

ChinaMap: Maps of China for analysing spatial data

Qiushan Tao^{1*}

1. Department of Epidemiology and Biostatistics, School of Public Health, Peking University Health Science Center

*Contact author: qtao@bjmu.edu.cn

Keywords: map, spatial data, spatial statistics, data mining

Spatial data, also known as geospatial data or geographic information, is the data or information that identifies the geographic location of features and boundaries on Earth. Spatial data exists in many scientific fields and applications. Spatial statistics was known as one of powerful tools of data mining for all scientific fields related with spatial data. Due to vast improvements in spatial statistics, R has had an increasing number of contributed packages for handling and analyzing spatial data. There were a few R packages, **mapdata** for example, did have a map of China with provincial boundaries. However, it demands detailed China map for spatial analysis applications. This study aimed to build a detailed China map, a novel R packages named as **ChinaMap**, based on the public map databases in China national fundamental geographic information system. This study use a R packages named **MapTools** to read China map shape files and build map objects according to different geographical regions and points. The map scale was 1:4000000 for public usages. A few novel functions was built for better map visualization in **ChinaMap** packages.

References

- R Development Core Team (2009). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, <http://www.R-project.org>.
- Richard A. Becker, and Allan R. Wilks, "Maps in S", *AT&T Bell Laboratories Statistics Research Report [93.2]*, 1993.
- Richard A. Becker, and Allan R. Wilks, "Constructing a Geographical Database", *AT&T Bell Laboratories Statistics Research Report [95.2]*, 1995.
- Ray Brownrigg (2010). mapdata: Extra Map Databases, <http://cran.r-project.org/web/views/Spatial.html>.
- Roger Bivand (2010). CRAN Task View: Analysis of Spatial Data, <http://cran.r-project.org/web/packages/mapdata/index.html>.
- Nicholas J. Lewin-Koh and Roger Bivand, et al. (2010). maptools: Tools for reading and handling spatial objects. <http://cran.r-project.org/web/packages/maptools/index.html>.
- China national fundamental geographic information system. <http://ngcc.sbsm.gov.cn/>.