

Measuring dialect shift with traditional tools and modern technologies

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We present a procedure for the use of geographic information system (GIS) technologies to collect and analyze perceptual dialectology (PD) data derived from draw-a-map tasks (Preston 1999). Recent work in PD (Evans 2011; Jeon, Cukor-Avila and Rector 2013) has been greatly enhanced by GIS technologies. Building on the methods described by Montgomery and Stoeckle (2013), we present a more efficient procedure for analyzing PD data derived from draw-a-map tasks, arguing that significant time gains can be achieved through the direct vector input of user perceived polygons into a spatial database, eliminating the need for the scanning and geo-referencing of each individual respondent map. Furthermore, principles of map-making, including data classification and data symbology, can be applied to the resulting analysis to accurately represent the results. The unintentional misuse of these mapping principles often cause misrepresented spatial data in cartography (Monmonier 1991). We illustrate these principles using data from our work on language change in Eastern New England (ENE), which is in the midst of large-scale dialect shift away from most of the traditional ENE features (Stanford et al 2012, Severance et al 2013, Chartier et al 2013). Using PD data from 110 maps, we explore the question of whether speakers are a) converging on a supra-local norm (Roberts 2007, Chambers 2000), or b) whether speakers are diverging from Boston, despite its historical influence (Nagy 2001, Nagy & Irwin 2010). Strikingly in this study, the apparent time differences seen in production of traditional NE variables (Chartier et al 2013) are also seen in the perceptual data. Using this data we show that factors such as scale, map projections, resolution, and symbolization, which have long been employed in GIS projects in other fields, are invaluable for accurate analyses and spatial representation of perceptual data.