

GEOG 4/595: Geographic Data Analysis

Multivariate displays

Multivariate descriptive displays or plots are designed to reveal the relationship among several variables simultaneously.. As was the case when examining relationships among pairs of variables, there are several basic characteristics of the relationship among sets of variables that are of interest. These include:

- the *forms* of the relationships
- the *strength* of the relationships, and
- the *dependence* of the relationships on external (usually to the pairs of variables being examined) circumstances.

Multivariate plot examples: [\[example multivariate plots\]](#)

Trellis graphics

Many data sets include a mixture of both "continuous" (ordinal-, interval- or ratio-scale variables) and "discrete" (nominal-scale variables). Often, the issue might arise of how a particular relationship between variables might differ among groups. Information of that nature can be gained using conditioning plots (or coplots). Such plots are part of a general scheme of visual data analysis, known as Trellis Graphics that has been created by the developers of the S language. Trellis Graphics are implemented in R using the package Lattice.

Lattice plot examples: [\[coplots\]](#) [\[lattice plots and maps\]](#)

The main documentation for Trellis graphics includes:

- [Trellis Graphics User Manual](#), and
- [A Tour of Trellis Graphics](#)

two .pdf documents published by the developers of the S language and Trellis Graphics, Lucent Technology.

Readings:

- Kuhnert & Venables (An Introduction...): p. 86-96, 179-201;
- Rossiter (Introduction ... ITC): sections 5.1 and 5.2.