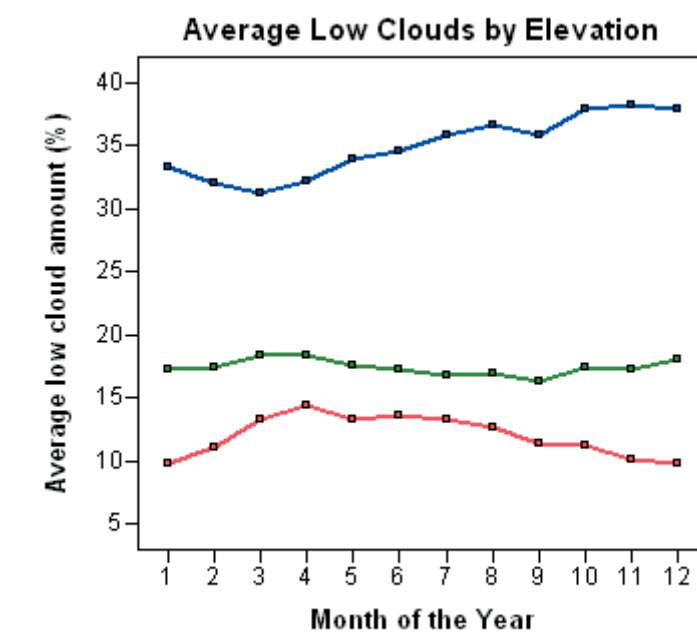
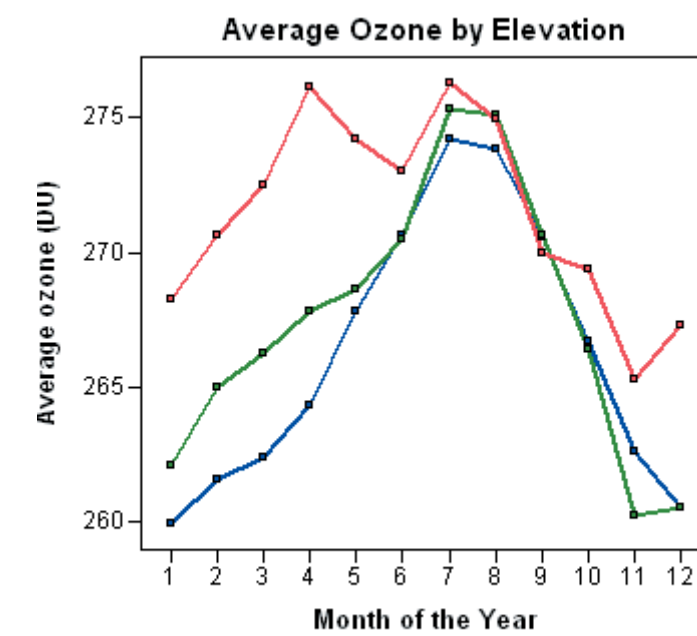
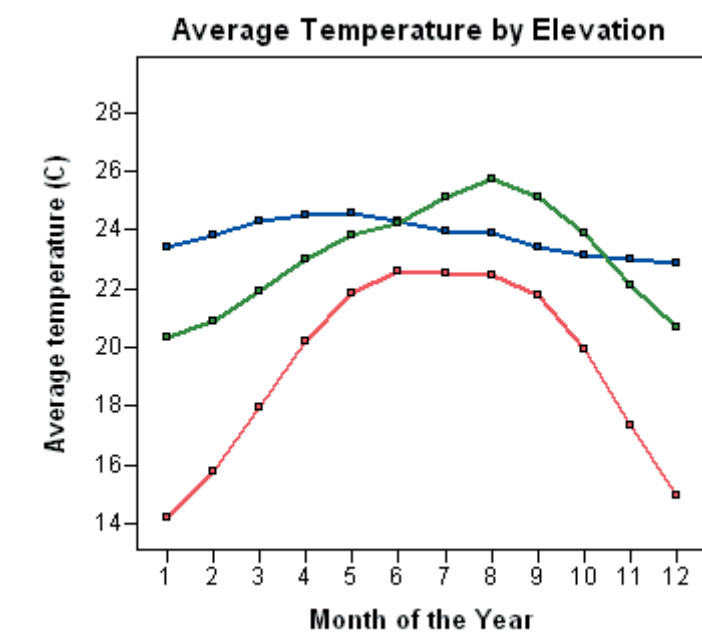
What are the distinctive features of the meteorological time series, averaged over regions with similar elevations?

Average over regions for each month to create averaged time series

Sea level (N=305)

Low elevation (≤ 1000 m, N=217)

High elevation (> 1000 m, N=54)



Air temperature

- Little **variation** for **sea level** locations
- **Greatest** variation for **high elevations**
- **Elevation** affects peak temperature

Ozone

- **Greatest** for **high elevations**
- Global average **peaks** in July–August

Low clouds

- **Greatest** for **sea level** locations
- On average, low-level clouds **peak** in:
 - October–December for **sea level** locations
 - March–April for **low** and **high elevations**

Middle clouds

- **Increases** with elevation
- **Seasonal effects** are small

High clouds

- **Least** for **sea level** locations
- On average, high-level clouds **peak** in August–September for **sea level** locations

