

## DETECTING AND DESCRIBING THE STRUCTURE OF AN ANIMAL'S HOME RANGE

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This presentation is an oral version of Geissler and Fuller (1985). We suggest use of casement displays (Chambers et al. 1983) to represent animal use of home range over daily and seasonal time scales. In addition we suggest a clustering technique for use in detecting patterns in structure of home range.

Casement display is a graphical technique that permits more than two dimensions to be displayed in two dimensions; we use five dimensions (east, north, time of day, season of year and frequency). While casement displays have not been widely used in home-range studies, they permit faster and clearer understanding of temporal and spatial patterns of home-range use than simpler mapping techniques currently in use. Casement displays require some familiarity before use becomes easy; some helpful references are listed at the end.

Clustering techniques provide a quantitative basis for detecting patterns within a home range. Previous techniques have allowed quantitative assessment only of home range spatial patterns. The combination of clustering techniques with casement displays permits quantitative investigation of temporal as well as spatial patterns.

### REFERENCES

- CHAMBERS, J. M., W. S. CLEVELAND, B. KLEINER AND P. A. JUKEY. 1983. Graphical methods for data analysis. Duxbury Press, Boston. 395 pp.
- GEISSLER, P. H. AND M. R. FULLER. 1985. Detecting and displaying the structure of an animal's home range. *Proc Am. Stat. Assoc., Stat. Computing Sect.*:378-383.

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